ICEP 2025

# INTERNATIONAL CONFERENCE ON ENVIRONMENTAL PSYCHOLOGY

15-18 June 2025

Vilnius, Lithuania

# FINAL PROGRAMME & ABSTRACT BOOK

## 15 June 2025 | Sunday

**15-06-2025 | 13:00 - 19:00**

**Registration**

*Registration Desk*

**15-06-2025 | 15:00 - 16:00**

**Opening Ceremony**

*Earth Hall Plenary*

Chair: Prof. Mykolas Simas Poškus (Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania)

Welcome addresses:

Prof. Dr. Rita Žukauskienė
Conference Chair, Head of the Applied Psychology Research Laboratory, Mykolas Romeris University, Vilnius, Lithuania

Dr. Audra Balundė
Conference Co-Chair, Head of the Environmental Psychology Research Centre, Mykolas Romeris University, Vilnius, Lithuania

Prof. Dr. Inga Žalėnienė
Rector, Mykolas Romeris University, Vilnius, Lithuania

Anton Nikitin
Head of Sustainability, Vilnius Municipality / European Green Capital Initiative

Prof. Dr. Terry Hartig, Uppsala University
Past President of IAAP Division 4: Environmental Psychology

Prof. Dr. Sabine Pahl, University of Vienna
President, IAAP Division 4: Environmental Psychology

## 16 June 2025 | Monday

**15-06-2025 | 16:00 - 17:00**

**Opening Keynote Lecture by Anke Blöbaum (Germany)**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Earth Hall Plenary*

Chair: Wilhelm Hofmann (Ruhr University Bochum, Bonn, Germany)

**ID-1276: OVERCOMING OBSTACLES AND CONFLICTS ON THE PATH TO CLIMATE MITIGATION BEHAVIOUR**

Anke Blöbaum[1]

[1]*Otto-von-Guericke Universität Magdeburg, Institute of Environmental Psychology*, *Magdeburg*, *Germany*

A unique aspect of environmental psychology is its emphasis on human–environment interactions: it seeks to consider and analyse behaviour and behavioural patterns within socio-spatial contexts. Therefore, it makes sense to look for barriers to environmentally friendly behaviour not only at the level of individual norms, beliefs, or values but also within the spatial and social environment. To understand behavioural barriers, we should not limit our analysis to the interaction between behavioural costs and environmental attitudes; we must also examine the nature of those costs themselves. However, barriers are also embedded in the social environment, such as conflicts between stakeholders or social groups. For instance, when the issue goes beyond curtailment behaviour and involves broader civic engagement, such as public support for climate mitigation measures or, conversely, opposition through protests. Are the controversial debates surrounding these issues simply rooted in negotiable conflicts of interest, or do they also reflect deeper value conflicts—for example, when conservation efforts and climate mitigation measures seem incompatible? Is sufficiency the key to addressing the climate crisis, or does the solution lie in the development of new technologies? If we, as environmental psychologists, want to contribute to climate protection and conservation efforts, we need a deeper understanding of the underlying conflicts. After a brief overview of research on behavioural constraints and how to overcome them, this presentation will summarise key elements of conflict research and explore promising approaches to address such conflicts effectively—concluding with a reflection on whether and how the current either/or discourse can be transformed.

**15-06-2025 | 17:00 - 19:00**

**Welcome Reception**

*Campus Courtyard*

**16-06-2025 | 07:30 - 19:00**

**Registration**

*Registration Desk*

**16-06-2025 | 08:30 - 09:30**

**Keynote Lecture by Audronė Telešienė (Lithuania)**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (People-environment relations under pandemics and crises)

*Earth Hall Plenary*

Chair: Prof. Mykolas Simas Poškus (Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania)

**ID-1279: FROM RESEARCH TO TRANSFORMATION: HOW SOCIAL SCIENCES CAN SHAPE POLICY AND ENVIRONMENTAL TRANSFORMATIONS IN A GEOPOLITICALLY CHARGED WORLD**

Audrone Telesiene[1]

[1]*Kaunas University of Technology*, *Kaunas*, *Lithuania*

Environmental social sciences face unprecedented expectations to effectively support global sustainability transformations amid escalating polycrises. As co-convener of the Behavioral, Social, and Cultural Task Force for UNEP's GEO-7, I have observed firsthand how conventional academic approaches often fall short of providing urgently needed answers. This experience underscores the pressing demand for more impactful research strategies. Reflecting critically on current environmental social science practices and aligning with recent scholarly calls, I argue for a paradigmatic shift toward epistemological pluralism, openness to diverse knowledge systems, moving beyond explanatory models narrowly focused on individual-level variables, and expanding empirical research into regions historically underrepresented on global knowledge maps. Additionally, it emphasizes the importance of open science practices and inclusive engagement with diverse audiences. Drawing from my team's empirical studies on climate change attitudes, environmental behaviors, and shifting public priorities, as well as my expertise in developing research data infrastructures in Lithuania, like ISSP or LiDA, I demonstrate practical ways by which social sciences can significantly contribute to large-scale behavioral shifts necessary for green transformations. Furthermore, I advocate for adopting future-oriented research agendas capable of addressing intersecting and overlapping crises, including the environmental and geopolitical crises, while also preparing us for emerging new challenges. By highlighting the need for academic foresight and a paradigmatic shift, this presentation seeks to empower environmental social scientists as critical agents of transformation. Ultimately, it emphasizes that our collective research efforts must meaningfully influence sustainable global futures, especially during times of deep uncertainties.

Keywords: environmental transformations, environmental social sciences, paradigm shift, research agenda

**16-06-2025 | 09:30 - 09:45**

**Relocation Break**

*Campus Courtyard*

**16-06-2025 | 09:45 - 11:00**

**S-001**: **Envisioning tomorrow: The role of future thinking in pro-environmental action**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair: Fanny Lalot, University of Basel, Basel, Switzerland.

### ID-1059: FUTURE-RELATED CLIMATE EMOTIONS AMONG YOUNG PEOPLE: WHAT ROLE DOES SOCIAL TRUST PLAY IN THE ASSOCIATION BETWEEN CLIMATE-CHANGE WORRY AND DISTRESS AND GENERAL MENTAL WELLBEING?

Maria Ojala[1], Kalle Kallio Strand [2], Gaston Erksell [3]

*[1]University of Oulu / Faculty of Education and Psychology*, *Oulu*, *Finland*, *[2]Lund University*, *Lund*, *Sweden*, *[3]Örebro University*, *Örebro*, *Sweden*

**Introduction**: Young people's future views regarding climate change are often characterized by worry and other distressing emotions. Since these emotions could lead to decreased mental wellbeing in general it is vital to identify possible protective factors. **Objectives**: This study aimed to investigate if climate-change worry and distress are related to subjective wellbeing (general negative affect and life satisfaction) among late adolescents and to examine what role social trust plays in these relationships. In this context, social trust represents views about people in general as being trustworthy, helpful and fair and thus forms a future-oriented state characterized by uncertain expectations about other people. **Method**: A questionnaire study was performed with 601 Swedish adolescents (mean-age: 17 years; analyses controlling for gender). **Results**: Climate-change worry and distress were significantly positively associated with general negative affect, while there were no significant relations to life satisfaction. Social trust worked as a moderator between both climate-change worry and distress and general negative affect, where the relationships were weaker in a group with high social trust. Social trust also foremost moderated the relationship between climate-change distress and life satisfaction: Among those with low social trust a negative association between climate change distress and life satisfaction was found, while this relationship was non-existing in the group with high social trust. **Conclusions**: This research highlights the importance of emotions related to a negative outlook on the future, but also suggests a protective role of social trust, for mental wellbeing. Practical implications for how to promote social trust are discussed.

Keywords: future thinking, climate-change worry, climate-change distress, mental wellbeing, social trust

### ID-1060: ABILITY TO IMAGINE SUSTAINABLE FUTURES AND ENGAGEMENT IN BIODIVERSITY CONSERVATION BEHAVIORS: THE ECOSPIL PROJECT

Aurore Grandin[1], Lucia Bosone [2]

*[1]Université Paris Sciences & Lettres*, *Paris*, *France*, *[2]Université Gustave Eiffel*, *Paris*, *France*

**Introduction:** As urbanization expands globally, the importance of urban green spaces for biodiversity grows. The adoption of conservation practices in private gardens and balconies can thus become essential for biodiversity conservation. The ECOSpil project investigates how vision of a sustainable society may influence biodiversity conservation and other pro-environmental behaviors in French urban and peri-urban areas. **Objectives:** The primary aim of ECOSpil is to test whether socio-cognitive factors—including vision of a sustainable society—predict positive spillovers from biodiversity conservation to other behaviors. **Materials & Methods:** This is a longitudinal study conducted in four waves (July 2024–July 2025) via online questionnaires, which targets urban and peri-urban residents in France. In July 2024 (*N*=2,054), participants were invited to engage in a citizen science protocol (SPIPOLL), which involves observing and documenting pollinators. Subsequent waves monitor the evolution of socio-cognitive mechanisms and pro-environmental behaviors, examining potential spillover effects of SPIPOLL participation. Data from the second wave was collected in October 2024 (*N*=1,775), with the third wave scheduled for March 2025. **Results:** Preliminary cross-sectional analyses reveal that the ability to envision a sustainable future is significantly related to engagement in wildlife gardening and biodiversity conservation. Additionally, the desirability of a sustainable future is a key predictor of support for biodiversity conservation policies. **Conclusions:** The longitudinal analysis of subsequent waves will clarify potential spillovers, the impact of SPIPOLL, and the mediating role of other socio-cognitive factors. ECOSpil highlights the potential of future perspective to promote biodiversity-supporting and other pro-environmental behaviors.

Keywords: future thinking, biodiversity conservation, environmental identity, spillover effects, nature connectedness

## ID-1061: THINKING AHEAD: HOW FUTURES CONSCIOUSNESS INFLUENCES SUPPORT FOR PRO-ENVIRONMENTAL POLICIES

Jakob Schuck[1], Sanna Ahvenharju [2]

[1]*University of Basel*, *Basel*, *Switzerland*, [2]*University of Turku*, *Turku*, *Finland*

**Introduction**: Research has illustrated the relevance of future thinking for behavior on both individual and collective issues. Here we rely on Futures Consciousness, a recent concept which builds on the fundamental idea that future thinking is dependent on other factors than a purely temporal perspective, including systemic understanding, agency, openness, and social responsibility. The present work investigates for the first time the link between Futures Consciousness and support for government-implemented pro-environmental policies. In two preregistered, cross-sectional studies, we test the hypothesis that (i) people with greater future thinking tendencies are more likely to support such policies and (ii) perceived policy effectiveness, fairness, and intrusiveness mediate this effect. **Methods**: Study 1 (N=266) relied on a convenience sample of UK students. Study 2 (N=2,005) was conducted among a representative sample of the Finnish population. In both studies (S1/S2) we measured Future Consciousness, support for pro-environmental policies (8/12 policies), and their perceived effectiveness, fairness (S1-2), and intrusiveness (S2). **Results**: We relied on structural equation model to test our mediation hypothesis (measurement model + regression model). In S1/S2, Futures Consciousness was positively associated to policy support (β = .36**/.55***). This association was fully mediated through

perceived policy fairness and effectiveness (S1-2) but not intrusiveness, which was not related to Futures Consciousness (S2). **Conclusions**: This research demonstrated that future thinking, as an individual capacity, is associated with greater support for pro-environmental policies. It also affords preliminary insights into the mechanisms behind this effect. It may encourage developing future-thinking courses and workshops for the general population.

Keywords: future thinking, Futures Consciousness, policy support, pro-environmental attitudes, time perspective

**ID-1062: ADDRESSING CLIMATE CHANGE TO PROTECT FUTURE GENERATIONS**

Christina Jinhee Capozzoli[1], Stylianos Syropoulos [2], Kyle Fiore Law [2], Liane Young [3]

*[1]Pennsylvania State University*, *University Park*, *United States*, *[2]Arizona State University*, *Tempe*, *United States*, *[3]Boston College*, *Boston*, *United States*

**Introduction**: Our society is facing many challenges that, if left unaddressed, will only grow in scale and harm the well-being of many people. Fundamental to most pressing societal challenges is the assumption that future generations will reap what the present generation sows. Inaction in the present will only worsen their lives in the future; conversely, present action could ensure a safe and flourishing world is passed on to these future generations. **Objectives**: In this talk, I will discuss a set of three investigations which examine intergenerational approaches (i.e., approaches that focus on making salient an obligation to protect future generations) and narratives for addressing climate change. **Materials, Methods and Results**: Three studies were conducted online with American Prolific respondents (total *N*=21,375) which combined cross-sectional and experimental designs. The correlational studies showed that participants who feel more obligated to protect future generations report greater support for climate mitigation and adaptation policies, as well as climate justice initiatives. Further, the experimental studies revealed that interventions targeting legacy concerns and impartial intergenerational beneficence increase donations to pro-climate charities, support for climate mitigation policies, and intentions to engage in climate action. **Conclusions**: This work, coupled with other ManyLabs mega-studies, highlights the potential of intergenerationally-framed interventions to increase proenvironmental engagement by making salient an obligation to protect future generations. Future directions including limitations about generalizability and application in out-of-lab experiments will be discussed.

Keywords: future thinking, climate change, legacy, intergenerational concern, impartial beneficence

**ID-889: "SHE SHOULD DO IT FOR MY FUTURE!": CLIMATE CHANGE CONVERSATIONS OF CHILD-PARENT DYADS**

Maien Sachisthal[1]

*[1]University of Amsterdam*, *Amsterdam*, *Netherlands*

In light of the climate crisis, many children experience negative emotions, such as hopelessness and worry. Parents play a pivotal role in children's response to climate change, but they often do not feel well

equipped to support their children in dealing with climate change emotions, and this may inhibit them from talking about climate change with their children. In this exploratory mixed-methods study, we recorded short climate change conversations of 47 children (aged 8–12) and one parent. Child-parent dyads were invited to take part in the study during their visit to a science museum in the Netherlands. They filled in questionnaires on their emotional experiences and coping surrounding climate change. Children generally reported low levels of negative emotions and more constructive (meaning-focused) than unconstructive coping strategies. Parents, however, reported slightly higher levels of negative emotions for both themselves and their children, and identified barriers to conversations, such as needing tools for solution-oriented conversations. The child's emotional experience of climate change was used as a starter for the conversations. During the conversations, children expressed a range of emotions, including worry, confusion, and calmness. Emerging themes included climate change causes and effects, potential solutions (e.g., behavior change, adaptation), questions of responsibility and justice (e.g., who is and will be most impacted), and emotional experiences. These findings underscore the importance of equipping parents with resources to facilitate constructive, emotionally supportive conversations about climate change with their children - even with children as young as 8.

Keywords: Climate change, Children, Emotions, Coping, Conversations

**16-06-2025 | 09:45 - 11:00**

**S-003**: **Coping with Disasters – Advancing Research Methods and Communication Tools for Natural Hazards (Part I)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Natural disasters and coping with environmental risks and hazards)

*Dawn Room*

Chair: Anna Heidenreich, Weizenbaum Institute, Berlin, Germany.

**ID-1191: IS IT JUST A GAME TO YOU? A SYSTEMATIC REVIEW ON EVALUATION STUDIES OF SERIOUS GAMES ON NATURAL HAZARDS**

Anna Heidenreich[1], Thomas Kox [1]

[1]*Weizenbaum Institute*, *Berlin*, *Germany*

Serious Games (SGs) aim at conveying information to users in a playful learning experience. Numerous SGs focus on natural hazards, such as flooding, heat, or earthquakes. Despite the large number of use cases, it remains difficult to say how effective SGs actually are in means of e.g., increasing risk perception, practical behavioural knowledge, emotional perceptions, actual response behaviour and other factors. There is still a lack of evaluations. We conduct a systematic review on peer-reviewed articles that evaluate SGs. This review gives a structured overview of the current state of research on the effectiveness of SGs. We include different qualitative and quantitative evaluation approaches including surveys, interviews, focus group discussions, experimental studies, workshops, and other approaches. Central research

questions are: Which natural hazards are covered by the reported SG evaluations? Which target groups are addressed? Are theoretical frameworks applied in game development or evaluation? Which impacts do SGs have on the users' risk perception, self-efficacy, (subjective) knowledge or other psychological factors? Which category/level of evaluation is applied? The findings of this systemic review give a first picture of the evidence of SGs' significance in risk communication and education on the pertinent natural hazards. We also aim at giving recommendations for future evaluations on SGs.

Keywords: serious gaming, systematic review, protection motivation, adaptation behaviour, risk communication

**ID-1187: "TROUBLED WATER": EXPLORING IMMERSIVE INTERVENTION TECHNOLOGY FOR ENHANCING FLOOD PROTECTION BEHAVIOR**

Leonie Terfurth[1], Anna Heidenreich [2], Elisabeth Glunz [1], Thomas Kox [2], Lars Gerhold [1; 2]

*[1]Technische Universität Braunschweig*, *Braunschweig*, *Germany*, *[2]Weizenbaum Institute*, *Berlin*, *Germany*

Floods can cause serious health problems, fatalities, and significant financial losses. Individual preparedness is crucial to reduce such impacts. This study explores the potential of Augmented Reality (AR) to enhance users' risk perception, protection intentions, and behaviour. Using a student sample (N=120), we experimentally evaluated the effects of (1) the simulation and (2) the interaction format of our iOS application Troubled Water. In the (1) flood simulation, a rising water level enhances the user's physical environment to simulate a potential disaster. This is complemented by short texts on the effects of flooding and aims to reduce the perceived temporal and spatial distance to flood events. The (2) interaction format allows users to explore and interact with protection-relevant virtual objects in their physical environment, aiming to increase the availability and attractiveness of information. Guided by Protection Motivation Theory (Rogers, 1983), we analyse the effects on threat and coping appraisal and changes in protection intentions and behaviours. We used a pre-post design with a follow-up survey two weeks later to capture both immediate and medium-term effects. Preliminary results suggest that the flood simulation improved elements of threat appraisal, while the interaction positively influenced elements of coping appraisal. The intervention groups showed a descriptive trend toward higher protection intentions and behaviours compared to the control group. Our findings support the development of future immersive interventions for various natural disasters, contributing to societal resilience by leveraging the growing accessibility of immersive technology. Current work extends this research with a visionOS head-mounted flood simulation.

Keywords: augmented reality, flooding, protection motivation theory, adaptation behaviour, risk communication

**ID-1188: VIRTUAL REALITY MEETS NATURAL HAZARDS: EMOTIONAL RESPONSES TO PROXIMISING CLIMATE CHANGE CONSEQUENCES**

Annalena Schröder[1; 2], Gerhard Reese [2], Milena Appelt [1], Nicole Harth [1]

[1]*Ernst-Abbe University of Applied Sciences*, *Jena*, *Germany*, [2]*University of Kaiserslautern-Landau*, *Landau*, *Germany*

How does psychological distance shape our emotional and behavioural responses to climate change? According to Construal Level Theory (CLT; Trope & Liberman, 2003, 2010), people perceive issues such as climate change differently depending on their psychological distance. While some research suggests that reducing psychological distance fosters pro-environmental behaviour, findings remain inconsistent (Maiella et al., 2020). One possible explanation refers to emotions, which are heightened when climate change feels mentally closer and vary in their influence on behaviour intentions (Chu & Yang, 2019). Our studies aim to replicate these findings and explore the potential of a novel approach using AI image generators and virtual reality (VR). Traditional strategies to create mental proximity in the context of climate change often fall short (Keller et al., 2022). Across three preregistered studies (online-survey: N = 143, online-experiment: N = 406; one laboratory-based experiment), we examine the effects of social and temporal psychological distance on pleasant and unpleasant emotions. We also assess their influence on pro-environmental behaviour intentions and policy support, including mediation analyses. In the online experiment, participants read an article accompanied by an AI-generated image, while the laboratory experiment featured a 360° virtual reality flood simulation paired with an audio narrative. Initial findings reveal no consistent effects regarding our hypotheses based on CLT. However, across all studies the pattern emerged that unpleasant emotions were more likely to predict behavioural intentions than pleasant ones. The potential of VR technology as a strategy to reduce psychological distance in climate change communication will be discussed.

Keywords: psychological distance, virtual reality, emotions, pro-environmental behaviour, flooding

**ID-1190: FROM THEORY TO MEASUREMENT: DEVELOPING A STANDARDIZED TOOLBOX OF SURVEY ITEMS IN NATURAL HAZARD ADAPTATION RESEARCH**

Sungju Han[1], Christian Kuhliche [2], Samuel Rufat [3]

[1]*Helmholtz Centre for Environmental Research*, *Leipzig*, *Germany*, [2]*Helmholtz Centre for Environmental Research*, *Leipzig*, *Germany*, [3]*École Polytechnique*, *Palaiseau*, *France*

The field of behavioural and risk science relies heavily on survey-based research to understand human adaptive behaviours in response to hazards. While many psychological sub-disciplines have established standardized measurement scales (e.g. pro-environmental behaviour), there remains a notable gap in standardized measures for adaptation to natural hazards and climate risks. This lack of standardization in survey items across hazard adaptation studies hinders the comparability and generalizability of research findings. This project aims to develop a comprehensive toolbox that maps the relationships between theoretical frameworks, their key constructs, and the specific survey questions used to measure adaptive behaviours in risk contexts. The research employs a collaborative systematic review approach. Through systematic review of peer-reviewed studies, we identify theoretical frameworks explaining adaptive behaviours and collect the actual survey questions used to measure both adaptive behaviours and their theoretical determinants. The final toolbox will provide a structured repository of survey questions organized by theoretical frameworks, constructs, and response types. By mapping the pathways from theories to actual survey questions, this toolbox will enhance the quality and comparability

of future research on adaptive behaviours in risk contexts. This systematic documentation of how theoretical constructs are measured in practice will support more consistent research approaches, facilitate theory development, and contribute to more effective behavioural intervention strategies in risk and disaster contexts.

Keywords: survey research, adaptive behaviours, systematic review, theoretical items, natural hazards

**ID-768: WHEN DOES HOPE STRENGTHEN THE LINK BETWEEN CLIMATE ANXIETY AND CLIMATE ACTION?: THE CASE OF DAILY COMMUTERS IN A CLIMATE-VULNERABLE CONTEXT**

Karmia Pakingan[1], Andrea Micah Cabreira Alvarado[1], Francheska Maxine Camacho Tiocson[1], Samuel Riparip Meija [1], Jerwin Gabriel Romero Nicolas [1], John Jamir Aruta [1]

[1]*De La Salle University*, *Manila*, *Philippines*

Emerging evidence showed that climate-vulnerable groups are likely to experience climate anxiety, which is a known predictor of climate action. However, there is a dearth of research on how hope comes into play in predicting climate action, especially among the most vulnerable groups in the context of a climate-prone country. This cross-sectional study investigated the moderating role of climate hope on the relationship between climate anxiety and climate action among daily commuters (N=276, age ranges from 18-50 years) in the Philippines, the most climate-prone nation in the world. Using bootstrapping with 1000 resamples, results revealed that climate hope significantly moderated the positive link between climate anxiety and climate action. Analysis of the regression slope elucidated that the positive influence of climate anxiety on climate action was significant when they experienced moderate and high levels of climate hope but not when climate hope was low. The findings highlight the importance of climate hope in inspiring meaningful action in the face of climate anxiety; when people believe that it is possible to help solve the climate crisis, they are more likely to engage in mitigation behaviors. Focusing on instilling climate hope in individuals and communities that may be prone to climate anxiety may help transform their worries into proactive ways of dealing with the threats of a warming planet.

Keywords: climate change, climate hope, climate anxiety, climate action, commuters

**16-06-2025 | 09:45 - 11:00**

**S-002**: **Mobilizing the System-Individual Nexus for Rapid and Large-Scale Climate Action**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Anandita Sabherwal, Princeton University, Andlinger Center for Energy and the Environment, Princeton, United States.
Discussant: Elke Weber, Andlinger Center for Energy and the Environment, Princeton University, Princeton, United States.

**ID-1040: CONNECTING THE SYSTEM TO THE INDIVIDUAL: GOVERNMENT INACTION ON CLIMATE CHANGE INCREASES INDIVIDUAL PRO-ENVIRONMENTAL ACTION BUT REDUCES CLIMATE CITIZENSHIP**

Anandita Sabherwal[1]

*[1]Andlinger Center for Energy and the Environment, Princeton University*, *Princeton*, *United States*

Transcending the dichotomy of individual versus system-level action, scholarship now widely recognizes that addressing collective challenges like climate change will require rapid and coordinated effort from both individuals and systemic entities such as governments and corporations. However, governments may often fail to do their part, falling short of key climate mitigation targets and commitments. In three pre-registered experiments (N=3,354 UK adults), we investigate how citizens respond to government inaction. Contrary to assumptions of social loafing and the sucker effect, individuals compensate for government inaction by significantly increasing their pro-environmental behaviors and charitable donations (Studies 1 and 2). However, in response to government inaction, individuals also significantly reduce their climate citizenship efforts such as activism and advocacy (Study 3). Mediation analyses find that the compensatory pattern of responses is driven by downward social comparison with governments. And that lowered engagement in citizenship efforts is explained by reduced governmental efficacy. Results indicate that beyond regulatory and policy influence, governments also exert social influence on individual psychology and behavior, leading citizens to individualize responsibility for climate action, and compensate for system-level inaction with individual efforts. These findings have implications for climate change communication– highlighting government failure may bolster private sphere behaviors, but could undermine political action that can ultimately drive systemic change.

Keywords: government inaction, social influence, citizenship actions, collective action

**ID-1041: PROBING ATTITUDES AND BEHAVIORAL INTENTIONS TOWARDS DEGROWTH POLICIES**

Dallas O'Dell[1], Anna Castiglione[2]

*[1]Universitat Autònoma de Barcelona*, *[2]Department of Psychology and Cognitive Science, University of Trento*, *Trento*, *Italy*

Momentum is building among academics and activists around degrowth to democratically downscale Global North economies whilst prioritizing well-being and improving livelihoods. Although the working class is a main beneficiary of degrowth policies (e.g., jobs guarantee), and essential for building a bottom-up movement, literature suggests that low SES people may be less likely to support degrowth policies. In two studies, we investigate degrowth policy support: first, using a discrete choice experiment with a nearly-representative U.S. sample, and second, with a mixed-methods survey targeting a lower SES, multi-country sample. **Study 1** (N=1012) demonstrated that those who engaged in sufficiency practices but had lower income, education, and less stable employment, were less likely to support more socially-oriented policies (e.g., work-time reductions, universal basic services) than their higher SES counterparts. In an ongoing follow-up study (**Study 2),** we probe reasons underlying policy perceptions and attempt to disaggregate the "working class" via values and attitudes toward policies. Using a combination of open-ended and scale-based responses, the survey (data collection will be completed by February 2025) includes A) value scales (IV) (i.e., Schwartz, 2012); B) attitudes (DV1), perceptions (DV2) and support (DV3) for 5 core degrowth-oriented policies, (e.g., job's guarantee, work-time reductions); and C) perceptions of how degrowth (DV4) as a transformative agenda will impact their livelihoods. Data (N = 400) from the U.S., U.K., and Italy will be used for comparative analysis. Results will inform framing strategies for the degrowth agenda and policies, targeting lower SES audiences.

Keywords: degrowth, policy support, targeting interventions, framing

**ID-1042: ENHANCING PUBLIC SUPPORT FOR GLOBAL CLIMATE FUNDING: A CONJOINT SURVEY EXPERIMENT**

Anna Bosshard[1], Anandita Sabherwal[2]

*[1]University of Amsterdam, Amsterdam, Netherlands, [2]Andlinger Center for Energy and the Environment, Princeton University, Princeton, United States*

Countries in the Global South have contributed the least to global carbon emissions yet face the most severe consequences of climate change, including floods, food insecurity, and loss of livelihoods. Despite the critical need for large-scale, grant-based funding from wealthy countries, current institutional funding is insufficient and often comes as loans, exacerbating financial debt. Because citizens are critical agents of change in policy making, this study investigates how to enhance public support for international climate funding. We employ a choice-based conjoint survey experiment among a representative sample of 750 Dutch residents. This method allows us to systematically assess the relative and interactive impact of four policy attributes on policy support for global climate funding. The attributes are: funding goals (mitigation vs. adaptation vs. loss and damage), funding sources (wealth tax vs. fossil fuel tax vs. existing national budget), funding labels (climate action vs. development aid vs. reparation), and messengers (activists vs. scientists vs. United Nations). Data collection will be completed via an online survey on Panelclix in February 2025. We will conduct ordinary least squares regression analyses to assess average component marginal effects (ACMEs) of each policy attribute on support. We will also conduct subgroup analyses to explore heterogeneity across climate concern and political ideology. Understanding these dynamics provides insights for communication strategies to increase public support for global climate funding.

Keywords: climate reparations, global climate funding, climate justice, conjoint experiment, policy support

## ID-1043: MOBILIZING COLLECTIVE CLIMATE ACTION: A LARGE-SCALE STUDY OF 16 BEHAVIORAL INTERVENTIONS IN THE U.S.

Danielle Goldwert[1]

[1]*New York University*, *New York City*, *United States*

Addressing climate change depends on large-scale system-level changes, which require public support and advocacy. Here, we identify and test 16 expert-crowdsourced theoretically-informed behavioral interventions aimed at stimulating collective climate action among U.S. residents. In a randomized controlled trial with a quota-matched sample of 31,324 U.S. residents, participants were assigned to one of 16 intervention groups or a control group. The interventions targeted three types of climate advocacy: public awareness advocacy (e.g., joining climate groups), political advocacy (e.g., contacting representatives), and financial advocacy (e.g., donating to climate organizations). Outcomes included self-reported intentions and actual behaviors, such as writing letters to representatives and making real donations. Public and political climate advocacy were increased most by emphasizing the collective efficacy and emotional benefits of collective action. This intervention also resonated particularly well with participants identifying as Democrats. Financial advocacy was increased most by appealing to binding moral foundations such as purity and sanctity, which was also particularly effective for participants identifying as Republican. These findings provide critical insights to policymakers and practitioners aiming to galvanize the public behind collective action and advocacy on climate change.

Keywords: collective action, climate advocacy, behavioral interventions, mega study

## ID-1044: THE LIMITS TO PSYCHOLOGICAL INTERVENTIONS: INTEGRATING STRUCTURAL AND PSYCHOLOGICAL APPROACHES TO DRIVE RAPID AND LASTING BEHAVIOR CHANGE

Kelly Finke[1]

[1]*Princeton University*, *Princeton*, *United States*

Rapid and lasting behavior change is a critical component of climate mitigation and adaptation efforts. While a wide toolkit of behavior-change interventions exists, approaches are often divided along conceptual lines of individual-focused (i.e. i-frame) and systems-focused (i.e. s-frame) strategies. This dichotomy oversimplifies the complex and diverse feedbacks among psychological, sociocultural, and structural factors, hindering the development of a cohesive, context-aware strategy for fostering sustainable attitudes and behaviors. In this work, we present a framework grounded in complex adaptive systems thinking to understand the interconnected and multilevel drivers of behavior change. Using an agent-based model, we examine the dynamic interplay of attitudes and behaviors across populations under varying psychological, social, and structural conditions. Our findings reveal that psychological interventions can drive lasting behavior change, but only within a narrow set of conditions where behavior options are nearly interchangeable. Structural interventions, in contrast, enable broader change by making sustainable behaviors more accessible, affordable, or appealing, but their effectiveness can also be shaped by social and psychological processes. Crucially, as sustainable behavior alternatives become

increasingly available and appealing, social and psychological feedbacks will determine the speed and extent of their adoption. These feedbacks can foster resilience, allowing positive attitudes and behaviors to persist despite enduring structural barriers, but can also create "traps," where negative attitudes and behaviors self-reinforce despite favorable structural conditions. This framework offers actionable insights for designing context-sensitive, scalable interventions and for strategic pairing and timing of interventions to maximize their impact on behavior change.

Keywords: scaleable interventions, agent-based model, structural interventions, s-frame and i-frame

**16-06-2025 | 09:45 - 11:00**

**S-004**: **People's acceptance of new climate-friendly/ sustainable products & technologies (Part I)**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Earth Hall Plenary*

Chair: Karolin Schmidt, Otto-von-Geuricke-University Magdeburg, Environmental Psychology, Magdeburg, Germany.

## ID-1139: PERSONAL, PRODUCT-RELATED, AND EXTERNAL PREDICTORS FOR THE CONSUMPTION OF MILK ALTERNATIVES

Lena Szczepanski[1], Sophie Höfer [1], Florian Fiebelkorn [1]

[1]*Osnabrück University*, *Osnabrück*, *Germany*

The consumption of plant- and precision fermentation-based milk alternatives (PBMA & PFMA) instead of cow's milk could contribute to improving environmental, animal welfare, and health issues. Our study aimed to investigate which personal (e.g., gender, dietary habits, food choice motives (FCMs)), product-related (familiarity, attitudes), and external factors (social norm & influence) influence the consumption of PBMA/the intention to consume PFMA among young people in Germany (age: 18–26, $N$ = 667). The results showed that the personal norm to consume PBMA ( = .18; $p$ < .05), familiarity with PBMA ( = .19; $p$ < .01), attitudes toward PBMA ( = .23; $p$ < .001), and social norm to consume PBMA ( = .28; $p$ < .001) are positive predictors for the consumption of PBMA. In total, the model explained 46.4% of the variance in the consumption of PBMA. For the intention to consume AFM, gender ( = .13; $p$ < .05), the FCM health ( = .21; $p$ < .05), and attitudes toward PFMA ( = .52; $p$ < .001) were identified as positive predictors. Whereas, the FCM's sensory appeal ( = -.19; $p$ < .01) and familiarity ( = -.23; $p$ < .001) were identified as negative predictors. In total, the model explained 37.4% of the variance in the intention to consume PFMA.Given the increasing array of milk alternatives, our study helped to identify drivers and barriers to consumer acceptance of these products. Furthermore, our results underline the important role of consumer attitudes toward milk alternatives in their acceptance.

Keywords: consumer research, milk alternatives, acceptance, germany, sustainability

## ID-1140: WHICH MEAT SUBSTITUTE CAN CONTRIBUTE TO MITIGATING CLIMATE CHANGE? – AN ANALYSIS OF THE TECHNICAL POTENTIAL AND CONSUMERS' ADOPTION INTENTION

Lara Trimborn[1], Daniel Hanß [1], Andreas Homburg [1], Iris Steinberg [1], Patrick Brandes [1]

[1]*Darmstadt University of Applied Sciences*, *Darmstadt*, *Germany*

Meat production and consumption significantly contribute to climate change. In order to substantially cut diet-related carbon emissions it is therefore necessary to reduce meat consumption. One possible strategy being discussed in this context is the promotion of meat substitutes. The present study informs this strategy by applying an interdisciplinary approach to investigate the potential of insect-based, cultured meat, plant-based, and mycoprotein substitutes to replace meat. A systematic review of comparative Life Cycle Assessments (LCA) was conducted to gain data for estimating the relative environmental impact of the different meat substitutes. It revealed that among meat substitutes, insect-based and plant-based lead to the lowest greenhouse gas emissions, while cultured meat results in the highest. This so-called technical potential (TP) for emission reduction was adjusted using consumers' adoption intention (CAI)—reflecting the willingness of potential adopters to consume these substitutes. To this end, an online experiment with a representative sample for Germany ($N$ = 987) examined meat eaters' willingness to consume burger patties made from the different alternative protein sources. Results indicated a preference for plant-based substitutes, while insect-based options were the least preferred. By multiplying each meat substitute's technical potential with the respective consumers' adoption intention, it was possible to identify plant-based alternatives as having the greatest overall potential to facilitate a sustainable protein transition. We conclude that efforts to promote sustainability in the food system should focus on the development and promotion of plant-based meat substitutes.

Keywords: protein transition, meat substitutes, climate change mitigation, life cycle assessment, consumer adaptation intention

## ID-1141: GREEN BYTES: UNPACKING CONSUMER'S APPETITE FOR 3D-PRINTED FOOD

Sarah Chan[1], Yi Xuan Tay[2], Samuel Chng [1], Rabi'ah Binte Ghazali [1], Harvey Neo [1], Leo Chen Huei [3]

[1]*Singapore University of Technology and Design*, *Singapore*, [2]*Singapore University of Technology and Design*, *Singapore*, *Singapore*, [3]*National University of Singapore*, *Singapore*

3D food printing presents innovative and sustainable solutions to contemporary food manufacturing and supply challenges, including reducing food waste and creating alternative protein sources. However, consumer acceptance of this novel technology remains uncertain. This study examines consumers' awareness, perceptions, and willingness to consume 3D-printed food. The study was conducted in the city-state of Singapore with 1,009 participants (46% female; age M = 42.4, SD = 13.2). Findings revealed very low initial awareness of 3D-printed food. After receiving information about the technology's processes and potential applications, participants' perceptions improved significantly, with an increased willingness to try and incorporate 3D-printed food into their diets. Cluster analysis identified five consumer typologies which mirror the technology adoption curve: *laggards* (12%), *late majority* (16%), *early majority* (30%), *early adopters* (30%), and *innovators* (13%). The groups with the most positive attitudes

toward 3D-printed food demonstrated "greener" orientations. *Early adopters* were more likely to be non-regular meat eaters, while *innovators* reported the strongest pro-environmental attitudes. Across all consumer types, applications of 3D food printing in health outcomes, medical and elderly care settings, and sustainability were rated as more personally relevant than those focused on animal welfare. These insights highlight the importance of raising public awareness and emphasizing the personal and societal benefits of 3D-printed food, particularly its potential to improve health and sustainability outcomes.

Keywords: eating, green innovation, technology adoption, health, sustainability

**ID-1142: Bringing together what belongs together – Explaining consumers' purchases of newly developed bio-based plastics in preference to fossil-based plastics by integrating empirical findings from marketing and environmental psychology**

Karolin Schmidt[1]

[1]*Otto-von-Guericke University Magdeburg*, *Magdeburg*, *Germany*

Global plastic production is mainly based on fossil feedstocks and has an increasingly large contribution to CO2 emissions. Bio-based plastic may help reduce the carbon footprint of the plastic industry and mitigate climate change, but for bio-based plastic products to become widely adopted, they need to be purchased in preference to fossil-based plastic products by consumers. Against this background, the main objective of the present study was the development of a comprehensive psychological model explaining consumers' purchases of newly developed bio-based plastics in preference to fossil-based plastics using the example of bio-based PEF. We conducted an online-survey in a sample of consumers representative for the German population (N = 566) in March 2025. Based on a hypothetical choice-experiment, we measured participants' (hypothetical) purchase-behavior referring to PEF- vs. PET-plastics. As implied by previous marketing and environmental psychology research on consumers' responses towards bio-plastics, we examined consumers' PEF-related cognitions affecting their attitude towards PEF, as well as this attitude and consumers' personal and subjective norms, their perceived behavior control and their habits for sustainable consumption as predictors affecting their (hypothetical) purchase-behavior. Based on the developed model, our study provides important implications for future intervention research and practice with regards to the effective promotion of consumers' purchases of newly developed bio-based plastics in preference to fossil-based plastics.

Keywords: consumer research, bio-based plastics, choice experiment, psychological predictors, model development

**ID-1143: FROM WASTE TO WARDROBE: EXPLORING CONSUMER WILLINGNESS TO PAY FOR CHEMICALLY RECYCLED TEXTILES**

Alaa Aldoh[1], Frenk van Harreveld [1], Cameron Brick [1]

[1]*University of Amsterdam*, *Amsterdam*, *Netherlands*

Around 75% of Europe's clothing waste ends up in landfills. Traditional textile recycling recovers raw materials from clothing waste, but such techniques are not viable for polyester and cotton blends, which represent most textiles manufactured today. Recent breakthroughs in chemical recycling have made it possible to recover clean, usable monomers from mixed waste textiles. However, whether companies will invest in such factories and whether governments will encourage this industry —e.g., with incentives and regulations—depends on whether consumers are willing to pay more for these recycled clothes. Until they achieve economies of scale, these technologies will be more expensive than producing clothes from virgin materials. To understand how we can foster consumer acceptance and willingness to pay for chemically recycled clothes, we conducted a qualitative study using thematic analysis to explore reasons (not) to wear recycled clothes ($n$ = 50). Next, we used those themes in a quantitative study conducted in the Netherlands to examine the relative strength of attitudinal and emotional factors in predicting willingness to pay for recycled clothes ($n$ = 1,009). Using network analysis, we identified positive feelings as the most central factors in the network overall, while demographic variables (age and income) and environmental concern were strongly connected to WTP. Targeted marketing campaigns can help make environmental benefits of chemically recycled textiles salient.

Keywords: chemically recycled clothes, consumer acceptance, willingness to pay, attitudinal and emotional predictors

**16-06-2025 | 09:45 - 11:00**

**S-005**: **Valid Measurements (Not Data) Advance Science**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Valley Room*

Chair: Juliane Bücker, Otto-von-Guericke University, Social Psychology, Magdeburg, Germany.
Co-Chair: Florian Kaiser, Otto-von-Guericke University, Social Psychology Division, Magdeburg, Germany.

**ID-1049: VALIDATING MENTAL-ATTRIBUTE MEASURES**

Florian G. Kaiser[1]

[1]*Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*

Before one can change behavior, behavioral scientists need to establish the *objective* existence of the presumed causes of environmentally protective behavior. This is straightforward with manifest attributes of behavior such as behavioral costs. Behavioral costs can be experimentally controlled with, for example, increasing waiting times or increasing amounts of money. Establishing the objective reality of mental (i.e., subjective) attributes of people—for example, people's propensity to act in an environmentally protective way called environmental attitude—is dramatically more challenging and goes way beyond what is conventionally done in psychology. In my exposition, I argue that the basis of validation resides in the functional relationship that links the mental attribute to a counterpart in the manifest world. Measures of

mental attributes can be validated when people's responses in the respective measurement process can be corroborated against the expectations implied by a theory (i.e., a functional relationship) that describes the connection between the mental attribute and its manifestations. In this endeavor, one needs to corroborate (a) the factual existence of the mental attribute of people. One also needs to validate (b) the content of the mental attribute. This typically happens with some manifest references, similar to the way the freezing and boiling points of water were used as reference points for measures of temperature. Only when equipped with measurement instruments that are validated in this manner is the stage set to build a cumulative replicable network of knowledge about the relevance of mental attributes for behavior.

Keywords: behavior explanation, Campbell paradigm, environmental attitude, measurement of attitudes, test validity

**ID-1045: ATTITUDES OFFSET BEHAVIORAL COSTS OF GREEN MOBILITY IN REAL-LIFE: A PSYCHOMETRIC EVALUATION OF THE CAMPBELL PARADIGM**

Leonie Stroebele[1], Laura Henn [1] , Nicolas E. Neef [1]

[1]*University of Hohenheim*, *Stuttgart*, *Germany*

Choosing green mobility options, such as biking or using public transport, often requires more time than using a private car. Based on the Campbell Paradigm, one would assume that the greater the time costs associated with green mobility, the stronger one's pro-environmental attitude must be to still engage in these behaviors. We test this core premise of the Campbell Paradigm – that attitudes offset behavioral costs - by examining whether sufficiency orientation (i.e., an individual's motivation to limit personal resource consumption) compensates for objective time costs of real-life green mobility behavior. We collected data from 240 German adults in a mobility-tracking study. Additional time costs for green mobility were calculated as the difference between the time required per distance traveled using green mobility options and the time required when traveling by car. Sufficiency orientation was measured using the 26-item Sufficiency Orientation Scale, which we then calibrated jointly with mobility behaviors exhibiting varying time costs in a dichotomous Rasch model. Our (at the time of abstract submission preliminary) analyses suggest that higher real-life time costs are associated with greater behavioral difficulty estimates derived from the Rasch model calibration. This indicates that sufficiency orientation may play a compensatory role in overcoming the objective time costs of green mobility choices. Our findings are expected to corroborate the assumption that behavioral costs as conceptualized in the Campbell paradigm reflect actual real-life behavioral costs and provide psychometric support for its core premise: that attitudes offset behavioral costs.

Keywords: Campbell paradigm, sufficiency orientation, measurement, mobility behavior

**ID-1047: THE PSYCHOLOGICAL CORE OF THE MOTIVATION TO PROTECT THE ENVIRONMENT: AN INTERNAL STRUCTURE VALIDATION**

Lukas Engel[1; 2], Maximilian Adler [3], Florian G. Kaiser [3]

[1]*University of Basel, Department of Psychology*, *Basel*, *Switzerland*, [2]*Leuphana University Lüneburg*, *Lüneburg*, *Germany*, [3]*Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*

People's environmental attitudes can be derived from verbal behavior (e.g., opinions about or claims of past environmental protection) or by observing what people do to protect the environment. When people recycle, refrain from commuting by car, or claim to follow a vegetarian diet, they reveal how important protecting the environment is to them. In return, environmental attitude alludes to the motive that is supposed to control people's engagement in environmental protection. Measures of this motive like the General Ecological Behavior scale capture individual differences in its strength, but fail to provide insights into qualitative differences in the psychological processes associated with different person scores. In this study, we propose a validation procedure – the BEAR assessment system (Wilson, 2023) – that maps people's decision-making, thinking, and acting on the environmental attitude continuum. Based on a US and two German samples (total *N* = 1,827), we went through a full cycle of the BEAR assessment system and corroborated with partial-credit Rasch-model tests the presumed psychological characteristics of distinct levels of environmental attitude. With weak attitudes, people do not reflect upon their impact on the environment and engage in environmental protection only because of a lack of choice. With mild attitudes, people start recognizing the importance of environmental protection. With active attitudes, people start taking responsibility by including environmental protection in their daily decisions, even accepting occasional inconveniences. With distinct attitudes, environmental protection defines a person in their multiple roles.

Keywords: environmental attitudes, attitude measurement, Campbell paradigm, construct map, test validity

**ID-1046: GENERALIZING INSIGHTS FROM A BIASED SAMPLE USING A PUBLIC SCALE OF ENVIRONMENTAL ATTITUDE**

Juliane K. Bücker[1], Florian G. Kaiser [1]

[1]*Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*

Psychological research typically wishes to generate insights that can be applied generally. However, most of our studies are compromised with nonrepresentative samples. If we do not know whether we deal with a highly or lowly committed sample, we cannot know what to conclude beyond the specific sample under investigation. In a field study, we tested people's willingness to adopt renewable energy technologies (e.g., photovoltaic systems and energy storage) in a small town in southern Germany. With our small and biased sample of 167 residents, we found that most participants expressed verbal support for such new technologies; few were, however, sufficiently committed to protecting the environment to schedule an appointment to identify options for such a transition. By using a reference-point-validated measure of environmental attitude, we recognized that our specific sample's commitment was significantly lower than that of the general German population. Although scheduling counselling required only a *mild* commitment, this requirement already exceeded people's level of commitment. From our research with a highly biased, little committed sample, we can nevertheless conclude that a majority of Germans would have scheduled for an appointment to identify options for adopting renewable energy technologies. Such a projection is possible because we know from prior research that the German population is, on average, *actively* committed to protecting the environment (see Bauske et al., 2022; Kaiser & Wilson, 2024). With

our research, we stress the importance of reference-point-validated measure of environmental attitude for a sound understanding and a proper generalizability of the findings of our research.

Keywords: biased sampling, test standardization, public scale, environmental attitudes, conservation behaviour

**ID-1048: STUDYING PRO-ENVIRONMENTAL BEHAVIOR AS A TIME ALLOCATION CONFLICT**

Florian Lange[1], Alex Rieger [2]

*[1]Behavioral Economics and Engineering Research Centre, KU Leuven*, *Leuven*, *Belgium*, *[2]Institute of Psychology - Methodology and Biopsychology, TU Braunschweig*, *Braunschweig*, *Germany*

Recent years have seen the development of multiple behavioral paradigms that link choice behavior in laboratory or online studies to actual environmental benefits and behavioral costs. A common limitation of those paradigms is that they conceptualize pro-environmental behavior as a yes/no decision: people can either invest resources to generate environmental benefits, or not. Yet in many everyday situations of environmental relevance, people may not primarily decide against engaging in a pro-environmental behavior, but for engaging in an alternative behavior that competes with the pro-environmental behavior for a limited resource (e.g., time). We developed the Behavioral Allocation Task (BAT) to explicitly model the opportunity costs of pro-environmental behavior. On each BAT trial, participants can decide whether they want to use the next 30 seconds to generate environmental benefits, to work for their own financial benefit, or to engage in a potentially more hedonic activity (i.e., watching videos). A preregistered experiment ($N$ = 228 US residents) showed BAT choice behavior to systematically track the value of those behavioral options. Pro-environmental choices became more likely when they led to larger environmental benefits, but also when the competing behaviors decreased in value. Individual differences in BAT behavior were also found to be moderately correlated with an established measure of pro-environmental propensity. These findings support the suitability of the BAT for studying how people allocate their time between pro-environmental behavior and valued competing behaviors. More generally, they illustrate that interventions may benefit from targeting the behaviors that compete with pro-environmental behaviors.

Keywords: pro-environmental behavior, research methods, behavioral paradigm, pro-environmental propensity, Behavioral Allocation Task

**16-06-2025 | 09:45 - 11:00**

**S-063**: **Energy transition**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Forest Room*

Chair (IS): Ricardo Garcia Mira, University of A coruna, PSYCHOLOGY, A Coruña, Spain.

**ID-185: SOCIAL AND PSYCHOLOGICAL ASPECTS OF ENERGY TRANSITION**

Ricardo Garcia Mira[1], Nachatter Singh [1]

[1]*University of A coruna*, *A Coruña*, *Spain*

This paper discusses the process of acceleration of the energy transition, decarbonising the energy sector in regions still heavily dependent on fossil-fuel-based industries, and it explores the social processes characterizing the transition currently ongoing in Europe. The de-territorialisation process in Coal and Carbon-intensive regions has raised critical constraints for management, because the progressive weakening of the tie between a community and its territory. The objective of this research was to analyse the social aspects of the transition to clean energy, focusing on: a) producing a detailed knowledge on the social aspects of the transition to clean energy in 13 regions; b) Develop a better understanding of the problems and the coping strategies they have developed; c) Co-create a set of policy recommendations. We used a survey to evaluate the social impacts of closure of coal-related industrial units on well-being and on the socio-psychological factors related to the de- and re-territorialisation processes. Stress and perceived economic hardship lowered life satisfaction and further increased people's intention to relocate. Transformative leadership of the region population growth and GDP/per capita had a negative effect on stress and perceived economic hardship. The employment rate had a positive association to life satisfaction and a negative one to intention to relocate. Place identity and place rootedness lowered the intention to relocate and stress. Uncertainties around the future and a high level of place attachment created perceived psychological stress. People had a high sense of territorial identity and dependence, which increased their resilience capacity and potential for re-invention.

Keywords: energy transition, de-territorialisation, re-territorialisation, place attachment, decarbonisation

**ID-911: THE TRANSITION TO A CIRCULAR ECONOMY: INVESTIGATING FACTORS INFLUENCING CIRCULAR CONSUMPTION**

Carina Hermandi[1], Wolfgang Irrek [1], Oliver Büttner [2]

[1]*Hochschule Ruhr West*, *Bottrop*, *Germany*, [2]*Universität Duisburg-Essen*, *Duisburg*, *Germany*

Households contribute significantly to annual CO2 emissions, primarily due to unsustainable consumption and premature product disposal. However, by adopting circular behaviours such as repairing, sharing, lend, buying second-hand, recycling and reselling, these emissions could be significantly reduced. Despite their potential, many households have not yet implemented these practices. Based on the Comprehensive Action Determination Model (CADM), a scale was developed to assess these behaviours, encompassing habits and knowledge. The study validated key constructs with the focus on household appliances (N=1,100) through exploratory and confirmatory factor analyses and examined the impact of materialism, personal and social norms, sociability, environmental awareness, product retention tendencies, and empathy on circular behaviour using a structural equation model. Initial

findings show that personal and social norms, as well as environmental awareness, are strong drivers of circular behaviour. The "Product Retention Tendency" – the inclination to keep products longer – has a dual effect: it inhibits behaviours like borrowing or sharing but promotes actions such as repairing and careful handling of products. Sociable individuals are more likely to engage in circular behaviour, whereas less sociable individuals are less likely to adopt such practices. Materialism, on the other hand, presents a significant barrier to adopting circular practices and hinders sustainable decision-making. This study highlights the complex motivations driving circular behaviour and underscores the crucial role of cognitive and psychological factors in shaping circular consumption patterns.

Keywords: circular consumption, norms, comprehensive action determination model, product retention tendency, habits

**ID-184: ENERGY SECURITY RISKS, ENERGY TRANSITION SUPPORT, AND THE ROLE OF CLIMATE CHANGE CONCERN: A TWO-COUNTRY STUDY**

Daniel Sloot[1], Kristin Limbach [1], Marie-Charlotte Guetlein [2], Corinne Faure [2], Wolf Fichtner [1], Frank Schultmann [1]

*[1]Karlsruhe Institute of Technology, Karlsruhe, Germany, [2]Grenoble Ecole de Management, Grenoble, France*

Russia's invasion of Ukraine in 2022 caused significant upheaval in the European energy markets, leading to concerns about energy security and affordability. This has sparked public debates over the course of the energy transition: in particular, do concerns about energy security risks pose a barrier or an opportunity for the energy transition? Consequently, we examine four dimensions of public concerns over energy security risks (reliability of supply, import dependency, affordability, and environmental impacts) and how these concerns are related to public support for the energy transition. Additionally, we study the belief that the energy crisis presents an opportunity as a potential mediating mechanism, and the role of climate change concern as a possible booster against the adverse effects of energy security concerns. Data was collected in Germany and France (total $N$ = 2,010) and was representative of the general population. Results showed that the public was mostly concerned about energy affordability. Multiple regression analyses showed, however, that concerns about environmental impacts of the energy system were a more consistent predictor of energy transition support. In line with expectations, we found that climate change concern moderated the relationship between affordability concerns and energy transition support in both countries. Finally, a moderated mediation model indicated that beliefs that the crisis presents an opportunity for the energy transition could explain some of the effects of energy security risks on support, but this indirect effect was again conditional on individual levels of climate change concern. We discuss theoretical and practical implications of our study.

Keywords: energy security risks, public support, climate change concern, energy crisis, policy support

**ID-256: MAXIMIZING VALIDITY AND FEASIBILITY OF EXPERIMENTAL FIELD TRIALS IN THE SUSTAINABLE ENERGY TRANSITION: A TOTAL ERROR FRAMEWORK**

Celina Kacperski[1; 2], Mona Bielig [1; 2], Melanie Vogel [1], Florian Kutzner [1], Sonja Klingert [3]

[1]*Seeburg Castle University*, *Salzburg*, *Austria*, [2]*Konstanz University*, *Konstanz*, *Germany*, [3]*Stuttgart University*, *Stuttgart*, *Germany*

**Introduction**: Research using sustainability-related behavioral data, such as energy and water consumption, offers valuable insights for environmental and policy research. These data can complement traditional surveys and support causal inferences when consumption patterns are targeted with interventions in experimental field trials. However, sources of error along the data collection and analysis pipeline inhibit validity and interpretability of such research. **Goals**: This study adapts the Total Survey Error (TSE) framework for sustainability-related experimental field trials to systematically identify, categorize, and mitigate sources of error throughout the research process, called the Sustainability Field Experiment Total Error Framework (SFE-TEF). **Methods**: Drawing on findings from 10 (quasi-)experimental field trials conducted in five Horizon 2020 projects, we analyzed procedures for trial design, data collection and processing. Errors were categorized and graphically represented based on the TSE framework. **Results**: We identified errors in four areas: measurement, sampling, experimental implementation, and data engagement. Key challenges included, among others, construct definition, sampling coverage, missing data errors, algorithmic biases, randomization issues, treatment fidelity, and biases during data processing and integration. We present the error framework using examples from our trials and propose strategies to address defined issues, such as robust experimental designs, four-eyes principle data validation, and triangulation of sources. **Conclusion**: This adaptation of the TSE framework establishes standardized terminology and methodology for sustainability-related field trials, enhancing consistency and rigor. Mitigating errors improves the utility of behavioral data for informing policy and advancing environmental sustainability research.

Keywords: error framework, methodology, field trials, experimental data, energy transition

## ID-733: CROSS-NATIONAL EFFECTS OF IDENTITY AND CONNECTEDNESS TO NATURE ON SUPPORT FOR RENEWABLE ENERGY TRANSITION

Shouzheng Chen[1]

[1]*The Hong Kong Polytechnic University*, *Hong Kong*

Shifting from fossil fuels to renewable energy sources is crucial for reaching carbon-neutral goals in combating climate change. Technological progress and policy implementations are important to achieve such a transition, yet active involvement and support from individuals are indispensable. Therefore, it is a priority to find meaningful ways to engage the public in renewable energy transition. In this study, we focus on identity and connectedness to nature and study their effects on support for renewable energy transition cross-nationally. By taking advantage of the readily available ECHOES international survey data among 31 European countries, we found that both identity and connected to nature were positively related to support for renewable energy transition, and these relationships varied notably across these European countries. These results demonstrate the need to acknowledge the behavioral influence of identity and connectedness to nature regarding renewable energy issues. We further apply random forest methods to examine associations between demographic and cross-cultural factors and renewable energy transition support. The utilization of random forest on this large dataset will allow us to generate robust predictions while visualizing the importance of impact from each factor.

**16-06-2025 | 09:45 - 11:00**

**S-061**: **Environmental design**

Session Topic: ARCHITECTURE, DESIGN AND HUMAN BEHAVIOUR (Environmental design)

*Sun Room*

Chair (IS): Genell Ebbini, Purdue University, Lafayette, United States.

## ID-695: WHY DOES NATURE MAKE US FEEL BETTER? FRACTAL GEOMETRY, COMPLEMENTARY MEASURES, AND THEIR CONTRIBUTION TO OUR BIOPHILIC VISUAL PREFERENCES FOR ENVIRONMENTS.

Alex Waldemar Lubiński[1], Maria Antonina Lewicka[1]

[1]*Nicolaus Copernicus University*, *Toruń*, *Poland*

An explicit preference for natural environments over human-made environments is consistently proven through environmental psychology research. The primary theory explaining preferences for natural over built stimuli is biophilia hypothesis, as formulated by Wilson (1984). However, there are other theories that may explain people's biophilic preferences, which are somewhat complementary to the biophilia hypothesis. According to the theory of the fluidity of sensory processing (Jacoby et al., 1989), people prefer stimuli that require minimal cognitive effort (Reber et al., 2004), which translates into a positive affect (Winkelman et al., 2011). A theory proposed by Joye (2007) focuses on the fractal nature of natural stimuli, which combines visual complexity with ease of processing and, therefore, contributes to the attractiveness of these stimuli. Still, current research seems to focus only on fractal dimension alone as a metric for measuring the "fractalness" of various stimuli. Christopher Alexander's theory of "natural order" (2002a, 2002b) drew our interest within this context. It emphasizes enduring principles of good design that offer aesthetic enjoyment, specifically emphasizing nature as the source of these principles and their intuitive application in human artistic endeavors. This presentation will focus on explaining the existing theoretical framework and our preliminary results from two studies (N=253, N=1077). These - among other things - seem to show a strong two-factor correlation between measures of natural order as described by Alexander and complementary dimensions of positive affect (excitement and relaxation). We will also discuss various limitations and current plans for future research aiming to address those limitations.

Keywords: biophilia, environmental psychology, fractal geometry, nature of order, restorative environments

## ID-331: USING GANS TO IDENTIFY ARCHITECTURAL FEATURES THAT SHAPE HUMAN EVALUATION OF HOUSE FACADES

Kira Pohlmann[1], Nour Tawil [1], Timothy Brick [2], Ehsan Yaghoubi [3], Simone Kühn [1; 4; 5]

[1]*Max Planck Institute for Human Development, CEN*, *Berlin*, *Germany*, [2]*Pennsylvania State University, HDFS*, *University Park, PA*, *United States*, [3]*Universität Hamburg, Department of Informatics*, *Hamburg*, *Germany*, [4]*University Medical Center Hamburg-Eppendorf*, *Hamburg*, *Germany*, [5]*Max Planck UCL Centre for Computational Psychiatry and Ageing Research*, *Berlin*, *Germany*

The influence of architectural design on psychological well-being is increasingly recognized, given the substantial time people spend in built environments. We explore the use of generative adversarial networks (GANs) to visualise and analyse house facades, focusing on psychological attributes such as invitingness, hominess, relaxation, and safety. We aim to identify architectural features that shape the evaluation of house facades and to distinguish the impact of low-level image features from architectural features in GAN-generated images. StyleGAN2-ADA, was trained on a conditional dataset of 2,000 house facades, using ratings collected from 204 participants in an online experiment. The GAN-generated images were rated by a second group of 204 participants on the same psychological dimensions. Participant ratings consistently matched the psychological attributes encoded in the GAN outputs, e.g., "inviting", with these images often showing characteristics such as larger house sizes, more windows, and enhanced greenery. In the second stage, the style-mixing component of StyleGAN2-ADA was used to generate images combining specific architectural features with varied styles, representing low-level image properties, such as brightness or colour. This generated a new dataset of 900 images, currently rated in an ongoing online experiment targeting 300 participants. Feature selection algorithms will identify features with the strongest influence on participant ratings; for instance, door visibility may significantly impact invitingness. This work advances the use of GANs for architectural design assessment, providing a method to identify visual elements that shape architectural evaluations in built environments.

Keywords: generative adversarial networks, house facades, architectural design, psychological attributes

**ID-436: NURTURING HUMAN EXPERIENCE THROUGH PLACE: A CULTURAL-SPATIAL FRAMEWORK FOR OMAN'S BUILT ENVIRONMENT**

Genell Ebbini[1]

[1]*Purdue University*, *Lafayette*, *United States*

As Oman Vision 2040 envisions a resilient, human-centered society prioritizing well-being, cultural identity, and sustainable development, the rapid pace of urbanization presents critical challenges. Standardized development and placelessness—where emotional and cultural connections to place are eroded—threaten community resilience and cultural continuity. This study investigates the reciprocal relationship between people and their built environments, examining how spatial design preserves cultural identity, nurtures the spirit of place, and promotes place-based well-being to advance human flourishing in Oman's evolving context. Grounded in an interdisciplinary foundation, this study develops Phase 1 of the Cultural-Spatial Framework (CSF). It integrates the Social-Ecological Model (SEM) to understand human-environment systems, Norberg-Schulz's phenomenology of architecture to explore cultural meaning in spaces, place theories (Relph, Tuan) to address spatial identity and memory, and Social Capital Theory (Putnam) to highlight community cohesion and trust. Together, these theories frame the interconnected constructs of Cultural Heritage & Preservation, Spirit of Place (genius loci), and Well-being, positioning human flourishing as a long-term aspiration. Using a quantitative approach, the study

employs a 35-item Likert-scale survey administered to stakeholders in Muscat and Ad Dakhiliyah Governorates in Oman. The survey examines five dimensions of human experience: personal connection to cultural spaces, daily life in built environments, sense of belonging, cultural identity expression, and quality of life satisfaction. Findings provide a baseline assessment of socio-cultural dynamics and flourishing indicators, offering pathways for sustainable urban development and community resilience while addressing placelessness. These insights hold broader relevance for rapidly urbanizing regions facing similar cultural and developmental challenges.

Keywords: cultural heritage, spirit of place, socio-cultural sustainability, place-based well-being, built environment

**ID-553: ANGULARITY VERSUS CURVATURE: IMPACT OF PRESENTATION MODES AND PERCEPTUAL STYLES ON THE RESPONSE TO ARCHITECTURAL FORMS**

Nour Tawil[1], Kira Pohlmann [1], Kim Falkenstein [1], Simone Kühn [1; 2]

*[1]Max Planck Institute for Human Development, CEN, Berlin, Germany, [2]University Medical Center Hamburg-Eppendorf, Hamburg, Germany*

As we spend the majority of our time indoors, understanding how these spaces influence our psychological responses is essential. While evidence suggests that curved architectural designs are more aesthetically appealing and relaxing than angular ones, these effects have mainly been demonstrated with static stimuli, overlooking the dynamic nature of spatial experiences. Furthermore, the role of perceptual styles, specifically global-local processing styles, in shaping these effects remains unexplored. To address these gaps, we conducted an online study with 100 participants who evaluated matched photorealistic living room settings featuring angular and curved designs. Half of the participants rated videos of these simulated environments (dynamic condition), while the other half rated sequences of images (static condition). Ratings included three affective dimensions: pleasantness, stress, and relaxation. Additionally, participants completed a global-local task to assess their processing styles. We employed linear mixed-effects models to investigate whether the previously demonstrated curvature effect persists in dynamic stimuli and to further explore if and how participants' perceptual processing styles influence these effects. A global-local processing index was calculated for each participant and used as a continuous predictor to examine its impact on room ratings (across both video and image conditions). Our findings aim to deepen the understanding of affective and cognitive processing of angular and curved designs beyond static experiences, potentially informing the creation of spaces that align with human emotions and perceptual tendencies.

Keywords: architectural design, angular versus curved, perceptual styles, global-local task, environmental preferences

**ID-882: SENSORY PROCESSING IN OFFICE ENVIRONMENTS: ASSOCIATION WITH BURNOUT, WELL-BEING, AND ENVIRONMENTAL SATISFACTION**

Clara Weber[1; 2], Jo Yarker [3]

[1]*ZHAW Zürcher Hochschule für Angewandte Wissenschaften*, *Wädenswil*, *Switzerland*, [2]*Environmental Psychology Research Group, University of Surrey*, *Guildford*, *United Kingdom*, [3]*Birkbeck University, School of Psychology*, *London*, *United Kingdom*

Sensory challenges at work are a growing concern with recent evidence suggesting a link between sensory sensitivity, occupational stress, and burnout. Yet, while variance in sensory sensitivity among the general population is recognized, their relationship with office environment characteristics and occupational health remains underexplored. This study addresses this gap by conducting a cross-sectional survey of 327 office workers in Great Britain, aged 18 to 64, from diverse industries and job roles. Participants were included if they worked at their primary office location for at least three days per week. Regression analyses revealed a positive association between sensory sensitivity (measured via the Adult/Adolescent Sensory Profile; AASP, low neurological thresholds) and burnout (Burnout Assessment Tool; BAT), reduced well-being (WHO-5), and lower satisfaction with the work environment, independent of office type. Notably, perceived control over the workspace was a moderately strong predictor of these outcomes, whereas specific office characteristics played a minimal role. These findings provide initial evidence linking sensory sensitivity to occupational health outcomes and perceived environmental attributes. The results underscore the need for replication using longitudinal and experimental designs. Future research should investigate the efficacy of targeted sensory interventions to alleviate environmental stressors and enhance workplace well-being and satisfaction.

Keywords: sensory sensitivity, aasp, office, burnout, occupational health

**16-06-2025 | 11:00 - 11:30**

**Coffee Break**

*Campus Courtyard*

**16-06-2025 | 11:30 - 12:45**

**S-010**: **Pro-Environmental Behaviour in the Workplace: Insights and Actionable Strategies**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Valley Room*

Chair: Brian Wagner, University of Groningen, Environmental Psychology, Groningen, Netherlands.

**ID-1094: WORKPLACE INTERVENTIONS TO CHANGE PRO-ENVIRONMENTAL BEHAVIOUR: A META-ANALYSIS**

Franziska Brack[1], Hannes Petrowsky [2], Jacob Hoerisch [3], David Loschelder [4]

[1]*Leuphana University Lüneburg / Centre for Sustainability Management*, *Lüneburg*, *Germany*, [2]*Institute for Management & Organization / Leuphana University*, *Lüneburg*, *Germany*, [3]*Center for Sustainable Management / Leuphana University*, *Lüneburg*, *Germany*, [4]*Institute for Management & Organization, Professorship for Business and Social P*, *Lüneburg*, *Germany*

Organisations are pivotal in promoting sustainable development by fostering pro-environmental behaviour among employees. While the workplace's potential as a platform for behavioural change is underexplored compared to households, it is growing. The workplace provides access to a broad demographic, influencing a substantial portion of society and potentially triggering positive spillover into private behaviour. However, interventions at the workplace show varied effects, from large (g = 0.93) to negative (g = -0.38). **Goals & Objectives**: This meta-analysis investigates (1) the overall effectiveness of workplace interventions on pro-environmental behavioural change and (2) moderating factors influencing intervention outcomes. **Materials & Methods**: The study adheres to PRISMA meta-analysis guidelines. Inclusion criteria required studies to (a) quantify pro-environmental behaviour, (b) target workplaces, (c) involve employee-focused interventions, (d) use pretest-posttest designs, and (e) be peer-reviewed and in English. A systematic search on SCOPUS and Web of Science employs the following terms: intervention* OR "behav* change" AND sustainability-related behaviours (e.g., recycling, energy use) AND workplace contexts. Only articles in relevant disciplines (e.g., sociology, psychology, environmental studies) are included. Robust Variance Estimation accounts for statistically dependent effect sizes. **Results**: The meta-analysis is ongoing. Preliminary findings indicate variability in intervention effectiveness, highlighting the importance of context-specific moderators. **Conclusions**: The meta-analysis aims to provide a comprehensive overview of the effectiveness of pro-environmental behavioural change interventions at the workplace. It will support future research by guiding studies on intervention combinations and underlying behavioural factors. Additionally, it will offer practitioners a detailed summary of various tested interventions in real-world settings.

Keywords: pro-environmental behaviour, intervention effectiveness, workplace interventions, meta-analysis, behavioural change

## ID-1095: UNDERSTANDING THE DRIVERS OF WORKPLACE PRO-ENVIRONMENTAL BEHAVIOUR: THE ROLE OF BIOSPHERIC VALUES AND EFFICACY BELIEFS

Brian Wagner[1], Linda Steg [1], Ellen Van der Werff [1], Lindsay Miller [2]

[1]*University of Groningen / Environmental Psychology*, *Groningen*, *Netherlands*, [2]*Department of Communication / UCSB*, *Santa Barbara*, *United States*

**Introduction**: Achieving the goal of limiting global warming requires concerted efforts across all sectors, including workplaces (IPCC, 2022, 2023). Workplace pro-environmental behaviours (WPEBs) involve actions focused on the direct, individual impact employees can make through their work tasks in their job role, while workplace everyday environmental activism (WEEA) refers to advocacy, motivating others, and promoting system-level changes. Despite their importance, limited research exists on the factors driving these behaviours in the workplace. **Goals & Objectives**: This study examines the role of personal and perceived organisational biospheric values, self - and outcome efficacy in fostering WPEBs and WEEA. We aim to determine how individual and organisational factors influence both direct behavioural changes

and system-level advocacy. **Materials & Methods**: The study combines questionnaire data with an experimental design. Tailored interventions are designed to enhance both self-efficacy and outcome efficacy. Participants are hypothesised to exhibit increased engagement in WPEBs and WEEA following these interventions. This builds on earlier findings demonstrating the importance of efficacy in mediating the relationship between biospheric values and workplace behaviours (Wagner et al., 2024). **Results**: Preliminary results from a pilot study confirm the hypothesised relationships. Employees with stronger biospheric values and heightened efficacy beliefs demonstrated greater involvement in both WPEBs and WEEA. A larger-scale experiment is planned to validate and extend these findings. **Conclusions**: Our findings offer actionable insights for organisational leaders and policymakers. We propose practical interventions for enhancing efficacy beliefs that effectively promote workplace pro-environmental behaviours, supporting broader sustainability goals.

Keywords: biospheric values, self-efficacy, outcome efficacy, workplace pro-environmental behaviours, workplace every day environmental activism

## ID-1096: NORMATIVE INFLUENCES OF CORPORATE ENVIRONMENTAL RESPONSIBILITY ON PRO-ENVIRONMENTAL BEHAVIOURS: INSIGHTS FROM ITALY, CHINA, AND TAIWAN

Xiaotian Liu[3], Mei Xie[12], Marino Bonaiuto [1; 2], Alessandro Milani [4], Flavia Bonaiuto [5], Lavinia Cicero [6], Uberta Ganucci Cancellieri [7], Yanhui Mao [8], Alessandro Lorenzo Mura [9], Tzuhui Angie Tseng [10], Marco Cristian Vitiello [5; 11]

*[1]Department of Psychology of Developmental and Socialization Processes, Sapienza , Rome, Italy, [2]CIRPA – Centre for Interuniversity Research in Environmental Psychology, Rome, Italy, [3]Psychology of Developmental and Socialization Processes / Sapienza University, Rome, Italy, [4]CIRPA–Centre in Environmental Psychology, Sapienza University, Rome, Italy, [5]Human and Social Sciences, Universitas Mercatorum, Rome, Italy, [6]E-Campus Telematic University, Rome, Italy, [7]University for Foreigners "Dante Alighieri" of Reggio Calabria, Reggio Calabria, Italy, [8]Southwest Jiaotong University, Chengdu, China, [9]Education, Psychology, Philosophy, University of Cagliari, Cagliari, Italy, [10]National Tsing Hua University, Hsinchu, Taiwan, [11]Studio Saperessere Srl, Rome, Italy, [12]Psychology of Developmental and Socialization Processes, Sapienza University, Rome, Italy*

**Introduction**: Corporate Environmental Responsibility (CER) encompasses voluntary initiatives organizations undertake to minimize their environmental impact and communicate these efforts internally and externally. This study employs the Focus Theory of Normative Conduct (Cialdini et al., 1991) to define CER norms as the organization's beliefs about approved actions (injunctive norms) and its actual practices (descriptive norms). **Objectives**: The aim is to examine how descriptive and injunctive CER norms enhance collective efficacy toward environmental issues. This, in turn, is expected to positively influence attitudes and intentions toward simple and complex pro-environmental behaviors, such as recycling and adopting new energy technologies, at work and at home. The study also explores norm tightness/looseness moderating role in the relationship between CER norms and behavioral outcomes. **Materials and Methods**: This correlational research involves samples of employees from publicand private organizations in Italy and China (mainland China and Taiwan). A multi-group regression model analyzes the relationships between variables and compares different samples. **Results**: The findings highlight the critical role of CER norms in fostering pro-environmental behaviors in organizational contexts

and private life. The moderating role of norm tightness/looseness in the relationship between CER norms and behavioral outcomes was revealed. **Conclusions**: The importance of cross-cultural studies on this topic is growing, although more than a simple East-West comparison is needed for generalization (Krys et al., 2024). Exploring how the impact of these normative behaviors may differ in countries like China, where adherence to norms is generally stricter than in Western countries (Gelfand et al., 2011), remains particularly compelling.

Keywords: corporate environmental responsibility, social norms, pro-environmental behaviors, norm tightness/looseness, cross-cultural research

**ID-1097: NEGOTIATORS FACING EXTERNALITIES: AN EXPERIMENTAL INVESTIGATION INTO NEGOTIATORS' BALANCING OF MULTIPLE CONFLICTS OF INTEREST**

Marco Schauer[1], Roman Trötschel [2]

*[1]Leuphana University Lüneburg / Institute of Sustainability Psychology, Lüneburg, Germany, [2]Leuphana Univserity / Institute of Sustainability Psychology, Lüneburg, Germany*

Joint decision-making processes (negotiations) are vital tools for organizations' sustainability transformations. When stakeholders negotiate, the agreements' consequences typically extend beyond the negotiation table, affecting third parties who were not formally represented. However, the negotiation literature has predominantly investigated single-dimensional negotiations aimed at maximizing stakeholders' economic utility, omitting social or ecological externalities. **Objectives**: Throughout four (pre-registered) experimental studies (n = 894) we investigate how negotiators balance their (economic) conflict at the negotiation table, with the multi-dimensional (economic vs. ecological outcomes) conflict with external parties. Specifically, we test whether the complexity of the decision-task leads negotiators to prioritize conflict resolution with a counterpart, at the expense of externalities. **Materials & Methods**: Using a novel, incentivized negotiation paradigm that incorporates economic and ecological consequences, we ran one scenario-based and three interactive negotiation studies. Studies one to three investigated the role of complexity in negotiators' conflict balancing, while study four tested an intervention aimed at facilitating sustainable conflict resolution. **Results**: Negotiators prioritized their immediate (economic) conflict with a counterpart, producing great ecological externalities. Task complexity exacerbated this effect. Particularly, negotiators reached inefficient agreements, missing out on possibilities to created equal economic profits while causing lower ecological harm. Providing negotiators with ecological limits that define sustainable scale did increase decision- quality, but ecological tipping-points were nevertheless overstepped. **Conclusion**: We argue that besides motivational determinants, it is the decision complexity that drives stakeholders non-sustainable conflict resolution, prioritizing economic profits while needlessly harming ecological externalities. Providing explicit ecological limits does improve decision-quality but requires further investigation.

Keywords: negotiation, externalities, decision-making, conflict-resolution

**ID-727: SCREENING EMPLOYEE GREEN BEHAVIOUR – DEVELOPMENT AND FIRST VALIDATION OF AN ONLINE QUESTIONNAIRE TO ASSESS ENVIRONMENTALLY RELEVANT CHARACTERISTICS OF EMPLOYEES**

Andreas Homburg[1]

[1]*Darmstadt University of Applied Sciences*, *Darmstadt*, *Germany*

**Introduction:** Employee Green Behaviour (EGB) should be studied in relation to environmental sustainability (Zacher et al., 2023). It should be possible to measure EGB and potential determinants, and a screening tool (questionnaire) should be available to identify empirically based starting points for interventions in organisations. **Goals & Methods:** For the development (e.g. construct validation) of such a screening tool, we addressed the following questions via four empirical studies (convenience samples, *N* = 121, 122, 140, 174, office employee): (a) what is the structure of self-reported EGB (10 items, in-role and ex-role EGB)?, (b) how does self-reported EGB relate to "actual" EGB?, (c) how does EGB relate to possible individual-level antecedents (e.g., habits, values, perceived support, identification with the organisation, environmental identity)? and (d) how does the screening tool perform regarding other (psychometric) quality criteria? **Results:** Results indicated (a) a single-factor structure of self-reported EGB, (b) inconsistent correlations between self-reported and actual EGB, (c) expected correlations between EGB and individual antecedents (*r* = .16* – *r* = .67**, and (d) a satisfactory psychometric quality of the questionnaire. **Conclusions:** We conclude that the screening tool should be further developed and used in practice.

Keywords: employee green behaviour, pro-environmental behaviour, questionnaire development

**16-06-2025 | 11:30 - 12:45**

**S-007**: **Cultural and psychological determinants of attitudes toward climate change: An intercultural study in Central Europe, Central Asia, and the Middle East**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (People-environment relations under pandemics and crises)

*Fauna Room*

Chair: Anna Kwiatkowska, Polish Academy of Sciences, Institute of Psychology, Warsaw, Poland.

**ID-1153: WHAT DO PEOPLE THINK AND HOW DO THEY FEEL ABOUT CLIMATE CHANGE? SOME EVIDENCE FROM FIVE COUNTRIES: BELARUS, LITHUANIA, POLAND, THE UNITED ARAB EMIRATES, AND UZBEKISTAN**

Vita Mikuliciute[1], Ruta Sargautyte[1], Konstantin Karpinskij [2], Anna Kwiatkowska [3], Magdalena Mosanya [4], Bachtigul Nurullayeva [2], Dilbar Urazbayeva [2], Patrycja Uram [3]

[1]*Faculty of Philosophy, Vilnius University*, *Vilnius*, *Lithuania*, [2]*Department of Psychology; Manun University*, *Urgencz*, *Uzbekistan*, [3]*Institute of Psychology, Polish Academy of Sciences*, *Warsaw*, *Poland*, [4]*Murdoch University*, *Dubai*, *United Arab Emirates*

Attitudes toward climate change (CC) vary across countries for several reasons. These include differences in vulnerability to extreme weather events (such as droughts, extreme heat, floods, hurricanes, and wildfires), the political agendas of governments regarding environmental issues, variations in national

wealth, and cultural factors. This study explored attitudes towards CC across five nations. The total sample consisted of N = 1268 participants (Belarus N = 207, Lithuania N = 225, Poland N = 304; UAE N = 251, Uzbekistan N = 281). Approximately 30% of the participants were male, with a mean age of around 23. We created six variables to measure attitudinal components: COGNITIVE (1) CC perceived as real; (2) CC perceived as fake, (3) CC perceived as an unstoppable process; AFFECTIVE (4) personal concerns about global warming, (5) worries about negative consequences of global warming in the next 20 years; BEHAVIOURAL INTENTIONS (6) opinion about individual action as useless in the fight against CC. Results showed that country profiles built on mean scores of each variable were similar, with the highest scores of CC_real and the lowest scores of CC_fake, which suggest that people in each country accept the view that CC is happening and don't deny it, except Uzbekistan where people accept both views to a similar degree. Concerns and worries about climate change were highest in the UAE, Lithuania, and Poland, while they were lowest in Belarus. Differences between and within countries were discussed regarding geographical, demographic, and cultural factors.

Keywords: climate change, attitudes, perception, concern, cross-cultural study

**ID-1154: CULTURAL VALUES AND ECOCENTRIC VS ANTHROPOCENTRIC WORLDVIEWS AS PREDICTORS OF PERCEPTION AND CONCERN FOR CLIMATE CHANGE IN THREE CULTURAL ZONES (CENTRAL EUROPE, CENTRAL ASIA, AND THE MIDDLE EAST)**

Patrycja Uram[2] , Konstantin Karpinskij[1], Anna Kwiatkowska [2], Vita Mikuliciute [3], Magdalena Mosanya [4], Bachtigul Nurullayeva [1], Ruta Sargautyte [3], Dilbar Urazbayeva [1]

*[1]Department of Psychology; Manun University*, *Urgencz*, *Uzbekistan*, *[2]Institute of Psychology, Polish Academy of Sciences*, *Warsaw*, *Poland*, *[3]Faculty of Philosophy, Vilnius University*, *Vilnius*, *Lithuania*, *[4]Murdoch University*, *Dubai*, *United Arab Emirates*

Differences in pro-environmental attitudes, reflected in the accurate perceptions and concerns about climate change (CC), may be influenced by cultural factors, such as collectivistic and individualistic values. Collectivism promotes pro-environmental attitudes because it emphasizes community goals, like environmental protection, over individual self-interest. In contrast, individualistic cultures prioritize personal interests, which can lead to less concern for collective goods, such as the environment. According to the New Environmental Paradigm, worldviews surrounding human-nature relationships can be categorized as anthropocentric or ecocentric. We hypothesized that collectivistic values and ecocentrism would positively predict attitudes toward climate change, while individualism and anthropocentrism negatively. The total sample consisted of N = 1268 participants (Belarus N = 207, Lithuania N = 225, Poland N = 304; UAE N = 251, Uzbekistan N = 281). Approximately 30% of the participants were male, with a mean age of around 23. We conducted linear regression analyses in the total sample and national sub-samples. Predictors comprised collectivistic and individualistic values (self-indulgence and self-realization), anthropocentrism, ecocentrism, and ecocentrism-equal-rights. Dependent variables were cognitive, affective, and behavioral components of CC attitudes. The results from the total sample didn't fully support our expectations regarding collectivism and only partially supported our hypothesis concerning individualism. As expected, both forms of ecocentrism significantly predicted most of the dependent variables, indicating pro-environmental attitudes, while anthropocentrism predicted CC attitudes

negatively. Regression analyses performed across countries revealed different patterns, demonstrating national specificities. Results contribute to the worldwide discussion on the role of collectivism and individualism in attitudes toward the environment.

Keywords: climate change, cultural values, ecocentrism, anthropocentrism, cross-cultural study

**ID-1155: WHO IS THE MOST RESPONSIBLE FOR MITIGATING THE CONSEQUENCES OF CLIMATE CHANGE, ACCORDING TO CITIZENS OF BELARUS, LITHUANIA, POLAND, THE UNITED ARAB EMIRATES, AND UZBEKISTAN**

Dilbar Urazbayeva[1], Konstantin Karpinskij [1], Anna Kwiatkowska [2], Vita Mikuliciute [3], Magdalena Mosanya [4], Bachtigul Nurullayeva [1], Ruta Sargautyte [3], Patrycja Uram [2]

*[1]Department of Psychology; Manun University, Urgencz, Uzbekistan, [2]Institute of Psychology, Polish Academy of Sciences, Warsaw, Poland, [3]Faculty of Philosophy, Vilnius University, Vilnius, Lithuania, [4]Murdoch University, Dubai, United Arab Emirates*

People respond to climate change (CC) in various ways and with differing levels of engagement, including inaction. Researchers have observed that even individuals with high environmental concerns may choose not to act, believing that environmental protection is the responsibility of other entities. This study focuses on how citizens from different countries delegate the responsibility for mitigating and reducing the consequences of CC to specific entities. The total sample consisted of N = 1268 participants (30% men; Mage=23) (Belarus N = 207; Lithuania N = 225; Poland N = 304; UAE N = 251; Uzbekistan N = 281). We identified 13 entities that could be held responsible for CC: 'everyone', social activists, teachers, religious leaders, scientists, political leaders, businesses, governments, wealthy individuals, wealthy countries, polluting countries, media representatives, and celebrities. Participants were asked to assess the responsibility of these entities on a 5-point scale and select the three entities they believed were most responsible. The results indicated all mentioned entities were perceived as responsible across the total and national samples, with scores above the midpoint on the scale. However, in Poland, social activists and religious leaders were rated below the midpoint. Scientists, governments, and polluting countries were evaluated as the most responsible for all samples. Regarding the frequency of selected entities, 'everyone' was the most frequently chosen, while social activists, religious leaders, media representatives, and celebrities were among the least selected. This study fills the gap in the literature on the perception of responsibility for CC from a cross-cultural perspective.

Keywords: climate change, responsibility, shifting responsibility, cross-cultural study

**ID-1156: INCLUSIVENESS OF THE WE-CONCEPT AND ATTITUDES TOWARD CLIMATE CHANGE IN THREE CULTURAL ZONES: CENTRAL EUROPE, CENTRAL ASIA, AND THE MIDDLE EAST**

Anna Kwiatkowska[1], Konstantin Karpinskij [2], Vita Mikuliciute [3], Magdalena Mosanya [4], Bachtigul Nurullayeva [2], Ruta Sargautyte [3], Patrycja Uram [1], Dilbar Urazbayeva [2]

[1]*Institute of Psychology, Polish Academy of Sciences*, *Warsaw*, *Poland*, [2]*Department of Psychology; Manun University*, *Urgencz*, *Uzbekistan*, [3]*Faculty of Philosophy, Vilnius University*, *Vilnius*, *Lithuania*, [4]*Murdoch University*, *Dubai*, *United Arab Emirates*

Protection of the global environment requires joint efforts of all people across the planet. Acting together means considering other people's perspectives and being sensitive to their needs, regardless of individual or group characteristics. According to Social Identity Theory, individuals tend to care more about members of their ingroup than those in outgroups. Willingness to cross ingroup–outgroup boundaries and to feel concern for others depends on how inclusive the ingroup is. A cognitive representation of one's belonging to various social groups, characterized by different levels of inclusiveness, can be termed the 'We-concept.' In this study, we hypothesized that a more inclusive 'We-concept' led to more accurate perceptions of climate change (CC) (CC as real vs CC as fake) and greater concern for it. The total sample consisted of N = 1268 participants (30% men; M age=23 (Belarus N = 207, Lithuania N = 225, Poland N = 304; UAE N = 251, Uzbekistan N = 281). We asked participants an open question: Who are the people you call 'WE'? The answers were categorized into six categories of inclusiveness. As expected, the most inclusive 'We-concept', 'Humans & Non-humans,' related to the highest scores of perceptions of CC as real and CC concerns and worries, while 'We as a group' was linked to the lowest scores for perceiving CC as real and experiencing concerns and worries, and to higher scores for considering it as fake. Findings in total and national samples showed a similar general pattern, but proportions of 'WE-concept' types varied.

Keywords: climate change, attitudes, social belonginess, we-concept, cross-cultural study

**16-06-2025 | 11:30 - 12:45**

**S-008**: **Planetary Health in the Heat of the Moment: Behaviour, Communication, and Policy (Part II)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Natural disasters and coping with environmental risks and hazards)

*Dawn Room*

Chair: Dominik Daube, University of Erfurt, Institute for Planetary Health Behaviour, Erfurt, Germany.

**ID-1193: UNDERSTANDING AND ADDRESSING HEAT-RELATED RISKS**

Parichehr Shamsrizi[1; 2], Dominik Daube[1; 2], Mirjam Jenny[1; 2], Sarah Pelull [1; 2], Cornelia Betsch[1; 2]

[1]*Bernhard Nocht Institute for Tropical Medicine*, *Hamburg*, *Germany*, [2]*University of Erfurt/Institute for Planetary Health Behaviour*, *Erfurt*, *Germany*

As rising temperatures increasingly impact human health, understanding discrepancies in how individuals – and especially those at special risk – perceive and respond to these risks, is crucial for effective health communication, public health policies and interventions. We aim to determine people's knowledge, risk perception and protective behaviors on heat days and how public health campaigns influence these

factors. Relevant data were collected during and directly after heat days in 2022-2024, as part of the Planetary Health Action Survey (PACE) and HEATCOM project (Behavioural data for effective heat communication), serial cross-sectional online surveys of approximately 1000 individuals. The samples were non-probabilistic and quota-representative for age (18–74 years), gender, and federal state in Germany. First results show that only one-third of individuals identified as vulnerable to heat perceive themselves as such, including those whose risk status was determined by factors that can be changed individually (e.g. sport, alcohol consumption). Over half of respondents underestimated their susceptibility to heat-related risks. Those who did not know their risk status showed less heat protection behavior and only knowledge about heat days and their risks were not related to taking up protective behavior. Furthermore, our analyses reveal only minimal knowledge and risk perception improvements over the summer, even following heat exposure experiences and national heat action campaigns. Health campaigns and communication recommendations to policymakers should not only aim to improve knowledge but also address risk perceptions, facilitate social learning, communicate social norms and remove barriers that prevent protective behaviors.

Keywords: heat risk perception, protective behaviours, campaigns, planetary health, vulnerability

**ID-1194: WITHIN-PERSON PERCEPTION ACCURACY OF HEAT WARNINGS VARIES WITH LOCAL DIURNAL TEMPERATURE RANGE: EVIDENCE BEYOND BETWEEN-SUBJECT DIFFERENCES IN ADULTS OVER 65**

Robert W. Bruckmann[1], Philipp Sprengholz [1]

[1]*University of Bamberg/Institute for Psychology*, *Bamberg*, *Germany*

**Introduction**: Heat warnings serve as cues to action for health protective behaviors. Currently, heat warning effectiveness is typically investigated as a function of between-subjects characteristics. However, momentary ecological factors may introduce considerable variation in how accurate the same person perceives heat warnings over time. **Objectives**: The goal of this study was to examine longitudinally whether momentary weather conditions, rather than stable individual characteristics, better explain variations in the same person's heat warning perception accuracy over time. By employing a situational within-subject perspective, we aimed to investigate a more dynamic approach to heat warning communications. **Methods**: In a weekly experience sampling study during Summer 2024, we tracked responses of around 350 adults aged 65+ across Germany. Participants' reported warning levels were matched against official meteorological data at response time and location. Both between- and within-person effect profiles were analyzed through cumulative link mixed modeling to explain variation in perception accuracy. **Results**: When experiencing larger-than-usual temperature swings, respondents significantly underestimated heat warning levels. Within-person variations in daily temperature range had a substantially stronger impact on accuracy than differences in typically experienced temperature ranges between people. Notably, neither personality traits nor sociodemographic characteristics were associated with warning perception accuracy. **Conclusions**: Heat warning systems should particularly strengthen their communication when larger temperature variations are predicted, especially during morning hours when conditions might mask upcoming heat risks. Warning messages could explicitly address the

disconnect between momentary temperatures and predicted heat strain to improve warning perception accuracy during critical conditions.

Keywords: heat warnings, experience sampling, situational effects, perception accuracy, diurnal temperature range

**ID-1195: ADAPTING TO THE HEAT OF THE MOMENT: A MOBILE EXPERIENCE SAMPLING STUDY ON THE DYNAMICS OF HEAT STRESS, APPRAISALS, AFFECT, AND BEHAVIOUR**

Elisabeth Glunz[1; 2], Lars Gerhold [1; 3]

*[1]Technical University Braunschweig/Institute of Psychology*, *Braunschweig*, *Germany*, *[2]University of Basel/Digital Humanities Lab*, *Basel*, *Switzerland*, *[3]Weizenbaum Institute*, *Berlin*, *Germany*

Among the pressing challenges for climate adaptation is to better understand perceptions and behaviour related to heat stress. Protective behaviour theories suggest that exposure to heat shapes perceptions, which can influence behaviour and, in turn, lead to changes in heat-related context cues. This mobile experience sampling study aims to identify the dynamic interplay between situational variations in exogenous heat stress, appraisals, affect, and behaviour. We hypothesised that people adjust their threat appraisal to heat stress exposure, warnings, protective activity and place cues (sensitivity hypothesis). Negative affect, threat and coping appraisal were expected to precede protective behaviour changes (motivation hypothesis). Additionally, we explored whether reappraisals and affective alterations follow behaviour change (reappraisal hypothesis). By integrating meteorological with intensive longitudinal survey data, we analysed within-person variation in 4,392 observations from 134 individuals using autoregressive multilevel models. Results support our sensitivity hypothesis as changes in threat appraisal are associated with situational heat stress, warnings, and protective cues. Whereas a motivating effect of appraisals or affect preceding behaviour change was not evident, individuals reappraised temperatures as less threatening, easier to cope with and less negative after protective behaviour changes. These findings suggest that situational factors are essential for explaining threat appraisal and thus underline the importance of longitudinal monitoring in heat action plans and research. While our findings do not support the notion that appraisals and affect motivate heat-protective behaviour changes, we discuss the relevance of context-sensitive and flexible capacity building, which can be influenced, for example, by tailored warnings and urban planning measures.

Keywords: climate adaptation, risk perception, self-efficacy, emotion, ecological momentary assessment

**ID-1196: INTENSE HEAT AND HUMAN RESPONSES: LONGITUDINAL EVIDENCE ON ATTITUDES, EMOTIONS, AND BEHAVIORS FROM A NATURAL EXPERIMENT**

Sofiia Skipor[1], Magnus Bergquist[1]

[1]*University of Gothenburg/Department of Psychology*, *Gothenburg*, *Sweden*

Research suggests that personal experiences of unusually hot weather can heighten risk perception, negative emotions, and climate change concerns, influencing adaptation behaviors. However, the causal link between these experiences and attitudes or behaviors remains unclear. Evidence also hints at reverse causality, where individuals with stronger climate beliefs are more likely to report extreme weather experiences. The direct effects of weather experiences on attitudes and behaviors yield mixed results, highlighting the need to explore mediating processes and pathways. This study investigates connections between heatwave experiences, psychological responses, and adaptation behaviors, focusing on mediation pathways through a longitudinal natural experiment. Specifically, we examine whether uncomfortable heat experiences increase risk perception, negative emotions, climate concerns, adaptation behaviors, and policy support, and explore potential mediation effects among these variables. In a 13-week longitudinal design (June–August 2024), a US-representative sample (N=2,000) reported weekly on their heat experiences, psychological responses, and behaviors. Subjective weather perceptions were supplemented with objective weather data and media coverage to contextualize individual experiences. Naturally occurring "experimental" and "control" groups emerged due to regional heatwave variability. Preliminary analyses reveal variability in psychological and behavioral responses across time and regions, shedding light on the dynamic interplay between weather experiences and adaptation behaviors. These findings contribute to understanding the psychological mechanisms linking extreme weather experiences to climate change responses.

Keywords: heatwave adaptation, climate change beliefs, risk perception, longitudinal study, natural experiment

**ID-1197: INCORPORATING THERMO-PHYSIOLOGICAL AND BEHAVIORAL ADAPTIVE RESPONSES INTO HEAT STRESS RISK ASSESSMENT AND COMMUNICATION**

Christos Giannaros[1; 2]

[1]*National and Kapodistrian University of Athens/Department of Physics*, *Athens*, *Greece*, [2]*National Observatory of Athens*, *Athens*, *Greece*

The human body undertakes various thermo-physiological adjustments (e.g. increasing sweat production) when it is exposed continuously to a hot environment to cope with heat stress. Short-term thermo-physiological adaptation typically occurs within one to two weeks of heat stress exposure, while it is lost approximately one month after exposure ends. Additionally, individuals make behavioral adjustments to better adapt to their environment. The most common form of behavioral adaptation is adjusting clothing levels based on the prevailing environmental conditions, while other behavioral adaptation options include alterations in position (e.g. walking in the shade) and metabolic rate (e.g. reduced physical activity). The current work presents tangible pathways for incorporating these adaptive mechanisms into heat stress risk assessment and communication. Specifically, two practical implementations are provided, both leveraging the modified Physiologically Equivalent Temperature (mPET), an advanced human-biometeorological index. The first example focuses on the warning protocol of the prototype HEAT-ALARM system, detailing the methodological framework for integrating short-term acclimatization effects and dynamically adjusting clothing levels into heat stress estimations. The communication of these

sophisticated warnings during the 2024 warm season HEAT-ALARM pilot operation is also discussed, with an emphasis on challenges related to familiarity and multi-lingual messaging. The second example focuses on future heat-health impact assessments, presenting a pioneering concept for eXploring futurE humaN thermal bIoclimate pAthways (XENIA project), considering plausible thermo-physiological and behavioral adaptive responses to the anticipated warmer future climate. It further emphasizes how effectively communicating the relevant heat-health outcomes can support the development of more informed and impactful policy decisions.

Keywords: thermo-physiological adaptation, behavioral adjustment, heat stress, risk communication, heat-health impact assessment

**16-06-2025 | 11:30 - 12:45**

**S-009**: **People's acceptance of new climate-friendly/ sustainable products & technologies (Part II)**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Earth Hall Plenary*

Chair: Anke Blöbaum, Otto-von-Guericke University, Institute of Psychology, Magdeburg, Germany.
Chair: Karolin Schmidt, Otto-von-Geuricke-University Magdeburg, Environmental Psychology, Magdeburg, Germany.

## ID-1170: MAXIMISING USER ACCEPTANCE OF WASTEWATER TREATMENT AND REUSE THROUGH OPTIMISED SOCIO-TECHNICAL CONFIGURATIONS: AN EXPERIMENTAL STUDY IN BENGALURU, INDIA

Josianne Kollmann [1], Nadja Contzen [2]

[1]*Eawag- Swiss Federal Institute of Aquatic Science and Technology*, *Dübendorf*, *Switzerland*, [2]*Eawag: Swiss Federal Institute of Aquatic Science and Technology*, *Dübendorf*, *Switzerland*

In Bengaluru, as in many places worldwide, rapid urban population growth and increasing water scarcity raise the need for reducing potable water consumption and for increasing the city's wastewater treatment capacity. One solution is to treat wastewater close to its source of generation with so-called on-site wastewater treatment systems and to directly reuse it either on- or off-site. To increase the use of such systems, the local government of Bengaluru has issued a policy mandating their adoption for part of the population. However, despite this policy, many of the installed systems are not maintained well, indicating a lack of user acceptance. As user acceptance is crucial for a successful and sustainable implementation of technologies, we aim to investigate how different socio-technical configurations of the on-site treatment of wastewater and its reuse are perceived and accepted by (potential) users, and for which configuration acceptance is highest. In an online experiment to be conducted with residents of Bengaluru (planned $N \approx 300$), a set of different configurations will be presented to participants. These configurations vary in terms of: the quality of the technology and hence of the treated water, the investment and maintenance costs, the reuse purposes (e.g. potable vs. non-potable, on-site vs. off-site), the amount of

freshwater saved through reuse (environmental benefit), and the increased water security for users (reduced dependence on other freshwater sources). By statistically analysing the influence of the different configuration options on user acceptance, we aim to define an 'optimal' configuration that has the highest user acceptance.

Keywords: user acceptance, water reuse, wastewater treatment

**ID-1171: USING INTERACTIVE COMMUNICATION TOOLS TO BROADEN THE SCOPE OF ACTION WITH REGARD TO THE INVESTMENT IN RENEWABLE TECHNOLOGIES? AN EXPERIMENTAL APPROACH FOR THE CASE OF RENEWABLE HEATING SYSTEMS AND EVS**

Andreas Deuss[1], Gonzalo Haefner [1], Karolin Schmidt [1], Ellen Matthies [1]

[1]*Otto-von-Guericke Universität Magdeburg, Institute of Environmental Psychology*, *Magdeburg*, *Germany*

By investing in renewable technologies, households can play an active role in reducing carbon emissions in the heating and mobility sector. However, the rate of investment in these technologies in Germany is still too low to realize this potential. Among others, this is attributed to dysfunctional beliefs individuals hold about the economic reality of the technologies, which prevent them from making the investments. Changing these beliefs therefore offers an opportunity to promote household investment decisions in renewable technologies. This contribution builds on these considerations by presenting the results of an experimental online survey study ($N$ = 781) among German homeowners in rural areas, conducted in August 2024. The study investigated whether dysfunctional beliefs about economic aspects of renewable technologies can be changed by means of two interactive communication tools. Specifically, using a pre-post design, participants were asked to make use of the tools as a specific type of informational strategies, either in the field of renewable heating systems ($n$ = 358) or of electric vehicles (EVs, $n$ = 423). Key beliefs investigated were the perceived overall scope of action regarding the investments and the perceived upfront costs and perceived economic payoffs associated with both technologies. Both tools were able to change the latter two beliefs, while neither of them could broaden the perceived scope of action. Interestingly, these effects were not moderated by income. The results will be discussed in terms of practical implications, in particular regarding the potential of interactive communication tools to boost households' investments in renewable technologies.

Keywords: interactive communication tools, investment behavior, beliefs, scope of action, renewable technologies

**ID-1172: OVERCOMING HEURISTICS THAT HINDER PEOPLE'S ACCEPTANCE OF CLIMATE-CHANGE-MITIGATION TECHNOLOGIES**

Anke Blöbaum[1], Karolin Schmidt [1], Friederike Krause [2], Michael Böcher [3], Julia Arlinghaus [4], Ellen Matthies [1]

[1]*Otto-von-Guericke Universität Magdeburg, Institute of Environmental Psychology*, *Magdeburg*, *Germany*, [2]*Inter3-Institute for resource management, Berlin*, *Germany*, [3]*Otto von Guericke University, Dep. of Political Science*, *Magdeburg, Germany*, [4]*Otto-von-Guericke-University, Institute for Engineering of Products and Systems*, *Magdeburg*, *Germany*

The overall research objective of the present study is the investigation of the effects of a strongly expressed restriction-oriented climate change mitigation heuristic (SER heuristic) on people's attitudes towards and acceptance of climate change mitigation technologies such as Carbon Capture and Utilization (CCU). Furthermore, we examined the effects of a scenario-based communication intervention approach on the promotion of a supportive attitude towards and acceptance of CCU, especially referring to people characterized by a SER heuristic. Against this background, we present empirical findings based on an online experiment including a scenario-based intervention in an initial sample of N = 401 German participants. In line with our expectations, our findings show that participants characterized by a SER heuristic report a significantly lower supportive attitude towards CCU as well as a lower acceptance of CCU, compared to participants who are not characterized by a SER heuristic. Our findings imply the examined scenario-based communication intervention approach to be an effective tool for the promotion of participants' supportive attitudes towards CCU and acceptance of CCU. Taken together, the study provides further valuable insights for the promotion of people's supportive attitude towards as well as of their acceptance of necessary new climate change mitigation technologies such as CCU.

Keywords: climate protection, climate change mitigation technologies, intervention evaluation, restriction heuristic, vignette methodology

**ID-1173: REDEFINING WARMTH: HARNESSING INFRARED HEAT FROM A USER-CENTRIC APPROACH**

Juan Carlos Carlos Prazmowski[1]

[1]*TU delft*, *Delft*, *Netherlands*

There is a need for heating system electrification as the world moves away from fossil fuels. Although electricity is an affordable energy source, cost and intrusiveness of renovations disproportionately affect vulnerable populations without time or resources. As an electric alternative, infrared panels are easy to install and maintain. They heat people and objects instead of air, enabling users to switch them off, making energy usage dependent on individual needs. This research aims to find technological and psychological strategies leading to the implementation of infrared panels in Dutch social housing. Focusing on user perception of comfort, hassle and control whilst correlating environmental conditions to determine the feasibility of infrared panels as an energy-efficient and cost-effective electric heating system. Data is collected through a multi-year field study across multiple households, questionnaires and interviews determine acceptance levels of comfort, hassle and system control interactions. Sensor data for air temperature, radiant temperature, energy consumption, user-presence and thermostat settings inform environmental conditions leading to user perception. Combining environmental sensor data with perception responses forges user-profiles based on energy consumption and comfort levels. User-profiles contribute to developing a control system for predicting user comfort needs based on previously recorded behaviour, aiming to reduce energy consumption without impacting comfort. Energy transition is a societal need supported by technological possibilities, where implementation depends on public

acceptance of these technologies. The outcome of this research uncovers user priorities for heating systems and proposes strategies to reduce environmental impact, potentially mitigating the risk of energy poverty and enhancing energy security.

Keywords: energy consumption, heating systems, comfort, control

**ID-63: EXAMINING INDIVIDUALS' PSYCHOLOGICAL, BEHAVIORAL, AND EXPERIENTIAL DYNAMICS OVER REPEATED EXPOSURES TO HEAT WAVES IN THE AMERICAN WEST**

Michelle Ng[1], Natalie Herbert [2], Nilam Ram [1; 3], Gabrielle Wong-Parodi [2; 4; 5]

*[1]Department of Communication, Stanford University, Palo Alto, United States, [2]Department of Earth Systems Science, Stanford University, Palo Alto, United States, [3]Department of Psychology, Stanford University, Palo Alto, United States, [4]Woods Institute for the Environment, Stanford University, Palo Alto, United States, [5]Department of Environmental Social Sciences, Stanford University, Palo Alto, United States*

Predominant theories converge upon five constructs that underpin personal climate change adaptation: risk perception, efficacy, negative affect, protective behaviors, and negative experiences. While there is evidence that these constructs relate cross-sectionally, little research has examined their dynamic relations – that is, how they relate over time. In this study, we applied multivariate latent change score models to two-occasion data contributed by 160 adults in the American West as they experienced heat waves in September 2022 and August 2023. We found that individuals' risk perception, efficacy, and protective behaviors increased between the two heat waves. In addition, higher levels of all five constructs during the first heat wave were associated with shallower rates of subsesquent change, suggesting constructs may stabilize over time. Finally, the levels of each construct during the first heat wave were not related to subsequent changes in any other constructs, except for higher risk perception predicting a shallower rate of change in efficacy. Taken together, these findings suggest that individuals' psychological, behavioral, and experiential trajectories over repeated exposures to heat waves may not be as dynamically related as prior cross-sectional research suggests. Theoretically, our results advance the development of more dynamic models of personal climate adaptation. Practically, our results suggest that risk communication about extreme weather events should consider the person-specific starting levels of each construct, target multiple constructs simultaneously, and bolster efficacy when heightening risk perception to compensate for any potential dampening effect over time.

Keywords: climate change adaptation, heat wave, risk perception, longitudinal, dynamics

**16-06-2025 | 11:30 - 12:45**

**S-006**: **Public Acceptance of Wastewater Reuse Technologies: Drivers, Barriers, and Promotional Strategies**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Water resource management and oceans)

*Flora Room*

Chair: Nadja Contzen, Eawag: Swiss Federal Institute of Aquatic Science and Technology, Environmental Social Sciences, Dübendorf, Switzerland.
Co-Chair: Cristina Gómez-Román, University of Santiago de Compostela, CRETUS. Social Psychology, Basic and Methodology, Santiago de Compostela, Spain.

**ID-1074: PERCEPTIONS, EMOTIONS AND AXIOLOGICAL FACTORS RELATED TO WASTEWATER REUSE**

Sergio Vila-Tojo[1; 2], José-Manuel Sabucedo [1], Elena Andrade [1], Cristina Gómez-Román [1]

*[1]University of Santiago de Compostela, Santiago de Compostela, Spain, [2]Sapienza University of Rome, Roma, Italy*

Wastewater reuse is a potential solution to deal with several environmental risks (e.g., water scarcity or phosphorus depletion). However, public acceptance remains a major barrier to the implementation of the wastewater reuse. This communication presents two studies that address different psychosocial variables related to the acceptance of recycled water reuse. Using data from 726 participants from Spain, the first study focuses on analysing the psychosocial predictors of the use of recycled water for low and high body contact uses. Based on data from 1,003 participants across Spain, Sweden, and the Netherlands, the second study explores the psychosocial factors related to the acceptance towards food grown with phosphorus recovered from wastewater. The results pointed out four relevant conceptual dimensions that are involved in the process of public acceptance of wastewater reuse: (a) The diagnosis of the problem. People must perceive the problem as threatening and attribute responsibility for the problem to themselves; (b) The perception of wastewater reuse. People will consider how much they trust who is proposing wastewater reuse, the perceived health risks and the perceived costs and benefits; (c) Emotional reactions. Negative or positive emotions associated with the perception of risks/benefits will be triggered; and (d) Axiological dimension. Pro-environmental identity and moral obligation will act as a transversal axis of influence in the acceptance process. The integration of these factors is necessary for the design of strategies and intervention plans to ensure the effective implementation of wastewater reuse systems.

Keywords: recycled water, public acceptance, axiological factors, risk perception, emotions

**ID-1073: PSYCHOLOGICAL INOCULATION AGAINST DISGUST: ENHANCING PUBLIC SUPPORT FOR DIRECT POTABLE REUSE**

Estefanya Charlotte Vazquez-Casaubon[1], Thijs Bouman [2], Veroline Cauberghe[1]

*[1]Ghent University, Gent, Belgium, [2]University of Groningen, Groningen, Netherlands*

Public acceptance of Direct Potable Reuse (DPR) of water remains low, among factors largely identified in the literature is the “yuck” factor, a feeling of disgust associated with treated wastewater, rooted in cognitive biases such as magical contagion. Despite technological advances ensuring DPR safety, negative emotional reactions persist. This study explores strategies to enhance acceptance by framing DPR benefits in messages that address disgust using inoculation theory. This research aims to evaluate effectiveness of one-sided or two-sided messages about DPR at reducing disgust and increasing acceptance. We also investigate how different refutational strategies interact with message framing to address the magical contagion bias. We propose a 2 (Message framing: one-sided vs. two-sided) × 3 (Refutation type: same focused on standards, same relativizing, different focused on social norms) between-subject factorial design. Inoculation theory serves as our framework, where pre-emptive refutational messages are tested. Participants will receive either a one-sided message that neutrally presents DPR or a two-sided message acknowledging and refuting potential disgust. Refutational strategies will either focus on relativizing the contagion bias by likening DPR to natural purification processes, emphasize high purification standards, or use a social norms approach. While data collection is pending, we anticipate that two-sided messages combined with refutational strategies addressing magical contagion will reduce disgust more effectively than one-sided messages. This research could advance understanding of disgust mitigation in environmental communication and improve DPR acceptance by leveraging inoculation theory. By targeting cognitive biases, we seek to inform more persuasive and sustainable public messaging about recycled water.

Keywords: direct potable -water- reuse (DPR), magical contagion, inoculation theory, yuck factor, public acceptance

**ID-1072: DECENTRALIZED WASTEWATER SYSTEMS AND THE POWER OF WE: PROMOTING ACCEPTANCE THROUGH SOCIAL IDENTITY FRAMING**

Cristina Gómez-Román[1], Lise Jans [2], Linda Steg [2], Sergio Vila-Tojo [1; 3], José-Manuel Sabucedo [1]

*[1]University of Santiago de Compostela, Santiago de Compostela, Spain, [2]University of Groningen, Groningen, Netherlands, [3]Sapienza University of Rome, Roma, Italy*

Decentralized wastewater treatment systems offer a sustainable alternative to mitigate the water crisis, yet their adoption often faces public resistance. This study examines the effectiveness of pro-environmental social identity framing in promoting the acceptance of such systems. We conducted two experimental studies in Groningen, the Netherlands (n = 92), and Santiago de Compostela, Spain (n = 208), exploring whether presenting decentralized wastewater systems as a neighborhood-driven environmental initiative improves public acceptance. The results show that pro-environmental social identity framing increased public acceptance in both samples, regardless of individual identification with the neighborhood. Specifically, participants in the pro-environmental social identity framing condition show more positive attitudes, stronger support, and enhanced emotional responses to these systems. Compared to the control group, participants exposed to this framework expressed higher voting intentions, more positive emotions, and fewer negative emotions. These results suggest that connecting such systems to shared neighborhood identities can be an effective strategy for overcoming barriers to

their implementation. Our study offers valuable insights for policymakers, community leaders, and environmental advocates aiming to foster public support for decentralized wastewater systems.

Keywords: decentralized wastewater treatment systems, pro-environmental social identity framing, public acceptance, social influence

**ID-1075: MANDATED ON-SITE WASTEWATER TREATMENT AND REUSE IN SAN FRANCISCO: THE ROLE OF DISTRIBUTIVE FAIRNESS PERCEPTIONS FOR POLICY ACCEPTANCE**

Josianne Kollmann[1], Nadja Contzen[1; 2], Sasha Harris-Lovett [3], Kara L. Nelson [4]

*[1]Eawag: Swiss Federal Institute of Aquatic Science and Technology*, *Dübendorf*, *Switzerland*, *[2]University of Groningen*, *Groningen*, *Netherlands*, *[3]San Francisco Estuary Partnership*, *San Francisco*, *United States*, *[4]University of California*, *Berkley*, *United States*

In San Francisco, water scarcity poses a critical challenge and raises the need for reducing potable water consumption. One solution are on-site systems that treat a building's wastewater on-site for non-potable reuse. To increase the use of on-site systems, San Francisco issued a policy mandating their adoption for part of the population. The rest of the population continues using the centralised treatment system without reuse. This disparity might impair the distributive fairness of the policy and of water services, potentially reducing public acceptance of the policy and consequently the chances of a successful implementation. Yet, research indicates that not all groups of society are equally considered in peoples' fairness and acceptance ratings of policies, but it has not yet been investigated which groups are considered in the context of wastewater reuse. To examine this question, we conducted an online survey with residents of San Francisco who were not covered by the policy (*N*=176). We assessed perceived fairness of the policy for six different groups of society as well as policy acceptance. Regression analyses showed that higher fairness for future generations, the population as whole, and owners of buildings mandated to install on-site systems explained acceptance. The fairness for people with low incomes, the environment, and residents of buildings with on-site systems did not explain acceptance. We further investigated which specific implications of the policy explained its perceived (un)fairness for each group. The findings implicate that particularly collective outcomes should be considered to increase acceptance of future policies mandating on-site systems.

Keywords: distributive fairness, policy acceptance, on-site wastewater reuse

**16-06-2025 | 11:30 - 12:45**

**S-065**: **Zero energy building**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Nearly Zero Energy Building)

*Forest Room*

Chair (IS): John Thøgersen, Aarhus University, Department of Management, Aarhus V, Denmark.

### ID-965: REMOVING SLUDGE AND PROCRASTINATION: FACILITATING THE IMPLEMENTATION OF A DECISION TO ENERGY RENOVATE ONE'S HOME

John Thøgersen[1], Ditte Mogensen [1]

[1]*Aarhus University, Department of Management*, *Aarhus V*, *Denmark*

The aim of this research is to test the effects of choice architecture interventions identified in prior research as potentially relevant for implementing energy efficiency renovation (EER) intentions: Making the offer document easier to comprehend and creating a stronger focus on EER benefits and warranties. Field experiments were carried out with Danish homeowners that have requested a consultation with an EER contractor. It is safe to assume that these homeowners have formed an intention to carry out EER. The focal behaviour is signing a contract for an EER project with the contractor. Information about drivers and impediments were obtained by means of two surveys with these homeowners collected before (i.e., under the old "choice architecture," n = 597) and after the intervention (i.e., under the new choice architecture, n = 309). First, the removal of "sludge" reduced the impact of difficulties processing the offer on the decision to accept it and increased the impact of warranties. Second, bringing the benefits of the EER more into focus increased their relative salience, countering the "natural" shift in attention towards costs and hassle as the implementation draws nearer, according to construal-level theory. This led to increased impact of benefit beliefs and lower impact of beliefs about costs and hassle on the decision to accept the offer. However, the changes in choice architecture were not detectable in the percentage of EER offers being accepted by homeowners, probably due to the strong impacts of objective costs and benefits as well as societal factors.

Keywords: energy renovation, decision implementation, investment decisions

### ID-577: NEVER CHANGE A RUNNING SYSTEM? WHAT HINDERS HOMEOWNERS TO REPLACE THEIR FOSSIL-BASED HEATING SYSTEMS WITH MORE ENVIRONMENTALLY FRIENDLY ONES

Johanna Holzberg[1], Andreas Ernst[1]

[1]*Center for Environmental Systems Research, University of Kassel*, *Kassel*, *Germany*

Germany aims to reach greenhouse gas neutrality by 2045. Therefore, $CO_2$ emissions also from the private building sector must be drastically reduced. One way to reach this goal is to use renewable energy sources for heating instead of fossil-based sources, which, so far, is the standard. The aim of this study is to gain a better insight into the decision-making process of switching from fossil-based heating systems to modern systems that are based on renewable energy sources (e.g. heat pumps, low temperature district heating network). A qualitative approach is used to identify factors that help or hinder homeowners in their decision. A semi-structured interview has been developed to gain detailed information concerning the specific situations of homeowners (e.g. characteristics of the building, budget, among others) and the interaction with their decision-making. Interviews have been conducted with private homeowners in a

German city who had previously participated in a survey on heating systems. The results of this qualitative interview study will be presented. Our results contribute to a better understanding of why homeowners may not (immediately) change their heating systems, and which factors may support their decision to more sustainable options. These results may give an indication of possible interventions on how homeowners can be supported in order to transform the private building sector.

Keywords: homeowners, adoption, energy transition, environmentally friendly heating systems, heat pumps

**ID-335: RESIDENT FACILITATORS AND BARRIERS TO DISTRICT HEAT NETWORK RETROFIT**

Michael Smith[1]

[1]*Northumbria University*, *Newcastle upon Tyne*, *United Kingdom*

**Introduction**: Currently, less than 3% of residential properties in the UK are connected to a District Heat Network (DHN). However, the UK government has an ambition to increase this figure to 20% by 2050 as part of its net zero objectives. Achieving this ambition will require retrofit to existing homes. **Goals & Objectives**: This study sought to understand facilitators and barriers to connecting to a DHN among residents of a predominantly low-rise housing estate being connected to a DHN, in accordance with the Capability-Opportunity-Motivation-Behaviour (COM-B) model. **Materials & Methods**: A mixed-methods design was employed, incorporating a survey, interviews and focus groups. All 640 households on the estate were invited to take part. **Results**: Key findings were that existing knowledge and understanding of DHNs was limited, but residents had a keenness to learn more, and it was evident that greater awareness arising from an information campaign would promote uptake. Sustainability was a motivator to connecting, but this was outweighed by perceptions of increased cost, which was a barrier to connection. Social opportunity was a key predictor, with enhanced community support and cohesiveness increasing both awareness and intention to connect. **Conclusions**: These findings serve as a blueprint for future expansion of DHNs to existing residential properties. It is recommended that DHN retrofit schemes are accompanied by informational campaigns to enhance resident awareness and understanding. Initiatives such as DHN champions and community engagement events should be implemented to enhance community cohesiveness and support.

Keywords: district heating, behaviour change

**ID-434: FACTORS INFLUENCING THE ACCEPTANCE OF FINANCING INSTRUMENTS FOR ENERGY RENOVATIONS IN APARTMENT BUILDINGS: INSIGHTS FROM FLEMISH APARTMENT OWNERS**

Sofie Naeyaert[1], Emma Martens [1], Sarah Anrijs [1], Peter Conradie [1]

[1]*Imec - mict - Ugent*, *Gent*, *Belgium*

The building sector contributes significantly to global greenhouse gas emissions, making energy renovations essential for achieving climate targets. To accelerate renovations, the EU has introduced initiatives such as the *Renovation Wave Strategy* and the *Energy Performance of Buildings Directive*. One of the main challenges is the affordability of renovations. To lower this barrier, various financial instruments, including energy loans and subsidies, have been developed. Despite these efforts, little is known about the factors influencing the acceptance of these instruments, particularly among apartment owners, who face distinct organizational and financial hurdles. This study investigates which factors, according to apartment owners in Flanders, play a role in the acceptance of financing instruments for energy renovations in apartment buildings. A total of 21 in-depth interviews were conducted, including 10 with landlords and 11 with owner-occupiers. Using vignettes presenting financial instruments, participants evaluated their acceptability. Key factors included the transparency of total costs, the credibility of the instruments and the financing organizations, flexibility in financing conditions, and the sense of ownership. Additionally, the long-term impact of financing instruments (market value, resale potential, and rental attractiveness) and short-term impact (quality of life and disposable income) were identified as critical. The results of this study highlight that transparency, credibility, flexibility, and a sense of ownership are important factors for the acceptance of financial instruments by apartment owners. Addressing these, along with short- and long-term impacts, can encourage apartment owners to invest in energy renovations, helping to achieve climate goals.

Keywords: energy renovations, financing instruments, acceptance factors, apartment owners

**ID-974: MAKING POSITIVE ENERGY DISTRICTS A SUCCESS: STAKEHOLDER STRATEGIES AND COLLABORATIONS FROM ACROSS EUROPE**

Adam Xavier Hearn[1], Iljana Schubert [1], Annika Sohre [1], Jens Koehrsen [2], Hagar Hamed [1]

*[1]University of Basel, Sustainability Research Group, Basel, Switzerland, [2]University of Basel, centre for religion economics and politics, Basel, Switzerland*

Positive Energy Districts (PEDs) are being created all across Europe, with an EU target of 100 such districts by 2025. Broadly speaking, these are characterized by producing more energy than they consume, increased energy efficiency and energy flexibility which is often connected to changes in consumer behavior. Furthermore, elements of social justice and energy citizenship are often intertwined with the concept. We examine the challenges in coordinating the multiple stakeholders involved in PED creation to provide an understanding of how cooperation can take place, addressing two research questions: What challenges do PEDs face in coordinating or collaborating with actors from different sectors (e.g., stakeholders from public administration, politics, business sector, civil society)? What strategies/arrangements help to overcome these challenges? Based on interviews with PED stakeholders in 10 European countries, our results indicate that PEDs are heterogenous in their approaches and forms, but that they rely on multidimensional collaborations in order to flourish. Moreover, the results point to PEDs as concepts that instigate change, rather than distinct districts. These districts may not meet strict PED energy positivity requirements but are able to function best as forms of large-scale Living Labs, in which socio-technical innovations can be tested for replication in wider society. This research contributes to broader academic debates in sustainability transition research on cross-sectional collaboration and

living lab research. Moreover, this research provides insights which may be of benefit to policymakers working in PED creation, development and replication.

Keywords: positive energy districts (PEDs), living labs, stakeholder coordination, socio-technical innovations

**16-06-2025 | 11:30 - 12:45**

**S-062**: **Environmental design**

Session Topic: ARCHITECTURE, DESIGN AND HUMAN BEHAVIOUR (Environmental design)

*Sun Room*

Chair (IS): Oriana Incognito (Department of of Humans Sciences, IUL University, Florence, Italy)

**ID-778: ADDRESSING ENVIRONMENTAL LOAD CHALLENGES IN URBAN PUBLIC SPACES: CURRENT SITUATION AND FUTURE DIRECTIONS**

Yilin Zheng[1]

[1]*Department of Architecture, Tsinghua University*, *Beijing*, *China*

According to Mehrabian's Environmental Load Theory, the quantity and complexity of information a person receive from the environment causes environmental load, and further influences the person's mental process, mainly including attention and stress. The perceptual model provides a simplified framework for assessing spatial quality. A study investigates the role of environmental load in shaping subjective evaluation of urban public space: A survey was conducted across six public spaces in Beijing, evaluating the environmental load respectively. The result revealed that while individuals generally pay limited attention to the physical surroundings, exceeding certain thresholds of environmental stimuli leads to a significant decline in spatial experience. Key perceptual dimensions—visual stimuli, auditory stimuli, and crowding—were analysed as independent factors of environmental load. In typical public spaces, visual and auditory stimuli exhibited a linear influence on overall load perception, whereas the crowding effects were more complex and multifaceted. The survey also indicated that visitors to urban public spaces prefer environments with lower perceptual loads, contradicting the current trend of increasingly rich and stimulating public spaces. Environmental stimuli have an optimal range that maximises comfort and satisfaction. To identify these optimal conditions, several research gaps are to be filled. Firstly, it is necessary to investigate the different perceptual requirements associated with space types. Secondly, given the limitations of current on-site subjective evaluation methods, a robust methodology for evaluating environmental load in architectural spaces is needed. Finally, in the context of architectural design, strategies for achieving the optimal load level should be developed.

Keywords: environmental stimuli, urban public space, subjective evaluation, perception, environmental load theory

## ID-970: URBAN RENEWAL AND GEOPOLITICAL CHALLENGES: INSIGHTS FROM BE'ER SHEVA CASE STUDY

Hernan Casakin[1], Avia Karavany Schwartz [1], Hila David [1]

*[1]Ariel University - Department of Architecture, Ariel, Israel*

Urban renewal is a critical approach for revitalizing neglected urban areas and addressing challenges related to the quality of life of their residents. Urban renewal can play a significant role in regions facing geopolitical challenges. This study investigates how renewal projects can contribute to enhancing community resilience and equity in peripheral areas such as the Negev desert. The research explores the physical and social impacts of urban renewal on the residents' quality of life. Gush Etzion and Wingate compounds in neighborhood G, located in Be'er Sheva City, served as a case study. The neighborhood has undergone significant changes due to recent renewal initiatives. A qualitative methodology was employed, involving semi-structured interviews with residents who lived in the neighborhood before and after the renewal. Project documents and urban planning data were also analyzed to contextualize the findings. Results showed a high satisfaction in the residents' quality of life, mainly regarding improvements in housing quality and accessibility to services in the renewed area. Nonetheless, the limited scope of the project and its controversial contextual relation intensified socio-spatial disparities, creating tensions between revitalized zones and the broader neighborhood. The study stresses the need for inclusive, community-wide planning in urban renewal to foster more contextualized approaches. These will help preserve the existing social fabric in the neighborhood, preventing residents' displacements. By integrating environmental design with social equity, renewal projects can better address environmental crises and geopolitical challenges.

Keywords: urban regeneration, urban design, quality of life, social equity, peripheral areas

## ID-419: STUDENTS' PERCEPTION OF ACOUSTIC QUALITY IN CLASSROOMS AND ITS IMPACT ON ACADEMIC PERFORMANCE AND WELL-BEING: A SYSTEMATIC REVIEW OF THE EVIDENCE AT DIFFERENT LEVELS OF EDUCATION

Oriana Incognito[1], Giulia Vettori [2], Alice Mercugliano [2], Lucia Bigozzi [2], Arianna Corbani [2]

*[1]Department of of Humans Sciences, IUL University, Florence, Italy, [2]University of Florence, Florence, Italy*

The acoustic quality in school environment is an important factor in both enhancing learning processes and in contributing to well-being when in classroom. This systematic review examines how students from preschool to secondary school perceive noise and its effects on their academic performance and well-being. Specifically, there is a twofold aim: (1) exploring changes in students' perceptions of their hearing and listening during learning in classrooms with high vs. low reverberation across educational levels, and (2) investigating how indoor acoustic comfort impacts academic performance and well-being, assessing variations by educational level. Using PRISMA guidelines, a systematic search protocol was used to identify peer-reviewed studies that collected data on the effects of different types of indoor noise and reverberation levels on students' perception of their school environment and well-being, as well as their awareness of acoustic quality. Exclusion criteria were: studies involving undergraduate students, non-

typical hearing students, studies focusing only on the effects of outdoor noise on student performance and well-being. Fourteen articles were identified for inclusion, their characteristics and findings are reported and their reliability is evaluated. Results of this ongoing systematic review - part of the funded PRIN (Project of National Relevance) "Indoor and outdoor school environment impact on students' cognition, affect, socialization, and well-being"- will provide insights into how awareness of acoustics varies with student age and will reveal the extent to which students can perceive the effects of different acoustic environments on their well-being. Research and practical implications for improving learning environments will be discussed.

Keywords: perception of acustic quality, student well-being, reverberation

**16-06-2025 | 12:45 - 14:00**

**Lunch Break**

*Campus Courtyard*

**16-06-2025 | 14:00 - 15:15**

**S-015**: **Global Perspective of Climate Change Engagement**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Valley Room*

Chair: Weiwei Xia, City University of Macau, Macau.

**ID-1030: GLOBAL IDENTITY AND CLIMATE CHANGE ENGAGEMENT IN LIGHT OF COUNTRY-SPECIFIC CLIMATE RISKS – A CROSS-CULTURAL COMPARISON IN 45 NATIONS**

Laura Loy[1], Philipp K. Masur [2], Alexa Spence [3], Kim-Pong Tam [4], Anna Marcelina Wlodarczyk [5], Jonathan Kuhlmann [6], Paul Bertin [7], M. Carmona [8], Katarzyna Hamer [9]

*[1]RPTU University of Kaiserslautern-Landau, Department of Psychology, Landau, Germany, [2]Vrije Universiteit Amsterdam, Department of Communication Science, Netherlands, [3]University of Nottingham, School of Psychology, United Kingdom, [4]Hong Kong University of Science and Technology, Hong Kong, China, [5]Universidad Católica del Norte, Faculty of Psychology, Chile, [6]RPTU University of Kaiserslautern-Landau, Department of Psychology, Germany, [7]Université Libre de Bruxelles, Center for Social & Cultural Psychology, Belgium, [8]Associação de Socorros Mútuos dos Artistas de Bragança, Portugal, [9]Polish Academy of Sciences, Institute of Psychology, Poland*

Climate change threatens people around the globe. Combating climate change has thus been defined as Sustainable Development Goal by the United Nations and ways are needed to motivate people to engage in climate protection. According to social identity theory, people promote the well-being of groups they strongly identify with. Research shows that the stronger people identify globally with people world-wide,

the more they engage in climate protection. However, evidence has mostly been collected in industrialised western societies, which are not the most vulnerable to climate change. We thus investigated the relation of global identity with climate change concern, past action, and action intention to combat climate change, using an online survey amongst students in 45 countries on all continents (N=13.319). Moreover, we experimentally examined whether activating a global identity increases concern and action intention. We hypothesised that a global identity might be less relevant (i.e., the relation/effect might be smaller) in countries with high climate risks, while it might be a relevant motivator to engage in climate protection for people living in countries that are less vulnerable and more ready to adapt to climate change (as represented by the ND-GAIN Index). We found relations of global identity with climate concern, action, and intention in all countries. Activating global identity increased concern in most, action intention in all countries. These relations and effects were not moderated by countries' vulnerability or readiness. We conclude that the relation between global identity and climate change engagement seems to be a rather universal phenomenon.

Keywords: global identity, climate change, climate concern, climate behaviour, cross-cultural differences

## ID-1031: GLOBAL NORM OF GOVERNMENT CLIMATE ACTION AND PUBLIC SUPPORT FOR DOMESTIC CLIMATE POLICIES

Kim-Pong Tam[1]

[1]*Hong Kong University of Science and Technology*, *Hong Kong*, *China*

As public support is important for policy changes, it is crucial to understand how to encourage citizens to accept climate policies. Based on the widely documented social psychological phenomenon regarding the effect of descriptive norms on human behavior, I hypothesized that people's support for emissions reduction policies to be implemented in their own country would be stronger when they perceive a global norm of climate action by other national governments. Findings frow two surveys and one experiment provide supportive evidence for this hypothesis and also reveal potential underlying mediators. These findings introduce a novel perspective to the understanding of public attitudes toward climate policies: That is, communicators and policy makers can leverage the power of social influence, via the use of messages built around narratives of a global norm, to garner public support for domestic climate efforts.

Keywords: climate change, policy support, climate action, norms

## ID-1032: TYPES AND CORRELATES OF PERSONAL EXPERIENCES WITH CLIMATE CHANGE ACROSS THE GLOBE

Rouven Doran[1], Charles Ogunbode [2], Karlijn van den Broek [3], Arin Ayanian [4], Andreas Zick [4], Jihane Ghorayeb [5], Joonha Park [6], Akira Utsugi [6], Sibele Aquino [7], Samuel Lins [8], Marc E. S. Reyes [9], John J. B. R. Aruta [10], Susan Clayton [11]

[1]*University of Bergen*, *Norway*, [2]*University of Nottingham*, *United Kingdom*, [3]*Utrecht University*, *Netherlands*, [4]*Bielefeld University*, *Germany*, [5]*Zayed University*, *United Arab Emirates*, [6]*Nagoya University*, *Japan*, [7]*Pontifícia Universidade Católica do Rio de Janeiro*, *Brazil*, [8]*University of Porto*, *Portugal*, [9]*University of Santo Tomas*, *Philippines*, [10]*Sunway University*, *Malaysia*, [11]*College of Wooster*, *United States*

It has previously been documented that attributing extreme weather events to climate change can motivate people to support mitigation action. We explore cross-national differences in what types of climate change experiences people have, as well as if and how these experiences have implications for their personal engagement. We approached representative samples in 11 different countries from several continents (each sample $N < 500$). Respondents were asked whether they have experienced any direct or indirect effects of climate change during their lifetime, and if so, what signs of climate change they have experienced. Answers were first content analysed and then tested for associations with climate action and policy support. Across the samples, temperature-related events (e.g., hotter summer) were the most often reported experience. Others included the incident of natural disasters and extreme weather, precipitation and humidity, alongside changes in weather and seasons. Personal experiences with climate change were positively associated with indicators for both climate action and policy support, yet the strength of these associations varied across the identified experience types. We discuss cross-national differences in what people consider as signs of climate change in their respective country, and the consequences this can have for communication efforts that seek to mobilize public support for mitigation action.

Keywords: cross-national comparison, climate change, personal experiences, self-reports, open-ended

**ID-1033: A SOCIAL-ECOLOGICAL PERSPECTIVE ON IDENTIFYING DRIVERS OF ADOLESCENT PRO-ENVIRONMENTAL PARTICIPATION: A MACHINE LEARNING APPROACH ACROSS 10 SOCIETIES**

Weiwei Xia[1], Liman Man Wai Li [2], Yadi Sun [2]

[1]*City University of Macau, Faculty of Health and Wellness*, *Macau*, [2]*Department of Psychology, The Education University of Hong Kong*, *Hong Kong*

Promoting young people's pro-environmental participation is important for sustainable development. Previous research suggested that identifying the predictors of adolescents' pro-environmental behavior should consider both individual and contextual factors. Thus, the current study adopts a social-ecological perspective, using machine learning methods to identify the most significant drivers of pro-environmental participation among young people. Using data from PISA 2018, which includes 20,560 adolescents aged 15 from 10 societies, a total of 95 factors from various levels (individual, family, community, school, society, and culture) were included in the analysis. Seven machine learning algorithms—Logistic Regression, Naive Bayes, Decision Tree, Random Forest, K-Nearest Neighbors, Support Vector Machine, and Light Gradient Boosting Machine (LightGBM)—were tested and compared to detect the predictors of pro-environmental participation, with LightGBM proving to be the most powerful algorithm. Feature importance analysis using LightGBM further revealed that global mindedness and enjoyment of reading were the most influential factors for predicting pro-environmental participation. Additionally, parental factors such as parental support for learning, as well as individual factors like sense of belonging and self-efficacy regarding global issues, were identified as significant predictors. The current study provides

valuable insights into understanding adolescents' pro-environmental participation and offers practical implications for families, educators, and policymakers.

Keywords: pro-environmental participation, machine learning, adolescents, social-ecological perspective

**ID-1034: EVERYTHING IS CONNECTED. EFFECTS OF THE MINDFUL STUDENTS PROGRAM ON CHANGES IN GLOBAL IDENTITY, NATURE CONNECTEDNESS, AND PRO-ENVIRONMENTAL BEHAVIOUR**

Elisabeth S. Blanke[1], Laura S. Loy [2], Susanne Krämer [3], Christian Liebmann [3], Steffen Nestler [4], Ute Kunzmann [5]

*[1]Leipzig University, Zentrum für Lehrer:innenbildung und Schulforschung, Germany, [2]RPTU University of Kaiserslautern-Landau, Department of Psychology, Germany, [3]Leipzig University, Germany, [4]University Münster, Institut für Psychologie, Germany, [5]Leipzig University, Wilhelm Wundt Institute for Psychology, Germany*

Pro-environmental behaviour can be fostered by strengthening connectedness, both with other people around the globe (i.e., a global identity) and with nature. This may be achieved in mindfulness-based interventions (MBIs) that focus on such connectedness. We investigated effects of a newly developed MBI, the Mindful Students Program (MSP) – a course for university students, combining mind-body practice with reflections on sustainability, own values, and lifestyles – on pro-environmental behaviour, global identity and nature connectedness. We used data from a quasi-experimental pre-post study in Germany comparing an intervention group with two control groups ($N$ = 505; 78% female). Global identity and nature connectedness were assessed with self-reports, pro-environmental behaviour was additionally assessed using observer-reports by close others ($N$ = 99; 68% female). As predicted, MSP participants' global identity, nature connectedness, and pro-environmental behaviour increased compared to the control groups. The increase in pro-environmental behaviour could be partially explained through dimensions of connectedness. These indirect effects, however, were small. Indicating the validity of the pro-environmental behaviour self-reports, observer-reports also increased and were strongly correlated with self-reports. MBIs that include social and ecological dimensions of connectedness like the MSP may thus have an effect on pro-environmental behaviour. Future research is needed to disentangle which specific components of the course determine its effectiveness.

Keywords: mindfulness, mindfulness-based interventions, pro-environmental behaviour, global identity, nature connectedness

**16-06-2025 | 14:00 - 15:15**

**S-012**: **Public perceptions and acceptance of mitigation options and policies: the role of perceived fairness and effectiveness**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Chieh-Yu Lee, University of Groningen, Department of Psychology, Groningen, Netherlands.

**ID-1063: SHOULD THE WIDEST SHOULDERS CARRY THE HEAVIEST LOAD? EXAMINING PERCEIVED FAIRNESS OF IMPLEMENTING NEGATIVE EMISSION TECHNOLOGIES AND PRACTICES IN SIX EUROPEAN COUNTRIES.**

Chieh-Yu Lee[1], Goda Perlaviciute [1], Linda Steg [1]

*[1]University of Groningen, Groningen, Netherlands*

Negative emission technologies and practices (NETPs) need to be implemented to limit climate change to 1.5°C, next to other mitigation options. A key question is which countries should implement NETPs, and how this can be done in a fair way. Two factors are likely to play a key role here: perceived responsibility for causing climate change, and perceived capacity to implement NETPs. We aimed to examine to what extent these two factors are related to how fair people think it is that a country implements NETPs. We conducted a cross-sectional online survey, including 5,310 representative participants in six EU countries. Participants were randomly assigned to one of the four conditions in which a description was given of a hypothetical country. We systematically varied responsibility (i.e., high/low $CO_2$ emissions) and capacity (i.e., sufficient/insufficient knowledge and resources to implement NETPs). People evaluated the perceived fairness of implementing a nature and technology based NETP in the relevant country. We found that people think it is fairer to implement both types of NETPs in a country with relatively high $CO_2$ emissions than in a country with relatively low $CO_2$ emissions; and in a country with sufficient knowledge and resources than in a country with insufficient knowledge and resources. Our study suggests that in the burden sharing scenario of mitigating climate change, the perception of a country's causal responsibility and capacity to implement NETPs are crucial in shaping perceived fairness.

Keywords: perceived fairness, perceived causal responsibility, perceived capacity, negative emission technologies, burden sharing

**ID-1064: THE ROLE OF PERCEIVED FAIRNESS IN PUBLIC OPINION ON SUSTAINABLE TRANSPORTATION POLICY: A META-ANALYTIC STRUCTURAL EQUATION MODEL**

Summer Isaacson[1], Sverker C. Jagers [2], Marvin Helferich [3], Magnus Bergquist [4]

*[1]University of Konstanz, Konstanz, Germany, [2]University of Gothenburg, Gothenburg, Sweden, [3]Fraunhofer Institute for Systems and Innovation Research ISI, Karlsruhe, Germany, [4]University of Gothenburg, Department of Psychology, Gothenburg, Sweden*

Perceived (un)fairness is closely linked to public opinion and acceptance about climate change policies. Less is known about how fairness is related to other determinants. Using meta-analytic structural

equation modeling (MASEM), we summarize thirty-five studies from across twenty countries to test a model in which perceived fairness is the proximal determinant for public opinion about sustainable transportation policies. We propose that public opinion is determined, to a significant extent, by people asking themselves variations of the question, how fair is this policy? The results reveal that perceived fairness is a stronger predictor than perceived effectiveness of a policy, environmental concern, and personal values. The model also shows that both effectiveness and concern are more strongly related to fairness than they are to positive public opinion directly. These results have valuable policy implications and advance past research by proving a meta-analytic path model.

Keywords: public opinion, climate policy, sustainable transportation, fairness, meta-analysis

**ID-1065: POLICY INSTRUMENT FEATURES DETERMINE ACCEPTANCE AND PERCEIVED EFFECTIVENESS: A FACTORIAL SURVEY EXPERIMENT ON HEATING POLICY**

Jean-Henri Huttarsch[1], Ingo Wolf [2]

*[1]Research Institute for Sustainability - Helmholtz Centre Potsdam (RIFS), Potsdam, Germany, [2]Research Institute for Sustainability - Helmholtz Centre Potsdam (RIFS), Potsdam, Germany*

Recent research highlights strong links between acceptance and policy-specific perceptions, i.e. personal consequences, distributional fairness, and effectiveness. However, conflicting causal pathways regarding perceived effectiveness were revealed. Traditional frameworks explaining acceptance posit that, in addition to perceiving policies to have positive personal and fair distributional consequences, perceiving them to be effective causes acceptance. According to alternative accounts, effectiveness perceptions rather follow a positive or negative attitude towards a policy. Individuals' support or opposition is primarily influenced by more salient policy perceptions, such as personal and distributional consequences. Depending on the overarching attitude formed, individuals become more or less skeptical about policy's effectiveness. The primary research objective is to elucidate whether and when one or both of these causal pathways are at play. To explore this, a factorial survey experiment was conducted on acceptance of climate policy in the heating sector. Participants assessed policy measures with varying design and effectiveness information leading to differences in perceived personal consequences, distributional fairness, and effectiveness. Using random effects regressions and (multi-group) SEM, we find that both causal pathways operate simultaneously, albeit not for everyone: only for general supporters of climate policy, optimistic effectiveness information increased acceptance via perceived effectiveness (traditional account) - whereas for both general climate policy supporters and opponents, policies associated with positive personal and fair distributional consequences were perceived to be more effective, mediated by acceptance (alternative account). We would like to discuss these findings with conference attendees against the background of ongoing rational and motivated reasoning debates.

Keywords: policy perceptions, acceptance determinants, factorial survey experiment, climate policy, heating sector

## ID-1066: THE ROLE OF PERCEIVED FAIRNESS AND EFFECTIVENESS IN ENVIRONMENTAL POLICY IMPLEMENTATION: INSIGHTS FROM NEW YORK AND STOCKHOLM

Magnus Bergquist[2], Sverker C. Jagers [1], Simon Källman [1]

*[1]University of Gothenburg, Department of Political Science, Gothenburg, Sweden, [2]University of Gothenburg, Department of Psychology, Gothenburg, Sweden*

Successful implementation of environmental policies often hinges on public acceptance, which is strongly related to perceptions of policy fairness and effectiveness. Weinvestigate these determinants in the context of two distinct environmental policies: the congestion charge initiative in New York City and the Environmental Zone Class 3 regulation in Stockholm. The latter policy prohibits the use of gasoline and diesel vehicles within designated zones, aiming to improve air quality, enhance urban safety, and reduce emissions. We plan to present longitudinal studies capturing public acceptance and resistance to these policies in their respective regions. Employing a mixed-methods approach, we combine quantitative surveys with qualitative interviews to evaluate how perceived fairness and effectiveness shape public acceptance and resistance over time — gaining insight into a) the interplay between acceptance and resistance, b) people perceptions of (un)fairness and (in)effectiveness, and c) the long-term effects of perceived (un)fairness and (in)effectiveness.

Keywords: acceptance, environmental policy, transportation, effectiveness, fairness

## ID-519: EXPLORING THE EVOLUTION OF ENVIRONMENTAL PSYCHOLOGY: AN ANALYSIS OF RESEARCH TOPICS, NETWORKS, AND FIRST AUTHOR DEMOGRAPHICS

Christina Susanna Barz[1], Kim-Pong Tam [2]

*[1]University of Applied Sciences Darmstadt, Darmstadt, Germany, [2]Hong Kong University of Science and Technology, Hong Kong, China*

Environmental Psychology has evolved significantly since its inception, reflecting the growing need to understand the interactions between humans and their environment. In this presentation, we provide a comprehensive analysis of publications in the Journal of Environmental Psychology from its inception to the present. Using advanced topic modeling techniques, we identified major themes and trends in research topics over time. Dominant themes included wayfinding, place attachment, and an increasing prominence of climate change in recent years. We also analyzed the geographic distribution of the first authors' home institutions. Preliminary results show a predominant concentration in the US, UK, and Germany, suggesting potentially persistent regional biases in the body of knowledge in the field. In addition, we examined the gender distribution of first author names and found a balanced representation with a slightly higher contribution from male authors. We also examined whether specific research topics were disproportionately associated with male or female authors. Finally, we conducted a network analysis to uncover research clusters and their interconnections, and to gain insights into the collaborative and thematic structure of the field. Our findings have the potential to stimulate critical reflection on the trajectory and inclusivity of the field and invite fellow environmental psychologists to collectively envision directions for future research focuses and practices.

Keywords: environmental psychology, research topics, first author demographics, topic modeling, network analysis

**16-06-2025 | 14:00 - 15:15**

**S-014**: **Circling the square? Engaging citizens in circular economy practices**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Earth Hall Plenary*

Chair: Christian Klöckner, NTNU, Department of Psychology, Trondheim, Norway.

### ID-1111: A THEORETICAL FRAMEWORK TO UNDERSTAND CIRCULAR ECONOMY PRACTICES AND INTERVENTIONS AT A HOUSEHOLD LEVEL

Sari Verachtert[1], Carina Hermandi [2], Christian Klöckner [3]

*[1]Norwegian University of Science and Technology*, *Trondheim*, *Norway*, *[2]Hochschule Ruhr-West*, *Bottrop*, *Germany*, *[3]Nowegian University of Science and Technology*, *Trondheim*, *Norway*

**Introduction**: The circular economy (CE) not only supports economic development but has also the potential to reduce CO2 emissions. Beyond policy adoption, CE requires essential changes at both production and consumption levels. Despite growing support from businesses and policymakers, and interest among scholars, the implementation of CE remains in its early stages, particularly at the household level. **Objectives**: This theoretical paper presents a conceptual framework designed for the CircleUp project to facilitate the implementation and testing CE behaviour at the household level. **Materials and methods**: The CircleUp consortium organized workshops to identify key behaviours, barriers, drivers, and interventions which are important for a transition to a CE at the household level. Based on group work and a literature review, a conceptual framework was developed. **Results**: At the core of this framework are CE practices across different domains such as food, electronics, textiles, and packaging. By integrating the SSBC model developed by Bamberg, the framework allows for tailored interventions. Furthermore, the CE practices are structured across different R strategies such as reduce, reuse, repair, and recycle. The current framework not only provides a clear and useful conceptualization of CE practices but is also flexible enough to be modified in the future. **Conclusions**: This conceptual framework aims to foster sustainable consumption among households within the CE context. Furthermore, towards the end of the project, we will explore how the framework can also serve as a useful tool for policymakers and other stakeholders to further implement CE practices at the household level.

Keywords: circular economy, self-regulation model of behaviour change, household practices, R-strategies, textiles

### ID-1112: ENCOURAGING A CIRCULAR CITIZEN IDENTITY THROUGH HYBRID SERIOUS GAMING

Beatrice Beitz[1], Wolfgang Irrek [2], Christian Klöckner [3]

*[1]Prosperkolleg, Bottrop, Germany, [2]Hochschule Ruhr-West, Bottrop, Germany, [3]Nowegian University of Science and Technology, Trondheim, Norway*

**Introduction**: The climate crisis can leave us feeling helpless and anxious, the solution lies in working together. The Circular Economy, as the EU's guiding strategy, offers a framework for collaborative sustainable action from the global to the micro-level. Social identity can drive this change and facilitate mutual support. **Goals & Objectives**: Social identity forms reciprocally through two pathways: a top-down process, where individuals adopt contextual information about a social category, and a bottom-up process, where group identity develops through intra-group communication. We integrate both pathways in an intervention approach designed to support behaviour change in 100 households and their social networks in Germany, Latvia, Norway, and the UK within the CircleUp project. Our approach seeks to cultivate a social identity rooted in the principles of the Circular Economy and active citizenship, empowering individuals, groups, and organisations with a shared sense of purpose as Circular Citizens. **Materials & Methods**: The intervention is implemented in a hybrid serious game that activates the bottom-up pathway by engaging participants in creating and sharing "Circular Stories" about their experiences with circular actions, including habit change and group projects. These stories build a collective vision of Circular Citizenship, and together with tailored information inform the top-down pathway. **Results**: The games' digital platform will be launched in 2025/26. This presentation discusses how the game's design supports identity formation, supported by results gained from pretesting.: **Conclusions** Future implementation and evaluation across multiple countries will provide deeper insights into how identity-based interventions can effectively promote lasting sustainable behaviour change.

Keywords: circular economy, social identity, empowerment, serious game, story-telling

## ID-1113: DRIVERS OF CIRCULAR ECONOMY PRACTICES IN THE GLOBAL NORTH AND SOUTH

Christian Klöckner[1], Altamash Bashir[2]

*[1]Nowegian University of Science and Technology, Trondheim, Norway, [2]Norwegian University of Science and Technology, Trondheim, Norway*

**Introduction**: Circular economy practices in households are manifold and span a large variety of strategies in the cycle, from refusing the use of resources or products in one end of the spectrum to recovering energy from waste resources in the other. Whereas some of these strategies are well-researched from a household perspective, others are not. Furthermore, there is a lack of studies from the Global South. **Goals & Objectives** : In the CIRCOMOD project, we aimed to address these research gaps by comparing psychological and structural drivers of the less researched practices Repair, Reuse, Recycle, Refurbish, and Share. We focused on the product categories furniture and electronics. **Materials & Methods**: In Spring 2024, representative samples of citizens of France, Germany, India, and South Africa were surveyed with a comprehensive questionnaire exploring their practices and drivers and barriers. A total of 4,216 respondents (at least 1,002 per country) participated. With a structured regression approach, we identified the factors driving present and envisioned future engagement in each behaviour in each country. **Results**: Overall, current engagement in circular economy practices is driven by

sociodemographic factors such as age (younger more) and gender (females more), as well as psychological factors such as attitudes, subjective norms, and perceived value. The same factors apply to envisioned future engagement, but here also a higher level of education contributes in addition. There are relevant differences across countries and between the studied behaviours. **Conclusions**: Circular economy practices differ between segments of the populations and between different cultures.

Keywords: circular economy, Global North, Global South, furniture, electronics

**ID-1114: CIRCULAR ECONOMY BEHAVIOURS IN SCOTLAND: ASSESSING PREVALENCE, AND UNDERSTANDING PSYCHOLOGICAL ANTECEDENTS**

Tony Craig[1]

[1]*The James Hutton Institute*, *Aberdeen*, *United Kingdom*

**Introduction**: This study investigates the prevalence of circular economy behaviours in Scotland through the development of a new circular behaviours scale, drawing on item response theory (graded response models). It then links the propensity to undertake circular behaviours to antecedent variables from the COM-B framework. **Materials & Methods**: Findings from a nationally representative sample of 1508 respondents are explored with reference to high level factors mapped on the COM-B framework (Michie et al., 2011). This presentation will outline the high-level mapping of the COM-B components in the survey and will focus particularly on the factors associated with the motivation component (specifically, environmental concern, identity, and psychological values) as it related to the uptake of circular behaviours. **Results**: Regression models show that each of the circular behaviours measured were significantly associated with environmental concern and both frugal and consumerist identities. An additional analysis was undertaken focussing on the measured value orientations using questions from the Schwartz Portrait Value Survey. The analysis was based on the theoretical structure of values being a motivational circumplex (i.e. it loops back onto itself), and used a novel approach based on ellipse fitting algorithm to summarise individual differences in this motivational component. Parameters from these summaries will be explored using exploratory statistical analyses. **Conclusions**: The motivational component of the COM-B framework was most strongly associated with uptake of circular behaviours. These results will be discussed in relation to ongoing work to explore policy interventions using agent based models.

Keywords: circular economy, COM-B framework, identity, item response theory, Scotland

**ID-1115: EXPLORING SOCIAL REPRESENTATIONS OF CIRCULAR CONSUMPTION: A FOCUS ON SECOND-HAND PURCHASING IN SCOTLAND**

Jianyu Chen[1]

[1]*The James Hutton Institute*, *Aberdeen*, *United Kingdom*

**Introduction**: The transition towards a circular economy is widely recognised as a key strategy for addressing contemporary environmental challenges. While extensive macro-level studies have examined the industrial and policy aspects, the socio-psychological dimensions of everyday circular consumption

are receiving increasing attention. **Goals & Objectives**: This research investigates individuals' perceptions of circular behaviours as part of everyday circularity, specifically focusing on second-hand purchasing behaviours within the context of Scotland. **Materials & Methods**: Data was collected through an open-ended question in a representative Scottish sample survey conducted in March 2024. Utilising the Theory of Social Representations (TSR) and its structural approach, this study employs prototypical analysis to map the central core elements of second-hand purchasing. **Results**: The central core highlights economic benefits and practicality as primary motivations for buying second-hand products. Respondents were classified into four groups based on their social representations through hierarchical clustering, and co-occurrence analysis identified distinct clusters: 1) Drifting Economy, 2) Sustainability Balance, 3) Trust and Value and 4) Practical Drawbacks. **Conclusions**: Findings indicate that economic factors dominate perceptions of second-hand purchasing, with negative aspects such as distrust in quality also prominent. Supported by environmental and social values, the cognitive diversity across clusters underscores varied motivations and perceptions among different groups. Future research will link these cognitive groups to specific consumption practices and socio-demographic features, enabling targeted behavioural interventions.

Keywords: circular economy, social representations, second-hand purchasing, prototypical analysis, hierarchical clustering

**16-06-2025 | 14:00 - 15:15**

**S-011**: **Integrating Biodiversity into Environmental Psychology Research: Concepts, Methods, and Applications**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Land management, farming and resource conservation)

*Flora Room*

Chair: Milan Büscher, Osnabrück University, Biology Didactics, Osnabrück, Germany.

**ID-1248: OBSERVING THE INFLUENCE OF BEACH STEWARDS AND CAMERAS ON SHOREBIRD CONSERVATION BEHAVIOR: INSIGHTS FROM A CRITICAL NESTING SITE**

Milan Büscher[1]

[1]*Osnabrück University / Biology Didactics*, *Osnabrück*, *Germany*

Understanding and influencing human behavior is critical for effective biodiversity conservation. This study examines how steward presence and wildlife cameras influence beach walkers' behaviors at Milford Point, Connecticut, a vital nesting site for threatened shorebird species such as the Piping Plover (*Charadrius melodus*). Stewards are often deployed to protect nesting areas, influencing human behavior

while also performing tasks like nest protection and chick monitoring. However, employing multiple stewards throughout the nesting season incurs high costs. Wildlife cameras offer a potential low-cost alternative for deterring harmful behaviors and monitoring compliance, but their effectiveness remains unclear. Using a mixed-methods approach, this study combines disguised observations of three specific conservation behaviors—maintaining distance from nesting areas, avoiding disturbance of feeding birds, and demonstrating general awareness of shorebirds—with walk-along interviews to explore the roles of stewards, cameras, and contextual factors such as social influence, informational interaction, and visitors' motives. Findings show that steward presence, particularly active interactions with beach walkers, significantly improves adherence to some conservation behaviors, while camera presence produces mixed results. Maintaining distance from nesting areas was positively influenced by steward interactions, while general awareness was linked to social and informational factors. These results underscore the complexities of influencing human behavior in public spaces and the limitations of passive deterrence methods like cameras. This research highlights the importance of applying observation techniques when studying environmental behavior, while also addressing potential challenges.

Keywords: biodiversity conservation, behavioral observation, mixed-method research, human stewards, wildlife cameras

**ID-1249: ENGAGING CITIZENS FOR BIODIVERSITY AND CLIMATE PROTECTION IN THEIR OWN GARDENS**

Sebastian Seebauer[1], Gernot Neuwirth[3], Hans Peter Ellmer [1], Julian Janisch [2], Carolina Trcka-Rojas [3], Sabrina Dreisiebner-Lanz [1], Katharina Gugerell [2], Thomas Thaler [2]

*[1]Institute for Climate, Energy Systems and Society, JOANNEUM RESEARCH Fgs. mbh, Graz, Austria, [2]Institute for Landscape Planning, BOKU University, Vienna, Austria, [3]Naturschutzbund, Salzburg, Austria*

Biodiversity loss and climate change are interlinked and mutually reinforcing. However, many people perceive both crises as abstract and psychologically distant threats. Citizens may struggle with translating these global crises into imminent concerns they can act on in their local livelihood. Our project BIODIVERCITI uses a citizen science approach to reflect on the interrelation between biodiversity loss and climate change and the role citizens personally play in a familiar environment – their own garden. Private gardens may bridge species habitats and can help people to build a connection to the natural world; at the same time, the single-family home lifestyle generally implies a large carbon footprint. Over two growing seasons, two hundred households receive personal advice and support on biodiversity-enhancing elements and techniques suitable for their garden. As citizen scientists, they are trained for nature observation and then monitor the changes in selected indicator species and report them via app. As intervention participants, they are compared to their baseline before the intervention and a control group in a longitudinal survey to determine how many biodiversity-promoting elements are implemented and maintained and whether the experiences, competences and norms acquired by engaging with the own garden are transferred to climate action and beliefs. Personal, household and building characteristics as well as participation in other nature conservation or citizen science formats are controlled as possible moderator variables. Preliminary results provide recommendations how to better align activities for

biodiversity preservation and climate action and which measures are best suited for various target groups.

Keywords: biodiversity, intervention, spillover effect, citizen science, private garden

**ID-1250: ENVIRONMENTAL-PSYCHOLOGICAL APPROACHES TOWARDS THE BIODIVERSITY CRISIS**

Susann Ullrich[1]

[1]*HTW University of Applied Sciences*, *Berlin*, *Germany*

Alongside climate change, the loss of biodiversity is one of the greatest challenges facing humanity. Since human behaviour has been causing the extinction of species and the degradation of ecosystems, only human behaviour can stop it. Biologist and conservationists know what needs to be done but not how to get large sections of the population to rethink our ways of life and take alternative actions. As environmental psychologists, we know this intention-behavior gap, and also how difficult it is to overcome. Yet, can the theories and methods we apply to mitigate the climate change just be applied to the biodiversity crisis? The needed behavior patterns might be of a different nature: Instead of getting into action, sometimes it is better to do less, for example mow the lawn less often and keep gardens and parks less “tidy”. The psychological construct of control might come into play here, which may even go deeper toward fear of insecurity or unpredictability. On the other hand, nature connectedness has been shown to lead to a higher perception and understanding of biodiversity loss. Yet those people may need the right knowledge about how to effectively promote biodiversity in their region or even globally, and the feeling of self-efficacy to actually get into action. Furthermore, values and attitudes need to be addressed for other populations groups to foster acceptance for new ways of maintaining natural spaces. This theoretical input aims at starting fruitful discussions about how environmental psychology can help to stop the ongoing biodiversity loss.

Keywords: biodiversity, env. -psych. theories, control, knowledge, acceptance

**ID-16: FOSTERING AWE, OCEAN CONNECTEDNESS, AND PRO-ENVIRONMENTAL BEHAVIOR WITH UNDERWATER VIRTUAL REALITY**

Anaïs Voşki[1], Gustav Bøg Petersen [2], Felix Steinbrecher [3], Gabrielle Wong-Parodi [4], Géraldine Fauville[5]

[1]*Stanford University, Emmett Interdisciplinary Program in Environment & Resources*, *Stanford*, *United States*, [2]*University of Copenhagen, Department of Psychology*, *Copenhagen*, *Denmark*, [3]*University of Gothenburg, Department of Marine Sciences*, *Gothenburg*, *Sweden*, [4]*Stanford University, Earth System Science & Environmental Social Sciences*, *Stanford*, *United States*, [5]*University of Gothenburg, Department of Education*, *Gothenburg*, *Sweden*

**Introduction**: Increasing anthropogenic activities stress the ocean, upon which all life on Earth depends, necessitating widespread ocean-related pro-environmental behavior (PEB) change. Yet the ocean remains viscerally distant for most, with low levels of public ocean literacy observed even among coastal countries. Underwater virtual reality (UVR) is a novel immersive tool that can provide realistic, first-hand access to

the marine environment. **Objectives**: Building on previous qualitative findings—UVR can evoke presence and powerful self-transcendent emotions like awe while minimizing cybersickness (Fauville et al., 2024)—this pre-registered study empirically examined UVR's effectiveness as a psychological and behavioral intervention to promote ocean conservation **Methods**: In a randomized controlled trial with 214 Swedish participants, we assigned individuals to one of three immersion levels (PC, VR, UVR) at a swimming facility and presented them with the same 10-minute 360° video showcasing underwater dives including charismatic marine life encounters. We assessed psychological and behavioral responses through surveys administered before, immediately after, and one month post-intervention. **Results**: Results indicate that UVR significantly enhances feelings of presence and awe (time and physiological dimensions), fosters ocean connectedness, and encourages short-term PEB change. Additionally, UVR demonstrated lower levels of cybersickness compared to traditional VR formats. Notably, significant gender differences—women scored higher than men in most outcome variables—and presence as a key predictor for awe and ocean connectedness also emerged. **Conclusions**: These findings provide the first empirical insights for better understanding UVR's unique capabilities as an effective psychological and behavioral intervention for fostering wider engagement with marine environmental issues and ocean conservation.

Keywords: awe, behavior change, nature connectedness, virtual reality, ocean literacy

**ID-544: PLACE ATTACHMENT EVALUATED THROUGH THE LENS OF TIME: INSIGHTS FROM THE BELGIAN COAST**

Marylise Schmid[1], Thijs Bouman [2], Verolien Cauberghe [1], Sara Vandamme [3]

*[1]Ghent University / Department of Communication Sciences, Ghent, Belgium, [2]University of Groningen - Department of Psychology, Groningen, Netherlands, [3]Ghent University / Department of Animal Sciences and Aquatic Ecology, Ghent, Belgium*

Coastal regions are particularly meaningful to people, often characterised by strong coastal or maritime identities whilst also attracting many newcomers and visitors. At the same time, coastal areas are very dynamic natural and social systems, which are subject to continuous change, including today with the threat of climate change. Understanding the mechanisms of place attachment in the face of change is particularly relevant for sustainable (coastal) transitions as place attachment can affect place-protective behavior. Research has shown that people's evaluation of place is positively associated with place attachment. Yet, it remains unclear whether changes in evaluation over time influence place attachment. This study used hierarchical regressions to explore the relationship between people's evaluation of the Belgian coast over time and their attachment, with data collected from 752 tourists and 412 residents through an online questionnaire. The results showed that evaluating that the place was better in the past was associated with higher attachment and evaluating that the place will be better in the future was also associated with higher attachment. Further nuances were found between place identity and place dependence and residents and tourists. These are discussed, with potential implications for the design of communication strategies to encourage sustainable transitions in general and in coastal regions in particular.

Keywords: place attachment, evaluation of place over time, residents, tourists, sustainable coastal transition

**16-06-2025 | 14:00 - 15:15**

**S-013**: **Climate-health nexus: Understanding factors promoting mental wellbeing and climate change resilience in people and systems**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Dawn Room*

Chair: Annalisa Setti, University College Cork, School of Applied Psychology; Environmental Research Institute, Cork, Ireland.
Co-Chair: Andrea Stitzel, Paracelsus Medical University, Salzburg, Austria.

**ID-1236: REALISING THE BENEFITS: PSYCHOLOGICAL FACTORS UNDERLYING ACCEPTANCE AND UPTAKE OF URBAN NATURE-BASED SOLUTIONS**

Niamh Power[1], Annalisa Setti [1], Jason S Chan [1]

[1]*University College Cork*, *Cork*, *Ireland*

**Introduction**: Urban nature-based solutions (NbS) such as green and blue spaces have the potential to facilitate more sustainable and resilient living in cities, affecting positive impacts on health and well-being. However, there is a lack of purposeful consideration of the attitudinal and behavioural pathways through which NbS affect their impacts. The benefits of urban NbS are subject to people's 'adaptive capacity' to accept and engage with these initiatives. Psychological factors may play an important role in this adaptive process, yet their influence has yet to be thoroughly examined. **Objectives**: The present review seeks to uncover the psychological factors underlying acceptance and uptake of NbS for climate mitigation and adaptation in cities. **Method**: This research will be registered on PROSPERO. A literature search will be undertaken in the following databases: Web of Science; Scopus; PubMed; APA PsychINFO; Academic Search Complete. Quantitative, qualitative, and mixed methods studies will be considered. Results will be screened according to pre-piloted eligibility criteria with article screening subject to measurements of inter-rater reliability. A narrative synthesis of the data will be undertaken. **Results**: Preliminary search results indicate that place attachment and nature connectedness influence acceptance of NbS. Some evidence for perceived restorativeness as a moderator of the relationship between urban NbS and perceived benefits was also identified. This research promises focused insight into the pertinence of specific psychological factors in individuals' capacity to adapt to urban NbS. **Conclusion**: Results have the potential to inform approaches to public consultation, planning, and communication to optimise climate adaptation and mitigation.

Keywords: nature-based solutions, climate change, health, adaptation, public acceptance

**ID-1237: NATURE CONNECTEDNESS AS PSYCHOLOGICAL FACTOR PROMOTING FLOURISHING AND RESILIENCE IN MIDDLE-AGED AND OLDER INDIVIDUALS; A MIXED METHOD STUDY.**

Annalisa Setti[1], Anna O'Brien [1], Susan Carrol [2], Francesca Lionetti [3]

*[1]University College Cork*, *Cork*, *Ireland*, *[2]Health Service Executive*, *Cork*, *Ireland*, *[3]University of Pavia*, *Pavia*, *Italy*

**Introduction:** Nature connectedness promotes wellbeing, however a nuanced approach is necessary to understand which groups and individuals may benefit more from it. Ageing is a risk factor for climate change negative effects on mental health and so is sensory processing sensitivity, as those who are highly sensitive are more at risk of lower wellbeing and less resilient. Exploration of psychological factors supporting resilience in vulnerable groups is essential to enhance preparedness for the effects of climate change. **Objective**: The aim is to determine whether higher nature connectedness is associated with higher flourishing, particularly in those who are highly sensitive in middle and older age. **Method**: Mixed method study; a survey (N=856) and semi-structured interviews (N=12). The survey collected measures of nature connectedness, sensory processing sensitivity, chaotic home environment (predictors) and flourishing (predicted factor); the semi-structured interview inquired about factors hindering and fostering wellbeing and nature as way to increase resilience. **Results**: Survey: Nature Connectedness (NCI) had a significant positive effect on flourishing ($\beta = 0.28$, $t = 8.64$, $p < .001$). Additionally, the interaction between HSP and NCI was significant, positively predicting flourishing ($\beta = 0.11$, $t = 3.46$, $p < .001$). Interviews: Thematic analysis indicates that nature contact is a way to cope with adversity and relieve stress. **Conclusion**: some groups are particularly vulnerable due to sensory challenges; nature represents an important aspect of their wellbeing. This has important positive implications for mental health, however it may expose these individuals to climate change anxiety, when nature is endangered.

Keywords: ageing, sensory processing sensitivity, flourishing, resilience, nature connectedness

## ID-1238: UNDERSTANDING THE ROLE OF SENSORY PROCESSING SENSITIVITY IN CHILDREN'S PRO-ENVIRONMENTAL BEHAVIORS: THE MEDIATING EFFECT OF CONNECTION WITH NATURE

Antonio Dellagiulia[1], Alessandra Sperati[2], Maria Spinelli[2], Francesca Lionetti[2], Elisa Galli [2]

*[1]Salesian University of Rome*, *Rome*, *Italy*, *[2]University of Chieti-Pescara*, *Chieti*, *Italy*

**Introduction**: The increasing concern for environmental sustainability has heightened interest in identifying factors that foster pro-environmental behaviors (PEB). Among these factors, connection with nature (CN) plays a pivotal role. While this association between CN and PEB is well established in adulthood, a growing number of studies are exploring the psychological process involved. Sensor processing sensitivity (SPS), a trait that capture differences in processing internal and external stimuli, has recently been studied in adulthood as a variable associated with connection to nature as well as PEB (Dunne, Lionetti, Pluess & Setti, 2024), yet its role in childhood is never been studied. **Objectives**: The aim of this study is to extend the previous finding in childhood; we hypothesize that children's sensitivity indirectly influences their environmental actions through the development of a strong connection with nature. **Methods**: A total of 282 children took part to the study and complete a questionnaire administered in a school setting. The participants ranged between 8.26 and 12.2 years (M = 9.95 years; SD 0.87; 48% female). We conducted a mediation analysis to investigate whether CN mediate the relationship between SPS and PEB. **Results**: The results revealed that CN partially mediates the effect of sensitivity on PEB, with the 37.3% of the relationships between SPS and PEB explained by CN mediation. **Conclusions**:

These findings provide insights for designing educational interventions aimed at fostering CN in children. By considering sensor processing sensitivity as a key variable such program could effectively promote sustainable behaviors from an early age.

Keywords: sensory processing sensitivity, individual differences, nature connectedness, children, pro-environmental behaviour

**ID-1239: CLIMATE RESILIENCE AND PRIMARY CARE PROFESSIONALS (PCPS)**

Andrea Stitzel[1], Johanna Schauer-Berg [1]

*[1]MPH, Paracelsus Medical University Salzburg, Salzburg, Austria*

**Introduction:** Despite the great importance given to healthcare professionals in terms of tackling climate change, there is a lack of specific consideration of the role of those working in primary care. The literature even speaks of a "disconnect between primary care and climate change". **Objectives:** The aim of this study is to close the existing research gap regarding climate-health literacy of PCPs, their current activities and specific needs in the climate-health nexus. Recommendations are formulated how to support PCPs in becoming climate-resilient. **Methods:** To analyse climate resilience in Austrian PCPs, a systematic literature search was carried out in three databases (PubMed/Medline, Web of Science, Ovid) between 2012 and 2024. In addition, online focus groups with GPs, occupational therapists and physiotherapists (n=16) and individual interviews (n=5) with community nurses and home care helpers. **Results**: PCPs are already confronted with the health effects of climate change in many ways. The dominant topic is heat, but also psychological stress after extreme weather events, both in terms of own work ability and in the interaction with patients/clients. A comparison with the literature shows that there are other important areas of actions for PCPs, e.g. risk assessment/monitoring, early warning and research. Linking emergency care and disaster management more closely with climate resilience in primary care could increase capacity to cope, recover and adapt to climate-related shocks and stressors. **Conclusion**: Climate resilience among PCPs is only possible when it becomes a central component of integrated care which require structural framework conditions at meso and macro level.

Keywords: primary care, climate resilience, climate mitigation, climate adaptation

**16-06-2025 | 14:00 - 15:15**

**S-058**: **Journal of Environmental Psychology: How to get published by Wesley Schultz (USA).**

*Sun Room*

Chair: Wesley Schultz, Claremont Graduate University, Psychology, San Marcos, United States.

**16-06-2025 | 14:00 - 15:15**

**S-066**: **Climate change perception**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Forest Room*

Chair (IS): Swen Kühne, Zurich University of Applied Sciences, Zurich, Switzerland.

**ID-706: THE EFFECT OF THE ENDPOINT BIAS ON PREDICTIONS OF GLACIER ICE DECLINE.**

Swen J. Kühne[1], Cathérine Hartmann[1]

[1]*Zurich University of Applied Sciences, Zurich, Switzerland*

Underestimating the effects of climate change can reduce the perceived urgency to take action. However, people tend to interpret recent short-term fluctuations in a long-term trend as a reversal of the trend. This tendency is called endpoint bias. In two studies, we explored whether the endpoint bias affects the prediction of glacier ice melting and how a pro-ecological worldview is associated with these estimations. In Study 1, 282 participants were randomly assigned to two conditions in which they read a news report and a graph highlighting either a large decline or a small incline in glacier ice in the last year. Participants predicted a greater decline (-28%) in glacier ice by 2040 if there was a large decline in glacier ice the previous year than if there was a small incline (-18%). In addition, people with a higher pro-ecological worldview score predicted a greater decline. Study 2, with 507 participants, replicated the findings of Study 1. Additionally, a control group was added that had no context information (i.e., the graph and media coverage were not explicitly about glacier ice). This group's predictions of the trend were not influenced by their pro-ecological worldview. The results show that people's perception of climate trends is affected by their worldviews and the results highlight the effect of media coverage that emphasizes only recent events and not the long-term trend.

Keywords: motivated perception, peak-end rule, climate change, predicition, endpoint bias

**ID-773: CLIMATE CONSPIRACY BELIEFS AND THEIR CONNECTION TO PUBLIC PERCEPTIONS, POLICIES, AND EMOTIONS**

Dylan De Gourville[1], Daniel Toribio Florez[1], Karen Douglas[1], Marlene Sophie Altenmüller[2], Mario Gollwitzer[2]

[1]*University of Kent, Canterbury, United Kingdom*, [2]*Ludwig-Maximilians-Universität, Munich, Germany*

Climate change, marked by increasing extreme weather events and rising global temperatures, poses critical risks to ecosystems, economies, and communities worldwide. Despite its escalating nature, beliefs in climate-related conspiracy theories, such as claims that climate scientists falsify data, persist and undermine scientific consensus. These beliefs have been linked to reduced pro-environmental attitudes, lower support for environmental policies, and diminished trust in climate science. However, less is known about their relationship with emotional responses to climate change and the attribution of weather events to climate change. This study builds on existing research by examining both well-established and under-

explored associations of climate change conspiracy beliefs. Using data from a multinational sample spanning 18 countries (N = 19,606), we analysed the relationships between climate change conspiracy beliefs and four key variables: (1) trust in climate scientists, (2) support for climate policies, (3) subjective attribution of extreme weather events to climate change, and (4) emotions related to climate change. Multilevel modelling revealed significant negative associations between conspiracy beliefs and all four variables, even after controlling for demographic covariates, including age, gender, political orientation, and religiosity. Random effects analyses revealed substantial between-country variability in baseline levels and the strength of associations, which we contextualise by exploring the influence of country-specific factors. These findings illustrate the broad relevance of climate change conspiracy beliefs to climate-related attitudes, behaviours, and emotional responses, suggesting the importance of considering conspiracy beliefs in efforts to enhance global climate engagement and policy support.

Keywords: climate change, climate change conspiracy theories, conspiracy beliefs, pro-environmental behaviours, environmental policy

**ID-819: ELECTROPHYSIOLOGICAL CORRELATES OF CLIMATE CHANGE PERCEPTION AND PRO-CLIMATIC BEHAVIOURS: AN EEG-ERP AND EEG-HEP STUDY.**

Enrico Cipriani[1]

[1]*University of Pisa*, *Pisa*, *Italy*

As climate change (CC) intensifies and its effects touch even larger shares of the global population, novel approaches are needed to further our understanding of the psychological drivers of climate change perception and action. In the present study, we employed electroencephalography (EEG) and electrocardiography (ECG) to explore the neural correlates of climate change perception, considering individual differences in personality, political orientation, and attitudes toward nature. We recruited n = 39 participants which were subjected to an EEG-ECG recording session. First, the participants underwent a 7-minute resting-state recording, followed by the presentation of a series of 150 pictures in randomized order followed by the presentation of 150 images. These included 50 high-relevance CC images, 50 low-relevance CC images (from a validated dataset), and 50 control images matched for arousal and valence (from the Nencki Affective Picture System). Participants then completed psychometric scales and rated the images. After data collection, event related potentials (ERPs) were computed by averaging EEG time-locked to the presentation of each image category. Additionally, heartbeat evoked potentials (HEPs) were computed for each participant by averaging signals time-locked to heartbeats during resting-state. ERPs and HEPs were subsequently analysed in relation to participants' psychometric data. The insights gained from this study might inform future inform targeted interventions and communication strategies for promoting pro-environmental action.

Keywords: climate change perception, pro-environmental behavior, environmental neuroscience, climate neuroscience, electroencephalography (EEG)

## ID-813: UNDERSTANDING MISPERCEPTIONS OF CLIMATE ACTIONS AMONGST CLIMATE-CONCERNED INDIVIDUALS

Miriam Remshard[1], Matthew Goldberg [2], Anthony Leiserowitz [2], Sander Van der Linden[1]

*[1]Department of Psychology, University of Cambridge, Cambridge, United Kingdom, [2]Yale Program on Climate Change Communication, Yale University, New Haven, CT, United States*

**Introduction:** Despite growing concern about climate change, current action remains insufficient to keep global warming below 1.5°C. Psychological research finds that publics often overestimate the effectiveness of low-impact individual climate actions (e.g., recycling) and underestimate high-impact behaviors (e.g., flying less). However, the prevalence of these misunderstandings among climate-concerned individuals and their connection to actual behavior remain unclear. **Objectives**: This research aimed to determine whether climate-concerned individuals misjudge the impacts of various pro-climate behaviors. After identifying such misperceptions, we sought to evaluate their significance by examining whether climate-concerned individuals engage more frequently in climate actions that they perceive as more impactful. Finally, we explored potential psychological explanations for these misperceptions. **Materials & Methods**: We conducted national surveys in the UK (*n* = 294) and the USA (*n* = 800). **Results**: We find that even climate-concerned individuals overestimate the impacts of low-impact actions and underestimate high-impact behaviors. We also establish a link between the perceived impact of climate actions and participants' self-reported behavior: People are more likely to take climate actions they *perceive* as effective at mitigating climate change, regardless of their actual impact. However, we found no meaningful evidence in support of any of the tested explanations for these misperceptions. **Conclusions**: This research establishes that even individuals concerned about climate change tend to misjudge the impacts of climate actions and that these misperceptions may hinder efforts to reduce climate change by causing motivated individuals to prioritize low-impact climate actions over high-impact behaviors. We discuss potential communication interventions to correct such misperceptions.

Keywords: climate change misperceptions, pro-environmental behaviors, climate change mitigation, carbon numeracy, decision-making

## ID-368: ENERGY POVERTY AND ENERGY LITERACY IN SWEDEN

Per Algot Andersson[1], Erik Gråd [2]

*[1]Linköping University, Linköping, Sweden, [2]Anthesis, Stockholm, Sweden*

**Introduction**: High energy prices followed in the wake of the war in Ukraine, and have since posed a challenge for many European households. Citizens of many European countries struggle with paying their energy bills, worry about their costs, and adopt potentially harmful behaviors to curtail their energy use. This study explores potential determinants of perceived energy poverty in Sweden in the winter of 2022-2023. **Objectives**: Finding potential determinants of perceived energy poverty **Materials & Methods**: Our main data collection is a survey sent to a nationally representative sample of Swedish citizens (n=2003). We also present data from other related surveys on energy literacy and energy saving behaviors. **Results**: Anxiety about energy prices (as part of perceived energy poverty) is strongly associated with adoption of

energy-saving behaviors. However, increased anxiety leads to the adoption not only of recommended, but also non-recommended energy saving behaviors that may be harmful (such as avoiding cooking warm food). Higher objective energy literacy is related to enacting efficient and recommended energy savings behaviors, and to lower anxiety. On the contrary, higher subjective energy literacy is associated with more anxiety and may lead to harmful behaviors. **Conclusions**: Policies should focus on enhancing objective energy literacy and aligning subjective perceptions with actual knowledge. Given that energy consumers will adopt a limited number of energy savings behaviors, information campaigns should focus on the most efficient behaviors.

Keywords: energy poverty, energy literacy

**16-06-2025 | 15:15 - 15:30**

**Relocation Break**

*Campus Courtyard*

**16-06-2025 | 15:30 - 16:45**

**S-019**: **Interventions to trigger high-impact pro-environmental behaviour change**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Earth Hall Plenary*

Chair: Lorraine Whitmarsh, University of Bath, Psychology, Bath, United Kingdom.

**ID-1134: FOR OR AGAINST CARBON TAX: EXPLORING BEHAVIOURAL INFLUENCES IN THE UK CONTEXT**

Lorenzo Lotti[1], Ugne Salciute[2]

[1]*University College London*, *London*, *United Kingdom*, [2]*UCL*, *Cambridge*, *United Kingdom*

**Introduction**: To achieve substantial reductions in emissions and foster greener practices, it is crucial to ensure a more consistent application of carbon taxes. Public resistance to carbon pricing is a notable challenge, often attributed to perceived financial burdens, fairness issues, and lack of trust in government institutions: at the same time, "non-standard" decision-making aspects could also be driving factors behind this resistance. **Objectives:** This study involved an online experiment on behavioural intervention, examining the factors influencing voting behaviour for carbon taxation in the United Kingdom, and interactions between behavioural factors and voter decisions. **Materials & Methods:** The study employs a randomised controlled trial design using online platforms to investigate how framing in political campaigns impact voter decisions regarding carbon taxes, as well as examining how social norms, carbon pricing knowledge and loss aversion influence voting behaviour. The experiment consisted of three groups: control, positive framing (Treatment 1), and negative framing (Treatment 2). **Results &**

**Conclusions:** Findings reveal environmental social norms, greater knowledge and positive attitudes towards carbon tax positively influenced voting behaviour. Overconfidence in perceived carbon tax knowledge and perceiving tax as a loss reduced support. While framing effects did not directly impact voting outcomes, they influenced voter confidence, with positive framing reinforcing confidence among supporters. These insights provide valuable guidance for policymakers and electoral campaign strategists, emphasising the need to leverage social norms, address misperceptions, and communicate the tangible benefits of carbon taxes to enhance public acceptance and drive effective climate action.

Keywords: carbon pricing, environmental tax, behavioural economics, climate change

### ID-1135: ENCOURAGING SUSTAINABLE FOOD CHOICES AMONG ENGLISH PREMIER LEAGUE FOOTBALL SUPPORTERS: ASSESSING BEHAVIOURAL CHANGES IN A FIELD INTERVENTION

Daniele Pollicino[1]

[1]*London School of Economics and Political Science*, *London*, *United Kingdom*

**Introduction:** Football's contribution to anthropogenic climate change through carbon emissions is increasingly recognized in academic and institutional research. Global football organizations are highlighting the issue, with some individual clubs already taking steps to improve their environmental practices. Notably, some clubs' initiatives are helping to challenge myths surrounding plant-based food consumption. **Objectives:** In this research project, we aim to evaluate the effectiveness of behaviour change interventions in encouraging sustainable food choices among supporters of an English Premier League football club. **Materials & Methods:** The study is conducted at the club's stadium, where several club-owned food outlets serve meals via traditional tills and self-order screens. By implementing a combination of behaviourally informed approaches during home games, we compare sales data from before and after the interventions. Specifically, we test the causal impact of renaming vegetarian and vegan food options on digital menus to names that resonate with the club's supporter identity. Additionally, we alter the default order in which food options are presented in the "Bundle Deals" offered across the stadium. **Results & Conclusions:** As well as food purchase data, we calculate the average CO2e emissions associated with meals sold during home games and explore supporters' perceptions and beliefs about food sustainability and its role within football through post-game surveys. Similar interventions could be trialled with other clubs and scaled across competitions. The Premier League is the most-watched football league in the world, and its influence on supporters could be a game changer in the fight against climate change and biodiversity loss.

Keywords: behavioural intervention, climate change, food consumption, football, sustainable diets

### ID-1136: THE PLAYFUL WAY TO PRO-ENVIRONMENTAL BEHAVIOUR: AN EXPERIMENT ON EDUTAINMENT THROUGH VIDEO GAMES

Ximeng Fang[1], Stefania Innocenti

[1]*University of Oxford*, *Oxford*, *United Kingdom*

**Introduction**: Despite growing public awareness and urgent calls for climate action, progress is lagging. Demand-side solutions, which focus on changing individual consumption patterns, offer a valuable complementary approach, but the most effective strategies for driving such change remain uncertain. **Objectives**: Our project evaluates the potential of video games to promote pro-environmental behaviour by illustrating the consequences of in-game choices. Unlike traditional media, games are interactive, providing players with agency and immediate feedback, which fosters experiential learning and connects daily choices with global outcomes. We focus on sustainable food consumption due to its significant climate impact, universal relevance, and potential for cumulative change. **Methods**: Our single-player mobile game integrates food-related choices into an engaging storyline. We build four versions of the same game (Control, Social, Nature, and Social+Nature), which are identical in gameplay but differ on whether and how players receive information/feedback about food choices. The Social version reinforces feedback through norms and reputation; the Nature version reinforces feedback through visual changes in the game environment. The study involves 4,500 UK adult gamers in a 2x2x2 design, measuring effects on knowledge, attitudes, and behaviour. The latter is assessed through an incentive-compatible grocery shopping task conducted in an experimental supermarket. **Results & Conclusions**: A registered report is under review. We will have results by May 2025. This research seeks to explore the untapped potential of video games in driving climate action.

Keywords: video games, experiments, food choices, incentive-compatible outcome, longitudinal data

## ID-1137: NUDGING TO PROMOTE PLANT-BASED MILKS: TWO FIELD EXPERIMENTS TO TEST A VERBAL PROMPT AND AN OAT-MILK DEFAULT

Lorraine Whitmarsh[1],

[1]*Centre for Climate Change and Social Transformations (CAST), University of Bath*, *Bath*, *United Kingdom*

**Introduction:** Dairy products have significant environmental impacts but remains widely consumed. Much consumption is habitual, making informational approaches ineffective. By contrast, nudges, work to change choice architecture and do not rely on conscious engagement. **Objectives:** Field experiments are needed to test the efficacy of nudges on pro-environmental behaviours. Here, we test two nudges (verbal, default) to promote plant-based milks in UK cafés **Materials** & **Methods**: Study 1 disrupted the default dairy option and implemented a verbal prompt to encourage customers to consider oat milk in their hot drinks. Study 2 went further to make oat milk the default for hot drinks, with dairy milk available on request. Both studies evaluated intervention efficacy with sales data (S1 N=3000; S2 N=2000) and qualitative survey data (S1 N=24; S2=41) **Results**: Study 1 sales data showed a 6% increase in oat milk consumption during the six-week trial. Qualitative survey data found customers with pre-existing preferences were less susceptible to the nudge and revealed several barriers to sustainable milk consumption. Study 2 showed a 5% increase in oat milk sales during the one-week trial, which was maintained during the following week post-intervention removal. Survey data confirmed the default had been effective to enable behaviour change and found customers were largely positive towards the nudge. **Conclusions:** These studies confirm the utility of nudging as a low-cost, socially acceptable method to change consumers' drink choices, but also point to limited efficacy amongst certain groups.

Keywords: verbal nudge, default, milk consumption, field experiment

**ID-1138: MIND THE GAP: CORRECTING YOUNG PEOPLE'S VALUE MISPERCEPTIONS TO ELICIT HOPE AND LOCAL ENVIRONMENTAL ACTION**

Philip Howlett[1]

[1]*Department of Psychology, University of Bath*, *Bath*, *United Kingdom*

**Introduction:** People show overwhelming similarities in their concern for people and planet but often fail to recognise these values in others. **Objectives:** Two pre-registered studies identify the extent of this value misperception gap among young people, examine its consequences for environmental hope and engagement, and test whether the gap can be reduced. **Materials & Methods:** Participants are young people aged 12-24, recruited from various regions across the UK through schools and online platforms. Study 1 (*N*=1141) was a cross-sectional study. Study 2 (expected *N*=1000) is a 5-wave longitudinal experiment that will be completed March 2025. **Results:** In Study 1, 95% of participants agreed that self-transcendence values (e.g., helpfulness, caring for nature) are among their most important values, but they perceived their peers to care much less about these values. Participants who perceived a greater gap reported feeling more disconnected, more hopeless about environmental issues, less motivated to tackle these issues, and to engage less frequently in environmental activism. For Study 2, multilevel analyses will test an intervention helping young people to discover their shared values and using a digital consensus-building tool to exchange ideas on concrete, local environmental action (e.g., campaign to promote cycling). We expect that this intervention elicits greater social connection, environmental hope, motivation, and action. **Conclusions:** By showing young people that together they can make a difference, we hope to break the cycle of dwindling hope and environmental disengagement, which is vital for an age group that needs resilience to deal with the climate crisis.

Keywords: young people, hope, environmental action, shared values, intervention

**16-06-2025 | 15:30 - 16:45**

**S-017**: **Feeling good when acting green: Warm glow and pro-environmental behaviour around the world**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Disa Sauter, University of Amsterdam, Amsterdam, Netherlands.
Co-Chair: Tobias Brosch, University of Geneva, Department of Psychology, Geneva, Switzerland.

**ID-1076: THE INFLUENCE OF ANTICIPATED POSITIVE AFFECT AND GOAL-SETTING ON PRO-ENVIRONMENTAL ACTION**

Izia Vallaeys[1], Tobias Brosch[1]

[1]*University of Geneva, Consumer Decision & Sustainable Behaviour Lab*, *Geneva*, *Switzerland*

Research in affective sciences highlights the motivational role of emotions in pro-environmental behavior. While negative emotions like anger and fear have been widely studied, positive emotions and their motivational potential remain underexplored. The concept of *warm glow*—a positive feeling experienced or anticipated during environmentally friendly actions—suggests the possibility of a "virtuous cycle" where positive emotions reinforce pro-environmental behaviors. This study aims to leverage this positive feedback mechanism during an online pro-environmental task, examining both anticipated and retrospective positive affect. Participants (N = 200) engaged in the Work for Environmental Protection Task (WEPT), completing pages of an online cognitive task where each completed page resulted in planting a tree in real life. Anticipated warm glow was measured before starting the task, while retrospective warm glow was assessed after each page and participants indicated if they wanted to continue. Based on goal-setting research, participants were randomly assigned to one of two groups: a goal-specified condition (informed of the maximum number of pages they could complete) or a control condition (no such information). At the end, pro-environmental intentions were also measured Participants in the goal-specified condition completed significantly more pages than those in the control group, consistent with goal-setting theory. However, this effect was independent of anticipated positive affect, which showed no differences between conditions. Across conditions, higher anticipated warm glow predicted stronger pro-environmental intentions. Moreover, a negative spillover effect emerged: participants in the goal-specified condition who completed more pages reported lower future pro-environmental intentions.

Keywords: positive emotions, pro-environmental behaviors, warm glow, goal setting theory, work for environmental protection task

**ID-1077: BEING GOOD TO DO GOOD? INVESTIGATING THE RELATIONSHIP BETWEEN POSITIVE SELF-STATE AND ENVIRONMENTAL PROSOCIALITY ACROSS COUNTRIES**

Claudia Schneider[1]

[1]*University of Canterbury*, *Canterbury*, *New Zealand*

In order to tackle the global climate crisis, environmental prosociality from citizens around the globe is paramount. On the backdrop of the important role of emotions for driving human behaviour, some research has suggested that a positive self-state can support pro-environmental engagement. The question is whether this relationship holds across countries and what role other factors commonly known to influence environmental behaviour, such as political orientation, play in it. Here we begin to shed light on the question by investigating the relationship between positive self-state and environmental prosociality across a range of WEIRD (UK, US) and nonWEIRD (Nigeria, India) countries, in a set of nationally-representative surveys (n=1400 per country). We find that the role of positive self-state varies by country, and broadly maps onto a WEIRD – nonWEIRD distinction. Similarly, commonly known influential factors in WEIRD countries emerge as not-so-common in nonWEIRD countries. This research highlights the importance of global research for understanding and ultimately tackling a global issue.

Keywords: positive self-state, environmental prosociality, WEIRD, nonWEIRD

## ID-1078: REPAIRING CLOTHES WITH GOOD FEELINGS: HOW POSITIVE EMOTIONS INFLUENCE SUSTAINABLE CLOTHING BEHAVIORS

Linli Zhou[1], Anna Bosshard [1], Cameron Brick [1], Disa Sauter[1]

*[1]Department of Psychology, University of Amsterdam, Amsterdam, Netherlands*

Positive emotions influence how individuals engage with sustainability and pro-environmental behaviors. Positive emotions that people feel before and after pro-environmental behaviors could encourage individuals to behave more pro-environmentally. However, most research to date was based on cross-sectional data or hypothetical scenarios. Here, we conducted a pre-registered intervention study on the role of positive emotions (feeling happy, satisfied, and good) in relation to real-life clothing-related behaviors (repair, acquisition, and disposal). 62 participants attended a hands-on clothing repair workshop with persuasive information; 51 others in a control group only received persuasive information. Compared with the control group, the workshop increased repair intentions after the intervention and decreased disposals four weeks later. Across both groups, anticipated positive emotions from repairing clothes at baseline predicted higher repair intentions after the intervention and four weeks later. In the workshop group, anticipated positive emotions also predicted more repair behaviors four weeks later. In addition, people who experienced more positive emotions from the workshop reported higher repair intentions immediately after the workshop and four weeks later. Overall, repair intentions increased over time, but several behavioral outcomes did not change (e.g., clothing acquisition), which again emphasizes the need to measure and change real-life behaviors rather than only intentions. These longitudinal data demonstrate that positive emotions can shape sustainable clothing behaviors over time. Hands-on repair workshops thus provide a useful way to encourage repair behaviors by fostering practical repair skills, and such interventions could potentially help combat the negative impact of the fast fashion industry on climate change.

Keywords: positive emotions, fast fashion, clothes repair behavior, sustainability

## ID-131: POSITIVE ANTICIPATED AFFECTIVE REACTIONS INCREASE PRO-ENVIRONMENTAL BEHAVIOR

Camilla Strömbäck[1], Per A Andersson [1], Erkin Asutay [1], Hulda Karlsson [1], Daniel Västfjäll [1; 2]

*[1]Linköping university, Linköping, Sweden, [2]Decision Research, Eugene, OR, United States*

**Introduction:** With households accounting for 75% of global carbon emission, we need to find ways to motivate people to increase their climate change mitigating behaviors. Affective reactions have been linked to pro-environmental behaviors (PEBs), but it is unclear if positive or negative affect is more impactful in motivating action. **Objectives:** The objective of the study is to test the following hypotheses: H1: There is a positive correlation between positive anticipated affect connected to a specific PEB and the likelihood to engage in that behavior during the following weeks. H2: There is a negative correlation between negative anticipated affect connected to a specific PEB and the likelihood to engage in that behavior during the following weeks. **Materials** & **Methods:** In this pre-registered study we used a unique longitudinal dataset from a Swedish sample (n=995) to investigate the relationship between anticipated

affect (positive and negative) and seven everyday PEBs. **Results:** Positive affect predicted more engagement in PEBs, and negative affect predicted less engagement in PEBs. The results from a mediation model suggested that anticipated positive affect was related to past pro-environmental engagement and could partly predict future PEBs. **Conclusion:** The results imply that affective reactions may be one way to increase the intrinsic motivation for a more sustainable lifestyle. They are also in line with the theory of affective paternalism which implies that affect can be used on a societal level to encourage, among other things, prosocial and PEBs.

Keywords: anticipated affect, pro-environmental behaviors, longitudinal study

**16-06-2025 | 15:30 - 16:45**

**S-016**: **UNDERSTANDING MISPERCEPTIONS: PERCEPTIONS OF OURSELVES AND OTHERS, AND THE IMPACTS THESE HAVE ON ENVIRONMENTAL BEHAVIOR AND POLICY SUPPORT**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair: Sandra Geiger, Princeton University, Princeton, United States.
Chair: Thijs Bouman, University of Groningen - Department of Psychology, Groningen, Netherlands.

**ID-1144: SOCIAL COMPARATIVE RISK PERCEPTIONS – THE ROLE OF REFERENT SPECIFICITY IN EXTREME WEATHER-RELATED RISK PERCEPTIONS**

Magnus Bergquist[1], Pär Bjälkebring [2]

*[1]University of Gothenburg, Department of Psychology, Gothenburg, Sweden, [2]Gothenburg University, Department of Psychology, Gothenburg, Sweden*

People's risk perceptions are, in general, overly optimistic (Sharot, 2011). Falsely believing that others face greater risks than they do themselves. Overoptimism is problematic. It leads to unrealistically low-risk assessments, which subsequently could serve as a barrier to quitting smoking (Weinstein et al., 2001), getting vaccinated (Dyrhurst et al., 2019), and mitigating climate change (Bergquist et al., 2022). Across multiple studies, we tested the proposition that risk perceptions become more overoptimistic with general than specific referents (e.g., the "other" people are comparing themselves to). Specifically, we propose a three-step process for explaining overoptimistic risk perceptions: 1) Construction. When rating a specific risk compared to a general referent or ability, people construct a specific person or ability. 2) Selective searching. In constructing such specific referents or abilities, selective information searching will lead people to construct a risk prototypical referent. 3) Optimistic risk assessments. Constructing a risk prototypical referent or prototypically adaptive ability will bias judgments toward being overoptimistic – because people will compare themselves to a risk prototype or evaluate their abilities selectively. We re-analyze past research and use both quantitative and qualitative methods in tapping into the processes of overoptimistic risk perception for environmentally related risks.

Keywords: social comparison, risk perception, extreme weather events, overoptimism

## ID-1145: UNDERSTANDING PERCEIVED GROUP VALUES AMONG COASTAL RESIDENTS AND TOURISTS: IMPLICATIONS FOR MARINE CONSERVATION NORMS AND BEHAVIORS

Catho Vermeulen[1], Veroline Cauberghe [1], Thijs Bouman [2], Sara Vandamme [3]

*[1]Ghent University, Center for Journalism Studies, Ghent, Belgium, [2]University of Groningen, Environmental Psychology Group, Groningen, Netherlands, [3]Ghent University, Blue Growth Research Lab, Ghent, Belgium*

Climate change and increased human activity near and at sea call for a sustainable transition of coastal regions. Therefore, encouraging marine conservation behaviors among both residents and tourists will be essential for safeguarding the marine environment. Recognizing that people protect what they value, we explored their general life values and those specific to coastal regions. Additionally, we examined people's perceptions of others' values (i.e., group values), as possible misperceptions could also influence people's own behavior. A questionnaire was distributed among 425 residents and 761 tourists of the Belgian coast, and data analysis was performed (i.e., correlations, t-tests, regressions). Results revealed differences between individuals' personal values and their group values, variations in value priorities between residents and tourists, and a small but significant impact of the group values on individuals' own conservation norms and behaviors. For example, tourists' perceived group biospheric values—specifically, the extent to which they believe other tourists prioritize nature—are a positive and significant predictor of their own personal marine conservation norm (i.e., feeling responsible for marine health) ($b$ = 0.15, $t(752)$ = 3.25, $p$ = 0.001). Even when performing a stepwise regression, first including personal values and then adding group values, the model significantly improves ($F(4, 752)$ = 4.73, $p$ < .001), and the impact of group biospheric values remains significant, though reduced ($b$ = 0.09, $t(752)$ = 2.00, $p$ = 0.048). These findings highlight the impact of the discrepancy between personal and group values on norms and behaviors, offering valuable insights for promoting marine conservation.

Keywords: marine value orientations, group values, personal norms, marine conservation, misperceptions

## ID-1146: CLIMATE ACTIVISTS BETWEEN SOCIETAL SUPPORT AND SCORN: STEREOTYPES OF ACTIVISTS ARE NEGATIVE AND MISPERCEIVED

Jana K. Köhler[1], Sandra J. Geiger [1; 2], Angelika Gellrich [3], Marlene Münsch [4], Mathew P. White [5; 6], Sabine Pahl [1; 6]

*[1]University of Vienna, Urban and Environmental Psychology Group, Vienna, Austria, [2]Princeton University, Andlinger Center for Energy and the Environment, Princeton, United States, [3]German Environment Agency, Dessau-Roßlau, Germany, [4]ConPolicy GmbH, Berlin, Germany, [5]University of Vienna, Cognitive Science Hub, Vienna, Austria, [6]University of Vienna, Environment and Climate Research Hub (ECH), Vienna, Austria*

Climate activists engaging in public protest can play a vital role in accelerating the socio-ecological transformation. How activists are viewed likely influences the success of their actions. Across two German samples, we investigate how (a) the public views climate activists (first-order stereotypes), (b) how the public thinks the public views climate activists (second-order stereotypes), and (c) how climate activists

think the public views them (meta-stereotypes). Unconventional climate activists (street gluers) were viewed much more negatively than conventional climate activists ('regular' protesters) by a representative sample of the German public ($N$ = 1,002). The public overestimated minority stereotypes, and underestimated majority stereotypes—indicating pluralistic ignorance. More negative first- but not second-order stereotypes among the public were associated with lower activist support; more positive stereotypes were positively associated with more activist support. In a convenience sample of German climate activists ($N$ = 267), conventional climate activists thought they were viewed more negatively by the public than they actually were, whereas unconventional climate activists thought they were viewed more positively—the first finding being in line and the second at odds with intergroup negativity bias. Both activist groups also underestimated majority stereotypes and overestimated minority stereotypes about themselves (pluralistic ignorance). The results support both theoretical accounts of pluralistic ignorance and intergroup negativity bias, suggesting the biases are not mutually exclusive. On a practical level, the biased social reality experienced by the public and climate activists can have profound influences on judgments and decision-making around climate change.

Keywords: climate activism, stereotype content model, pluralistic ignorance, intergroup bias

**ID-1147: IDENTIFYING EFFECTIVE SOCIAL NORM MESSAGES TO STRENGTHEN AMERICANS' SUPPORT FOR BIODIVERSITY POLICIES**

Sandra J. Geiger[1; 2], Mathew P. White[4; 5], Jeffrey M. Lees [3]

*[1]University of Vienna, Urban and Environmental Psychology Group*, *Vienna*, *Austria*, *[2]Princeton University, Andlinger Center for Energy and the Environment*, *Princeton*, *United States*, *[3]University of Groningen*, *Groningen*, *Netherlands*, *[4]University of Vienna, Cognitive Science Hub*, *Vienna*, *Austria*, *[5]University of Vienna, Environment and Climate Research Hub (ECH)*, *Vienna*, *Austria*

While past work has focused on testing the efficacy of single norm messages in isolation, decision-makers are typically interested in pinpointing the most effective message in a specific policy context. In this preregistered program of work, we develop and test a process titration approach to help identify which of 32 theoretically informed norm messages may most effectively strengthen Americans' support for the only global biodiversity treaty—the UN Convention on Biological Diversity. The process titration is based on three criteria: (a) an absolute majority norm, (b) substantial norm misperceptions (pluralistic ignorance), (c) and strong associations of norm misperceptions with personal support for the US ratifying the Convention. Applying this three-step process titration, a correlational study (Study 1; $n$ = 2,509) suggests that a scientific consensus message on the negative impacts of biodiversity loss is most promising. Supporting this selection, a pretest ($n$ = 293) and large-scale experiment ($n$ = 5,090) show that the scientific consensus message substantially reduces misperceptions ($\delta$ = 0.81, 90% CrI [0.66, 0.97]) and boosts belief in the negative impacts of biodiversity loss ($\delta$ = 0.13, 90% CrI [0.08, 0.18]), support for the US ratification ($\delta$ = 0.09, 90% CrI [0.04, 0.14]), and actual petition signatures (3.30 p.p., 90% CrI [1.35, 5.24]). Conclusion: Overall, we highlight a structured approach to carefully select an effective norm message that can be applied to any policy context.

Keywords: pluralistic ignorance, social norms, scientific consensus, biodiversity conservation, policy support

**ID-1148: WHEN PERCEPTIONS OF OTHERS AFFECT OUR ENVIRONMENTAL ACTIONS. WHICH PERCEPTIONS, UNDER WHAT CIRCUMSTANCES, AFFECT OUR ENVIRONMENTAL ACTIONS?**

Thijs Bouman[1], Luyang Zhao [2], Žan Mlakar[1], Elliot Sharpe[1], E. Keith Smith[3]

*[1]University of Groningen, Environmental Psychology Group, Groningen, Netherlands, [2]Environmental Psychology Group, University of Groningen, Groningen, Netherlands, [3]ETH Zurich, Department of Humanities, Social and Political Sciences, Zurich, Switzerland*

Our perceptions of others and the influences these perceptions have on us have received increasing attention in the environmental domain. This, in particular, is because various large-scale studies indicated that people structurally underestimate the environmental values, concerns, and actions of fellow national citizens. Although it has been argued that such underestimations may discourage individuals from taking climate action, empirical evidence for this relationship is less clear, with effects being inconsistent and varying in size. In this presentation, we explore (i) how these "perceptions" relate to each other, (ii) which of these "perceptions" are most likely to impact our actions (i.e., environmental behavior and policy support), and (iii) under which conditions such impacts most likely occur. The primary analysis is based on data we collected in a national-representative survey conducted across 13 EU countries ($n$ = 19,328). This analysis is supplemented with additional, in-depth analyses of other new and older datasets. The combined analyses suggest that people are more inclined to act in accordance with their perceptions of fellow national citizens when the national identity is relevant and desirable, and when these perceptions may indicate the effectiveness of the respective action. Yet, exceptions occur, which we discuss in the presentation. Our perceptions of others may affect our environmental actions, but not under all circumstances. We discuss these circumstances and when and how perceptions of others' environmental values, concerns, and actions are most relevant.

Keywords: perceived values, perceived norms, second-order beliefs, social influence, environmental action

**16-06-2025 | 15:30 - 16:45**

**S-025**: **OVERCOMING A CRISIS OF IMAGINATION: WHEN, WHY AND HOW DO VISIONS OF SUSTAINABLE SOCIETIES PROMOTE ACTION FOR SOCIAL CHANGE**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Valley Room*

Chair: Julian Bleh, Leipzig University, Leipzig, Germany.
Co-Chair: Torsten Masson, Leipzig University, Social Psychology, Leipzig, Germany.
Discussant: Torsten Masson, Leipzig University, Social Psychology, Leipzig, Germany.

## ID-1204: INCREASING PEOPLE'S ABILITY TO IMAGINE A SOCIALLY AND ECOLOGICALLY JUST SOCIETY: MOTIVATIONAL EFFECTS AND BOUNDARY CONDITIONS

Julian Bleh[1], Torsten Masson[1], ImmoFritsche[1]

[1]*University of Leipzig*, *Leipzig*, *Germany*

Having a vision, being able to imagine social change, is a source of motivation for the transformation towards a socially and ecologically just society. We investigated the motivational effects and boundary conditions of such imaginative capacity. In several experimental studies (N>2000), people were prompted to actively imagine and write about a roughly sketched vision of a society based on social justice, ecological sustainability, democratic participation and solidarity. Subsequently, they were asked to either indicate why this society is or is not a real possibility. This activity was compared to reflecting on the state of current society along the same dimensions, as well as with a neutral control group. The results showed that engaging with the presented societal vision (vs. control) increased a range of psychological determinants of support for social change (i.e. collective action intentions, willingness to pay, moral and efficacy beliefs). On the other hand, reflecting the status quo also had a motivational effect, although slightly less than the vision. Moreover, the effects of the vision were independent of political orientation. A condition for these effects, seems to be plausibility – perceiving the envisioned society as a real possibility. Interestingly, this perception of possibility depends less on people's assessment of current developments than on their fundamental beliefs and theories about human beings and society. In conclusion, increasing the mental accessibility of societal alternatives seems to be a promising approach to mobilise for socio-ecological change across the political spectrum. However, to be fully effective, change must be made plausible.

Keywords: visions, cognitive alternatives, social change, collective action, implicit theories

## ID-1205: CREATING VISIONS OF POSITIVE FUTURES TO MOTIVATE INDIVIDUAL AND COLLECTIVE PRO-ENVIRONMENTAL ACTION

Lucia Bosone[1], Téophile Rasse [1], Franck Zenasni [1]

[1]*Université Gustave Eiffel, Université Paris Cité, LaPEA*, *Versailles*, *France*

Envisioning future societies allows individuals to mentally "pre-experience" positive and negative events, informing them about the potential constraints and challenges that may arise in the present. Recently, research demonstrated that individuals' ability to envision positive futures is particularly important to boost pro-environmental behaviours (Bosone et al., 2024). However, little is known with regards to whether and how it is possible to improve such ability. We argue that this could be done by increasing divergent creativity, since creative thinking provides opportunities for exploring unconventional ideas and

contemplating unthinkable futures (Koro-Ljungberg, 2021). The aim of this presentation is to explore whether engaging individuals in divergent creativity tasks concerning a utopian vision of the future influences their ability to imagine such futures as well as their intention to engage in pro-environmental behaviours. We will present data from two studies. A cross-cultural correlational study (N=2000) confirming the importance of the ability to imagine positive futures for individual and collective pro-environmental intentions, and an experimental mixed-method study (N=339) testing the association between divergent creativity, the ability to imagine the future and pro-environmental intentions. Results from the qualitative and quantitative data analyses show that creative skills (in particular fluidity and flexibility) are significantly associated with the ability to imagine a positive world and pro-environmental intentions, but only for individuals who perceive an eco-friendly future as desirable. These results have implications for the development of positive transition scenarios effective in promoting behavioural change, and shed light on an under-investigated phenomenon: positive future envisioning.

Keywords: envisioning the future, behavioural change, pro-environmental behaviours, environmental cognitive alternatives, divergent creativity

**ID-1206: THE EFFECT OF GREEN UTOPIAN VISIONS ON SOCIAL CHANGE MOTIVATION AND CLIMATE ACTION**

Julian Fernando[1], Yoshihisa Kashima [2], Léan O'Brien [3], Madeline Judge [4]

*[1]School of Psychology, Deakin University*, *Melbourne*, *Australia*, *[2]University of Melbourne*, *Melbourne*, *Australia*, *[3]University of Canberra*, *Canberra*, *Australia*, *[4]University of Otago*, *Dunedin*, *New Zealand*

Thinking about a utopian society has been shown to increase motivation for social change. This effect suggests a role for imagining Green utopian visions in motivating action for ecological sustainability. We present several studies in which we measured preferences for Green utopian visions or engaged participants in imagination tasks about Green utopian visions, and assessed associations with general social change motivation, pro-environmental intentions and behaviours, and emotions (e.g., hope). Across the studies, participants completed either a questionnaire assessing a range of prototypical utopian visions or engaged in an imagination/writing task about a Modern Green (ecological modernization) utopia, a Primitivist Green utopia or a Sci-Fi utopia. They then completed measures of pro-environmental behaviour or intentions, social change motivation and/or emotions about the utopian society they had imagined. Taken together, these studies show that relative to the other utopias or controls, imagining a Modern Green utopia elicited greater social change and pro-environmental motivation. These effects could be partially accounted for by increases in hope or participative efficacy. However, these effects were also primarily evidenced for those who had a positive evaluation of the utopia presented. Imagining an ecologically sustainable utopian society can increase motivation for pro-environmental action and social change. These effects are limited, however, in that they accentuate sustainability motivation among those who already have a positive evaluation of such a society. Therefore, utopian thinking may not be effective in driving motivation among those who are not already inclined towards that kind of utopia.

Keywords: utopianism, social change, collective action, ecological utopia

**ID-1203: NARRATING THE FUTURE: HOW TELLING THE STORY ABOUT OUR FUTURE MAY MOTIVATE PRO-ENVIRONMENTAL ENGAGEMENT THROUGH AFFECTIVE PROCESSES**

Janine Stollberg[1], Eva Jonas [1]

[1]*Paris-Lodron Universität Salzburg*, *Salzburg*, *Austria*

To motivate collective engagement towards sustainability, it is necessary to talk about a sustainable future. Talking about sustainability means talking about climate change protection goals, concrete measures and the effects of (in)action. Therefore, one can either use propositional knowledge, such as general facts, or one can tell a meaningful story about the future that emerges from the present. We proposed that narratives about the future should be particularly effective in eliciting feelings of being moved and hope, compared to salient facts about climate change, because they provide a meaningful story about a common fate. Based on our previous findings that feelings of being moved account for future vision effects on pro-environmental engagement, we assumed further that increased feelings of being moved and hope might then motivate engagement towards a sustainable future. We tested these assumptions in two experimental studies (Ntotal = 500). In Study 1, we compared the effects of a positive narrative and a negative narrative about the future with salient facts about climate protection measures on affective states and pro-environmental intentions. In Study 2, we went a step further, and contrasted positive and negative future-oriented narratives with progressive and regressive past-oriented narratives with climate change facts. We will report and discuss how different narratives elicit affective states of being moved, hope, and anxiety, as well as their relation to pro-environmental engagement and related cognitive constructs, such as the ability to imagine cognitive alternatives.

Keywords: future vision, narratives, being moved, hope, pro-environmental motivation

**16-06-2025 | 15:30 - 16:45**

**S-018**: **Leveraging multiple approaches for addressing climate change impacts on mental and physical health**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Dawn Room*

Chair: Dalia Martinaitienė, Lithuanian University of Health Sciences, Laboratory of Behavioral Medicine, Neuroscience Institute, Palanga, Lithuania.

**ID-1121: „WALK AND TALK" AND CLIMATE CHANGE ANXIETY – PRELIMINARY RESULTS**

Katarína Matejová[1]

[1]*Catholic University in Ružomberok*, *Ružomberok*, *Slovakia*

**Objectives**: The main aim of this paper is to investigate whether differences in physiological state and psychological experience before and after a walk in a natural environment are related to climate change anxiety. **Methods**: Respondents are more than 80 university students in Slovakia who volunteer to participate in the research. The measurement focuses on physiological variables - heart rate and blood pressure measured by Huawei Watch D. To assess current mental state before and after the walk we administrate: State-Trait Anxiety Inventory - STAI; Positive and Negative Affect Scale - PANAS; Profil of Mood Scale - POMS-16; and Zuckerman Inventory of Personal Reactions – ZIPERS. In a separate session will be administered the Climate Change Anxiety Scale – CCAS. **Results**: Significant differences are identified in the physiological and mental state (anxiety, positive and negative affect, despondency, fatigue, vitality and anger, sadness, fear) of the respondents before and after the walk in the natural environment. Subsequently, associations between the magnitude of the difference and climate change anxiety will be established. **Conclusions:** The results will be discussed with regard to the potential of „walk and talk" as an effective way of coping with the impacts of climate change on the mental health of university students. **Research is funded**: by the EU NextGenerationEU through the Recovery and Resilience Plan for Slovakia under the project No. 09I03-03-V04-00630.

Keywords: walk and talk therapy, walk and talk psychological counselling, nature walks, climate change anxiety

## ID-1123: WE SENSE THE NATURE: THE EFFECT OF WEATHER SENSITIVITY AND WALKING IN NATURE ON THE PSYCHOPHYSIOLOGICAL RESPONSE TO STRESS IN INDIVIDUALS WITH CORONARY ARTERY DISEASE

Dalia Martinaitienė[1], Francisco Sampaio [2; 3], Zsolt Demetrovics [4; 5; 6], Biljana Gjoneska [7], Justina Portačenko [1], Toma Garbenytė-Apolinskienė [1], Julius Burkauskas [1], Nijolė Kažukauskienė [1]

[1]*Laboratory of Behavioral Medicine, Neuroscience Institute, LSMU*, *Palanga*, *Lithuania*, [2]*Nursing School of Porto*, *Porto*, *Portugal*, [3]*CINTESIS@RISE, Nursing School of Porto (ESEP)*, *Porto*, *Portugal*, [4]*College of Education, Psychology and Social Work, Flinders University*, *Adelaide*, *Australia*, [5]*Institute of Psychology, ELTE Eötvös Loránd University*, *Budapest*, *Hungary*, [6]*Centre of Excellence in Responsible Gaming, University of Gibraltar*, *Gibraltar*, *Gibraltar*, [7]*Macedonian Academy of Sciences and Arts*, *Skopje, North Macedonia*,

Both physiological and psychological stress are associated with numerous conditions bearing systemic consequences. The link between stress, challenging environmental exposures and psycho-physiological responses is increasingly evidenced in literature. Notably, stress significantly influences processes that underline the progression of coronary artery disease (CAD). Compared to urban environments, natural settings generally promote faster recovery from stress and mental fatigue, but they are not always restorative. Changes in weather parameters can adversely affect hemodynamics and other factors, potentially triggering acute coronary syndromes. However, limited knowledge exists about the restorative or aggravating effects of natural environments (compared to urban environments) on weather-sensitive individuals. To address this gap, we conducted a randomized controlled trial with individuals with CAD attending cardiac rehabilitation. To the best of our knowledge, our study is the first to investigate the stress response of individuals with CAD to walking exercises in different environments. In addition, we

aim to assess the importance of weather sensitivity (WS) profiles in the investigated settings. Attendees of the symposia will have the opportunity to view the preliminary results of our study, which involved 143 individuals with CAD (mean age 57±9 years; 21% women) undergoing rehabilitation. Data were collected on demographics, WS, functional capacity, personality traits, mental health, cognitive function, and basal cortisol levels (measured in saliva). Participants were randomly assigned to either outdoor or indoor walking. Hemodynamic parameters, cortisol levels, and mood were recorded during the experiment, and a cold stress test was conducted. **Funding**: Grant (No. S-MIP-23-114) from the Research Council of Lithuania.

Keywords: coronary artery diseases, weather sensitivity, nature, stress reaction, walking

**ID-1122: Giving back to nature: The influence of short-term behavioral interventions on a tree-planting initiative**

Biljana Gjoneska[1], Nidhi Nagabhatla [2], Sanae Okamoto [3], Katarína Matejová [4]

*[1]Macedonian Academy of Sciences and Arts*, *Skopje, North Macedonia*, *[2]University of Ghent and UNU CRIS*, *Ghent*, *Belgium*, *[3]Maastricht University and UNU MERIT*, *Maastricht*, *Netherlands*, *[4]Catholic University in Ružomberok*, *Ružomberok*, *Slovakia*

The presentation will offer a summary of findings from a global intervention tournament that tested eleven short-term behavioral interventions on four climate mitigation outcomes across 59,440 participants from 63 countries (Vlasceanu et al., 2024). Special emphasis will be placed on the effectiveness of different intervention strategies over participants' willingness to engage in an effortful behavior of contributing to a real tree-planting initiative (presented as a modified version of the work for environmental protection task). In essence, when controlling for intervention length, five strategies produced positive effects and increased the number of trees planted (as compared to the control condition), while others failed to do so and produced negative effects. The restorative effects of nature are thus reciprocated by participants' willingness 'to give back' and restore the nature, when the following intervention strategies are employed: binding moral foundations, scientific consensus, dynamic norms, pluralistic ignorance, and system justification. The presentation will cover the methodological aspects of the study, elaborate more closely on the findings, and speculate on the reasons for some of the outcomes.

Keywords: global tournament, behavioral interventions, tree-planting initiative, climate action

**ID-1090: VIDEO-BASED LEARNING ON CLIMATE CHANGE: DOES VALUE PRIMING ON EDUCATIONAL VIDEOS AFFECT WILLINGNESS FOR PRO-ENVIRONMENTAL ACTION, ATTITUDES, AND KNOWLEDGE?**

Vasiliki Christodoulou[1], Kalypso Iordanou [1]

*[1]University of Central Lancashire, Cyprus*, *Larnaka*, *Cyprus*

Video presentation format may have a role to play in eliciting attention and engagement with learning audiovisual content on climate change. An aspect of video format that can also be manipulated concerns the narrative content of the audiovisual format. Beyond introducing educational content on climate

change videos, content may call upon emotive elements to increase attention and interest. One way of achieving this may be eliciting personally motivational factors such as viewers' values. Pro-environmental values have been studied for shifting pro-environmental knowledge, attitudes and pro-environmental behaviour with mixed findings (Christodoulou et al., 2024; Danlap et al., 2019). Value priming, a technique used in prior studies (Bimonte et al., 2020) may increase viewers' interest and pro-environmental intentions. 180 students were randomised into one of three conditions: a pro-environmental value priming video education condition, a self-enhancement value priming video education condition, and a control condition. All conditions consisted of an animated video that included a dialogue between two avatars on climate change. The experimental conditions were successful in increasing individual responsibility in tackling climate change although they were not successful in promoting this shift on all outcome variables. The results are promising concerning adding a value component on climate change education.

Keywords: video-based education, climate change education, values priming, students

**ID-628: ENVIRONMENTAL EFFECTS ON HEALTH AND QUALITY OF LIFE – A MATTER OF SOCIAL JUSTICE? RESULTS FROM THE ENVIRONMENTAL AWARENESS STUDY IN GERMANY 2024**

Angelika Gellrich[1], Vivian Frick [2]

[1]*German Environment Agency*, *Dessau*, *Germany*, [2]*Institute for Ecological Economy Research*, *Berlin*, *Germany*

The German Environment Agency conducts a biennial study on environmental awareness in Germany. The main topic in 2024 was the perception of co-dependencies between environment, health and quality of life. In September and October 2024, a representative random sample of the German population (N = 2.552) was drawn and surveyed online. Preliminary results show that Germans perceive local environmental quality as far more positive than global quality, which replicates earlier study waves. The environmental quality of the neighborhood was rated 'good' or 'rather good' by 87 percent of respondents, in comparison to 55 % for Germany's environment and only 7 % for the environment worldwide. While about 90 % are happy with drinking water quality, neighborhood cleanliness and access to green spaces, some respondents are not satisfied with air quality (24%), heat protection (26%), connection to public transport (36%), and noise (32%). Negative effects differ for citizen groups, e.g. tenants and city dwellers are less satisfied with air quality or quietness compared to homeowners and rural dwellers. Also, participants with lower income are less satisfied with the access to healthy and affordable food and public transport. All in all, environmental quality is highly relevant for citizens' health and life quality, especially for vulnerable groups. About 90% of participants agree that the protection of human health should be, stronger than before, considered in environmental and general policy-making. Results may remind the public and politicians that a sound environment is a prerequisite for public health, especially in times of crisis.

Keywords: environmental awareness, environmental quality, health, quality of life, environmental justice

**16-06-2025 | 15:30 - 16:45**

**S-059**: **Journal of Environmental Psychology: Editorial board meeting**

*Sun Room*

Chair: P. Wesley Schultz, Claremont Graduate University, Claremont, United States.

**16-06-2025 | 15:30 - 16:45**

**S-068**: **Energy transition**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Forest Room*

Chair (IS): Dr. Kaloyan Mitev (Joint Research Centre, Brussels, Belgium)

**ID-554: 'SKIP A SHOWER!' REDUCTION OF SHOWER FREQUENCY BY SOCIAL NORMS AND IMPLEMENTATION INTENTIONS**

Stefanie Johanna Salmon[1], Sandra Sikkema [1]

[1]*KWR Water Research Institute*, *Nieuwegein*, *Netherlands*

Water availability in the Netherlands is becoming a problem, especially in summer. Most water in households is used by showering and in summer people shower more often. As showering is largely a habitual behaviour, interventions on reducing shower frequency should tap into underlying (unconscious) motives and automatic patterns. Previous research demonstrates that changing social norms is effective in reducing household water use. When it comes to shower frequency, social norms influence what is accepted by most people, and whether people believe it is hygienic to shower every day (or even more). Changing this norm may therefore reduce shower frequency. Furthermore, previous research shows that implementation intentions (i.e. if-then plans) are an effective strategy in stimulating pro-environmental behaviour and can also reduce water use at households by changing shower behaviour. The aim of the current intervention study (started with $n$ = 1053) is to investigate if social norms and implementation intentions (i.e., if-then plans) stimulate people to a) take fewer showers per week, and b) (thereby) reduce their water use. The study has a 2x2 design, with social norms and implementation intentions as independent factors. Results demonstrate that both participants in the social norm condition and participants in the implementation intention condition, report to take less showers per week after the intervention period, compared to at the start of the intervention. This effect was not found for participants in the control group, nor for participants in the combined group (social norm+ implementation intention). Additional findings and implications of the findings will be presented.

Keywords: household water use, shower frequency, social norm, implementation intentions

**ID-136: FROM SETUP TO SUPPORT: ENERGY COMMUNITY SETUPS SHAPE CITIZENS' WILLINGNESS TO JOIN THE ENERGY TRANSITION**

Karen R.S. Hamann[1], Fleur Goedkoop [2], Torsten Masson [1], Lise Jans [2], Sophia Dasch [1], Katja Corcoran[3], Immo Fritsche [1]

*[1]University of Leipzig, Leipzig, Germany, [2]University of Groningen, Groningen, Netherlands, [3]University of Graz, Graz, Austria*

**Introduction:** Energy communities (ECs) emerge as a promising collective approach to citizen engagement. Importantly, ECs build on citizens' bottom-up (voluntary) engagement, making insights about people's motivation to join them key for a successful energy transition. While all ECs share a particular common ground, practitioners can set them up in many different ways. **Methods:** Building on social psychological, economic, juridical, and practical considerations, we conducted two pre-registered experimental studies in Germany (N = 819) and the Netherlands (N = 1110, representative sample). In a between-subjects design, we confronted participants with short descriptions of ECs featuring varying manifestations of thirteen EC set-ups. **Results and Conclusion:** Across both samples, we find that an EC generates more support when it (1) was initiated and is now owned and led by community members themselves (and the local government), (2) focusses on environmental protection and social justice, (3) is based on a legally binding contract, (4) is funded by the state, (5) is situated in a country with a clear legal EC framework, (6) is locally based, (7) is part of a more extensive energy community network, (8) has strongly connected members, (9) has demographically diverse members, (10) does not require members to invest much time and money. Our analyses further reveal that citizens' support for ECs can be explained by collective efficacy, participative efficacy, and perceived representativeness of the EC. In the presentation, we will discuss the widespread implications of our findings for practice and policy in the field of the energy transition.

Keywords: energy transition, energy communities, setup, efficacy beliefs, representativeness

**ID-688: GREEN INFORMATION TECHNOLOGIES BEHAVIORS: LOW KNOWLEDGE AND DYNAMIC NORM INTERVENTION**

Yesim Bostanci[1], Léo Toussard [2], Barbara Bonnefoy [1], Thierry Meyer [1]

*[1]Université de Paris Nanterre, Paris, France, [2] Université Catholique de Lille, Lille, France*

Information Technologies (IT) contribute up to 4% of global carbon emissions. Green IT behaviors aim to reduce this environmental footprint and resource consumption, yet their benefits are often invisible to users, and the concept remains largely unfamiliar. A first study surveyed private sector employees in France (N = 1003) through an online questionnaire. The findings revealed that 83% were unfamiliar with Green IT, and 61% were unaware of specific Green IT behaviors. A second study sought to influence students' IT behavior by encouraging local storage over cloud usage. A text-message-based intervention

was designed to increase social norms and autonomy support. Given the absence of a majority norm, a dynamic norm was introduced. Participants (N = 399) were randomly assigned to one of three groups: a control, a dynamic norm message, or a combined dynamic norm and autonomy support message. Two weeks later, a follow-up questionnaire (N = 247) measured self-reported local storage behavior. The intervention positively influenced intentions to store locally, mediated by pre-conformity—the tendency to align intentions or attitudes with perceived future social norms before observing changes in others' behaviors. The combined dynamic norm and autonomy support message was more effective at increasing intention than the dynamic norm alone, likely due to enhanced perceived autonomy. However, the dynamic norm alone did not influence behavior, and the combined message paradoxically reduced self-reported behavior compared to the control group. Enhancing Green IT awareness and refining behavior change strategies could help mitigate the environmental impact of IT's global expansion.

Keywords: green IT, pro-environmental behavior, dynamic norms, perceived autonomy, behavior change

**ID-962: BEHIND CLOSED DOORS: BEHAVIOURAL FACTORS INFLUENCING CEOS' DECISIONS IN ENERGY EFFICIENCY**

Kaloyan Mitev[1], Andrea Blasco [1], Marion Dupoux [1], Francesca Papa [1], Chiara Gioia [1]

[1]*Joint Research Centre*, *Brussels*, *Belgium*

Energy management of companies is a key aspect in tackling climate change and reaching net-zero. Every year, millions of firms undergo energy audits in the EU. The present research explored key factors which influence CEO's decisions to invest in energy efficiency. We recruited 1000 CEOs from medium/large companies, within the manufacturing sector, in six European countries: Italy, Germany, Greece, Portugal, Slovakia, and Malta. We conducted computer-assisted telephone interviews with each participant and explored the role of managers' green skills, knowledge, values, beliefs, and experiences in their decisions to invest in clean energy together with risk-perception and social norms. We also conducted randomised experiments embedded within the survey to test the effectiveness of policies to encourage the adoption and diffusion of sustainable practices and explore managers' willingness to invest in energy-efficient technologies and participate in future national energy-efficiency programs. We anticipate that our results will show that managers with stronger environmental values, greater green knowledge, and more robust prior experience with sustainability initiatives are more likely to invest in energy efficiency measures. We further expect that policy interventions designed to highlight both the financial and reputational benefits of clean energy solutions will significantly increase the willingness of CEOs to adopt innovative technologies and commit to long-term sustainability goals. By demonstrating the effectiveness of targeted communication strategies and tailored policy incentives, we aim to provide actionable insights for policymakers and industry stakeholders.

Keywords: energy investment, climate change, managers, behavioural science, net zero

**16-06-2025 | 16:45 - 17:15**

**Coffee Break**

*Campus Courtyard*

**16-06-2025 | 17:15 - 18:30**

**S-021**: **DR. JEKYLL AND MR. HYDE - PROSOCIAL AND DARK FACTORS INFLUENCING PROSOCIAL AND ENVIRONMENTAL BEHAVIOR**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair: Nicolas Neef, University of Hohenheim, Sustainable Development and Change, Stuttgart, Germany.

**ID-1108: FURTHER EVIDENCE THAT PRO-ENVIRONMENTALISM AND PROSOCIALITY ARE TWO BRANCHES OF THE SAME TREE**

Nicolas E. Neef[1], Maximilian Adler [2], Eli Vinokur [3], Alexander Neaman [4]

*[1]University of Hohenheim, Stuttgart, Germany, [2]Otto-von-Guericke Universität Magdeburg, Magdebug, Germany, [3]Gordon Academic College of Education, Haifa, Israel, [4]University of Tarapacá, Arica, Chile*

Humans possess an inherent prosocial propensity (a willingness to incur personal costs for the benefit of others). This tendency is suspected to underlie various behaviors benefiting others, i.e. people as well as the environment. Nevertheless, research investigating the specific nature of the prosocial propensity is very limited and mostly correlational. Hence, instead of providing correlational evidence, this talk delivers longitudinal intervention data from two studies. In both studies ($N1$=131; $N2$=220), longitudinal intervention (8 months) focused on increasing kindness motivation–the commitment to engage in behaviors that contribute to a prosocial society–was conducted. We measured participants' kindness and environmental motivations over 3 time points and included one (Study 1) or two (Study 2) control groups. Our findings partially support two key hypotheses: (1) the intervention led to a measurable increase in kindness motivation, and (2) crucially, this increase was accompanied by a similar rise in environmental motivation, despite the intervention not directly targeting environmental topics at all. We see these results as evidence that boosting kindness motivation via the intervention enhanced the overall prosocial propensity, overspilling into environmental motivation. On the theoretical level, these results implied that kindness and environmental motivation are not only correlated but are indeed two branches of the same tree and thus share the same origin (i.e., prosocial propensity). Practically, they highlight the potential of interventions targeting specific prosocial domains to foster broader actions benefiting others.

Keywords: prosocial behavior, environmental motivation, kindness motivation, prosocial propensity, item response theory

## ID-1109: THE ROLE OF KINDNESS AND ENVIRONMENTAL MOTIVATION IN SUSTAINABLE CONSUMER DECISION-MAKING

Lilli Frank[1], Siegmar Otto [1]

[1]*University of Hohenheim*, *Stuttgart*, *Germany*

Sustainable consumption is a highly relevant domain to help mitigate environmental and social challenges. Understanding consumers' decisions in favor of sustainable products and services is therefore essential. Looking at the underlying motivations behind these decisions, this talk focuses on the influence of kindness and environmental motivation on sustainable consumer choices. Sustainability is not one-dimensional but encompasses social, ecological, and economic dimensions, all of which influence choices related to sustainable development. These dimensions can be weighted differently depending on consumers' preferences and motives and can thus shape decision-making in different ways. Using conjoint analysis, the research investigates the consumers' responses to varying levels of ecological (e.g., carbon footprint) and social (e.g., ethical labor practices) sustainability attributes. This approach provides insights firstly into the relative importance of ecological and social attributes, explaining how varying levels of sustainability in the attributes of the three dimensions drive decision-making. Second, it explores how kindness and environmental motivations drive these preferences, shedding light on the interplay between sustainability dimensions and individual values in consumer decision-making.

Keywords: consumer behavior, environmental motivation, kindness motivation, conjoint analysis, item response theory

## ID-1110: COUNTRY-LEVEL RELATIONS BETWEEN D AND ENVIRONMENTAL CONSTRUCTS

Zoe Horlacher[1], Lau Lilleholt [1; 2], Morten Moshagen [3], Benjamin Hilbig [4], Ingo Zettler [1; 2]

[1]*Copenhagen Center for Social Data Science (SODAS)*, *Copenhagen*, *Denmark*, [2]*Department of Psychology, University of Copenhagen*, *Copenhagen*, *Denmark*, [3]*Department of Psychology, University of Ulm*, *Ulm*, *Germany*, [4]*Cognitive Psychology Lab, Department of Psychology, University of Koblenz-Landau*, *Landau*, *Germany*

The Dark Factor of Personality (D) represents a unified framework capturing the core of socially aversive traits, defined as the general tendency to maximize individual utility at the expense of others, accompanied by justifying beliefs. This study investigates the relationship between D and various environmental constructs at the individual and country levels. Study 1 explores how D relates to climate change beliefs, policy support, and concern within German- and Danish-speaking samples, revealing that individuals with higher D levels exhibit more skepticism and reduced pro-environmental attitudes. Study 2 examines D and climate change policy support globally, utilizing data from 54 countries. The findings demonstrate that countries with higher average D scores show lower support for climate policies, even after accounting for economic factors. Study 3 shifts focus to environmental outcomes by linking D to the Environmental Performance Index (EPI) across 64 countries. Results highlight a strong negative association between country-level D and environmental performance, suggesting that higher levels of D are indicative of poorer environmental outcomes. Together, these findings provide critical insights into

the psychological barriers to effective climate action and underscore the influence of aversive personality traits in shaping environmental attitudes, policy support, and performance on a global scale. The implications for fostering global pro-environmental behavior through targeted interventions are discussed.

Keywords: dark factor of personality, policy support, pro-environmentalism, environmental performance, global study

**ID-969: EXPLORING THE INTERSECTION OF HOPE, TRAVEL BEHAVIOR, AND WELL-BEING: TOWARDS A TRAVEL-HOPE FRAMEWORK**

Siri Jakobsson Störe[1], Lars E. Olsson [1], Margareta Friman [1]

[1]*Karlstad University*, *Karlstad*, *Sweden*

The relationship between hope and well-being has been established, as has the relationship between travel, activities and well-being. Hope can be defined as the capability to attain a desired goal by considering one's abilities and potential pathways to goal attainment. The objectives of this study were (1) to chart and integrate conceptualizations and operationalizations of hope in travel behavior and well-being research, and (2) to investigate the relationship between hope and travel behavior, as well as associations with well-being concepts that have been applied in travel behavior research, as a base for developing a Travel-Hope framework. A systematic review was conducted in January 2024, including 13 studies after screening, comprising various conceptualizations and operationalizations of hope. Data was charted and analyzed with thematic analysis. None of the included studies explicitly explored hope's relationship with travel behavior. Hope was, however, found to be associated with well-being components relevant to travel behavior research outlined in three themes: (1) cognitive well-being, (2) emotional well-being, and (3) social well-being. Building on the results from the review, and from previous research, we propose the Travel-Hope Framework (THF) which posits that hope, particularly in the form of travel autonomy, perceived accessibility, and experience/anticipation, is essential for behavior change and well-being. Understanding the nuanced interplay between daily travel, hope, and well-being, can be important for informing policy interventions to optimize individuals' sustainable commuting experiences and promote healthy choices. The framework is a novel contribution, and discussed as a potential framework for pro-environmental behavior beyond the travel domain.

Keywords: hope, review, travel-hope framework, travel behavior, well-being

**16-06-2025 | 17:15 - 18:30**

**S-020**: **Individual Differences in People's Responses When Being Nudged**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Valley Room*

Chair: Tina Venema, Utrecht University, Copernicus Institute of Sustainable Development, Utrecht, Netherlands.

### ID-1149: FOSTERING SUSTAINABLE BEHAVIOR IN THE UNMOTIVATED: TRANSPARENT NUDGING

Ronja Gerdes[1; 2], Tara Hannemann [3], Martin Beckenkamp [3], Florian G. Kaiser [1]

*[1]Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*, *[2]University of Hohenheim*, *Stuttgart*, *Germany*, *[3]Media University of Applied Sciences*, *Cologne*, *Germany*

When we launched our research, we feared that informing people that they are being nudged would lead to reactance, particularly among the ones not interested in climate mitigation and sustainability. We found the exact opposite. In our study of consumption decisions, we randomly allocated 184 participants to three conditions: (a) conventional products as default (control), (b) "green" products as default (experimental w/o), and (c) "green" defaults with information (experimental w/) about the purpose of the default (i.e., to encourage sustainable consumption). When deciding to purchase the default product, participants were freed from searching for an alternative in an online shop. In other words, deciding for the default led to less searching time costs. Fewer searching time costs promoted sustainable purchasing decisions in both experimental conditions equally relative to the control condition. People's response to transparency about the purpose of green nudges, however, depended on their pre-existing interest in environmental protection. People who cared *less* about environmental protection were more likely to *accept* the green default when its purpose was made transparent. At the same time, people who cared *more* about environmental protection were more likely to *reject* the green default when its purpose was made transparent. They rather searched for a green product of their choice. If our findings can be consolidated, they represent a milestone in the endeavor to instill behavior in the most critical target group: the unmotivated.

Keywords: nudging, default-setting, sustainable consumption, environmental attitudes, Campbell paradigm

### ID-1150: POLITICAL ORIENTATION SHAPES RESPONSES TO CLIMATE LABELS AND CARBON TAXES IN DECISION-MAKING AND ATTENTION ALLOCATION

Anne Günther[1], Marten Van der Kam [1], Amir Hossein Hadian Rasanan [1], Zahra Rahmani [1], Ulf Hahnel[1]

*[1]University of Basel Faculty of Psychology*, *Basel*, *Switzerland*

Political orientation shapes climate-related decision-making processes, behavioral outcomes, and policy support. Understanding these dynamics is crucial for designing effective and inclusive climate policies. In two preregistered studies ($N$ = 1,989) across the US, UK, South Africa, and Mexico, we examined how presenting a climate label and carbon tax savings influences information acquisition, product choices, and policy support. Using a stated choice experiment with mouse tracking to measure attention allocation, we found individual and additive effects: participants were more likely to choose sustainable products when both interventions were present compared to one or none. Political orientation, particularly in the US,

moderated these effects. While the carbon tax was effective across orientations, the climate label had a stronger impact on more liberal participants, prompting them to engage in more extensive information searches before selecting sustainable products. This indicates that climate labels nudge people with a liberal orientation to invest greater cognitive effort in making informed decisions. Support for policy packages also strongly depended on political orientation. Liberals expressed higher support for packages proposing both interventions, with a gradual decline in support as tax levels increased. Conservatives, by contrast, showed a sharp drop in support for packages with any tax. Adding a climate label alongside a carbon tax partially mitigated the negative effects on policy support, particularly for liberals. These findings underscore the role of political orientation in shaping responses to behavior change interventions and suggest that accounting for these differences can help policymakers design strategies that are both effective and broadly accepted.

Keywords: process tracking, choice architecture, behavioural interventions, political orientation

**ID-1151: OVERCOMING LOW ENVIRONMENTAL CONCERNS WITH NUDGES? THE ROLE OF VALUES AND ATTENTION**

Tina Venema[1], Anne Stückler Jeppesen [2], Camilo Aguirro [3], Stefan Pfattheicher [2], Anne Odile Peschel [2]

*[1]Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, Netherlands, [2]Aarhus University, Aarhus, Denmark, [3]Experimental Psychology Department, Utrecht University, Utrecht, Netherlands*

**Introduction:** The impact of animal-based protein sources on climate change has increased to unsustainable proportions. However, meat and dairy products have formed the main protein source in western diets for decades, and are tied to basic human values such as Hedonic indulgence and Tradition. In concrete choice situations, these values might overrule any environmental concerns a person might have (i.e. endorsement of the value universalism-nature). The priority amongst people's goals and values influence which aspects in choice situations are perceived and, consequently, are taken into consideration. **Objectives:** The first objective was investigating the feasibility of sidestepping low Nature-Universalism values by appealing to the value of Conformity-Interpersonal with a social proof nudge. The second objective was to test whether value strength was related to more attention to value-related elements in the choice-context. **Materials & Methods:** Across 4 studies 1063 participants filled out the Schwartz Portrait Value Scale before being allocated to either a nudged choice situation or a control condition. We measured the number of plant-based food choices as outcome variable. Attention to plant-based food symbols and social proof information was measured with retrospective recall in studies 1-3 and with a Tobi eye-tracker in study 4. **Preliminary results:** Both Nature-Universalism and Conformity-Interpersonal values predicted plant-based food choices. We found a positive relation between conformity values and attention to social-proof information. The evidence for the effectiveness of the social proof nudge was weak. **Conclusions:** This research aims to contribute by bridging the theoretical Value literature and the applied nudge effectiveness literature.

Keywords: Schwartz values, social proof nudge, plant-based, eye-tracker

## ID-1152: (DIS)ENTITLEMENT TO EAT MEAT AS A BARRIER AND OPPORTUNITY TO REDUCE MEAT CONSUMPTION: THE ROLE OF SELF-CONSTRUAL

Sezin Ekinci[1], Sadaf Mokarram Dorri [1], Carina Thuerridl [1], Willemijn Van Dolen [1]

[1]*University of Amsterdam*, *Amsterdam*, *Netherlands*

Global meat consumption is on the rise, exacerbating environmental challenges; therefore, understanding the psychological barriers to reducing meat intake is critical. Feelings of entitlement, linked to selfish motives and identified as a dimension of meat attachment, may hinder the dietary shift from meat to plants. Across four experimental studies conducted in incentive-compatible settings with US meat eaters (*N* = 2889), we examine meat disentitlement, defined as reduced feelings of entitlement to consume meat, as a psychological intervention to promote plant-based choices. Our findings showed that priming meat disentitlement can decrease (increase) preferences for meat (plant-based alternatives), with this effect appearing to be driven by a shift toward less independent self-construal, which emphasizes personal autonomy and self-interest. Additionally, responses to the disentitlement intervention varied based on differences in self-construal, underscoring the nuanced psychological factors influencing the effectiveness of such interventions. Finally, we demonstrated that disentitlement messaging can be effectively incorporated into communication strategies, highlighting its potential to foster plant-based dietary choices in real-world contexts. This research sheds light on how disentitlement influences meat and plant-based food consumption, offers actionable insights for designing interventions to address feelings of entitlement, and contributes to the literature on fostering pro-environmental dietary shifts.

Keywords: entitlement, meat consumption, plant-based, self-construal

## ID-47: UNDERSTANDING SUSTAINABLE FASHION CONSUMPTION THROUGH THE LENS OF THE THEORY OF PLANNED BEHAVIOR

Matteo Robba[1; 2], Carmela Aprea [2], Paola Iannello [1]

[1]*Università Cattolica del Sacro Cuore*, *Milan*, *Italy*, [2]*University of Mannheim*, *Mannheim*, *Germany*

**Introduction**: Environmental issues and climate change require consumers to shift their habits towards more sustainable consumption behaviors. In recent years, the negative environmental impact of the fashion industries has garnered increasingly more attention. **Objective**: Despite the growing research on sustainable fashion consumption (SFC) over the past decade, several gaps can still be identified. Most studies have focused on North America and Asia, with limited attention to Europe. Additionally, many lacked robust theoretical frameworks and behavioral models to explain consumer choices for sustainable fashion. An exploratory study aimed at understanding which determinants and barriers shape consumers' SFC was conducted. **Methods**: For research purpose, the Theory of Planned Behavior (TPB) was adopted as theoretical framework and extended to investigate what drives the decision to buy sustainable apparel. Besides the three main determinants of behavior suggested by TPB (i.e., attitudes, subjective norms, and perceived behavioral control), the role of personal norms, consumers' sustainable fashion awareness, climate change worry and connectedness to nature was explored. Cross-sectional data stem from a representative sample of Italian consumers (N = 1,002; 49.9% females; $M_{age}$ = 37,19 years, $SD_{age}$ = 10.94)

was used to perform a Structural Equation Model. RESULTS: Findings suggest that various determinants play a key role in SFC. Specifically, whereas awareness of the fashion industry's environmental impact was not a significant antecedent, attitudes, (subjective and personal) norms, perceived behavioral control, climate change worry, and connectedness to nature significantly affected SFC habits. Various practical implications can be drawn and discussed starting from these results.

Keywords: sustainable fashion, consumer behavior, theory of planned behavior, climate change worry, connectedness to nature

**16-06-2025 | 17:15 - 18:30**

**S-024**: **Social Norms as Catalysts for Pro-Environmental Behavioral Change**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Earth Hall Plenary*

Chair: Alessandro Milani, Sapienza University of Rome, Department of Psychology of development and socialization processes, Rome, Italy.
Discussant: Linda Steg, University of Groningen - Department of Psychology, , Groningen, Netherlands.

**ID-1240: SECRET AGENTS OF CHANGE: THE UNDERDETECTED INFLUENCE OF DESCRIPTIVE NORMS**

Wesley Schultz[1], Kyra Warshaw [1], Stasie Dear [1]

[1]*Claremont Graduate University*, *Claremont*, *United States*

Social norms are one of many agents of influence on human behavior. They are widely recognized as an instigator of behavior change, yet their influence often goes undetected. Research has consistently shown that communications highlighting the large number of people who engage in a behavior can effectively promote change. This has been shown across a wide range of behaviors, but especially pro-environmental behaviors such as energy conservation, water conservation, and recycling. Yet even when there is clear evidence for normative social influence, individuals downplay the degree to which they were affected. Building on this prior research, this talk presents new data exploring heterogeneity in norm detection.

Keywords: social norms, underdetection, cross-cultural, pro-environmental behavior

## ID-1241: THE EMOTIONAL POWER OF DESCRIPTIVE NORMS: UNLOCKING SUPPORT FOR SUSTAINABLE ENERGY TECHNOLOGIES

Alessandro Milani[1; 2], Marino Bonaiuto [1; 2], Cody Packard [3], Wesley Schultz [3]

*[1]Department of Psychology of Developmental and Socialization Processes, Sapienza, Rome, Italy, [2]CIRPA–Interuniversity Research Centre in Environmental Psychology, Sapienza Univ, Rome, Italy, [3]Claremont Graduate University, Claremont, United States*

**Introduction:** Social norms play a critical role in conservation behavior. This is especially true if such normative beliefs are accompanied by the perception of social approval/disapproval, activating the emotional sphere of individuals. However, because descriptive norms do not induce immediate social approval/disapproval, their impact on the emotional sphere of individuals is often underestimated. **Objectives:** This presentation investigates how descriptive social norms influence emotional responses, and their role in shaping pro-environmental behaviors. Through a pilot and experimental study, we examine how exposure to fellow residents with varying levels of support for Sustainable Energy Technologies (SETs) evokes emotions that may either motivate or inhibit energy-related actions. **Materials & Methods:** In a sample of California residents (*N*=600), the effects of the descriptive norm on individuals' emotional sphere and SETs support were tested in a pre-registered 2 x 2 factorial design. Mediation tests were examined how emotions convey and reinforce the relationship between descriptive norm and SETs support. **Results:** The influence of the descriptive norm on SETs support seems to be conditioned by the norm's impact on people's emotional sphere. Deviance and conformity from the norm, evoking different emotions in individuals, lead to different behaviors, pushing those who behave anti-environmentally (but not pro-environmentally) to change their behavior. **Conclusions:** As hypothesized, descriptive norms, by not evoking immediate social approval/disapproval, trigger neutral-valence emotions (i.e., surprise), which nevertheless are equally capable of influencing individuals' behaviors, even if only in "anti-environmental deviants".

Keywords: social norms, norm deviance, emotional reactions, sustainable energy technologies, pro-environmental behavior

## ID-1242: SELF-DETERMINATION VERSUS CONGRUENCY IN PRO-ENVIRONMENTAL CONSUMER INTENTIONS: THE MODERATING DIRECTION OF IDENTITY, SOCIAL NORMS AND NORMATIVE MESSAGES

Judith De Groot[1], Geertje Schuitema[2]

*[1]University of Groningen, Groningen, Netherlands, [2]University College Dublin, Dublin, Ireland*

Social norms are widely known to encourage a variety of pro-environmental behaviours. However, the strength of the effect of social norms on these behaviours depends on people's pro-environmental identity, that is the extent to which people see themselves as the type of person who acts pro-environmentally. The direction of this effect, however, remains debated. This debate centres on two key assumptions based on self-determination versus congruency. Self-determination refers to the extent to which motivational forces are intrinsically driven from the consumer's perspective, while congruency

suggests that the more motivations align with each other, the stronger their influence. These assumptions result in two potentially opposing directions for the moderating effect of pro-environmental identity on how social norms influence behaviour. In a series of online experiment, we explore the extent to which empirical evidence supports these two opposing viewpoints in the context of plant-based diets. The first two studies suggest that congruency works stronger when focusing on behavioural losses (e.g., reducing meat consumption), while self-determination is stronger when focusing on behavioural gains (e.g., increasing plant-based milk consumption). Two additional studies were conducted to further validate how pro-environmental identity moderates the relationship between social norms and pro-environmental behaviour, explicitly considering the direction of the normative behaviour. Results will be discussed at the conference.

Keywords: social norms, pro-environmental identity, self-determination, congruency, plant-based diet

**ID-1243: A SENDER-MESSAGE-RECEIVER (SMER) FRAMEWORK FOR COMMUNICATING PERSUASIVE SOCIAL NORMS – THE CASE OF CLIMATE CHANGE MITIGATION BEHAVIORAL CHANGE**

Magnus Bergquist[1]

[1]*Department of Psychology, University of Gothenburg, Gothenburg, Sweden*

A large body of research has explored the boundary conditions of social norms in fostering behavior change within the realm of climate action. I propose a framework for organizing the nuances of these boundary conditions within a "Sender - Message - Receiver (SMeR)" model. SMeR examines factors such as group identification and group size that influence the effectiveness of social norms. It also explores how cultural context, personal norms, emotions, and ambiguity shape individuals' responses to social norm-based messages. Additionally, I present an extended version of SMeR, including re-analyses of meta-analytic data. This integrated perspective on the complexities of social normative influence offers guidance for designing more effective intervention techniques to promote behavioral change.

Keywords: social norms, interventions, review, pro-environmental behavior

**16-06-2025 | 17:15 - 18:30**

**S-022**: **Human Agency in Socio-Ecological Transformation: The Interaction Between Personal, Collective, and Institutional Layers**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Torsten Masson, Leipzig University, Social Psychology, Leipzig, Germany.
Chair: Immo Fritsche, University of Leipzig, Leipzig, Germany.
Chair: Wilhelm Hofmann, Ruhr-University, Bochum, Germany.

Co-Chair: Roman Troetschel
Discussant: Lise Jans, University of Groningen, Groningen, Netherlands.

**ID-1130: FROM INDIVIDUAL TO INSTITUTIONAL AGENCY: BRIDGING CITIZEN AND POLICYMAKER PERSPECTIVES**

Wilhelm Hofmann[1], Sonja Grelle [1], Timur Sevincer [2]

*[1]Ruhr University Bochum*, *Bochum*, *Germany*, *[2]Leuphana University Lüneburg*, *Lüneburg*, *Germany*

Advancing ambitious climate policies hinges on the dual pillars of politicians' willingness to advocate for structural solutions and citizens' support and acceptance of these measures. The concept of policy acceptance serves as a crucial link between individual and institutional levels of agency. This talk explores this interconnection from both the citizen and policymaker perspective. The first part argues that the extent to which citizens are willing to delegate individual agency in favor of institutional political agency is influenced by their desire for governmental intervention (DGI). Two studies are presented to demonstrate how DGI mitigates the otherwise negative impact of regulatory depth on policy acceptance. The second part shifts focus to policymakers themselves. Surveying over 1,500 actual policymakers from Germany suggests that policymakers often underestimate the public's willingness to accept taxes and regulations to an extent that significantly surpasses the typical pluralistic ignorance observed in the general population. By examining these two perspectives, this talk raises critical questions about how to enhance both public support for structural solutions as well as policymakers' awareness of such support, ultimately fostering a more integrative approach to climate policymaking.

Keywords: policy acceptance, agency, desire for governmental intervention, pluralistic ignorance

**ID-1131: UNITED WE STAND, DIVIDED WE FALL? LONGITUDINAL EVIDENCE THAT EXPOSURE TO ANTI-TRANSFORMATION PROTESTS AFFECTS CITIZENS' ENVIRONMENTAL NORM PERCEPTIONS AND COLLECTIVE AGENCY BELIEFS (MODERATED BY INITIAL PRO-ENVIRONMENTAL SELF IDENTITY)**

Torsten Masson[1], Immo Fritsche [1]

*[1]Leipzig University*, *Leipzig*, *Germany*

Perceived pro-environmental ingroup norms and collective efficacy affect group members' ecological behavior. However, less is known about how and when these perceptions emerge. Exposure to public intragroup opposition against transformation policies may undermine perceived ingroup support for socio-ecological transformation and collective agency beliefs, for example by cueing lack of consensus for collective climate goals. In December 2023 and January 2024, protests against cuts of tax subsidies for farmers in Germany were featured prominently in national news outlets for several days. Using data from a longitudinal survey in Germany ($N$ = 1,120) including three measurement points (t1: 08/2023, t2: 02/2024, t3: 08/2024), we tested if (self-reported) exposure to news coverage of the protests would affect respondents' perceived national pro-environmental norms and their collective agency beliefs for fighting climate change. Mixed model analyses showed that high (vs. low) exposure to anti-transformation

protests was associated with declines in perceived pro-environmental norms between t1 and t3, albeit only for respondents with low levels of pro-environmental self-identity. In contrast, perceived pro-environmental norms increased among respondents with a strong pro-environmental self-identity between t1 and t3, hinting at a possible polarization on environmental issues. Similarly, high exposure to protests was associated with reduced collective agency beliefs between t1 and t3 for respondents with a weak, but not for those with strong, pro-environmental self-identity. We discuss implications of intragroupg anti-transformation protests as a transformation barrier through shaping ingroup members' perception of shared goals and norms and their beliefs in the group's capacity to effectively reach their environmental goals.

Keywords: collective agency beliefs, social norms, social identity

**ID-1132: HOW CONFLICT RESOLUTION CROWDS OUT FUTURE-ORIENTED SOLUTIONS IN SUSTAINABILITY TRANSITIONS**

Johann Majer[1], Laura Stalenhoef [1], Marco Schauer [2], Roman Troetschel [2]

*[1]University of Hildesheim, Hildesheim, Germany, [2]Leuphana University Lüneburg, Lüneburg, Germany*

Sustainability transitions often spark intense conflicts that hinder progress and demand negotiation between diverse stakeholders. However, resolving interpersonal conflicts through negotiation may inadvertently limit individual parties' agency to reconcile their immediate and future interests that emerge, for instance, from short-term benefits through immediate consumption versus long-term benefits through resource conservation. Across five studies—three simulated experiments and two interactive negotiation studies—we tested the hypothesis that resolving interpersonal conflicts through negotiation impairs intrapersonal conflict resolution. As predicted, our findings provide consistent evidence that individual parties prioritize resolving immediate interpersonal conflicts over addressing their intrapersonal conflicts, a phenomenon we term the conflict crowding-out effect. This effect arises from a systematic bias: conflict parties make tradeoffs that favor their counterparts' immediate interests while undervaluing their own future interests, leading to suboptimal resolutions of intrapersonal conflicts. We discuss how negotiation processes in sustainability contexts can unintentionally undermine long-term planning and propose strategies to strengthen individual agency for more balanced intra- and interpersonal conflict resolution, potentially accelerating sustainability transitions.

Keywords: conflict resolution, sustainability transitions, negotiation, tradeoffs

**ID-1133: WHEN COLLECTIVE AGENCY IS ABSENT, HOSTILITY TOWARDS MINORITIES AND CLIMATE REFUGEES BECOMES THE COLLECTIVE RESPONSE TO THREATENING CLIMATE CHANGE**

Sadi Shanaah[2], Immo Fritsche [1], Mathias Osmundsen [3]

*[1]Leipzig University, Leipzig, Germany, [2]University of Warwick, Coventry, United Kingdom, [3]Aarhus University, Aarhus, Denmark*

Threatening climate change poses a security risk as it may elicit ethnocentric thinking and intergroup hostility. According to group-based control theory, individuals cope with threat to personal control by demonstrating agency on the group-level of their self, especially when collective agency is threatened, as well. This may result in derogation of minorities conceived of as threatening the group. We tested this notion in three survey experiments with socio-demographically diverse samples of white British participants (N=616, N=587, and N=535), manipulating the salience of threatening consequences of climate change (vs. neutral geographical facts) for Britain and measuring perceived national collective control over climate change. As a general pattern across studies, climate change threat increased participants' prejudice towards the Pakistani and Muslim communities in Britain for those participants who considered national agency over climate change to be rather low but not for those who rated collective climate agency to be high, even when controlling for political orientation. A similar pattern was found for the evaluation of climate refugees, statistically significant in one of these studies. Seemingly, when people consider problem-focused collective coping with threatening climate change futile, they turn to derogating intragroup minorities as an alternative route to demonstrating collective agency. This has implications for both conflict prevention and the justification of powerful national climate action (which may reduce alternative and hostile collective responses to threatening climate change).

Keywords: climate change threat, collective agency beliefs, group-based control theory, prejudice, intergroup conflict

**16-06-2025 | 17:15 - 18:30**

**S-023**: **EUROPEAN RESEARCH COUNCIL AND ITS OPPORTUNITIES FOR RESEARCHERS IN ENVIRONMENTAL SCIENCE**

*Forest Room*

Chair: Jana Šifta, European Research Council Executive Agency, Science Department, Brussels, Belgium.

**ID-1192: EUROPEAN RESEARCH COUNCIL AND ITS OPPORTUNITIES FOR RESEARCHERS IN ENVIRONMENTAL SCIENCES**

Jana Šifta [1]

[1]*Ercea*, *Brussels*, *Belgium*

The ERC's mission is to encourage the highest quality research in Europe through competitive funding and to support investigator-driven frontier research across all fields, based on scientific excellence. Since 2007, ERC funded more than 12 000 projects and over 10 000 researchers. More than 200 000 articles were published in scientific journals. 14 Nobel Prizes, 6 Fields Medals, 11 Wolf Prizes and dozens of important prizes were awarded to ERC grantees. This workshop is inviting you to become part of this successful story. I will introduce the European Research Council, the premier European funding organisation for excellent frontier research, and encourage the participants to apply for an ERC research grant under one of the main grant schemes (Starting Grant, Consolidator Grant, Advanced Grant and

Synergy Grant). The workshop will focus on i) the ERC "basics" – presentation of ERC calls, principles of the evaluation process and panel structure; ii) successful ERC grants in the area of environmental psychology, and iii) tips and tricks how to draft your proposal (eligibility criteria, host institution support, choice of panel, choice of descriptors, difference between part B1 and B2, what to focus on when preparing for an interview etc.).

**16-06-2025 | 17:15 - 18:30**

**S-087**: **Sustainable land management**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Land management, farming and resource conservation)

*Dawn Room*

Chair (IS): Gabriele Torma, Aarhus University, Department of Agroecology, Aarhus, Denmark.

**ID-300: BALANCING FOOD, ENERGY, AND LAND IN DENMARK: CITIZEN PERCEPTIONS OF AGRIVOLTAICS VIA VIRTUAL REALITY**

Gabriele Torma[1], Michelle Tulloch [2], Anne Odile Peschel [2], Nora Mossing Krogsgaard-Jensen [2], Kamran Ali Khan Niazi [3], Marta Victoria [3], Jessica Aschemann-Witzel [2]

*[1]Aarhus University, Department of Agroecology, Aarhus, Denmark, [2]Aarhus University, Department of Management, Aarhus V, Denmark, [3]Department of Mechanical and Production Engineering, Aarhus University, Aarhus, Denmark*

**Introduction**: Denmark serves as a globally relevant case study for addressing land-use conflicts in the green transition, given its ambitious climate goals, high agricultural land use (>60%), and leadership in renewable energy innovation. Policy analyses reveal that achieving all current land-use ambitions would require 1.5 times Denmark's land area. Agrivoltaics, integrating solar energy with agriculture, offer a dual land-use solution to balance biodiversity, food production, and renewable energy goals. **Objectives**: This study examines citizen perceptions of agrivoltaics versus traditional solar parks, focusing on visual appeal, environmental friendliness, innovativeness, and proximity effects. **Materials & Methods**: A mixed-methods approach was employed with 102 participants in Denmark during winter 2023. Using a within-subject design, participants engaged with three Virtual Reality (VR) scenarios (solar park, vertical agrivoltaics, horizontal agrivoltaics) at two distances (50m and 2–3m). Data collection included pre- and post-surveys and qualitative video recordings analyzed via thematic analysis. Statistical analyses included ANOVA and paired-samples t-tests. **Results**: Agrivoltaics were rated significantly higher than solar parks in visual appeal ($M=5.00$ vs. 4.20, $p=0.002$), environmental friendliness ($M=5.70$ vs. 4.89, $p<0.001$), and innovativeness ($M=5.67$ vs. 3.60, $p<0.001$). Participants particularly valued the dual land-use benefits of agrivoltaics, perceiving them as more innovative and environmentally friendly compared to conventional solar parks. While solar parks were seen as highly efficient for energy production, agrivoltaics were appreciated for maintaining agricultural functionality alongside energy generation. **Conclusions**:

Agrivoltaics address land-use conflicts by combining renewable energy and agriculture, with high public acceptance. VR proved effective for citizen engagement, supporting informed decision-making for sustainable transitions.

Keywords: land use, agrivoltaics, citizen perception, social acceptance, virtual reality

### ID-524: PUBLIC AMBIVALENCE TOWARD THE INTEGRATION OF ECOLOGICAL METHODS IN HIGH-TECH AGRICULTURE

Xuying Leo[1], Arnout Fischer [1], Ynte K. Van Dam [1]

[1]*Wageningen University & Research*, *Wageningen*, *Netherlands*

**Introduction and Objectives**: Agricultural technologies that have been evolving are not environmentally sustainable and require changes. However, people often hesitate to embrace novel food production technologies due to ambivalence—harbouring simultaneous positive and negative evaluations. This study examines how integrating ecological methods, generally viewed positively, can shape public perceptions of high-tech agriculture. **Methods**: Forty-five semi-structured interviews explored associations tied to technology, agriculture, and ecology, including primary associations of existing knowledge and secondary associations with reference to images related to the three aspects. **Results**: Participants exhibited ambivalence toward the combinations of agricultural technology and ecological technology, but when linking agriculture with ecology, ambivalence towards agriculture was largely resolved—with participants becoming positive. Ambivalence in combined aspects likely stemmed from pre-existing (un)ambivalence in the individual aspects. While perceptions of technology and agriculture were inherently ambivalent, views on ecology were mostly positive. Combinations with the unambivalent ecology were complex: its positivity mitigated agriculture's ambivalence, but technology's introduction made the combination ambivalent. **Conclusion**: We theorize that the observed ambivalence around technology can be attributed to the tension between the control technology offers and the loss of autonomy it may impose, which cannot be resolved when combined with ecology. Our results thus show that introducing high-tech organic farming solutions may prove problematic—rather than mitigating consumer ambivalence, the combination remains ambivalent. For the development of sustainable agriculture, it is thus important to carefully craft value propositions that address these perceptions, highlighting how these innovations align with organic principles while offering additional benefits such as sustainability, efficiency, and scalability.

Keywords: agricultural technology, ecological methods, ambivalence, sustainable agriculture, public perceptions

### ID-549: TWO ROUTES FOR DESCRIPTIVE NORMS TO ENCOURAGE CLIMATE ADAPTED FOREST MANAGEMENT AMONG PRIVATE FOREST OWNERS IN SWEDEN

Louise Eriksson[1]

[1]*Umeå University*, *Umeå*, *Sweden*

With climate change, an increase in forest damage (e.g., insect outbreaks) is expected. In conifer-dominated even-aged managed forests, diversification of tree species and silviculture measures are ways

to adapt management to a changing climate. Focusing on Sweden, a country with large, forested areas, the aim of the present study is to examine the role of a descriptive norm for adopting alternative management (AM) among private forest owners, owning almost half of the productive forest land. I hypothesized that a descriptive norm predicts adoption via a demonstration of the feasibility of the management through social modeling (i.e., perceived feasibility as mediator) and norm internalizing (i.e., personal norm as mediator). In addition, beliefs about AM and control variables (e.g., gender) are considered. Adoption was examined in relation to increasing the share of broadleaves and no clear-cut forestry methods, and included the extent to which this management would fulfil owner goals and intention to adopt AM. A random sample of forest owners (N = 5000) received a questionnaire, with a response rate of 36%. Results revealed that descriptive norm was associated with adoption directly, but also via perceived feasibility and personal norm. This result remains after also considering beliefs and control variables. The full models explained 50% in goal fulfillment and 39% in intention to adopt AM. The study provides insights on social modelling in this context and improves the understanding of the mechanisms for how descriptive norms play a role for a transition towards climate adapted forest management.

Keywords: climate adapted forest management, descriptive norm, social modeling, norm internalization

**ID-701: COMMUNITY COOPERATION FOR COLLECTIVE CLIMATE RESILIENCE: FOSTERING COOPERATION ON NATURE-BASED SOLUTIONS TO ADDRESS LAND DEGRADATION IN ETHIOPIA**

Ana Leal[1], Anna Rabinovich [1], John Drury [1], Amsalu Nebiyu [2], Bayu Dume [2], Monique Borgerhoff Mulder[3]

*[1]University of Sussex, Brighton, United Kingdom, [2]Jimma University, Jimma, Ethiopia, [3]University of California, Davis, California, United States*

**Introduction**: Climate change has amplified the occurrence of disasters (e.g., landslides) worldwide, disproportionately impacting vulnerable communities, particularly in the Global South, such as Sub-Saharan Africa. In Ethiopia, land degradation is a pressing social and environmental issue, affecting most of the population whose livelihoods and food security rely on agriculture and healthy land. To address it, governmental and non-governmental organizations have been making efforts to implement nature-based solutions (e.g., agroforestry). However, we know little about the social-psychological factors that may motivate people within communities to cooperate around nature-based solutions to address land degradation. The present study aims to address this gap. We propose that a shared threat of land degradation predicts community identification within the affected communities, which predicts cooperation. Moreover, we propose several mediating pathways linking identification and cooperation (i.e., normative, emotional, relational, and empowerment). **Objectives**: This study examines social-psychological predictors of willingness to cooperate in implementing and maintaining nature-based solutions to address land degradation in Ethiopia. **Methods**: We are conducting a preregistered survey study in February across several villages in southern Ethiopia. We will recruit at least 750 Ethiopian participants who have been impacted by land degradation and are involved in agricultural activities. The survey includes the following measures: perceptions of shared land degradation threat, community identification, collective efficacy, social norms, ingroup empathy, community trust, perceived social support, and willingness to cooperate around nature-based solutions to address land degradation within communities. **Results**: We will use path analysis and multigroup SEM to test variable relationships across and within villages.

Keywords: cooperation, land degradation, nature-based solutions, community resilience, Ethiopia

**16-06-2025 | 17:15 - 18:30**

**S-083**: **Natural hazards**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Natural disasters and coping with environmental risks and hazards)

*Sun Room*

Chair (IS): Annalisa Setti, University College Cork, School of Applied Psychology, Cork, Ireland.

## ID-716: HOT CITIES, HOT MINDS? THE IMPACT OF URBAN HEAT STRESS ON COGNITION AND WELL-BEING

Moana Drüe[1], Jonas P. Nitschke [1], Maximilian Steininger [1], Marc G. Berman [2], Kimberly L. Meidenbauer [3], Claus Lamm [1], Kimberly C. Doell [4]

*[1]Department of Cognition, Emotion, and Methods in Psychology*, *Vienna*, *Austria*, *[2]University of Chicago, Department of Psychology*, *Chicago*, *United States*, *[3]Washington State University, Department of Psychology*, *Washington*, *United States*, *[4]Centre for the Advanced Study of Collective Behaviour, University of Konstanz*, *Konstanz*, *Germany*

**Introduction:** As heat waves intensify and become more frequent, their impact on human cognition, well-being, and behavior grows increasingly concerning. However, empirical findings are inconsistent, highlighting the need for further research. **Goals & Objectives:** This study aims to investigate the effects of prolonged urban heat stress on cognitive functioning, subjective well-being, and a Pro-Environmental Behavior task (PEBt) in Austrian and German populations. **Material & Methods:** In this preregistered experiment, with a between-subjects design, participants took part in an online survey during hot (≥30°C, summer 2024, N = 966) and not-hot (~20°C, fall 2024, N = 1070) periods. The survey included a battery of cognitive tasks assessing dimensions such as impulse control (Stop-Signal Task) and working memory (N-back Task). Additionally, social value orientation (SVO), anger, risk-taking, well-being, and a PEBt were measured. We hypothesized that heat would impair cognition, particularly with increased task complexity, and foster a less altruistic SVO. Furthermore, we predicted that heat would increase risk-taking and anger while reducing well-being. A non-directional hypothesis addressed the effect of heat on the PEBt. **Results:** Ongoing statistical analyses include mixed-effects models and linear regression to compare the impact of hot vs. not-hot conditions. These analyses further incorporate additional predictors and moderators such as perceived temperature, sleep quality and hydration status. **Conclusion:** This study will offer insights into the cognitive and psychological impacts of heat stress, addressing research gaps and informing urban policies to mitigate heat-related impacts in a warming world.

Keywords: heat waves, cognition, well-being, climate change, heat stress

## ID-725: META-ANALYTIC RESULTS ON THE ANTECEDENTS OF RISK PERCEPTIONS OF DIFFERENT TYPES OF NATURAL HAZARDS

Annalisa Theodorou[1], Alessandro Milani [1], Federica Dessi [1], Mei Xie[1], Marino Bonaiuto [1]

[1]*Sapienza University of Rome / Department of Social and Developmental Psychology*, *Roma*, *Italy*

**Introduction**: Involving the population is essential to ensure better resilience to natural hazards that maximizes self-protection. Among the major predictors of motivation to protect oneself there is risk perception (van Valkengoed & Steg, 2019). A significant amount of research has studied risk perception; however, there are no quantitative syntheses of the available literature. **Objectives**: This contribution aims to 1) meta-analytically estimate the magnitude of the effects of different potential antecedents of risk perception of various hazards; and 2) investigate the effect of possible moderators of these relationships. **Materials** & **Methods**: Using a search string on various databases (Scopus, Web of Science, PsycINFO) and following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, 121 bibliographic records (127 studies) were identified. **Results**: The results of the first objective showed that nineteen antecedents significantly influence the perception of natural hazards. The antecedent results are of three types (Bonaiuto & Ariccio, 2020): 1) factors related to the individual-risk relationship, 2) factors related to the individual-community relationship, 3) individual factors (i.e. sociodemographic and dispositional). Those of the first type are the most frequent among those with stronger effects ($r \geq .30$). As for the moderators, in some cases the type of natural risk considered, and the risk level of the sample area proved to be significant. **Conclusions**: Risk management should consider the three types of antecedents, and any moderators, following the priorities obtained, to maximize the involvement of the population to improve its resilience in all the necessary phases (preparedness/prevention, response, recovery).

Keywords: antecedents, risk perception, natural hazard, meta-analysis, climate change

## ID-750: INDIVIDUAL DIFFERENCES IN SENSORY PROCESSING SENSITIVITY PREDICT NEGATIVE EMOTIONAL RESPONSE TO CLIMATE DISASTER NEWS.

Annalisa Setti[1], Anna Oberhäußer [1], Anna O'Brien [1]

[1]*University College Cork*, *Cork*, *Ireland*

**Introduction**: The COP29 Special Report on Climate Change and Health emphasizes that climate change is a critical health issue, causing direct and indirect impacts on mental wellbeing. These impacts are modulated by individual differences. Neurological and psychological differences in reacting to the external environment have significant implications for adaptation. Sensory Processing Sensitivity (SPS) is a trait characterized by reactivity to the environment, empathy and high connectedness to nature. **Objectives**: The aim of this study is to determine whether SPS is associated with higher susceptibility to indirect experience of climate change-related events such as news, controlling climate change anxiety and nature connectedness. **Method**: An experimental design was used, 99 participants completed Positive and Negative Affect Schedule (PANAS) and Brief State Rumination Inventory (BSRI) before and after watching

a video of climate change disaster vs of weather forecast; with SPS (HSP-12 scale), climate anxiety (Climate Change Anxiety Scale, CCAS), nature connectedness (Nature Connection Index, NCI) and SPS x condition as predictors. **Results**: Multiple linear regressions were used to test what predicted the PANAS-negative, PANAS-positive and the BSRI after watching the video, while controlling for baseline scores. Crucially the SPS x condition interaction was significant for PANAS-negative, but not for PANAS-positive or BSRI. Higher BRSI score was predicted by watching a video of climate disaster as opposed to a video of weather forecast. **Conclusion**: Higher SPS individuals are more susceptible to indirect negative emotional effects of exposure to climate change disasters, which indicates they are potentially a vulnerable group in this context.

Keywords: sensory processing sensitivity, individual differences, climate disaster news, climate change anxiety, wellbeing

**ID-216: LANDSCAPE IDENTITY, WELL-BEING, AND CLIMATE-DRIVEN DISTURBANCES IN SOUTHERN SWEDEN**

Ryan Bergstrom[2], Thomas H. Beery [1]

[1]*Kristianstad University*, *Kristianstad*, *Sweden*, [2]*University of Minnesota*, *Duluth*, *United States*

Climate-driven disturbances, including changing water levels, increased precipitation and flooding, intensified storms, and water shortages and droughts, threaten the sustainability of southern Sweden communities. However, our understanding of how individuals experience and adapt to such disturbances is limited, especially as it relates to how place theory, particularly landscape identity, can help foster enhanced well-being for vulnerable communities. This study aims to understand how individuals of Skåne, Sweden, identify with their local environment and how that identity has changed or will be changed due to a changing climate. Participants were 470 residents of Skåne who completed a PPGIS-based survey. The human relationship with landscape in a climate-changing context was explored using spatial and survey methods. One outcome was the relationship between concern for landscape change, perceived seriousness of projected change, and participants' understanding of the projected climate change impacts timeline. Specifically, residents of Skåne see climate change as a threat to their landscapes, and this threat is heightened due to a perception that severe impacts have already started or will soon. A better understanding of people-place relationships is needed, specifically, how people identify with local landscapes because of the long-standing body of knowledge related to place identity and the growing scholarship on the use of landscape as a conceptual framework for climate adaptation and mitigation, especially supporting well-being.

Keywords: landscape identity, place theory, climate change, PPGIS, well-being

**16-06-2025 | 18:30 - 19:30**

**PS-01**: **Poster Session I**

*Campus Courtyard*

*Codes marked by PSI-XXX are the number indicators for mounting your poster on a dedicated poster wall.

PSI-001

## ID-758: ARE WE CLOSER TO HISTORICAL OR POSTMODERN ARCHITECTURE? THE RELATIONSHIPS BETWEEN THE PERCEPTION OF DIFFERENT ARCHITECTURAL STYLES WITH THEORY OF PLACE AND THE CULTURAL CAPITAL

Mateusz Strzałkowski[1], Maria Lewicka [1]

[1]*Nicolaus Copernicus University*, *Toruń*, *Poland*

**Introduction:** Place, defined as a meaningful location, can be categorized as essentialist or anti-essentialist. Essentialist places are static, historically continuous, and characterized by permanence and homogeneity. In contrast, anti-essentialist places are dynamic, open, and heterogeneous. A related concept is the "non-place," which lacks identity, history, or meaningful connection. At the same time, there are currently three main styles that dominate in architecture: historical (rich in ornamentation), modernist (simple, functional, and ornament-free), and postmodernist (eclectic and contextually playful). These styles represent different approaches to form and can evoke distinct emotional responses. Preferences for types of places and architectural styles can be linked to cultural capital, an individual asset that encompasses knowledge, education, taste, and possessed cultural goods. **Objectives:** This study aimed to explore the relationships between the perception of buildings in different architectural styles, their evaluation along dimensions derived from place theory (essentialist vs. anti-essentialist, places vs. non-places), the emotions they evoke, and their connection to levels of cultural capital. **Materials & Methods:** A representative sample of Polish participants (N=1043) evaluated 15 photos of buildings from various architectural styles using dimensions related to place theory and building appraisal. Participants also provided information on their cultural preferences, education, and possessed cultural goods. **Results & Conclusions:** The results revealed significant differences in the evaluation of architectural styles, their perception as places or non-places, and their association with level of cultural capital. This study adds important points to our knowledge on how we should change our cities and the directions of these changes.

Keywords: evaluation of architecture, architectural styles, theory of place, cultural capital

PSI-002

## ID-367: ELEMENTS OF INCLUSIVE LEARNING ENVIRONMENTS FOR SCHOOL CHILDREN WITH ADHD & ASD

Cathérine Hartmann[1], Riccardo Meier [1], Swen Jonas Kühne [1], Richard Zemp [2], Miriam Rentsch [1]

[1]*Zurich University of Applied Sciences*, *Zurich*, *Switzerland*, [2]*Swiss Competence Centre for Accessibility in Architecture*, *Zurich*, *Switzerland*

Although several countries have adopted inclusive education systems, the inclusion of children and teenagers with neurodivergences such as attention-deficit/hyperactivity disorder (ADHD) or autism spectrum disorders (ASD) remains a complex challenge. The extant literature indicates that specific spatial

arrangements and furnishings can positively impact neurodiverse individuals. However, there is a lack of a comprehensive and broader understanding of the role of spatial configurations in school environments that facilitate inclusion. Therefore, this study aims to identify positive spatial configurations of learning environments and their effect on the wellbeing and inclusion of children and teenagers with ADHD and ASD. To achieve this, semi-structured interviews with Swiss children (N = 12) aged 7–16 years with ADHD and ASD, as well as their teachers, are being conducted. The interviews focus on elements (such as chairs, plants, seating position, etc.) that help the children concentrate and function effectively in school. Additionally, parents are surveyed via an online questionnaire. The answers are transcribed and analyzed using qualitative content analysis. Preliminary findings indicate that spatial configurations of learning environments play an important role in the ability to concentrate and the wellbeing of children and teenagers with ADHD and ASD. Factors like noise (e.g. chatting), movement, or seating positions appear to have a notable impact. The study's findings can help schools and teachers to foster the inclusion of children and teenagers with ADHD and ASD and develop design guidelines for officials.

Keywords: built environment, ADHD, ASD, learning environment, neurodivergence

PSI-003

**ID-827: MULTISENSORY SNOEZELEN ROOM FOR BLOOD EXTRACTIONS FOR CHILDREN WITH ASD: ANALYSIS OF THE EFFECT FROM THE EXPERIENCE OF THE PARENTS**

Paloma Lopez-Lopez[1], Kenji Frohn [2]

*[1]Canary Health Service*, *Las Palmas de Gran Canaria*, *Spain*, *[2]Universidad Fernando Pessoa Canarias*, *Gran Canaria*, *Spain*

Autism Spectrum Disorder is a childhood-onset neurodevelopmental disorder characterized by deficits in social skills, communication, presence of restrictive patterns, stereotypies and repetitive motor behaviors causing significant functional impairment of the individual. Changes in routine and unfamiliar environments, coupled with difficulty in understanding social interactions can cognitively fatigue these children, leading to behavioral resistance and tantrums and, consequently, hindering health interventions. In addition, waiting in a room with more people and difficulty communicating can trigger nervousness and discomfort. Routine health interventions can be very stressful. The Snoezelen method is a spatial design approach that provides relaxing environments through multisensory stimuli. These multisensory rooms aim to reduce anxiety before medical consultations and procedures from a safe and familiar environment, thus avoiding sedation for a blood draw. The aim of this study was to analyze the effect of a Snoezelen approach in blood collection interventions in a population of children and adolescents with ASD. A sample of 20 patients was obtained, 30% female and 70% male, aged between 6 and 18 years. It was found that the level of anxiety between the first and second visit, as well as the anxiety according to the waiting time in the room decreased considerably. In addition, it was found that the hypothesis formulated on the degree of satisfaction of the family of the patients attended under this approach was very satisfactory.

Keywords: evidence based-design, physical environment, health environment, multisensory environment, autism spectrum disorder

PSI-004

**ID-809: USER-CENTERED DESIGN FOR SCHOOLS: FIRST VALIDATION OF PERCEIVED SCHOOL ENVIRONMENT QUALITY INDICATORS (PSEQIS)**

Ferdinando Fornara[1], Alessandro Lorenzo Mura [1], Maria Luisa Pedditzi [1], Marcello Nonnis [1]

*[1]Department of Education, Psychology, Philosophy, University of Cagliari, Cagliari, Italy*

**Introduction:** Consistently with the User-Centered Design approach, the physical features of school buildings—such as lighting, layout, temperature, and noise—should meet the needs and preferences of both students and teachers to enhance their well-being and satisfaction. **Objectives:** This study is part of the research project "Indoor and outdoor school environment impact on students' cognition, affect, socialization, and well-being" (funded by the Italian PRIN program, project code 2022MBPWH7), and aims to develop and validate a tool measuring Perceived School Environment Quality Indicators (PSEQIs). The goal is to explore the perceived physical-spatial qualities of school environments at two levels: school building and classroom. **Materials & Methods**: The initial version of the tool includes 45 items. Data collection is currently underway in three secondary schools in Cagliari, Italy, selected for their distinct architectural and ergonomic features. The sample includes 250 students (ages 14-19) and 50 teachers, balanced by gender, who will complete an online questionnaire. **Results**: An Exploratory Factor Analysis will be conducted to test the factorial structure of the PSEQIs. We hypothesize that the analysis will reveal factors aligned with the main physical-spatial characteristics frequently examined in the literature. Convergent, divergent, and predictive validity, as well as gender invariance, will also be assessed. Additionally, students' and teachers' subjective perceptions will be compared with objective expert evaluations provided by architects. **Conclusions**: findings are expected to inform design guidelines aimed at creating more "human-centered" school environments that are thoughtfully tailored to meet the specific needs of users, such as students and teachers.

Keywords: school, perceived comfort, user-centered design, students, teachers

PSI-005

**ID-958: SENSORY INLUSIVE OFFICES FOR ADHD ADD**

Clara Weber[1], Pascale Bebie Gut [1], Beate Krieger [1], Frank Wieber [1], Eunji Häne [1], Nancy Doyle [2]

*[1]ZHAW, Zurich, Switzerland, [2]Birkbeck University of London's Centre for Neurodiversity, London, United Kingdom*

**Background:** Neurodivergent individuals with ADHD/ADD face significant sensory challenges in traditional office environments due to heightened sensitivities to auditory, visual, tactile, and proprioceptive stimuli. These challenges can lead to significant occupational health problems and work exclusion. **Objective:** This study aims to identify sensory challenges experienced by office workers with ADHD/ADD and evaluate the effectiveness of workplace adjustments in improving occupational health. **Methods:** A cross-sectional online survey was administered to a convenience sample of 82 office workers in Switzerland with a medical diagnosis of ADHD/ADD, recruited through ADHD organizations and social

media. Data was collected on participants' sensory profiles, sensory challenges in office environments, occupational health parameters (WHO5, work satisfaction, feeling supported by work), and perceived effectiveness of adjustments. **Results:** The study identified noise, lack of enclosure, and temperature as the most common sensory challenges. Most effective design adjustments included sit-to-stand desks, ergonomic furniture, and work points in low-traffic areas; most effective operational adjustments included flexible hours, work-from-home policies, and scheduled breaks. However, participants sensory profiles were associated with sensory challenges and with the effectiveness of adjustments. Receiving adjustments as well as being satisfied with them was associated occupational health parameters. **Conclusion:** Individuals' sensory profile may allow to predict sensory challenges experienced as well as adjustments' effectiveness. Adjustments appear to have significant impact on occupational health for ADHD/ADD workers and could be tailored to workers' sensory profile for targeted adjustments. Future research should validate these findings with larger samples and longitudinal studies to develop evidence-based guidelines for sensory-inclusive workplace design.

Keywords: ADHD ADD, sensory-inclusive workplaces, neurodiversity, occupational health, workplace adjustments

PSI-006

**ID-674: ART AND WELL-BEING IN HEALTHCARE: REDEFINING HOSPITAL SPACES THROUGH AN ART GALLERY INTERVENTION**

Alessandro Lorenzo Mura[1], Fabrizio Scrima [2], Marcello Nonnis [1], Elena Foddai [3], Liliane Rioux [4], Ferdinando Fornara [1]

*[1]Department of Education, Psychology, Philosophy, University of Cagliari, Cagliari, Italy, [2]"Kore" University of Enna, Italy, Enna, Italy, [3]PLP Psicologi Liberi Professionisti, Rome, Italy, [4]Université de Paris Nanterre, Paris, France*

**Introduction**: The "meaning of place" in hospitals is often negatively associated with illness and suffering, contributing to staff stress and disengagement. Humanizing healthcare environments, such as through art interventions, has been posited to improve staff well-being. **Objectives:** This study examined the impact of a permanent art gallery in a hospital's gynecology department on healthcare personnel's aesthetic experience, perceived restorativeness, affective commitment, and work engagement. **Materials & Methods:** A quasi-experimental design was employed with 116 healthcare staff (experimental group: 74, control group: 81). Self-report surveys measured outcomes at three intervals: pre-intervention, immediately post-intervention, and 45 days post-intervention. **Results**: The art gallery yielded immediate improvements in aesthetic experience and delayed benefits in restorativeness, affective commitment, and work engagement in the experimental group. No significant changes were observed in the control group. The findings underscore the role of environmental enhancements in fostering positive workplace outcomes. **Conclusions**: Art interventions can transform the hospital environment, shifting its meaning to include aesthetic and restorative elements. This contributes to improved well-being and engagement among healthcare staff. These findings have implications for hospital management practices and the design of therapeutic workspaces.

Keywords: aesthetic experience, healthcare environments, restorativeness, work engagement, affective commitment

PSI-007

**ID-950: ASSESSING THE IMPACT OF PHYSICAL ENVIRONMENTS ON PATIENT'S PERSONAL RECOVERY AND WELL-BEING IN PSYCHIATRIC UNITS**

Claire Daugeard[1], Clara Weber [2], Christoph Hölscher [3]

*[1]Centre Neuchâtelois de Psychiatrie, Neuchâtel, Switzerland, [2]ZHAW Zurich University of Applied Sciences - School of Applied Psychology, Zurich, Switzerland, [3]ETH Zurich, Zurich, Switzerland*

Psychiatric care is increasingly integrating personal recovery, which focuses on the patient's process to regain a sense of purpose and control over their condition instead of focusing primarily on symptom alleviation. Concurrently, there is growing recognition of the impact of environmental factors on patients' health and recovery, as highlighted by evidence-based design outcomes. However, a comprehensive framework to assess the impact of environmental features on patients' well-being, recovery, and satisfaction with quality of care is lacking. **Purpose**: This research aims to develop a theoretical framework that integrates personal recovery, patient satisfaction with quality of care, and evidence-based design outcomes. Based on this framework, researchers will develop a patient survey and an environmental assessment scale to assess psychiatric ward environments both objectively and from the patient's perspective. **Methods**: A literature review informed a comprehensive theoretical framework and the patient questionnaire and environmental rating scale's development. Both the scales content and construct validity will be validated psychometrically with a group of experts. Psychometric properties and application concerns (user and administrator friendliness) will also be addressed. **Results**: Patients from psychiatric units (n=100) will complete an interviewer-rated questionnaire, while experts (n=4) will objectively assess the environment of the psychiatric units. The study is expected to identify critical architectural and environmental factors that impact personal recovery and satisfaction in psychiatric settings. This study will inform the design of future psychiatric units and contribute to the development of a generalized tool for assessing psychiatric ward environments.

Keywords: evidence based design, psychiatric unit, well-being, personal recovery, healing architecture

PSI-009

**ID-551: THE EFFECT OF LOCOMOTION MODALITIES IN VIRTUAL REALITY FOR PSYCHOLOGICAL ASSESSMENT OF URBAN ENVIRONMENTS**

Carlotta Colonna[1], Marco Boffi[1], Nicola Rainisio [1], Giandomenico Caruso [2], Lorenzo Mussone [3], Andrea Picardi [2], Simone Piersigilli [2], Barbara Piga [4]

*[1]Università degli Studi di Milano Department of Cultural Heritage and Environment, Milan, Italy, [2]Politecnico di Milano, Department of Mechanical Engineering, Milan, Italy, [3]Politecnico di Milano, Department ABC, Milan, Italy, [4]Politecnico di Milano, Department of Architecture and Urban Studies (DAStU), Milan, Italy*

Virtual Environments (VEs) are increasingly recognized as valuable tools to inform urban regeneration through psychological assessment. They offer realistic simulations and controlled conditions to investigate subjective experiences before implementing environmental interventions. While interest in virtual nature and urban simulations continues to grow, the role of active spatial exploration still needs to be explored, and the criteria for selecting locomotion techniques is rarely addressed in psychological research. Insights from technology design suggest that locomotion modality affects factors such as immersion and motion sickness mitigation. For instance, teleportation minimizes motion sickness in prolonged sessions, while natural walking better replicates real-world navigation, making it more suitable for urban assessments. However, such methodological choices are also influenced by practical constraints, including ease of implementation and cost. This study, part of the MED4PED project, aims to support urban decision-making by employing VR simulations to analyze pedestrian experiences. Forty-eight participants undertook an experiential walk along a street in the Città Studi University district of Milan. They evaluated its current state using four locomotion modalities: jump teleport, point teleport, thumbstick, and controller shake. Data on user experience and place evaluation were collected using a within-subject design. Non-parametric analyses revealed significant differences across locomotion modalities in user experience and place assessment, highlighting different patterns for emotional and cognitive variables. These findings underscore the importance of aligning locomotion techniques with the specific objectives of VR-based investigations. By tailoring methodological choices, VEs can provide more reliable insights into pedestrian experiences, enhancing their role as a decision-making tool for urban design.

Keywords: virtual reality, urban planning, emotions, environmental preference, anxiety

PSI-010

**ID-602: RE-INVESTIGATING THE SAVANNA HYPOTHESIS: AN ONLINE STUDY OF LANDSCAPE PREFERENCE AND FAMILIARITY**

Elena Isenberg[1], Simone Kühn[1]

*[1]Max Planck Institute for Human Development, CEN, Berlin, Germany*

The savanna hypothesis proposes that humans have an innate positive response to savanna landscapes. This was tested in 1982 with 20 images from five biomes, and the authors concluded that while children prefer the savanna, adults prefer the environment that is most familiar (Balling and Falk, 1982). The objective of the current study was to replicate these methods in a sample of German adults, with an additional landscape category "park". It was hypothesized that the park category would be most preferred, given Balling and Falk's familiarity explanation. In an online study, 212 adults completed a survey on their preferences for 6 different categories of landscape images. There were 4 images per category, 24 images total. The categories were tropical savanna, deciduous forest, coniferous forest, tropical rainforest, desert, and an additional category labeled "park", which consisted of temperate landscaped parklands. Participants rated each image on familiarity, aesthetic liking, their desire to live there, and desire to visit there. Preliminary results show that park landscapes were rated highest on all four dimensions, while deserts were rated lowest. Park landscapes were also ranked first most frequently, while deserts were most frequently ranked last. It can be concluded that the most familiar landscapes

were also the most preferred in this sample of adults. Compared to the other unfamiliar environments, the savanna was more preferred. It remains to be shown however, whether parks are preferred because they are savanna-like or whether savannas are preferred because they are like the familiar parks.

Keywords: landscape preference, savanna hypothesis, biophilia theory

PSI-011

**ID-536: EXPLORING CHILDREN'S PERCEPTION OF URBAN LANDSCAPES: A STUDY OF SOCIOCULTURAL FACTORS AND OUTDOOR ENGAGEMENT IN KAUNAS**

Eglė Januškienė[1], Jūratė Kamičaitytė[1]

[1]*Kaunas University of Technology*, *Kaunas*, *Lithuania*

Today's cities are undergoing significant changes, and alongside this, children's opportunities to engage with their environment are also changing. Research indicates that children spend more time indoors or in virtual spaces. These shifts affect their ability to experience and perceive the landscape, which is crucial for their development. **The purpose of this study** is to conduct a pilot survey to explore how demographic and sociocultural factors influence children's perception and assessment of their surroundings, focusing on children aged 6 to 12. The study aims to determine whether children living in Kaunas still want to go outdoors and according to changing sociocultural and demographic factors and children's approach to the outdoor environment, what measures can be implemented to encourage them to do so. **Research Methods.** The survey targeted parents and guardians living in Kaunas city who are raising children aged 6 to 12, also for children of this age group. It comprised three sections: the first two sections were designed for parents, while the third was intended for children. The questionnaire was compiled using literature analysis. The statistical analysis method was used to process the responses. **The study** explored parents' attitudes toward changing sociocultural factors that affect children's opportunities to spend time outdoors. It also highlighted existing urban issues in the city, such as a lack of traffic safety and insufficient spaces suitable for children. Overall, **the findings indicated** that children still desire to spend time in their surroundings, even if these environments are not adequately adapted to their needs.

Keywords: landscape perception, sociocultural factors, survey, children, Kaunas

PSI-012

**ID-526: ASSOCIATION OF URBAN ENVIRONMENT AND VISUAL PERCEPTUAL STRATEGIES**

Lydia Handke[1], Anja Stanojlovic[1], Simone Kühn[1]

[1]*Max Planck Institute for Human Development, CEN*, *Berlin*, *Germany*

**Introduction**: This study examines the association between physical environmental factors and visual perceptual strategies, specifically global (whole-object) versus local (detail-oriented) processing and susceptibility to visual illusions. Prior research indicates that residents of urban areas generally process scenes more globally, whereas rural inhabitants tend to focus on local details. Urbanicity has also been

linked with increased susceptibility to visual illusions. **Objectives**: We hypothesize that urban features correlate with more global processing and heightened susceptibility to visual illusions. Additionally, our goal is to identify key urban environmental factors influencing visual processing and to compare responses to different visual tasks to clarify perceptual strategies. **Materials & Methods**: We tested twin pairs in an online experiment assessing global-local processing style using hierarchical stimuli and susceptibility to eight geometrical illusions (Poggendorff, Zöllner, Müller-Lyer, Ebbinghaus, Delboeuf, Ponzo, T, and L Illusions). Participants' urbanicity exposure was quantified by analyzing geodata on urban fabric, tree cover density, population density, terrain height, air pollution, light pollution, and noise pollution at their current home address. **Results**: Positive associations were found between certain visual measures (global processing style, Müller-Lyer, T, and L Illusions) and environmental factors, such as urban fabric, population density, particulate matter, and light pollution. No correlations were found between the different visual tasks themselves. **Conclusion**: Physical features of an individual's living environment are linked to specific visual perceptual outcomes. Urbanicity may promote visual processing strategies that are more context-dependent.

Keywords: physical living environment, visual perception, global-local perceptual style, visual illusions, twin study

PSI-014

**ID-689: DIFFERENCES IN EYE MOVEMENTS DURING THE VIEWING OF URBAN AND NATURAL IMAGES: A SEARCH FOR AN EXPLANATION**

Marek Franěk[1], Denisa Soukupová [2], Jan Petružálek [1]

*[1]University of Hradec Králové, Hradec Králové, Czech Republic, [2]Faculty of Informatic and Management, University of Hradec Králové, Hradec Králové, Czech Republic*

**Introduction**: The cognitive benefits of contact with the natural environment were explained by the Attention Restoration Theory. The eye-tracking studies have shown that nature scenes are easier to process visually than urban scenes, as reflected in fewer prolonged eye fixations compared to urban scenes. However, this theory has been criticized for having important empirical shortcomings. An alternative may be a greater perceptual fluency of natural scenes compared to urban scenes. **Objectives**: The objective was to register eye movements while viewing urban scenes, nature scenes with foliage, and nature scenes without foliage, and to compare the results of gaze analysis with self-reported perceptual fluency of the presented images. **Materials** & **Methods**: 66 participants viewed 24 images of urban scenes, nature scenes with and without foliage. The mean number of fixations within an image and the mean duration of all fixations were measured. At the same time, the participants' self-reports of the perceptual fluency of the images were recorded. **Results**: The eye fixations were longer in natural scenes than in urban scenes, and the number of fixations was lower in natural scenes than in urban scenes. There were no significant differences in eye fixations between nature scenes with and without foliage. There were no significant differences in self-reported perpetual fluency among all image types. **Conclusions**: It is discussed to what extent the observed differences in eye movements may be due to the low-level visual properties of the stimuli, and what effect the duration of stimulus presentation has on gaze exploration.

Keywords: attention restoration theory, perceptual fluency, eye movements, built vs. natural environment

PSI-015

**ID-796: A SEMI-SUPERVISED CLUSTERING APPROACH TO ASSESS ENVIRONMENTAL PROFILES FROM SATELLITE IMAGERY**

Simone Di Plinio[1], Elisa Menardo [2], Daniela Cardone [3], Claudia Greco [1], Arcangelo Merla [3], Margherita Brondino [2], Margherita Pasini [2], Sjoerd Ebisch [1]

*[1]DNISC; G. d'Annunzio University of Chieti-Pescara, Chieti, Italy, [2]Department of Human Sciences, University of Verona, Verona, Italy, [3]INGEO; G. d'Annunzio University of Chieti-Pescara, Pescara, Italy*

Quantifying environmental features is key to understanding how surrounding characteristics affect well-being. This poster presents a semi-supervised clustering algorithm for satellite imagery. Rather than focusing on a single environmental feature (green space), the algorithm automatically extracts indices for greenery (e.g., vegetation density), "gray" spaces (e.g., roads, parking lots, rooftops), and other structural elements. The pipeline processes large-scale satellite images of residential, educational and occupational settings, generating precise environmental “profiles” for each location. We applied this clustering algorithm to approximately 900 residential sites across Italy, capturing variations in green-to-gray ratios. By integrating these objective measures with psychometric assessments, we tested a structural equation model (SEM) linking greenery and grayery to affective states, conceptualized via the PAD model (Pleasure, Activation, Dominance). Notably, perceived restorativeness emerged as a key mediator, suggesting that gray-dominated areas diminish the restorative quality of environments, this fostering negative affective responses. This approach advances environmental health research by offering a standardized, cost-effective means of profiling built and natural surroundings. Our findings reveal that grayery and, secondarily, greenery, uniquely shape affective outcomes, with perceived restorativeness mediating these relationships. Tailoring urban environments to include more natural elements may thus hold significant potential for improving psychological well-being. The presented pipeline offers researchers and urban planners a practical tool for identifying areas of environmental need and estimating the likely impacts of landscape modifications on community health.

Keywords: green space, grey space, affect, satellite, restorativeness

PSI-016

**ID-771: FEARED BY SOME, FASCINATING TO OTHERS. ANALYSING THE RELATION BETWEEN INDIVIDUAL DIFFERENCES, EMOTIONS AND INTENTIONS TOWARDS ABANDONED PLACES**

Alicja Broncel[1], Szymon Bojarski [1]

*[1]Nicolaus Copernicus University, Toruń, Poland*

Although abandoned places are a common feature of urban landscapes, research explaining why people display a wide variety of attitudes towards them - from fear and willingness to demolish, to fascination and desire to explore - is lacking. We intend to fill this gap by examining how individual differences (nostalgia proneness, fearfulness and sensation-seeking) and the emotions felt towards abandoned places are related to the willingness to avoid, destroy or restore them and to attribution of essence (genius loci) towards the place. We expect distress and boredom to be associated with a willingness to demolish and avoid abandoned places and a lower tendency to attribute essence to them. Relaxation and nostalgia proneness will be associated with a willingnesss to restore the place and a reluctance to demolish it. Excitement and sensation-seeking will be associated with the desire to explore and have the abandoned place in one's neighbourhood. Higher arousal will be associated with lower desire to explore for fearful people and a higher one for sensation seekers. Respondents will evaluate a total of 10 photographs of abandoned places. We will use a 4 item tool for emotional assessment of places (derived from Russell's Wheel of Emotion), the Southampton Nostalgia Scale, the Brief Sensation-Seeking Scale and the Marks and Mathews Fear Questionnaire. Based on prior power analysis, we plan to survey a representative sample of at least 140 people. We will analyse the results using Pearson's r and conduct a linear regression analysis.

Keywords: abandoned places, sense of place, sensation seeking, nostalgia, fear

PSI-017

**ID-741: A QUANTITATIVE INVESTIGATION INTO THE RELATIONSHIP BETWEEN CITIZENS AND PUBLIC ABANDONED SPACES IN VENICE**

Ottavia Damian[1], Margherita Brondino [1]

[1]*Department of Human Sciences, University of Verona*, *Verona*, *Italy*

This work concerns a quantitative data collection involving the citizenship of Venice and the Venetian Lagoon (Italy), and it will investigate the main variables involved in the relationship between human beings and public spaces from environmental psychology point of view. The data collection is part of a wider participatory process regarding the valorization of public assets in the Lagoon and, specifically, the valorization of one abandoned island, which represents a first case study: the Poveglia island. Both these assets are managed by the State Property Agency, the Italian public authority responsible for real estate assets. vIn 2024, we investigated citizens' opinions on the perceived value of the Lagoon and Poveglia Island through several focus groups involving 91 participants; the data that emerged were used to identify the relevant constructs for the quantitative survey. The data collection will be implemented during the first part of 2025, and it will be made through a snowball sampling recruitment on the population of Venice. It is planned to involve about 1,000 people. The survey will focus on perceived value, perceived restorativeness, place attachment, connection to nature, motivation to visit the site, environmentally friendly behavior and perception of the state of abandonment of public goods. The results will contribute to getting a photograph of how citizens perceived the value and the management of these assets, together with their relationship with them. These conclusions will be a starting point for a participatory process regarding the requalification of Poveglia Island in collaboration with the institutions.

Keywords: public spaces, participation, restorativeness, place attachment, perceived value

PSI-018

**ID-874: ASSESSMENT AND EXPLORATION OF PLANETARY HEALTH KNOWLEDGE**

Franziska Rees[1], Oliver Wilhelm[1]

[1]*Ulm University*, *Ulm*, *Germany*

Salient global problems such as climate change, poverty, hunger, and infectious diseases are addressed in several concepts such as the UN's *Sustainable Development Goals* (SDGs). Knowledge about such global problems is deemed a key competence to tackle global issues. We refer to knowledge about the environment, human health, human civilization and their interactions as *Planetary Health Knowledge* (PHK). To assess PHK, we developed a hierarchical, exhaustive, and disjunct PHK taxonomy capturing knowledge about the quality, causes and consequences, the global distribution and extent of existing problems in seven domains: *Health*, *Nutrition*, *Environment*, *Safety*, *Education*, *Standard of Living*, and *Political and Economic systems*. In a cascade of psychometric studies, we develop a comprehensive PHK test and establish the structure of PHK. Further, we use novel item sampling techniques to provide several parallel short- and ultra-short test forms with 35 or 14 items. These are publicly available, and ready for use to track PHK—among others—in longitudinal and intervention studies. We discuss our findings and give insights into the nomological network of PHK.

Keywords: planetary health knowledge, sustainable development, test development, parallel tests, education for sustainable development

PSI-019

**ID-543: THE ROLE OF PSYCHOLOGICAL RESILIENCE AND SOCIODEMOGRAPHIC FACTORS IN ENVIRONMENTAL CRISIS PREPAREDNESS**

Jonė Vitkauskaitė-Ramanauskienė[1], Aistė Balžekienė [1], Rūta Pelikšienė [1]

[1]*Kaunas University of Technology*, *Kaunas*, *Lithuania*

The increasing frequency and intensity of natural disasters are prompting greater attention to strengthening the resilience of societies. In this context, researchers usually focus on the resilience of communities. Although it constitutes an important part of community resilience, the influence of individual resilience for crisis preparedness is analyzed less often. Individual resilience is mainly understood as material preparedness. However, it is also strongly influenced by psychological factors. Most of the scientific literature on the importance of psychological resilience in disaster preparedness is limited to theoretical considerations, and empirical research accounts for only a small part of it. Furthermore, empirical studies often concentrate on psychological resilience to natural disasters, but are not considering individual psychological resilience in broader sense. This study will analyse the influence of individual psychological resilience and sociodemographic factors on preparedness for environmental

crises in Lithuania. The study was based on data from a representative survey conducted as part of the project „Socio-spatial determinants of societal vulnerability and resilience to crises and strengthening the crisis response potential of communities" (SERENITY), funded by Research Council of Lithuania, no. S-VIS-23-21. The results of the study indicate the significant influence of individual psychological resilience and some of the sociodemographic factrors upon environmental crisis preparedness. The results are important in understanding the role of individual abilities to adapt and cope with environmental crises.

Keywords: psychological resilience, environmental risks, preparedness

PSI-020

**ID-197: WHO IS HARMED? EXPLORING DIFFERENCES IN AMERICANS' PERCEPTIONS OF CLIMATE CHANGE RISKS**

Christina Jinhee Capozzoli[1], Stylianos Syropoulos [2], Kyle Fiore Law [2]

*[1]Boston College, Boston, MA, United States, [2]Arizona State University, Tempe, AZ, United States*

Have people's perception of the risks of global warming for geographically distant people, future generations, as well as oneself increased over time? Using a large, nationally representative dataset collected by the Yale Program on Climate Change Communication, we found that global warming risk perceptions have indeed increased over time, with the greatest concern for developing countries, followed by one's ingroup, plants and animals, and future generations. Interestingly, participants perceived greater global warming risk for distant entities than for themselves or their ingroups. Additionally, global warming risk perceptions for future generations, distant people, and other species predicted policy support and behaviors, although some exceptions were noted. Exploratory analyses revealed that conservatives perceived a smaller gap in global warming risk perceptions between future generations and close others. Beliefs about global warming, such as when it will impact the US, scientific consensus, human causation, and the reality of global warming predicted global warming risk perceptions. Taken together, these findings underscore the importance of public perception and beliefs in shaping climate policy support.

Keywords: climate change, harm perception, policy

PSI-021

**ID-702: COMMUNICATION CHANNELS, RISK PERCEPTION AND PSYCHOLOGICAL IMPACT IN NATURAL HAZARD: A META-ANALYSIS AND SYSTEMATIC REVIEW**

Annalisa Sarrecchia[1], Silvia Cataldi [1], Valeria Chiozza [1; 2], Alessandro Milani [1; 2], Alessandra Talamo [1], Annalisa Theodorou [3], Marino Bonaiuto [1; 2]

[1]*Department of Psychology of Developmental and Socialization Processes, Sapienza, Rome, Italy*, [2] *CIRPA–Interuniversity Research Centre in Environmental Psychology, Sapienza Uni, Rome, Italy*, [3]*Department of Systems Medicine, Tor Vergata University of Rome, Rome, Italy*

**Introduction:** Natural disaster management necessitates an integrated approach that addresses the effectiveness of risk communication and the psychological impact on exposed communities. Understanding these elements is crucial to promoting adaptive behaviors and strengthening community resilience in the face of natural hazards. **Objectives:** This work combines a meta-analysis on the impact of communication strategies on adaptive behaviors toward natural hazards and a systematic review on the psychological effects of natural hazards. The meta-analysis aims to identify the most effective communication channels (traditional and digital) during the prevention or preparedness, the response, and the recovery phases. On the other hand, the systematic review aims to analyze the emotional and behavioral consequences of natural hazard exposure on affected populations, to understand resilience factors for the psychological coping with natural hazards. **Materials & Methods:** The meta-analysis and systematic review follow the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, with the first focusing only on quantitative research. A query string on Scopus, Web of Science, and PsycINFO databases is used in both studies. **Results:** Preliminary results of the meta-analysis suggest that different communication strategies are related to risk perception and resilience for promoting adaptive behaviors. The systematic review shows the main negative psychological impacts, involving both affective and cognitive reactions among populations exposed to natural hazards. **Conclusions:** The findings underscore the importance of developing multimodal communication strategies suitable for different contexts, as well as multidisciplinary approaches to improve psychological support and resilience in communities affected by natural disasters.

Keywords: meta-analysis, systematic review, natural hazards, communication channels, psychological resilience

PSI-023

**ID-906: DETERMINANTS OF ENVIRONMENTAL AWARENESS: THE TENSION BETWEEN WEALTH AND CLIMATE RISK**

Lukas Kroher[1]

[1]*University of Bamberg, Bamberg, Germany*

**Introduction:** Environmental awareness has increased over the last decades across Europe, and globally. This happened despite heterogeneous framework conditions concerning response capacities (wealth-dependent) and affectedness (social and geographically distributed) regarding environmental events and climate change. **Objectives:** This study aims to show, that environmental awareness covers two different concepts of origin: (1) Environmental awareness raising from post-materialist values of economically saturated actors [*environment as luxury good*] and (2) environmental awareness rooted in ecological problem-pressure based on perceived threats from natural events [*environment as threat to existence*] **Methods:** Based on the International Social Survey Program (ISSP) 2020, three European country groups with different levels of climate-risk-exposure and wealth are created ($N_{countries}$ = 8, $N_{observed_individuals}$ =

10.134). For each group, a multivariate linear regression model is run, to compare the effect of post-materialistic values and perceived problem-pressure on individuals' environmental awareness. Environmental awareness is operationalised through a measurement model to account for the three-dimensional structure of attitudes (affective, cognitive, conative). **Results:** Results show that both types of environmental awareness are strongly interlinked: the influence of problem-pressure and post-materialistic values, increase with a region's wealth. Additionally, the affective component of environmental concern is best explained by the two predictors in all three sample groups. **Conclusions:** The findings indicate that both, post-materialistic values and experienced environmental problems, contribute to the development of environmental awareness, with their relative importance varying across different economic contexts. Future research could yield better insights, by extending the variation of wealth and exposure to climate risks within the country sample

Keywords: environmental awareness, postmaterialism, perception of natural events, Maslow's hierarchy of needs, multi-country study

PSI-024

**ID-925: ATTRIBUTING HURRICANES TO CLIMATE CHANGE: SOURCES OF ACCURACY AND ERRORS**

Kristopher Nichols[1], Elke Weber [1], Aya Salim [1]

[1]*Princeton University*, *Princeton*, *United States*

**Introduction**: Public concern about climate change is growing as extreme weather events become more common and severe. Research has shown that experiencing unusually warm weather can lead to increased worry and belief in climate change, especially when individuals attribute the event to climate change. However, how different media outlets cover extreme weather events, and the impact of that coverage on climate change attribution, is still being explored. This study investigated how partisan media coverage of hurricanes influences climate change attribution and worry. Researchers analyzed transcripts from television programs on FOX, CNN, and MSNBC that mentioned 16 major hurricanes since 2010. An experiment was then conducted with 720 participants, balanced on gender and party identification, who were exposed to different hurricane news vignettes. The vignettes manipulated the channel (MSNBC/FOX) and message bias (liberal, neutral, conservative) based on actual television transcripts. **Results**: Liberal messages were effective in increasing climate change attribution. Interestingly, FOX encouraged significantly more attribution than MSNBC. Liberal messages also led to higher levels of worry about climate change. Participants exposed to conservative messages on MSNBC underestimated attribution norms among Democrats, while those exposed to liberal messages on FOX underestimated attribution norms less than those exposed to conservative messages on FOX. **Conclusions**: Partisan media coverage of extreme weather events can significantly influence climate change attribution and worry. The findings highlight the importance of understanding how media framing and messaging can shape public perceptions of climate change, especially in the context of increasingly frequent and severe extreme weather events.

Keywords: attribution, norms, disasters, news

PSI-025

## ID-192: DON'T LOOK UP: EXAMINING THE EFFECT EXISTENTIAL RISK PRIMING ON FAMILY-PLANNING AND FUTURE HEALTH DECISION MAKING

David Stuart Gordon[1], Megan E Birney [2]

*[1]University of Staffordshire, Stike-on-trent, United Kingdom, [2]University of Birmingham, Birmingham, United Arab Emirates*

Life-history theory posits that exposure to extrinsic risks in the environmental creates a more present-focus in decision making. However, human technological progress means we face an evolutionarily novel type of risk: existential risk, or threats that might permanently curtail human progress (e.g., climate change). Despite the discursive prominence of such risk there is little experimental evidence regarding how exposure to information on existential risks impacts the present vs future focus of an individual's everyday decisions. The current study aimed to investigate whether priming existential risk affected present-future focus by measuring family planning and health effort decisions. Participants (N=941, sample representative of the UK) read a 700-word article about either local crime (extrinsic risk), a future asteroid impact (existential risk) or a risk-free control article. Participants were then asked to indicate their ideal number of children, ideal age to have one's first child and how much effort they would engage in now to stay healthy into old age. Across the three variables, responses did not differ between the existential risk condition and the control. The results might indicate that we do not respond to existential risk information as we do to extrinsic risk, suggesting experts need not fear unintended consequences when communicating the potentially dire long-term consequences of existential risks. However, refining the existential risk primes and future research is needed before such a conclusion can be safely drawn.

Keywords: risk, existential risk, reproduction, health, life history theory

PSI-027

## ID-581: CROWDING AND AGGRESSION DURING THE COVID-19 LOCKDOWN IN THE UNITED KINGDOM: THE RELATIONSHIP BETWEEN RESIDENTIAL DENSITY, SUBJECTIVE CROWDING, PRIVACY, AND AGGRESSION

Sadhana Jagannath[1; 2], Clara Weber [1; 3], Birgitta Gatersleben [1], Barbara Füchslin [3], Zenith Nara Costa Delabrida [4]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [2]Imperial College London, London, United Kingdom, [3]Zurich University of Applied Sciences, Zurich, Switzerland, [4]Department of Psychology, Federal University of Sergipe, Sergipe, Brazil*

**Introduction:** Social density in UK homes (square meters available per person) is seen to be the highest in Europe, having potentially detrimental impacts on people especially during national lockdowns such as during COVID-19 pandemic. Previous research has limitedly explored the connection between residents' subjective sense of crowding and psychological outcomes like aggression, in comparison to the effect of

social density. The suggested role of privacy in perceiving density as crowding further necessitates investigation. **Objective:** This study examined the sequential relationship of residential density on subjective crowding on self-reported aggression. Perceived privacy was hypothesized to mediate the relationship between residential density and subjective crowding. **Materials and Methods:** An online cross-sectional survey was conducted with individuals (n=300) using the crowd-sourcing platform Prolific during the COVID-19 lockdown in June 2020 in the United Kingdom. **Results:** Bootstrapped path analysis examined the hypothesized relationships in three hierarchical models, controlling for age, gender, and employment. The first model showed higher aggression levels for those experiencing higher residential density. In the second model, residential density was associated with subjective crowding, which in turn was (more strongly) associated with aggression. In the final model, perceived privacy significantly mediated the relationship between residential density and subjective crowding. **Conclusions.** Results suggest that when objective living space per person is low, it can affect residents' perceived ability to control privacy, resulting in feelings of crowding and subsequent aggression. Our findings have implications for housing planning and policy shifting the focus away from size to floor plan quality in promoting residents' wellbeing.

Keywords: COVID-19, crowding, housing, privacy, aggression

PSI-031

**ID-478: UNRAVELING THE SOCIAL STRUCTURING OF COASTAL VISITATION BEHAVIORS TO UNDERSTAND HEALTH IMPACT DISPARITIES**

Alexander Hooyberg[1; 2], Stefaan De Henauw [1], Gert Everaert [2], Nathalie Michels [1], Henk Roose [1]

*[1]Ghent University, Gent, Belgium, [2]Flanders Marine Institute (VLIZ), Ostend, Belgium*

Coastal destinations are widely recognized for their benefits to tourism and human health, yet limited research has investigated the diverse behaviors exhibited in these environments. This study explored patterns in visitors' activities and social interactions at the coast and examined how these behaviors relate to visit frequency, seasonality, visit duration, and demographic, socio-economic, and health characteristics. We drew data from a cross-sectional survey data of a representative sample of Flemish coastal visitors (N=1302) in Belgium in 2022. The analyses followed the principles of Bourdieu's theory of distinction and applied multiple correspondence analysis and hierarchical cluster analysis to uncover structuring dimensions and typologies. Four dimensions mapped the key variation in coastal visits: (1) visit frequency, (2) preference for natural vs. built environments, (3) visits with family vs. friends/alone, and (4) socialization vs. exploration. Five typologies were segmented: 'Salty Socializers,' 'Family Trippers,' 'Singles In The City,' 'Senior Foodies,' and 'Lone Roamers'. Visitors' exposure to the coast clearly varied with age, household situation, and level of social support. By introducing a new sociological perspective to the field of nature-and-health, we illuminate the pivotal role of citizens' social capital and various other individual characteristics for understanding coastal visitation behaviors and repercussions for health. Future research should not only examine the roles of age, sex/gender, and socio-economic status when assessing the use and effects of restorative environments in the context of health and well-being, but also the role of citizens' social context.

Keywords: blue space, visits, social segmentation, activities, health

PSI-032

**ID-672: IDENTIFYING ENVIRONMENTAL PREDICTORS OF BRAIN STRUCTURE - A VOXEL-WISE APPROACH**

Moana Beyer[1; 2], Timothy R. Brick [3], Simone Kühn [1; 4]

*[1]Max Planck Institute for Human Development, CEN, Berlin, Germany, [2] Humboldt University of Berlin, Berlin, Germany, [3]Pennsylvania State University, HDFS, University Park, PA, United States, [4]University Medical Center Hamburg-Eppendorf, Hamburg, Germany*

Urbanisation and population ageing are two defining global trends of the 21st century (United Nations, 2017; 2018) with significant implications for public health. Emerging evidence suggests that living environments, such as urban areas, are intricately linked to brain structure. For instance, exposure to high levels of air pollution has been associated with reduced corpus callosum and amygdala volumes, as well as increased global and local atrophy (e.g., Wilker et al., 2015; Chen et al., 2015; Xu et al., 2023). Conversely, living in green, unpolluted environments and engaging in outdoor activities have been correlated with structural changes in the prefrontal cortex (e.g., Kühn et al., 2022; Kühn et al., 2023; Casanova et al., 2016). However, there are still contradictory results. To address this, we applied a fully data-driven, exploratory framework to investigate how features of the physical and social environment predict brain structure. Using a sample of ~13,000 older adults from the UK Biobank (Sudlow et al., 2015; Miller et al., 2016), we extracted latent environmental features via clustering and factor analysis, and conducted voxel-wise Elastic Net regressions to identify which features best predict grey and white matter volumes. By employing a data-driven, exploratory approach that focuses on the relationship between living environments and brain structure rather than specific environmental features or predefined brain regions, this methodology aimed to provide a comprehensive understanding of the association between living environments and brain structure.

Keywords : environmental neuroscience, brain structure, feature selection, physical environment, social deprivation

PSI-033

**ID-580: EXPLORING HOW PERSONALITY AFFECTS THE WELLBEING BENEFITS OF IDENTIFICATION WITH NATURE, PLACE AND COMMUNITY**

Sarah May Morris[1], Clifford Stevenson [1], Anna Dobai [1], Emanuele Fino [2]

*[1]School of Social Sciences, Nottingham Trent University, Nottingham, United Kingdom, [2]School of Psychology, Queens University Belfast, Belfast, United Kingdom*

**Introduction**: The Social Identity Approach to Health (SIAH) suggests that identifying with personally meaningful groups provides access to psychological resources with positive consequences for wellbeing. Historically, SIAH has focussed on the benefits of belonging to social groups, but identification with nature or place may similarly influence wellbeing via SIAH processes. Further, personality may influence the

beneficial effects of identities e.g. by facilitating the satisfaction of specific psychological needs. **Objectives**: This study is part of a wider project examining the influence of personality on SIAH processes. It aims to investigate how nature, place and community identification interact to influence wellbeing via SIAH processes in two community samples, and how the traits of extraversion and neuroticism affect these relationships. **Materials and Methods**: Two cross-sectional community surveys were conducted in contrasting communities in Eastern England – a rural coastal community (N = 55) and a suburb of a large city (N = 108). The survey included measures of identification, psychological resources, wellbeing and personality. The relationships between variables will initially be explored using network analysis, followed by a moderated mediation analysis of the larger dataset. **Results**: Analysis to date shows that both place and community identity are related to wellbeing via psychological resources, consistent with SIAH, but that the pathway for nature identity differs. Additionally, personality traits are linked to psychological needs, indicating that they may moderate SIAH relationships. **Conclusions**: This work has potential implications for community wellbeing initiatives since place identity may help unlock wellbeing benefits for people who find social groups challenging.

Keywords: social identity, place identity, nature identity, wellbeing, personality

PSI-035

**ID-406: ACOUSTICS AND THE WELL-BEING OF CHILDREN AND PERSONNEL IN EARLY CHILDHOOD EDUCATION AND CARE**

Silja Angervo Martikainen[1], Karolina Prawda [2], Freja Ståhlberg-Aalto [3], Ida Lautanala [3], Kaisamari Kostilainen [1], Vesa Välimäki [2], Mari Tervaniemi [1]

*[1]University of Helsinki, Helsinki, Finland, [2]Aalto University, Helsinki, Finland, [3]JKMM Architects, Helsinki, Finland*

Studies implementing a multimethod perspective in evaluating the acoustics of early childhood education and care (ECEC) spaces both quantitatively and qualitatively are still scarce. In this study the acoustic environments (noise levels and reverberation times) of seven Finnish ECEC group's premises were examined in association with personnel's (N = 22) and children's (N = 71) well-being. The findings were further elaborated by documentation of the ECEC spaces and semi-structured interviews with the ECEC personnel detailing their views on the acoustic environment of the daycare buildings and how and if the acoustics should be improved. The results showed that noise exceeding 70 dB affected personnel's vocal health negatively, whereas no associations were found regarding acoustics and children's or personnel's well-being. Based on the interviews, sound spreading, poor insulation, and hard surfaces add to negative experiences of noisiness. ECEC groups need spaces that can be closed and acoustically separated from each other and from other groups. The possibility to close a space supports the perceived well-being of the users and provides a more varied and individualized use of the spaces.

Keywords: early childhood education and care, architecture, acoustics, well-being, multimethod study

PSI-036

**ID-902: TESTING THE BENEFITS OF NATURAL PRODUCTS INDOORS: MEASURING WELL-BEING AND THERMAL COMFORT**

Ashley Nixon[1], Jennifer J Veitch [1], Chantal Arsenault [1], Alyssa Nolan [1], Akshun Kalra [1], Lauren Arbuckle[1], Patrick Gauthier [1]

*[1]National Research Council of Canada*, *Ottawa*, *Canada*

**Introductios**: Exposure to nature has been associated to health benefits and these positive effects have also been observed with natural elements indoors. **Objectives**: The objective of this study was to explore whether incorporating wood in an office space leads to enhanced thermal comfort and well-being in different seasons. **Materials & Methods**: During the summer block, 30 participants completed a counterbalanced repeated-measures design spending one day in a wood-panelled office and the other in a control office. Participants completed questionnaires on well-being and thermal comfort, as well as various cognitive tasks throughout the day, including the Stroop task as a stressor. **Results**: Preliminary analyses indicate that participants felt cool in both rooms and would have preferred even cooler conditions. The control office was experienced as slightly more pleasant but participants appeared to be slightly more alert and performed better on the reaction time task following the stressor in the wood-paneled office. Participants also appeared to be slightly more stressed in the experimental office, although stress appeared to be relatively low in both spaces. Performance on the stressor task was found to be better in the control office. **Conclusions**: The wood-paneled office may have cognitive performance benefits in stress recovery, but not necessarily during the stressor itself. Results from the winter block may be available by the conference, which may highlight thermal differences, which were not observed in the summer block.

Keywords: biophilia, wood, wellbeing, cognition, thermal comfort

PSI-037

**ID-392: H2OPE: ADVANCING OCEAN-HUMAN HEALTH INTERACTIONS THROUGH TRANSDISCIPLINARY RESEARCH**

Sara Vandamme[1], An Balcaen [2], Thijs Bouman [3], Jan Bourgois [2], Ann Buysse [2], Oihana Diaz De Cerio [4], Nestor Etxebarria [4], Colin Janssen [5], Carl Lachat [2], Lies Lahousse [2], Ionan Marigomez [4], Marieke Merckx [2], Nathalie Michels [2], Ann Mullen [6], Maggie Reddy [6], Henk Roose [2], Manuel Soto [4], Ronan Sulpice [6], Olivier Thomas [6], Lynn Vanhaecke [2], Jana Asselman [2]

*[1]Ghent University*, *Oostende*, *Belgium*, *[2]Ghent University*, *Gent*, *Belgium*, *[3]University of Groningen*, *Groningen*, *Netherlands*, *[4]University of Basque Country*, *Plentzia – Bizkaia*, *Spain*, *[5]Blue Growth Research Lab, Ghent University*, *Ghent*, *Belgium*, *[6]University of Galway*, *Galway*, *Ireland*

Epidemiological studies have demonstrated that living near blue spaces is associated with enhanced well-being. Marine and coastal environments provide a unique blend of physical, psychological, nutritional, and social advantages to human health. Despite this growing evidence, the complex interaction between oceans and human well-being remains understudied. Oceans are a solution to the increasing food crisis through fisheries and aquaculture, and their ecosystems play a crucial role in climate regulation.

Additionally, oceans are a treasure trove of novel pharmaceuticals and therapeutic benefits. Yet, these ecosystems are under significant stress due to climate change, population growth, environmental degradation, economic inequality, supply chain disruptions, food waste, water scarcity, and technological challenges. H2OPE introduces a unique transdisciplinary framework that integrates humanities, biological sciences, food sciences, nutritional sciences, and social sciences to explore these complex interactions. The initiative brings together partners from Ghent University (BE), University of Groningen (NL), University of Galway (IE) and University of Basque Country (ES), each mobilizing regional stakeholder hubs to collaboratively address challenges related to oceans and human health. H2OPE will tackle these challenges by developing innovative research methodologies and educational tools, like thematic workshops, a summer school, and collaborative engagement with stakeholders. The network offers researchers and students a platform for transdisciplinary learning, while creating accessible content for the public, policymakers, and healthcare professionals. By empowering individuals and communities to take action in protecting ocean health, H2OPE seeks to drive evidence-based policies that simultaneously safeguard ocean ecosystems and enhance human well-being.

Keywords: ocean and human health, European thematic network, stakeholder engagement, marine ecosystems, wellbeing

PSI-038

**ID-318: USING WEARABLE TECHNOLOGY TO ASSESS PHYSIOLOGICAL AND COGNITIVE HEALTH EFFECTS OF COASTAL WALKING EXPOSURE IN OLDER ADULTS: A FIELD EXPERIMENT**

Julia Kinet[1; 2], Sara Vandamme [1], Colin Janssen [1], Greet Cardon [3], Mirko Petrovic [4], Gert Everaert [2], Jana Asselman [1]

*[1]Blue Growth Research Lab, Ghent University, Ghent, Belgium, [2]Flanders Marine Institute (VLIZ), Ostend, Belgium, [3]Department of Movement and Sports Sciences, Ghent University, Ghent, Belgium, [4]Department of Geriatrics, Ghent University Hospital, Ghent, Belgium*

As global life expectancy rises, the prevalence of chronic health conditions like cardiovascular and Alzheimer's disease increases, creating a significant healthcare burden. Exposure to natural environments shows promise for positive health effects, particularly in reducing stress and improving cognitive function. While the health effects of green spaces are well-documented, the physiological effects of coastal environments for older adults remain underexplored. This is particularly relevant in Belgium, where a substantial proportion of the coastal population exceeds the age of 65. This study addresses these knowledge gaps by examining the physiological and cognitive effects of coastal walking in older adults using wearable technology. In a randomized cross-over design, 48 participants, aged 60 and older, each completed two 30-minute walks, one in a coastal environment and one in an urban environment in Ostend, with a one-week interval. Each walk was preceded by 15 minutes of sedentary exposure. Continuous measurements of heart rate variability (HRV) and electrodermal activity (EDA) were collected using the EmbracePlus wristband and the Polar H10 chestband, and GPS coordinates and movements were recorded during the walks. Cognitive performance was assessed pre- and post-exposure using the d2 Test of Attention and Symbol Digit Modalities Test, alongside self-reported mental health data. It is hypothesized that the coastal natural environment will have more pronounced positive effects on

(physiological) stress and cognitive function in older adults compared to the urban environment. This study will contribute to the growing body of research on nature-based interventions, offering potential strategies to improve health outcomes in ageing populations.

Keywords: coastal environments, older adults, wearable technology, physiological stress, cognition

PSI-039

**ID-151: TITLE: ENHANCING HUMAN WELL-BEING THROUGH CULTURAL ECOSYSTEM SERVICES: INSIGHTS FROM URBAN PUBLIC SPACES IN LJUBLJANA, SLOVENIA**

Katarina Polajnar Horvat[1]

[1] *Research Centre of the Slovenian Academy of Sciences and Arts, Anton Melik Geographical Institute, Ljubljana, Slovenia*

Urban public spaces are vital for enhancing human well-being, offering cultural ecosystem services (CES) such as recreation, education, aesthetics, and social cohesion. This study investigates the role of CES in shaping the quality of life in Ljubljana, through an evaluation of nine types of urban spaces, including parks, sports facilities, riverbanks, old town areas, and indoor shopping malls. A survey of 900 respondents, analyzed using ANOVA, revealed significant differences in CES perceptions. Sports facilities emerged as multifunctional spaces with the highest ratings for recreation and education. Large urban parks and riverbanks were valued for their aesthetics and relaxation potential, while old town areas excelled in cultural heritage and identity. In contrast, urban forests, despite their natural appeal, received unexpectedly low scores for cultural and aesthetic services, reflecting an urban populace increasingly disconnected from wilder environments. Indoor shopping malls consistently ranked lowest, except for shopping and hospitality. The findings highlight a preference for well-maintained, multifunctional spaces over less-structured natural settings, emphasizing the importance of CES in fostering active, healthy, and socially cohesive urban lifestyles. Results underscore the need for urban planners to integrate CES into land use decisions, balancing services with potential disservices such as noise and overcrowding to promote sustainable and resilient urban environments. Study contributes to the growing understanding of CES in urban contexts while recognizing the need for further research across diverse cities and settings. Exploring the interplay between CES, ecosystem disservices, and human well-being provides valuable insights for improving urban public spaces and enhancing quality of life.

Keywords: cultural ecosystem services, human well-being, urban public spaces, ecosystem disservices, urban planning

PSI-040

**ID-835: PREVENTION IS BETTER THAN AFTERCARE – PROTOTYPING URBAN SALUTOGENESIS: RELATIONSHIPS BETWEEN PUBLIC SPACE PLANNING, PLACE ATTACHMENT, CONNECTION WITH NATURE, AND METAL HEALTH AND WELLBEING**

Michał Tadeusz Kowalski[1; 2]

[1]*Warsaw University of Technology*, *Warsaw*, *Poland*, [2]*University of Warsaw*, *Warsaw*, *Poland*

This interdisciplinary study explores the potential of urban planning to enhance mental health and wellbeing in urban environments. Scheduled for January and February 2025, the research will examine how specific design parameters influence psychological outcomes, fostering stress-resilience resources among city dwellers. Grounded in Antonovsky's Salutogenesis Theory (1979), Maria Lewicka's Sense of Place Theory (2011), Raymond et al.'s Place Attachment Theory (2010), Mayer & Frantz's Nature Connection Theory (2004), and others, the study investigates the multidimensional relationship between urban environments and mental health. An experimental vignette methodology will be used, with participants (N=300) exposed to three urban design scenarios differing in tree canopy coverage, street furniture, and visual exposure of heritage buildings. These parameters are selected to assess their impact on psychological aspects, including place identity (PAS), place dependence (PAS), nature bonding (PAS), sense of place (SOP), inclusion of nature in self (INS), wellbeing (WHO-5), and positive/negative experiences (SPANE). The study will also explore how these relationships are mediated by the sense of coherence (SOC), generalized anxiety (GAD-7), and the degree of nature connection (NCI). Focusing on a historically significant urban square within an 18th-century layout, adjacent to a heritage university building, the study offers a unique opportunity to explore how urban heritage, nature in the urban context, and psychological experiences of public spaces intersect. By integrating environmental psychology, urban planning, and mental health research, this study offers critical insights into health-supporting public space design. The findings will be presented in an innovative poster format, highlighting both theoretical and empirical contributions.

Keywords: public space planning & regeneration, urban salutogenesis & urban resilience, mental health & wellbeing in the city, sens of place & place attachment, nature connection in urban environments

PSI-041

**ID-900: SOUND OF SILENCE: MENTAL WELLBEING IMPACTS TO LOSSES AND GAINS IN BIODIVERSITY**

Melissa Marselle[1], Konrad Uebel [1], Sarah Payne [2], Birgitta Gatersleben [2], Eleanor Ratcliffe [1], Simon Butler [3]

[1]*University of Surrey*, *Guildford*, *United Kingdom*, [2]*Environmental Psychology Research Group, University of Surrey*, *Guildford*, *United Kingdom*, [3]*University of East Anglia*, *Norwich*, *United Kingdom*

**Introduction**: Natural soundscapes, particularly those with bird song, have been shown to enhance psychological restoration and mental well-being. Environments with more bird biodiversity are also associated with greater mental well-being. However, our natural soundscapes are falling silent, as bird populations decline. The EU has lost 40% of its farmland birds since 1990. The mental well-being impacts of biodiversity loss in natural soundscapes remain unexplored. **Objectives**: This study examines how bird biodiversity loss in natural soundscapes influences mental well-being, and pro-environmental behaviour. **Materials & Methods**: We employed a repeated-measures, within-subjects design using sound samples of natural soundscapes that have experienced either biodiversity loss or gain over a 20-year period. Participants listened to four, one-minute soundscapes, in a random order, and rated each for perceived restorativeness, mental well-being, and place-based pro-environmental behaviour. **Results**: Preliminary

findings are expected to reveal that natural soundscapes with biodiversity loss negatively impact well-being, perceived restorativeness, and pro-environmental behaviour, compared to natural soundscapes with biodiversity gains. **Conclusions**: This research highlights the psychological impacts of biodiversity loss, furthering the linkages between nature conservation and mental well-being. For policy, the study demonstrates the value of environmental psychology in addressing the intertwined climate and biodiversity crises.

Keywords: biodiversity loss, soundscapes, perceived restorativeness, mental wellbeing

PSI-042

**ID-896: CONTACT WITH NATURE AND WELLBEING ACROSS SEASONS: THE ROLE OF NATURE CONNECTEDNESS.**

Ewa Domaradzka[1], Klaudia Modlińska [1], Ludmiła Rycielska [1; 2], Katarzyna Bajkowska [1]

[1]*Institute of Psychology, Polish Academy of Sciences*, *Warsaw*, *Poland*, [2]*Educational Research Institute*, *Warsaw*, *Poland*

**Objectives:** This research investigates the relationship between contact with nature and wellbeing, considering seasonal variations (summer vs. winter) and the role of nature connectedness. **Introduction:** Nature exposure enhances stress resilience, emotional regulation, and coping with life's challenges. Increased contact with nature correlates with reduced morbidity, particularly for anxiety and depression. However, the mechanisms underlying these benefits remain unclear. Nature connectedness—defined as an affective, experiential bond with nature—is linked to vitality, positive affect, and life satisfaction, and may moderate the effects of nature exposure on wellbeing. Furthermore, limited research has explored how seasonal differences influence the nature-wellbeing relationship. **Materials and Methods:** Two studies will be discussed: Study 1 (summer, N=1038) and Study 2 (winter, planned N=1000), using CAWI (Computer-Assisted Web Interviewing) including a national, Polish representative sample. Measures include the amount of contact with nature, nature connectedness, and wellbeing, assessed comprehensively through life satisfaction, psychological wellbeing, general wellbeing, depression, anxiety, and stress. **Results:** Initial findings indicate significant correlations between contact with nature, nature connectedness, and wellbeing. Everyday exposure to nature was more strongly associated with wellbeing, while nature connectedness was more closely linked to non-routine nature exposure. Nature connectedness also positively correlated with higher wellbeing levels. Mediation analyses across datasets will further clarify these relationships, with particular attention to seasonal differences. **Conclusion:** This research highlights the interplay between nature contact, connectedness, and wellbeing, emphasizing seasonal nuances. Results will be discussed in the context of possible interventions to enhance wellbeing in varying environmental contexts.

Keywords: nature connectedness, wellbeing, seasonal variations, contact with nature, positive psychology

PSI-043

## ID-179: REFLECTING ON ONE'S RELATIONSHIP WITH NATURE COULD STRENGTHEN NATURE CONNECTEDNESS

Andreas Samus[1; 2], Katharine Dickinson [2], Claire Freeman [2], Yolanda Van Heezik [2]

*[1]Justus Liebig University Giessen*, *Giessen*, *Germany*, *[2]University of Otago*, *Dunedin*, *New Zealand*

Strengthening nature connectedness can promote both pro-environmental behavior and human well-being. Interventions that aim to enhance nature connectedness often encourage people to spend more time in nature. However, those interventions may be impractical for people living in urban areas and deprived neighborhoods as they often lack opportunities for people to experience nature in their immediate living environments. This study explores the effects of a 14-day gratitude journal intervention on nature connectedness in a New Zealand sample (*N* = 114). Participants were asked to write down daily three things that they are grateful for in nature and fill in a survey about their daily nature connectedness. In comparison with two control groups, a traditional gratitude condition and an activity list condition, there were no significant differences in nature connectedness during the 14-day period as well as at 1-week and 3-month follow-ups. However, nature connectedness significantly increased independent of the group. Qualitative data analysis suggests that the journal activity made participants think about their relationship with nature in new ways. We hypothesize that participants in all groups increased in nature connectedness because they regularly reflected on their relationship with nature by repeatedly answering survey questions on daily nature connectedness. Interventions that encourage participants to regularly reflect on their relationship with nature could be an effective strategy to strengthen nature connectedness, especially in urban areas that lack opportunities to interact with nature on a daily basis.

Keywords: nature connectedness, gratitude, positive psychology intervention, well-being, extinction of experience

PSI-044

## ID-202: THE DARK SIDE OF NATURE CONNECTEDNESS: ASSOCIATIONS WITH NEGATIVE EMOTIONS IN DIFFERENT POPULATIONS

Alexia Barrable[1], Zsuzsa Lugosi-Grant [2]

*[1]Queen Margaret University*, *Edinburgh*, *United Kingdom*, *[2]Kings College London*, *London*, *United Kingdom*

**Introduction:** Nature connectedness, the construct that describes how close we feel towards the rest of the natural world, has been studied extensively in the past decade. Previous work evidenced a positive correlation between nature connectedness and wellbeing in both children and adults, as well as sustainable attitudes and behaviour towards the environment. However, associations between connection to nature and negative emotions have been mostly ignored. **Objectives:** This paper explores the possibility that nature connectedness contributes to negative emotions, both in the aftermath of natural disasters and in other contexts. **Materials & Methods:** We share some primary data, collected in the aftermath of the 2024 Attica wildfires, in Greece. In these data we look at the relationship between nature connectedness and psychological distress in the context of environmental disasters. Moreover, we draw on other secondary data to examine whether a similar relationship exists outside of the context of

natural disasters. **Results:** We present findings that show associations between nature connectedness and higher anxiety in secondary data, as well higher psychological distress in our sample who had experienced forest fires. **Discussion:** We wish to explore the theoretical and practical implications of an increasing nature connectedness in children and adults, and practical ways of supporting such populations in the face of the ongoing climate emergency.

Keywords: nature connectedness, psychological distress, negative emotions, natural disasters

PSI-046

**ID-837: EXPERIMENTALLY TESTING BRIEF MINDFULNESS PRACTICES FOR WELLBEING AND NATURE CONNECTION IN THE LAB: FINDINGS FROM TWO PILOT STUDIES**

Alexandra Negoita[1], Kyriaki Giannou [2], Michael Mantzios [1]

*[1]Birmingham City University, College of Psychology*, *Birmingham*, *United Kingdom*, *[2]De Montfort University*, *Leicester*, *United Kingdom*

Recent research highlights the role of nature-based interventions in promoting personal and planetary health. Engaging with plants strengthens human-nature connections and supportsa positive relationship with the environment, with implications for pro-environmental behaviour. Mindfulness practices are increasingly recognised as effective tools for enhancing these outcomes, highlighting the need for experimental research within the field. Two pilot studies were conducted, testing brief mindfulness practices in a nature lab. The first study investigated whether facilitating connection with nature through plants biorhythm sonification (plant music) is more effective than breathing in silence in improving state mindfulness and self-compassion, supporting nature connectedness and gratitude, and reducing anxiety in a cohort of fifty-two students. The second study further explored the impact of degree of sensory engagement with plants. Seventy-eight participants were randomly allocated to one of three conditions, direct contact with plants (i.e., through touch), no contact, but presence, and control. The findings suggested that any form of nature contact significantly improved wellbeing and feelings of nature connectedness and gratitude. Using plant sonification particularly enhanced feelings of connectedness with nature, suggesting that using new technology within mindfulness may exacerbate feelings for nature. Complementary, qualitative responses highlighted that such approach may offer a more accessible and engaged induction to mindfulness for novices. Contrary to the prediction, levels of sensory engagement with plants manipulated in study two did not produce significant differences between the groups. The findings hold meaningful implication for programmes development and future research.

Keywords: mindfulness, nature connection, wellbeing

PSI-047

**ID-496: DEVELOPING A MEASURE OF OCEAN CONNECTEDNESS USING BEST-PRACTICE SCALE CONSTRUCTION**

Elizabeth Gabe-Thomas[1], Oceane Marcone [1], Andrew Edwards-Jones [1]

*[1]Plymouth Marine Laboratory, Plymouth*, *United Kingdom*

**Introduction:** Ocean connectedness is an emerging construct that extends the concept of nature connectedness specifically to a marine and coastal context. Recent evidence suggests that ocean connectedness affects pro-ocean behaviour (Nuoja, Pahl & Thompson, 2022; 2024) and the receipt of wellbeing benefits from the marine environment (Hooyberg et al., 2022). Due to the initial focus on ocean connectedness as a covariate, there has been little consideration of the validity of such measures. **Objectives**: The current work aims to develop a robust ocean connectedness scale using best-practice scale construction by following the framework set out by Boateng et al. 2018. The work is ongoing, with the final scale due in February 2025. **Methods & Analysis:** We carried out a scoping literature review of existing ocean connectedness measures and created an item pool that was then evaluated qualitatively through eight semi-structured interviews. The potential items were revised based on the results of the qualitative analysis. The items will be evaluated by domain experts before undergoing quantitative testing on a sample of 300 respondents via an online survey. Psychometric analyses will facilitate item reduction, and a final scale will be analysed using tests of reliability and validity. **Conclusions:** We will discuss the conceptualization and importance of ocean connectedness and the scale construction process and demonstrate the reliability and validity of the final scale. In addition, we highlight validity issues concerning measures of nature connectedness widely used in environmental psychology research and beyond.

Keywords: ocean connectedness, scale construction, nature connectedness, restoration, sustainable behaviour

PSI-048

**ID-908: CONNECTION TO NATURE IN POLAND. ADAPTATION AND VALIDATION OF THE CONNECTEDNESS TO NATURE SCALE**

Ludmiła Rycielska[1; 2], Ewa Domaradzka [2], Klaudia Modlińska [2], Katarzyna Bajkowska [2]

*[1]Educational Research Institute*, *Warsaw*, *Poland*, *[2]Institute of Psychology, Polish Academy of Sciences*, *Warsaw*, *Poland*

The Connectedness to Nature Scale (CNS, Mayer & Frantz, 2004) was developed to measure an individual's general level of emotional connection to the natural world. Given the growing interest in understanding the psychological connection between humans and nature, as well as the need for its assessment, the present study aimed to evaluate the psychometric validity and reliability of the Polish version of the CNS in a representative sample of Polish internet users. The original scale consists of 14 statements rated on a 5-point Likert scale. The statements were translated into Polish. Cognitive interviews were conducted to ensure clarity. The refined items were back-translated to English and approved by the author of the original version. To examine the reliability and validity of this scale in the Polish context, we conducted **Study 1**, which involved a national sample of Polish internet users (N = 1,038), and **Study 2**, a retest with a subsample (N = 338, 52% women, age range = 18-65 years). The results provide evidence supporting the internal consistency of the CNS, as well as its convergent (correlations with the Revised Environmental Identity Scale, the Nature Relatedness Scale, and the AIMES subscales), discriminant (correlation with the AIMES subscale), and predictive validity (well-being measured using the WHO-5 scale). Confirmatory factor analysis (CFA) revealed that the Polish version of the CNS has a three-factor structure. Based on these findings, as well as a review of adaptations into other languages, we also propose a short 7-item version of the CNS.

Keywords: adaptation, validation, nature connectedness, the nature conectedness scale

PSI-049

**ID-477: BIOPHILIC AND RESTORATIVE CHARACTERISTICS OF INDOOR SPACES: A NEW QUESTIONNAIRE**

Laura Miola[1], Martina Vacondio [2], Veronica Muffato [1], Anna Boldrini [1], Leonardo Tizi [3], Francesca Pazzaglia [1; 4]

*[1]Department of General Psychology, University of Padua, Padova, Italy, [2]Department of Psychology and Cognitive Science, Trento, Italy, [3]University of Basilicata, Potenza, Italy, [4]CIRPA – Centre for Interuniversity Research in Environmental Psychology, Rome, Italy*

**Introduction**: Biophilic design integrates nature into constructed spaces, introducing biophilia into architecture. Its goal is to foster a connection to nature in built environments, helping to mitigate effects of stressors, particularly in settings such as care environments, which are especially prone to causing stress. Currently, only a few instruments assess perceived biophilic characteristics, and those that exist are not widely accessible. **Goals & Objectives**: To address this gap, we aimed to develop and validate a questionnaire for measuring perceived biophilic and restorative qualities of indoor spaces based on Terrapin's 15 biophilic design patterns. Additionally, it assesses physical, emotional, and cognitive well-being in biophilic environments. **Materials & Methods**: In an online study, participants viewed two of eight images of waiting rooms, one biophilic and one non-biophilic, in random order. For each image, they completed the new questionnaire, along with the Perceived Restorativeness Scale (PRS-11), the Biophilic Healing Index (BHI), and the Navigability Scale (NAV) for assessing validity. **Results**: Preliminary results on 156 participants [49% women, mean (sd) age = 33.6 (11.12)] showed that comparing three factorial structures (mono-factorial; 3 factors and 15 factors), factor structure that encompasses all 15 biophilic patterns is the most optimal. Moreover, significant positive correlations with PRS-11 from $r$=.19 to $r$= .68 suggest convergent validity. **Conclusions**: These preliminary results offer initial insights into the questionnaire's psychometric characteristics. In line with an open science approach, the instrument will be published and freely available opening new opportunities to bridge biophilic theory and design with practical applications in the field.

Keywords: biophilic design, biophilic patterns, restorativeness, well-being

PSI-050

**ID-470: THE RESTORATIVE POTENTIAL OF URBAN FORESTS DURING DAYLIGHT AND HEAD TORCH CONDITION**

Georgios Tsiakiris[1]

*[1]LTH, Environmental Psychology, Lund, Sweden*

**Introduction**: urban forests promote human health and well-being through recreation and restoration. In after-dark environments though, hidden information can feel unpleasant and threatening. Individual factors may moderate the perception of a path in an urban forest. **Aim**: to explore how an urban forest path is experienced when using a head torch and to pinpoint the effects of the lighting condition on the human users. **Materials & Methods**: structured walks, where participants (local residents) filled in a questionnaire in designated places of the path. Head torches were the only source of light (no streetlight). **Results**: The lighting condition affected the way pedestrians experienced the path, confirming the hypothesis. The head torch condition had a negative effect on the variables of visual accessibility, perceived safety, restorative potential and behavioural intention to choose the path (compared to daylight), although mean values remained relatively high. Gender was the only individual factor that affected the way participants experienced the walking path. Conclusions: The study confirmed the restorative potential of the urban forest in both daylight and after dark condition. Head torches affect key aspects of how we perceive the urban forest during after-dark hours. Lighting conditions can be balanced for human needs and for non-human users (low energy use). The findings can provide information to the municipalities/decision-makers on city planning and mobility.

Keywords: restoration, lighting, urban forest, nature experience, individual factors

PSI-051

**ID-712: EXPLORING RESTORATIVE SPACES: ATTENTION RESTORATION AND BIOPHILIC DESIGN APPLIED TO A PUBLIC PARK**

Marc Lezcano[1], Valentina Mariani [1], Ottavia Damian [1], Margherita Pasini [1], Lorena Rocca [2], Margherita Brondino [1]

*[1]Department of Human Sciences, University of Verona, Verona, Italy, [2]SUPSI, Locarno, Switzerland*

Although a large body of evidence has shown that contact with natural environments has a restorative effect on humans, there is still not a full understanding of which elements/features of nature most reinforce perceived restorativeness. Involving people in identifying these elements is essential within a Participatory Design framework. This study investigates perceptions of restorative spaces in the 'Gole of Breggia' Park, a protected area in Canton Ticino, Switzerland, valued for its geological, natural, and cultural significance. During a participatory design event, 51 stakeholders interested in the park's preservation participated in seven focus groups. They are asked to identify the most restorative areas within the park and the characteristics that define them. Each group also geolocated these areas on a map to analyze their morphological and physical features. The obtained data will undergo a Content Analysis using the four dimensions of restorativeness identified by the Attention Restoration Theory (i.e., Fascination, Being-Away, Coherence, Scope) and the 15 Biophilic Design Patterns identified by Terrapin Bright Green (divided into Nature in Space, Nature Analogues, and Nature of the Space) as categories of analysis. This approach will allow us to determine which factors described by the two theoretical frameworks occur most frequently among the participants' responses and verify whether the same factors characterize clusters of restorative places. The findings will be shared with stakeholders to refine strategies for enhancing the park's restorative potential. The findings highlight how participation approaches can inform strategies for valorizing natural spaces, fostering alignment between theoretical constructs and practical applications.

Keywords: restorativeness, public park, qualitative analysis, participatory design

PSI-052

**ID-705: THE ACTIVE AND PASSIVE RESTORATION BY DIFFERENT LANDSCAPE CHARACTERISTICS: COMPARISON OF URBAN, HISTORICAL, AND NATURAL ENVIRONMENTS**

Tomoya Oikawa[1], Naoko Kaida [2]

*[1]Graduate School of Science and Technology, University of Tsukuba, Tsukuba city, Ibaraki prefecture, Japan, [2]Institute of Systems and Information Engineering, University of Tsukuba, Tsukuba city, Ibaraki prefecture, Japan*

**Introduction:** The restorative potentials have been recognized in natural environments and urban and other non-nature environments, e.g., historical and cultural. The complex relationships of landscape characteristics, landscape preference, and sense of place contributing to perceived restorativeness in non-nature environments have gained increasing attention but have yet to be less studied. **Objectives:** We aim to examine the psychological processes of perceiving restorative environments and explore the characteristics of urban and historical environments that support psychological well-being in comparison with natural environments. In particular, we focus on active (through a sense of place) and passive (through visual orderliness and emotional satisfaction) restoration processes in the three types of environments. **Materials and Methods:** This study employed objective (image semantic segmentation) and subjective data to analyze the factors influencing restoration. Subjective data were collected through an online questionnaire survey from 611 Japanese respondents. Each respondent rated landscape preference, sense of place, and perceived restorativeness of 6 sets of images depicting the three environments (total n = 3666). **Results:** Structural equation modeling results show that emotional satisfaction and visual orderliness are positively associated with a sense of place and restoration in all environments. Differences in these coefficients are found between the three environments. Emotional satisfaction from the landscape was found to have a considerably strong effect on a sense of place, i.e., active process, especially in urban environments. **Conclusions:** This study highlights that well-designed urban environments can support psychological well-being by promoting visual orderliness, emotional satisfaction, and a sense of place.

Keywords: restorative environments, landscape preference, urban landscape, sense of place, emotional satisfaction

PSI-053

**ID-601: THE RESTPOD: A BIOPHILIC APPROACH TO ENHANCING WORKPLACE RESTORATION**

Margherita Brondino[1], Camilla Marossi [1; 2], Elisa Menardo [1], Marta Olivieri [2; 3], Margherita Pasini [1]

*[1]Università di Verona, Verona, Italy, [2]ODUElab, Brescia, Italy, [3]Division Architecture, Brescia, Italy*

The RestPod was designed as a biophilic micro-environment aimed at promoting restoration and well-being in workplace settings. Rooted in environmental psychology theories, the design incorporates key

elements of the 14 Patterns of Biophilic Design (Browning et al., 2014), emphasizing refuge, prospect, and natural connection. The objectives of the RestPod are to counteract cognitive fatigue and stress, fostering positive emotions and overall well-being among employees. The interior features three wooden walls incorporating stabilized moss and potted plants, which align with research highlighting wood's benefits on cognitive performance and perceived comfort (Tsunetsugu et al., 2007; Shen et al., 2020). The glass door and satin-finished panels provide privacy while maintaining visual permeability, supporting both refuge and connectivity (Browning et al., 2014). Lighting, with adjustable warm tones (2700K-3000K), fosters a calming atmosphere, enhancing mood and reducing stress (Lee et al., 2014). Airflow and lighting controls further empower users, promoting a sense of agency and reducing environmental stress (Evans & Cohen, 2004). This innovative workspace aims to address cognitive fatigue and stress by leveraging the restorative effects of nature-based design. Preliminary findings indicate significant reductions in heart rate after 15-minute RestPod sessions, alongside reported improvements in positive emotions and overall well-being, underscoring the potential of biophilic interventions in enhancing workplace health and productivity. The RestPod demonstrates the potential of biophilic design in workplace interventions, supporting both psychological restoration and physiological stress reduction. These findings underline the importance of natural stimuli and environmental control in fostering healthier work environments.

Keywords: restorative environments, biophilic design, workplace, well-being, environmental psychology

PSI-054

**ID-641: ENHANCE WORKPLACE WELL-BEING: ASSESSING THE RESTORATIVE POWER OF THE RESTPOD**

Camilla Marossi[1], Elisa Menardo [1], Margherita Brondino [1], Margherita Pasini [1]

[1]*Università di Verona*, *Verona*, *Italy*

Restorative environments have been extensively studied in environmental psychology for their ability to enhance well-being. The RestPod represents an innovative application of biophilic design principles to create a micro-environment aimed at providing workers with a restorative experience during their daily routines. The aim of this study is to verify the quality of the restorative experience within the RestPod. In particular, emotions, perceived restorativeness, restorative outcomes and perceived burnout were investigated. The study has so far involved 63 participants. Preliminary results are presented on data from 25 participants (56% female, mean (sd) age = 35.68 (8.7)) that took a 15-minute break in the RestPod for one week. Before and after the break, emotions were investigated (AIAL; Brondino, & Raccanello, 2016). After the break, participants completed the Perceived Restorativeness Scale (PRS, Pasini et al., 2011) and the Restorative Outcomes Scale (ROS, Korpela et al., 2008). Burnout was investigated before, during and after the experimental week (Kristensen et al., 2005). The RestPod was perceived as a restorative space (PRS mean = 4.25 (SD = 1.65), range 1-7) capable of restore cognitive and emotional resources (ROS mean = 4.57 (SD = 0.97), range 1-7). All negative emotions (e.g., stress) decreased and all positive emotions (e.g., relaxation) increased after the break ($p < .05$). Burnout decreased by 5% in the experimental week, but in the following week it returned to previous levels (-5%). The results show that a daily break of 15 minutes in the RestPod may be sufficient to improve the workers' mood.

Keywords: restorative environments, biophilic design, workplace, well-being, environmental psychology

PSI-055

**ID-667: A SCOPING REVIEW OF PSYCHOLOGICAL RESTORATION FOLLOWING CONTACT WITH BLUE SPACES**

Hongyuan Huang[1], Eleanor Ratcliffe [1], Melissa Marselle [1]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom*

**Background**: Natural environments are essential for attention restoration and stress reduction, with blue spaces hypothesised to offer particular benefits in some cases. **Objective**: This scoping review examines the role of blue spaces in psychological restoration, with a focus on Attention Restoration Theory (ART) and Stress Reduction Theory (SRT). The review aims to clarify the relationship between blue spaces and psychological restoration and identify research gaps to inform future studies. **Design**: Adhering to PRISMA guidelines, three online databases were searched for articles published between 2000 and 2024, resulting in 11,721 articles after de-duplication. Following screening, 104 publications on blue spaces' psychological restoration outcome were included. **Results**: The majority of studies were experimental or cross-sectional, with few qualitative or longitudinal studies. Most research focused on lakes, rivers, and oceans, with quality and soundscape as the most studied characteristics. Research on other blue spaces, such as waterfalls, wetlands, and fountains, is limited. Findings regarding the effects of different blue space types and characteristics on psychological restoration outcomes are mixed, with some studies reporting positive effects, others negative, and some showing no significant difference. Direct comparisons between blue spaces are rare. **Conclusions**: Lakes, rivers, and oceans dominate the research on blue spaces, with quality and soundscape as key factors. However, the relationship between these factors and psychological restoration remains unclear, highlighting the need for more research, especially on underexplored blue space types and comparisons with green spaces.

Keywords: blue space, psychological restoration, attention restoration theory, stress reduction theory

PSI-056

**ID-362: VIRTUALLY PAINLESS: CO-DESIGNING A VIRTUAL REALITY NATURE-BASED INTERVENTION FOR CHRONIC LOW BACK PAIN**

Alexander Smith[1; 2], Kayleigh J. Wyles [1], Sam Hughes [2], Patricia Schofield [3]

*[1]School of Psychology, University of Plymouth, Plymouth, United Kingdom, [2]Faculty of Health and Life Sciences, University of Exeter, Exeter, United Kingdom, [3]School of Nursing and Midwifery, University of Plymouth, Plymouth, United Kingdom*

Chronic pain is a complex condition which is both debilitating and pervasive. Due to this complexity, there has been growing interest in more nuanced therapeutic options, such as nature-based interventions. However, accessibility to natural spaces for mobility-limited populations with chronic low back pain (cLBP) may be insufficient or untenable for therapeutic benefit. Virtual Reality (VR) instances of nature could provide a complementary alternative to nature in a safer, more accessible medium. However,

understanding the ideal restorative features to include in such an environment would provide for a more efficacious intervention. The current research aims to co-design a nature-based self-management intervention using a VR headset with individuals who experience cLBP. Two two-hour in-person co-design workshops were conducted with individuals with chronic low back pain (n = 7). Workshop one involved discussion of the participants' experiences of nature and their pain; workshop two involved creating a collage from images and drawings of their 'ideal' nature space for pain, and experienced VR instances of nature in a 'think-aloud' paradigm. Audio and pictorial data were recorded for analysis. Four themes were derived from a Reflexive Inductive Thematic Analysis; Pain and Nature; Benefits from Nature; Tangible Environmental Features; and Metaphysical Environmental Features. The output of this research will be used in the development of a VR intervention for chronic low back pain. These findings contribute to the understanding of the features of a natural environment necessary to promote restoration, and will add to a growing body of research highlighting the importance of nature-based therapies.

Keywords: chronic pain, pain management, environmental features, attention restoration, fascination

PSI-057

**ID-732: EVALUATING THE IMPACT OF CARE FARMING ON OLDER ADULTS' BIOPSYCHOSOCIAL HEALTH: A WAITLIST-CONTROLLED RANDOMIZED TRIAL**

Jocelin Lam[1], Cynthia Chen [1]

[1]*National University of Singapore*, *Singapore*, *Singapore*

**Introduction**: Care farming (CF) enhances older adults' biopsychosocial health through physical activity, social engagement, and nature interactions. Traditionally offered in daycare settings, CF gained traction as a model for urban community gardens, addressing health challenges faced by community-dwelling older adults. **Objectives**: The aim of this study is to examine the effects of CF on a range of biopsychosocial outcomes through a waitlist randomised controlled trial (RCT). **Methods**: A total of 137 older adults (mean age: 66) were recruited and randomised into intervention (n=64) or waitlist control (n=73) groups. Intervention group attended 24-weeks of CF intervention, followed by another 24-weeks for waitlist control. Each session consists of 3 hours of outdoor and indoor structured therapeutic CF activities. Intervention group began April 2024 and waitlist control started in October 2024. The intervention will complete in April 2025. Participants completed measures of primary outcome QoL (WHOQOL-BREF) along with secondary health outcomes, including psychological (resilience, stress), social (sense of community), physiological (lipids biomarkers), and cognitive (MoCA) at baseline, 6-months posttreatment, and 12-months posttreatment. **Results**: Groups were demographically balanced at baseline, and attrition rates low (5.11%). Data was collected from 60 participants from the intervention group and 70 from the waitlist control group. Preliminary post-intervention analysis revealed significant reductions in perceived stress ($\beta = -1.48$, $p = .05$) and significant improvements in sense of community ($\beta = .52$, $p < .001$) in the intervention group. **Conclusions**: This waitlist RCT demonstrates promising improvements in psychological and social well-being among older adults participating in care farming.

Keywords: care farming, older adults, waitlist randomised controlled trials, biopsychosocial health, quality of life

PSI-058

**ID-501: NATURE-BASED INTERVENTIONS FOR PERINATAL WELL-BEING: INVESTIGATING THE POTENTIAL OF HORTICULTURAL THERAPY FOR MENTAL HEALTH**

Manuela De Szyszlo[1], Daniela Silva-Rodriguez [1]

[1]*Asociación Panamericana de Horticultura Terapéutica y Social*, *Lima*, *Peru*

Perinatal mental health, including anxiety, depression, and social isolation, is a widespread and significant concern for those considering parenthood, with profound implications for the mother, child, families, and society. Traditional treatments often overlook non-pharmacological, cost-effective approaches. Recent studies suggest that nature-based interventions, such as horticultural therapy, offer a promising, novel, non-invasive solution to these challenges. This theoretical feasibility study aims to explore the potential of horticultural therapy as a nature-based intervention to improve mental well-being in pregnant and perinatal women, particularly in mitigating depression, anxiety, and isolation. The study also proposes a methodology for future experimental research. A mixed-methods design is proposed, incorporating qualitative and quantitative data collection techniques such as surveys, interviews, and observational studies. The participant population will include postpartum women recruited over three months, with structured horticultural activities conducted over six months and follow-up assessments at the end. While data collection is yet to begin, based on previous studies, it is hypothesized that horticultural therapy will lead to improved mental health outcomes, including reductions in depression and anxiety, enhanced emotional well-being, and increased social connectivity among participants. Additionally, increased maternal-infant bonding and well-being are expected through shared gardening activities, with exposure to nature's elements contributing positively to both physical and emotional health. This study could lay the foundation for integrating horticultural therapy into standard perinatal care. Further research is needed to assess its feasibility, clinical effectiveness, and long-term impact on maternal and child health.

Keywords: horticultural therapy, perinatal mental health, nature-based interventions, maternal anxiety, social isolation

PSI-059

**ID-855: APHTS' EPN HORTICULTURAL THERAPY FRAMEWORK – A STRUCTURED APPROACH TO IMPLEMENTING NATURELAB'S NATURE CONNECTION ACTIVITIES**

Daniela Silva Rodriguez Bonazzi[1], Manuela De Szyszlo [1]

[1]*Asociación Panamericana de Horticultura Terapéutica y Social*, *Lima*, *Peru*

APHTS' EPN Horticultural Therapy Framework – A Structured Approach to Implementing NATURELAB's Nature Connection Activities. Nature-based therapies, including horticultural therapy, are increasingly

recognized for their potential to enhance physical and mental well-being across diverse populations. For these therapies to be effectively implemented and integrated into healthcare systems, it is crucial to ground them in a solid theoretical framework. The Asociación Panamericana de Horticultura Terapéutica y Social (APHTS) has developed the Eco-Psyche Nexus (EPN) framework, which offers a structured methodology for understanding and applying horticultural therapy and other nature-based interventions. This article presents the NATURELAB project as a case study for applying the EPN framework. The project aims to implement nature connection activities, which have therapeutic potential, for diverse populations, including the elderly, children, and individuals with mental or physical disabilities. NATURELAB employs a mixed-methods approach, including qualitative interviews, quantitative surveys, and ecological assessments, to assess the effectiveness of these interventions in promoting health prevention, rehabilitation, and well-being. The EPN framework justifies the therapeutic benefits of horticultural therapy, illustrating how these activities foster holistic health through emotional and cognitive changes. The framework emphasizes the interaction between mind, body, and plants, demonstrating how the therapeutic process is not linear but rather an integrated approach to self-healing. This methodology provides a robust basis for incorporating horticultural therapy into public healthcare systems.

Keywords: nature-based therapy, horticultural therapy, eco-psyche nexus, naturelab, theoretical framework

PSI-061

**ID-100: ENVIRONMENT AS A COLLECTIVE GOOD? CULTURE AND SELF-CONSTRUALS IN RELATION TO SUSTAINABILITY ATTITUDES AND BEHAVIORS.**

Paulina Magdalena Coles[1], Joanna Roszak [1]

[1]*University SWPS*, *Warsaw*, *Poland*

Environment as a Collective Good? Culture and Self-Construals in Relation to Sustainability Attitudes and Behaviours. Promoting pro-environmental behaviours (PEBs) is essential for human survival. In addition to personal level variables (Steg & Vlek, 2009), culture is also a factor to consider (Riaz et al., 2023). Since culture can be understood at both the country and individual levels (Vu et al., 2017), this research examined how country-level individualism/collectivism (Globe Project, 2004) and independence/interdependence of people's self-construals (Singelis, 1994) relate to their pro-environmental attitudes and behaviours. A A convenience sample of 226 participants took part in this online cross-sectional correlational study. In line with the literature and study aims, participants from collectivistic countries declared more PEBs than those from individualistic countries. No country-level differences were found in attitudes (NEP, Dunlap et al., 2000). Higher NEP positively correlated with PEBs, but only in individualistic cultures. Interdependent (but not independent) self-construal significantly and positively correlated with PEBs but, again, not with attitudes. Women scored higher on environmental attitudes than men, while non-believers scored higher on both the New Ecological Paradigm (NEP) and Pro-environmental Behaviours (PEBs), but it does not correlate with attitudes; these only translate into behaviour for the wealthiest group. The implications of self-construals include designing sustainability interventions that enhance interconnectedness with others.

Keywords: environment, collective good, culture, self-construals, sustainability attitudes and behaviours

PSI-062

**ID-854: EVALUATION OF AN INTERNATIONAL SUSTAINABLE DEVELOPMENT COOPERATION PROJECT – EFFECTS OF AN EU-FUNDED COMMUNITY PARK IN THE GAMBIA**

Laura Farage[1]

[1]*University of Salzburg*, *Salzburg*, *Austria*

Research shows a variety of positive effects that public leisure and recreational spaces in metropolitan areas can have. Particularly in the densely populated, urban and semi-urban areas of the Global South, such spaces often do not exist at all or only in small numbers. This deficiency has negative impacts on people's health, quality of life and equal opportunities. It is therefore not surprising that the topic receives increasing attention in international development cooperation. More and more projects – funded by the Global North – are being implemented to support the creation of public parks, green spaces, leisure facilities, sports fields, or playgrounds. A comparatively cost-effective approach from which donor countries and organizations expect not only positive effects on the well-being of the people, but also visibility of their own commitment in the public space of the recipient population (demonstrating presence, influence, and power). The present study uses a mixed methods approach to assess the impact of such an EU-funded project in the Gambia, West Africa. Qualitative and quantitative data sets (N = 215) from various stakeholders such as park users, neighboring businesses, residents, and politicians provide insights into the complexity of the transformation process. Overall, the evaluation shows a perspective-specific assessment of the actual impact of the newly created community park. A purely positive effect of the measure could not be found. Based on the results, recommendations are made for improvements of such projects–past, present, and future–to achieve greater real benefits for the local people.

PSI-063

**ID-841: TAILORING SUSTAINABILITY: USING ENERGY PERSONAS TO DRIVE ENVIRONMENTAL BEHAVIOUR CHANGE**

Jasmin Oberkalmsteiner[1], Evelyn Lobsiger-Kägi [1], Debora Frei [1]

[1]*Institute for Sustainable Development, ZHAW*, *Winterthur*, *Switzerland*

Encouraging sustainable behaviour change in the environmental sector presents significant challenges, as uniform measures often fail to adequately engage diverse social groups. Guided by the principles of social marketing, which emphasise tailoring policies, products, and services to individuals, this study explores different energy typologies to inform targeted interventions. We conducted a semi-systematic review of the literature from the past two decades, analysing 14 relevant studies on mobility, housing, and consumption to identify key motivational factors influencing environmental behaviour. Based on the findings, six distinct energy types were identified, and Personas were developed to encapsulate the unique behavioural patterns, attitudes, and demographic attributes observed across these environmental

domains. The Energy Personas are designed to serve as practical tools for policymakers, researchers, and practitioners, thereby facilitating a stronger user focus in the design process. By identifying barriers and enabling more targeted solutions, they provide a general basis that can be further developed and adjusted to specific use contexts, thus enabling a more targeted approach to designing effective solutions to reduce direct and indirect energy consumption.

Keywords: sustainable behaviour change, energy types, personas development, tailored intervention tool

PSI-065

**ID-224: CIRCULAR CITIZENSHIP BEHAVIORS TO PROMOTE SYSTEMIC CHANGE: INFLUENCES OF VALUES, BELIEFS, AND NORMS**

Isabel Maria Pacheco[1], Ellen Van der Werff [1], Linda Steg [1]

*[1]University of Groningen, Groningen, Netherlands*

Environmental problems arise from human behaviour and could be alleviated if people engaged more consistently in circular behaviour. Yet, current systems oftentimes inhibit sustainable behaviours. Thus, systemic changes are needed too. Citizens, too, can engage in behaviours promoting systemic change. In the presented study we utilised the Systemic Change through Citizen Action (SCCA) framework that introduces circular citizenship behaviours. Circular citizenship behaviours reflect actions that citizens can take to influence other citizens, governments, and businesses to support a circular economy. A key question was how widely people already engage in these actions and which factors explain the likelihood that people engage in these behaviours aimed at promoting systemic change. Specifically, we investigated to what extent values, beliefs, norms, and personal agency are related to engagement in circular citizenship behaviours. We conducted a questionnaire study among nationally representative samples in five European countries. The results indicate that values, beliefs, norms, and personal agency explain engagement in circular citizenship behaviours well. Our research provides novel insights into circular citizenship behaviours and on factors influencing these behaviours, enriching theory as well as delivering practical implications for interventions to increase circular citizenship behaviours.

Keywords: value belief norm theory, systemic change, citizen action, citizenship behaviors, circular economy

PSI-067

**ID-327: CONCEPTUALISING CLIMATE PSYCHOLOGY: A NARRATIVE REVIEW**

Daniella Watson[1], Teaghan Hogg [2], Tara Crandon [3], Ans Vercammen [4], Chloe Watfern [5], John Aruta [6], Fiona Charlson [7], Emma Lawrance [1]

*[1]Imperial College London, London, United Kingdom, [2]University of Canberra, Canberra, Australia, [3]Queensland Centre for Mental Health Research, Wacol, Australia, [4]Curtin University, Perth, Australia, [5]Black Dog Institute, Randwick, Australia, [6]De La Salle University, Manila, Philippines, [7]The University of Queensland, Brisbane, Australia*

**Introduction**: The escalating evidence of climate change's impact on young people's mental health reveals a complex web of challenges. Elucidating these is complicated by ambiguous constructs in climate psychology, including definitions, relationships, measurements, and coping strategies, which may stem from a lack of theoretical integration. **Objectives**: The narrative review, focusing on young people, aimed to: 1) Describe and structure the complex landscape of climate psychology. 2) Provide a current overview of key constructs and frameworks that have shaped the field of climate psychology. 3) Propose a novel framework that helps researchers, policy-makers and practitioners navigate the complexity. **Materials** & **Methods**: We conducted a narrative review by searching Web of Science for English language articles related to climate change, mental health, and young people, published until June 27, 2024. The review included 97 papers, categorized and analysed using AI technologies (ASReview and ChatGPT). We conducted expert consultations, with 46 people from 16 countries to validate and refine the initial framework. **Results**: We identified 180 described psychological responses to climate change; 64 frameworks, models, and theories; 74 strategies; 143 risk factors; and 104 protective factors in the assessed literature. Experts informed the development of a framework based on systemic levels of the socio-ecological model and social determinants of health framework. **Conclusions**: Environmental psychologists can lead further development and refinement of the theoretical and conceptual basis of climate psychology, informing the implementation of urgent actions needed to measure, understand and intervene to support people's mental health and wellbeing during the climate crisis.

Keywords: climate psychology, psychological responses, young people, framework development, narrative review

PSI-068

**ID-132: MITIGATION OR ADAPTATION? PREFERENCES FOR DIFFERENT TYPES OF CLIMATE ACTION POLICIES**

Shu Tian Ng[1], Angela K.-y. Leung [1; 2], Kimin Eom [3]

*[1]Singapore Management University*, *Singapore*, *Singapore*, *[2]The Chinese University of Hong Kong*, *Hong Kong*, *Hong Kong*, *[3]Australian National University*, *Canberra*, *Australia*

**Introduction:** When it comes to reducing climate risks, governments may consider adopting mitigation or adaptation policies. Mitigation is about participating in the global effort to reduce climate change, whereas adaptation is about coping with climate change at more localized levels. Preliminary data collected in the US and Singapore suggest that while mitigation is perceived as a more desirable goal, adaptation is perceived as more feasible to implement. **Objectives:** To explore 1) the factors influencing preferences for mitigation and adaptation policies and 2) whether citizens and policymakers differ in their preferences. **Materials and methods:** We will conduct an online study on Singaporean adults ($N \approx 500$). Participants will complete a set of measures that asks about their personal concerns and perceptions of national responsibility and efficacy regarding climate change. They will then be randomly assigned to adopt the point of view of either a citizen or a policymaker when making decisions on climate policies. Finally, we will measure policy preferences with an extensive list of mitigation (e.g., energy transition) and adaptation (e.g., coastal protection) policies. **Discussion:** This research reveals how support for climate policy is not a unitary construct, and that individual differences may affect which specific strategies people

support for climate action. Further, the manipulation of adopting a citizen vs. policymaker point of view may highlight differences in public will and political will regarding climate actions.

Keywords: climate change, mitigation, adaptation, policymaking, policy support

PSI-069

**ID-678: HOW DID PRO-ENVIRONMENTAL ATTITUDE, CULTURE, AND TRUST INFLUENCE CLIMATE POLICY THROUGH DIFFERENT ACTIONS?**

Liang Yu Alan Hsu[1], Jen Ho Chang [2]

[1]*National Taiwan University*, *Taipei*, *Taiwan*, [2]*Institute of Ethnology, Academia Sinica*, *Taipei*, *Taiwan*

Climate change has become an important public issue in recent years, generating widespread concern and prompting calls for government action. Most countries seem to respond to these voices by setting Net Zero goals and submitting Nationally Determined Contributions (NDCs). However, based on the principle of "Common but Differentiated Responsibilities," mitigation goals vary significantly between countries, making it unclear whether the governments consider the national opinion when making these goals or not. In this study, we used data from the International Social Survey Program (ISSP) covering 36 countries and 50,000 samples. Trying to explore how pro-environmental attitudes, government trust, and cultural dimensions influence direct and indirect pro-environmental action, thus reflecting on climate policy. Our results show that pro-environmental attitudes encourage both direct and indirect pro-environmental action. Government trust and individualism can positively moderate the relationship between attitudes and indirect actions. However, the same moderation effect wasn't found in the direct actions model. As suggested by previous research, habitual actions are less likely to be affected by other variables, which might explain the differences. In addition, power distance negatively moderates the relationship between attitudes and both types of actions. Further, we find that pro-environmental attitudes can influence climate policies, especially unconditional NDCs, through the mediating of direct and indirect actions. However, the influence on conditional NDCs isn't significant in all contexts, which makes their effect more ambiguous. This result is consistent with the policy assumption that unconditional NDC reflects a country's situation more.

Keywords: pro-environmental attitudes, pro-environmental actions, climate policy, cultural dimensions, nationally determined contributions

PSI-070

**ID-14: THE PSYCHOLOGY OF URBAN CLIMATE ADAPTATION: IDENTIFYING KEY BEHAVIOURAL INFLUENCES AND DYNAMICS IN URBAN CLIMATE POLICY DECISION-MAKING**

Kai Bellmann[1], Gerdien De Vries [1], Lisa Scholten [1]

[1]*Delft University of Technology*, *Delft*, *Netherlands*

As climate change progresses, the urgency to adapt urban areas has increased, yet current climate adaptation efforts remain insufficient. Addressing adaptation shortcomings requires understanding psychological mechanisms that shape climate adaptation behaviour. While psychological research has explored citizens' climate adaptation behaviours, policymakers' decision-making is often overlooked despite its centrality to adaptation. For instance, urban policymakers decide which measures, such as green roofs, they prioritise to protect cities from extreme weather. This study integrates behavioural insights and system analysis to examine behavioural influences on policymakers' decisions. Building onto a study in which we conducted 32 semi-structured interviews with urban policymakers and a systematic review of behavioural influences in adaptation decision-making, we will present the results of an expert Delphi Panel that investigates how behavioural influences affect policymakers' decisions. It illuminates the psychological antecedents of these influences and the dynamics in the system in which they arise. The findings show that behavioural influences, such as outcome expectancy and uncertainty perception, emerge through the interaction of contextual factors and dynamics within the system, leading to decision-making patterns, such as a reliance on adaptation role models. By analysing policymakers' decision context, the study provides a foundation for developing tailored behavioural interventions that consider contextual factors and dynamics. This study contributes to a more nuanced understanding of climate adaptation decisions, addressing recent calls to recognise the critical role of contextual influences in shaping behaviour. It proposes a new direction for integrating psychological research and systems analysis to understand behavioural influences on policymakers in urban climate adaptation.

Keywords: climate change adaptation, policymaker behaviour, behavioral influences, decision-making, psychological mechanisms

PSI-071

**ID-542: EXPERIMENTAL EVIDENCE ON COUNTERACTING PLURALISTIC IGNORANCE IN THE DOMAIN OF CLIMATE POLICY SUPPORT**

Anna Theis[1]

[1]*University of Vechta*, *Vechta*, *Germany*

People underestimate the extent to which others support climate policies. This finding is relevant because misperceived social norms can hinder social dynamics, potentially blocking the collective change necessary to achieve international climate goals. In a preregistered online experiment with a randomized between-subjects design, this study investigated the misperception of public climate policy support and attempted to counteract this misperception. The effects of three interventions on 1) perceived policy support of others (second-order policy support), 2) individual policy support (first-order policy support), 3) collective action intention, and 4) collective efficacy were investigated in a representative German sample ($N$ = 805). One intervention sought to debias participants via a video that explained a potential cause of their misperception. The other interventions consisted of providing statistics reflecting the actual policy support in Germany. The results indicate a strong underestimation of climate policy support in the sample. Individual beliefs were strongly correlated with perceptions of others. The interventions significantly increased perceived policy support, but only slightly, so that the misperception of public policy support remained strong. Furthermore, the effects did not differ between the interventions. No

significant effects were observed on the other dependent variables. However, additional moderation analyses indicate heterogeneous effects, highlighting the importance of more contextualized, tailored approaches. These should further assess the social and informational contexts in which people are embedded and how they form their opinions. As such, new potential research directions will be discussed.

Keywords: pluralistic ignorance, social norms, second-order beliefs, social norm interventions, misperception correction

PSI-072

**ID-708: IDENTIFYING THE MOST INFLUENTIAL FACTORS DRIVING CLIMATE ACTIONS AMONG GOVERNMENTS, BUSINESSES, AND RESIDENTS**

Xinran Wang[1], Madeline Judge [2], Linda Steg [1]

[1]*University of Groningen*, *Groningen*, *Netherlands*, [2]*University of Otago*, *Dunedin*, *New Zealand*

Mitigating climate change requires urgent actions from various societal actors. Understanding how different actors perceive their own and others' roles in addressing climate change and what drives their actions is critical for promoting societal-wide action. Extending previous research that focuses on individual's actions as consumers and citizens, our study examines the predictors of climate action among three key societal groups: government officials, business professionals, and residents. We examined the relative importance of a comprehensive set of factors influencing motivation and likelihood to act, and elucidated whether and how these relationships differ across actors. Our findings indicate that all three actors considered governments and businesses as the most responsible and capable of taking climate action. Yet, representatives from governments and particularly businesses reported feeling less responsible, capable, and motivated to act compared to residents. While feeling more responsible for addressing climate change was found to consistently enhance motivation across actors, the most influential predictors of intention and current action varied. Residents are most strongly driven by a stronger motivation to act, while government and business representatives were most significantly influenced by believing they could act and that their actions would be effective. We emphasize the need to enhance perceived capacity among people with professional roles, highlighting that a tailored approach might be more effective to motivate and empower different actors to act towards our collective climate goals.

Keywords: different societal actors, responsibility attribution, perceived capacity, motivation, current climate action

PSI-073

**ID-606: DO PEOPLE SEE A CLIMATE AND ECONOMIC CONFLICT? IT DEPENDS, ON POLITICAL AFFILIATION**

Luyang Zhao[1], Thijs Bouman [1], Gabriel Muinos [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

It is often assumed that individuals think taking climate actions conflicts with economic growth. Do people indeed perceive such a conflict, are there differences across the political spectrum, and how do people perceive the conflict when evaluating political party programs? The study investigates how political affiliation influences individuals' perceived conflicts between climate action and economic growth. Based on prior research suggesting that left-leaning individuals view climate action as more important and not necessarily conflicts with economic growth, we hypothesized that left-leaning individuals less likely perceive climate action to harm economic growth compared with right-leaning individuals. Drawing on social identity theory, we further hypothesized that individuals perceive fewer conflicts for affiliated parties due to ingroup favoritism, and more conflicts for opposing parties due to outgroup derogation. We conducted studies around the 2023 Dutch general election among 1,362 Dutch residents. Participants reported their political ideology, perceived political ideologies of four main political parties, perceptions of climate action conflicts with economic growth, and party-specific conflict evaluations. Preliminary results suggested that people's perceptions about the climate-economy conflict are more nuanced than often anticipated. There is strong variation in whether or not people perceive climate action resulting in economic recession (M = 4.25, SD = 1.48). In the presentation we will reflect on the variation, and resort to political ideology and social identity theory for possible explanations. This research demonstrates how political ideology and affiliation might bias individuals' conflict perceptions on competing social issues, potentially shaping political discourse and influencing policy support.

Keywords: political ideology, political affiliation, climate action, economic growth, conflict

PSI-074

**ID-788: LEVERAGING THE URBAN HEAT DISCOURSE TO DEEPEN UNDERSTANDING, SPARK DIALOGUE, AND FOSTER CLIMATE RESILIENT CITIZENRY**

Samuel Chong Wei Chng[1], Sarah Hian May Chan [1], Natalia Borzino [2], Yunjing Li [1], Joshua Dao-Wei Sim [3], Kai Zheng [1], Harvey Neo [1], Jason Kai Wei Lee [3], Jonas Joerin [2]

[1]*Singapore University of Technology and Design*, *Singapore*, *Singapore*, [2]*ETH Zurich, Singapore-ETH Centre*, *Singapore*, *Singapore*, [3]*National University of Singapore*, *Singapore*, *Singapore*

Rising temperatures resulting from climate change are exacerbated in tropical cities due to the Urban Heat Island effect and daily exposure to heat. In such cities, citizens respond with heat-adaptive behaviours that are often in tension with local and global carbon emissions mitigation ambitions. Chief among them is the extensive use of air-conditioning as the foremost adaptation strategy by citizens. In this context, it is critical to identify and avoid maladaptive responses to climate change (i.e., adaptations that are effective in the short term but less successful over the longer term). As part of *Climate Resilient Citizenry*, an ongoing pioneering transdisciplinary study in Singapore, we report preliminary findings from two interconnected studies which seek to understand heat adaptation strategies and how they can be made sustainable. Study 1 is a physio-ethnographic and oral historical investigation of 50 households. This in-depth study (re)-discovers the use of heat tolerance as a prominent heat management strategy in homes. Insights were drawn on how acclimatisation to heat could offer an alternative to reliance on air-

conditioning. Study 2 is a survey and environmental audit with 500 households to examine how heat adaptation relates to climate beliefs and actions. The study found household-level variability in individual heat adaptation practices and climate outcomes, accentuated by interpersonal dynamics within multi-generational households and influenced by the shared built environment. Both studies suggest an existing disconnect between heat adaptation and sustainable climate action, emphasising the potential to leverage everyday heat experiences as a springboard to catalyse climate engagement and action.

Keywords: climate resilience, heat adaptation, urban heat island, climate beliefs, intergenerational practices

PSI-075

**ID-261: DOES SOCIAL CONNECTEDNESS SHAPE PROXIMITY TO CLIMATE CHANGE AND PROMOTE MITIGATION BEHAVIORS IN PERSONAL AND PUBLIC SPHERES?: FINDINGS FROM A QUESTIONNAIRE SURVEY IN JAPAN**

Kazane Itoi[1], Naoko Kaida [2]

[1]*Graduate School of Science and Technology, University of Tsukuba*, *Tsukuba city, Ibaraki prefecture*, *Japan*, [2]*Institute of Systems and Information Engineering, University of Tsukuba*, *Tsukuba city, Ibaraki prefecture*, *Japan*

**Introduction:** Climate change is a pressing challenge, requiring coordinated global and local measures. While its negative impacts are uneven across regions, responses to climate change are required worldwide and both at the individual and collective levels. Psychological proximity to climate change has been known to enhance climate actions. However, little is known about how to increase the proximity among individuals without direct climate change experience. Recent studies suggest social connectedness, a sense of cohesion with others, may enhance participation in climate actions, particularly in adaptation. Social connectedness may also play a significant role in climate mitigation actions by individuals in both private and public spheres, but little is known so far. **Objectives:** This study aims to examine the psychological process of social connectedness to enhance proximity to climate change, leading to pro-environmental behaviors for climate change mitigation in Japan. **Materials & Methods:** The Value-Belief-Norm (VBN) theory is employed to examine the relationships from social connectedness to pro-environmental behaviors in the private and public spheres. A questionnaire survey data (1000 Japanese adults; January 2025) will be used for the structural equation modeling analysis to test the psychological process hypothesis. **Expected Results and Discussion:** Positive associations among social connectedness, proximity to climate change, and pro-environmental behaviors will be identified. The findings may support the potential of social connectedness to increase a sense of climate change relevance to self regardless of not being directly exposed to negative climate impacts. These findings suggest that enhancing interpersonal and community interactions fosters climate mitigation actions.

Keywords: climate change, social connectedness, proximity, pro-environmental behavior, Value-Belief-Norm theory

PSI-076

## ID-531: MAPPING BELIEFS ABOUT MOBILITY AND TRANSPORT MODE CHOICE AND THE POTENTIAL IMPACT OF CLIMATE POLICIES

Gundula Thiele[1], Julius Fenn [2], Stefan Scherbaum [1], Caroline Surrey [1]

*[1]Department of Psychology, TUD Dresden University of Technology, Dresden, Germany, [2]Albert-Ludwigs-Universität Freiburg, Freiburg, Germany*

Our current mobility system is one of the biggest drivers of climate change and affects everyone who needs to travel between any two places. The transport mode individuals choose not only determines how they travel, but also impacts the environment and contributes to climate change. Policies that regulate mobility are an important lever for influencing mobility behavior and therefore mitigating climate change. The goal of our study is to explore the dynamics of beliefs about mobility in different policy scenarios and the preference for a transport mode through cognitive-affective maps (CAMs). CAMs are a method used to visualize belief structures by connecting related concepts as nodes in a network. These concepts can carry a valence, allowing CAMs to be transformed into parallel constraint satisfaction networks. Doing that we can explore the individual representations about mobility and transport mode choice and model these preferences and compare them to individuals' actual decisions in daily mobility. Participants will then engage in an intervention via imagination, presenting them with policy scenarios that could affect their mobility; such as making public transport more affordable or imposing sanctions on individual motorized travel. For each scenario, participants will be asked to create a second CAM reflecting their anticipated beliefs about mobility. Through this approach we hope to get an understanding not only on belief dynamics and how they might be affected by an individual's context, but also on the potential influences of policies targeting mobility and how they are perceived by individuals of the German public.

Keywords: transport mode choice, belief dynamics, cognitive-affective maps, environmental policies

PSI-078

## ID-99: IN THEIR OWN WORDS: YOUNG PEOPLE'S UNDERSTANDING OF THE IMPACT OF CLIMATE CHANGE ON THEIR MENTAL HEALTH AND WELLBEING

Ans Vercammen[1], Emma Lawrance [2], Daniella Watson [2], Teaghan Hogg [2; 3], John Jamir Benzon Aruta [4], Sandeep Maharaj [5]

*[1]Curtin University, Perth, Australia, [2]Imperial College London, London, United Kingdom, [3]University of Canberra, Canberra, Australia, [4]De La Salle University, Manila, Philippines, [5]The University of the West Indies, St. Augustine, Trinidad and Tobago*

**Introduction**: As the global toll of climate change mounts, research interest in the mental health and wellbeing impacts. Although high levels of concern about climate change have been demonstrated among youth globally, the relationship between climate distress and wellbeing outcomes remains poorly understood. **Objectives**: This study takes a unique co-design approach to develop a detailed conceptualisation of young people's understanding of *how* climate change influences their mental health and wellbeing across different socio-cultural contexts. **Materials** & **Methods**: We have engaged Young Persons Advisory Groups (YPAGs) in Australia, the Philippines and Trinidad & Tobago to work with the

research team in exploring (a) the breadth of young people's psychological reactions to climate change, including risk and protective factors for (mal)adaptive responses; and (b) support needs to promote both mental health and climate agency. **Results**: Initial discussions with the YPAGs held Sep-Nov 2024 in the three settings have resulted in a co-designed discussion group and peer interview methodology. Data collection will commence in January 2025 with five group discussions in each country (total sample ~150 participants, aged 18-24 years). Thematic analysis of the group discussions, in part conducted by the YPAG members, will highlight shared insights as well as culturally specific interpretations and context-specific needs for support. **Conclusions**: This study will deepen our understanding of the diversity of wellbeing impacts of climate change among youth and support the development of targeted interventions for improving health and wellbeing outcomes for young people navigating the climate crisis.

Keywords: wellbeing, mental health, co-design, intervention, climate anxiety

PSI-079

**ID-596: ASSESSING ENVIRONMENTAL CONCERN ACROSS 10 NATIONS**

Vanessa Clemens[1], Angela Dorrough [2], Andreas Glöckner [1], Paul Van Lange [3]

*[1]University of Cologne, Cologne, Germany, [2]Fernuniversität Hagen, Hagen, Germany, [3]Vrije Universiteit Amsterdam, Amsterdam, Netherlands*

**Introduction**: Understanding an individual's environmental concern across the globe is essential for designing effective climate policies and encouraging sustainable behavior. However, previous measures of pro-environmental concern often focus on specific behaviors that may not be reflective of pro-environmental concern across different nations. **Objectives**: This study aims to test and validate an incentivized, context-free behavioral measure of environmental concern, originally introduced by Fleiß et al. (2020), in a multi-national setting. **Materials & Methods**: We adapted and tested a measure originally introduced to assess an individual's general prosociality to assess an individual's environmental concern in representative samples from 10 different nations ($N$ = 3,127). In this measure, individuals are asked to distribute money between themselves and an environmental organization, providing a context-free assessment of environmental concern. Additionally, we collected demographic data, self-reports on climate change worry and biospheric values, and let participants choose to donate to a non-profit organization. **Results**: In line with previous findings which investigated predictors of pro-environmental concern, we found small correlations between demographic variables and an individual's environmental concern, with political orientation being the best predictor of environmental concern. Environmental concern was positively correlated with self-reports on climate change worry and biospheric values. Moreover, individuals with higher environmental concern were more likely to donate to an environmental non-profit organization compared to other non-profit organizations. **Conclusions**: Our findings provide first evidence for the suitability of our measure as a behavioral measure of environmental concern across different nations.

Keywords: environmental concern, pro-environmental behavior, global psychology

PSI-080

**ID-139: DOES POSTTRAUMATIC GROWTH BUFFER THE INFLUENCE OF FLOOD ANXIETY ON MENTAL HEALTH OUTCOMES?: EVIDENCE FROM A FLOOD-PRONE COMMUNITY**

John Jamir Benzon Rodriguez Aruta[1], Abby Joyce Reyes Castro [1], Angeli Rubia Pineda [1], Ashley Cebuma Sensico [1], Antonio Carlos Dela Cruz Young [1]

*[1]De La Salle University, Manila, Philippines*

Flood-prone communities face repeated and intensifying flooding that threatens their lives, livelihood, and properties. Yet, limited research examined their flood anxiety and its link with negative mental health outcomes. There is also a dearth of research that investigates the protective role of posttraumatic growth among residents in flood-prone communities. This cross-sectional study tested the moderating effect of posttraumatic growth on the relationship between flood anxiety and symptoms of depression, anxiety, and stress among residents (N=240), ages 18 to 65, of Nangka village in Marikina, the most flood-affected city in one of the most climate-vulnerable countries in the world, the Philippines. The study underwent pilot testing for the modified and Filipino-translated versions of the Modified Climate Change Anxiety Scale, Depression, Anxiety, and Stress Scale-21, and the Short Form of the Posttraumatic Growth Inventory before data collection. Results from the online and face-to-face data collection revealed positive direct effects of flood anxiety, and negative direct effects of posttraumatic growth on symptoms of depression, anxiety, and stress. Findings showed a significant moderating effect of posttraumatic growth on the positive link between flood anxiety and depression, anxiety, and stress symptoms. This provides evidence for how posttraumatic growth can be a protective factor against poor mental health and a positive psychological resource for residents of flood-prone communities, as supported by the Conservation of Resources Theory (Hobfoll et al., 2018) and Shattered Assumptions Theory (Janoff-Bulman, 2010). Limitations, recommendations, and implications for community disaster and mental health programs and policies were discussed.

Keywords: flood anxiety, negative mental health outcomes, posttraumatic growth, flood-prone community, Philippines

PSI-081

**ID-437: PRO-ENVIRONMENTAL BEHAVIOUR AND MENTAL WELL-BEING IN INDONESIA**

Alifa Syamantha Putri[1; 2], Anne Van Valkengoed [1], Goda Perlavičiūtė [1], Linda Steg [1]

*[1]University of Groningen, Groningen, Netherlands, [2]National Research and Innovation Agency (BRIN), Jakarta, Indonesia*

Research indicates that pro-environmental behaviour is related to mental well-being, although the possible directions of this relationship remain unclear. Furthermore, most of this research has predominantly focused on WEIRD (Western, Educated, Industrialised, Rich, Democratic) in the Global North, while only a few studies have included individuals from the Global South. By conducting this research in Indonesia, we are exploring the conceptualisations of pro-environmental behaviour and

mental well-being that likely differ substantially from how people understand them in the Global North, which could also affect how pro-environmental behaviour and mental well-being are related. In this study, we examine the understanding of pro-environmental behaviour and mental well-being and the relationship between these two variables in Indonesia by conducting a qualitative study that involved semi-structured interviews with 30 individuals from urban and rural areas during August and September 2024. Some key findings include a diverse understanding of pro-environmental behaviour that differs in some important ways from Western views, difference between rural and urban participants, and the relevance of traditional community cooperation and religious practices in people's understanding of pro-environmental behaviour and its relation to well-being. We propose a future research agenda on the relationship between pro-environmental behaviour and mental well-being.

Keywords: qualitative study, pro-environmental behaviour, mental well-being, global south, urban-rural participants

PSI-083

**ID-721: EXPLORING AFFECT'S ROLE IN CLIMATE CHANGE ATTITUDES USING THE CAMPBELL PARADIGM**

Ewa Małgorzata Duda[1; 2], Jan Urban [3; 4], Martin Hlinský [1]

*[1]Department of Sociology, Charles University, Prague, Czech Republic, [2]Global Change Research Institute Czech Globe, Czech Academy of Sciences, Brno, Czech Republic, [3]Environment Center, Charles University, Prague, Czech Republic, [4]Global Change Research Institute, Czech Academy of Sciences, Brno, Czech Republic*

**Background**: Affective reactions offer a more accurate understanding of individuals' attitudes toward climate change (Smith & Leiserowitz, 2013). However, the role of affect in shaping these attitudes remains unclear, as it is often overlooked in sociological research. **Aims**: In this study, we incorporate affective reactions into the measurement of climate change attitudes to create a comprehensive model that captures a fuller range of responses to climate change. Based on previous research, we hypothesize that including affective reactions along with cognitive and behavioral factors will lead to a more accurate prediction of attitudes and intentions, compared to models that focus on just one of these elements. **Method**: Using data from a recent survey on climate change attitudes across four European countries (EPCC, 2017), we test the fit of the multidimensional model against one-dimensional models using Rasch modeling techniques and the Campbell Paradigm. **Result**: We found that integrating all three components of attitudes—affect, cognition, and behavior—improved the accuracy of measuring climate change attitudes and enhanced predictions of pro-environmental intentions. The cognitive and affective dimensions were practically indistinguishable, suggesting that both components play an equally important role in influencing decision-making processes related to climate change. **Conclusions**: Our findings provide further insights into how affect and knowledge work together to shape attitudes and intentions toward climate change. By integrating these components into a unified model, we offer a more accurate approach to predicting pro-environmental behaviors, enhancing both the understanding and assessment of climate change attitudes.

Keywords: environmental attitudes, attitude measurement, pro-environmental behavior, tripartite model, Campbell paradigm

PSI-084

**ID-70: EMPATHY PERSPECTIVES INFLUENCE PREFERENCES FOR SUSTAINABLE BEHAVIOR: AN EXPERIMENTAL STUDY**

Swati Sharma[1], Georgios Georgios [2]

*[1]School of social sciences, Nanyang Technological University, Singapore*, *Singapore*, *Singapore*, *[2]Nanyang Business School; Nanyang Technological University, Singapore*, *Singapore*, *Singapore*

Given the mammoth climate change challenges, altering environmental behavior for the better is paramount. Yet, the success on this front remains limited. Altering financial incentives, using legislative tools, and appeals to values, beliefs, and norms have shown some success. This study examines whether nudging people's empathic concerns can lead to higher preferences for sustainable behavior- such as adopting energy-efficient devices, taking public transport, reducing waste, etc. Through an experimental study, we show that nudging participants to adopt a perspective where they consciously imagine the feelings of people in the to-be-watched video clip and then exposing them to a short video describing the damage caused by climate-induced natural disasters on human life and in general (i) increases their levels of empathic concern (ii) and higher empathic concern levels lead to higher preferences for sustainable behavior. We measured environmental behavior in various domains, such as adopting energy-efficient devices and clean energy measures, sustainable mobility, and food options, reducing waste, willingness to pay for environmental policies and measures, and contributing through awareness and activism. Moreover, we show that increased empathic concern leads to higher preferences for environmentally friendly behavior irrespective of base (dispositional) empathy levels i.e., a person with originally low levels of empathic concern can also attain higher empathic emotions due to introduced empathy nudge and choose to behave more environmentally friendly. Overall, our findings suggest that nudging the ability to feel warmth, care, and concern for others can efficiently alter environmental behavior.

Keywords: environmental behavior, climate change, empathic concern, energy saving

PSI-085

**ID-426: LEVERAGING EMOTIONAL STRATEGIES TO PROMOTE PLANT-BASED FOOD CHOICES: THE ROLE OF ANTICIPATED EMOTIONS, DISGUST, AND INDIVIDUAL CHARACTERISTICS**

Valentina Carfora[1], Sara Pompili [1], Simone Festa [1], Giulia Scaglioni [2], Italo Azzena [1], Michela Lenzi [3], Luciana Carraro [3], Patrizia Catellani [4], Mark Conner [5], Margherita Guidetti [2]

*[1]University of International Studies of Rome*, *Rome*, *Italy*, *[2]Università degli Studi di Modena e Reggio Emilia*, *Reggio Emilia*, *Italy*, *[3]Department of Developmental Psychology and Socialization, University of Padua*, *Padua*, *Italy*, *[4]Catholic University of the Sacred Heart*, *Milan*, *Italy*, *[5]Univeristy of Leeds*, *Leeds*, *United Kingdom*

Reducing excessive meat consumption is essential for improving personal health, protecting the environment, and promoting animal welfare. This research investigates the effectiveness of emotional triggers—anticipated emotions and disgust—in encouraging reduced meat consumption and plant-based food choices. In the first study, 380 participants were exposed to scenarios evoking anticipated pride or guilt related to health, environmental, or animal welfare goals, alongside a control condition addressing sugar reduction. Results revealed that pride for adhering to health and environmental goals directly reduced meat consumption, while guilt for harming the environment and pride for protecting animals influenced choices indirectly via positive emotions, desire, and intention. However, guilt for failing to protect animals had an overall negative effect. The second study examined the role of physical and moral disgust in promoting plant-based choices among participants at different stages of change. Physical disgust reduced hedonism and increased plant-based food selection for those in the precontemplation stage, but backfired for individuals with high human supremacy beliefs. Conversely, moral disgust decreased moral disengagement and promoted plant-based choices among participants in the action stage, though it inadvertently increased disengagement for precontemplators with low human supremacy. Together, these findings highlight the nuanced role of emotional framing in dietary interventions. While both pride and disgust can motivate behavior change, their effectiveness depends on the emotional leverages, targeted goals, and baseline characteristics of the audience. Future campaigns should carefully tailor emotional messages to maximize their impact while minimizing potential backfire effects.

Keywords: anticipated emotions, disgust, persuasive communication, sustainable eating, plant-based diets

## 17 June 2025 | Tuesday

**17-06-2025 | 08:00 - 18:30**

**Registration**

*Registration Desk*

**17-06-2025 | 08:30 - 09:30**

**Keynote Lecture by Matthew Hornsey (Australia)**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Earth Hall Plenary*

Chair: Prof. Mykolas Simas Poškus (Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania)

**ID-1284: CLIMATE BELIEFS ACROSS BORDERS: GLOBAL PATTERNS OF CLIMATE INACTION AND POSSIBLE DIGITAL SOLUTIONS**

Matthew Hornsey[1]

[1]*University of Queensland*, *Brisbane*, *Australia*

Efforts to understand public engagement with climate change have traditionally been dominated by studies in the Global North, with a heavy focus on individual-level predictors such as ideology, education, and trust in science. Yet climate change is a global issue, and examination of cross-national patterns is necessary to find global solutions. Drawing on large-scale international datasets, social media, and machine learning analyses, this talk explores how national-level variables - such as fossil fuel reliance, democracy, and GDP - inform climate activism, climate skepticism, and climate change concern. For example, recent evidence suggests that perceived threat and climate change activism intentions are particularly pronounced in less affluent and less democratic nations. Furthermore, climate skepticism and political polarisation around climate issues is most intense in affluent, high-emissions countries. These findings call for a globally informed approach to climate psychology, one that takes seriously the political, economic, and structural context in which beliefs are formed. Finally, the talk turns to the dual role of artificial intelligence in this space, both as a vector for amplifying climate-related misinformation and as a tool for enhancing trust and promoting accurate scientific communication. I explore recent work testing AI-facilitated interventions to reduce conspiracy theories and misinformation about climate science and renewable energy, interventions that are potentially scalable to international contexts.

Keywords: climate change, climate skepticism, cross-national patterns, GenAI, climate activism

**17-06-2025 | 09:30 - 09:45**

**Relocation Break**

*Campus Courtyard*

**17-06-2025 | 09:45 - 11:00**

**S-030**: **From awareness to action: The role of mindfulness in addressing the environmental crisis**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair: Luca Simione, UNINT, Department of International Humanities and Social Sciences, Rome, Italy.

**ID-682: EFFECTS OF MINDFULNESS ON PRO-ENVIRONMENTAL BEHAVIOUR VIA COGNITIVE AND EMOTIONAL PATHS**

Luca Simione[1; 2], Serena Lidia Colombo [3], Ilde Pieroni [3], Antonino Raffone [3]

*[1]Università degli Studi Internazionali di Roma UNINT, Rome, Italy, [2]Istituto di Scienze e Tecnologie della Cognizione, CNR, Rome, Italy, [3]Department of Psychology, Sapienza University of Rome, Rome, Italy*

**Introduction**: Numerous studies highlight a positive link between dispositional mindfulness and pro-environmental behaviour (i.e. behaviours that seek to minimize the impact of one's actions on the environment). However, few have explored whether this relationship is tied to enhanced self-regulation. **Objectives**: The first study examined whether higher mindfulness traits enhance consistency between pro-environmental attitudes and behaviours. The second study investigated how mindfulness influences the relationship between climate change anxiety and pro-environmental behaviour, reducing maladaptive responses like eco-paralysis by reducing anxiety.: **Materials & Methods** We conducted two correlational studies. Both the first (n=228) and the second study (n=266) were conducted on convenience sample of students. In the first, we administered the following scales: FFMQ for mindfulness, NEP for environmental attitude, and PEBs for environmental behaviours. In the second, we also assessed the climate change anxiety with the CCAS. **Results**: Results from study 1 show that the FFMQ facets Acting with Awareness and Nonjudging moderate the attitude-behaviour relationship, suggesting that mindfulness could mitigate the attitude-behaviour gap, promoting alignment between beliefs and actions. In the second study, we found that the Nonreacting facet of mindfulness positively affect the relationship between PEBs and the CCAS functional impairment, possibly encouraging adaptive responses when anxiety is severe. However, paradoxically, the Nonreacting and Observing facets moderate the effects of the CCAS cognitive impairment on PEBs, reducing pro-environmental engagement in presence of a moderate climate change anxiety. **Conclusion**: These results suggest that dispositional mindfulness shapes how individuals translate climate anxiety into action, though not always favouring pro-environmental engagement.

Keywords: mindfulness, pro-environmental behaviour, attitude behaviour gap, emotion regulation, climate change anxiety

## ID-1199: FOSTERING PLANETARY HEALTH – INSIGHTS FROM TWO MINDFULNESS-BASED INTERVENTION STUDIES

Susanne Krämer[1], Maria Karpova [1], Laura S Loy [2], Christian Liebmann [1], Steffen Nestler [3], Ute Kunzmann [4], Elisabeth S Blanke [1]

*[1]Leipzig University, Zentrum für Lehrer: innenbildung und Schulforschung, Leipzig, Germany, [2]RPTU University of Kaiserslautern-Landau, Department of Psychology, Landau, Germany, [3]University Münster, Institut für Psychologie, Münster, Germany, [4]Leipzig University, Wilhelm Wundt Institute for Psychology, Leipzig, Germany*

**Introduction:** Planetary health, defined as the interplay between human health and the health of natural systems, may be improved by mindfulness-based interventions (MBIs). **Goals & Objectives:** We outline how the Mindful Students Program (MSP) and Mindful Teachers Program (MTP) contribute to planetary health in educational settings. **Materials & Methods:** We introduce the training programs as well as results from two intervention studies, in which MSP and MTP were taught to students at Leipzig University (Study 1), and teachers in Saxony (Study 2), Germany. In Study 1, we used data from a quasi-experimental pre-post study comparing an intervention group with two control groups (*N* = 505; 78% female).

Mindfulness, stress, and prosocial behaviour were assessed with self-reports, pro-environmental behaviour was additionally assessed using observer-reports by close others (*N* = 99; 68% female). Study 2 (*N* = 143; 92% female) is a pilot study without control group. In addition to the measures used in Study 1, we have added scales on teacher self-efficacy, interpersonal mindfulness and burnout. **Results:** In Study 1, MBI participants' mindfulness and pro-environmental behaviour increased compared to the control groups, while stress decreased and prosocial behaviour did not change. Observer-reports of pro-environmental behaviour also increased and were strongly correlated with self-reports. Preliminary results of Study 2 suggest that the teachers profited from the MBI in similar ways as the students. Additionally, self-efficacy and interpersonal mindfulness also increased, burnout symptoms are reduced. **Conclusions:** The results shed light on the potential of MBIs in education to foster planetary health.

Keywords: mindfulness, mindfulness-based interventions, pro-environmental behaviour, planetary health, human health

**ID-1200: MINDFULNESS AND CLIMATE EMOTIONS: ENHANCING EMOTIONAL REGULATION TO FOSTER RESILIENCE AND ENGAGEMENT**

Serena Lidia Colombo[1], Luca Simione[3; 4], Ilde Pieroni [1], Salvatore Gaetano Chiarella [2], Antonino Raffone [1]

*[1]Department of Psychology, Sapienza University of Rome, Rome, Italy, [2]International School for Advanced Studies – SISSA, Trieste, Italy, [3]Università degli Studi Internazionali di Roma UNINT, Rome, Italy, [4]Istituto di Scienze e Tecnologie della Cognizione, CNR, Rome, Italy*

**Introduction:** Studies show that intense climate-related emotions can affect mental well-being and impair constructive responses to the climate crisis. Therefore, cultivating emotional regulation skills is essential for coping with distress linked to climate awareness and its consequences. Mindfulness-based interventions have demonstrated effectiveness in enhancing emotion regulation by promoting cognitive reappraisal of emotional reactions (explicit or top-down regulation) and reducing overall emotional reactivity (implicit or bottom-up regulation). These effects are facilitated by the awareness and acceptance skills cultivated through mindfulness practice. **Goals & Objectives:** The aim of this study was to assess and compare the effects of different mindfulness inductions on emotional reactions to distressing climate imagery and on the likelihood of engaging in pro-environmental behaviour. **Material and Methods**: Eighty students participated in an experimental study, assigned to one of four conditions: awareness training, acceptance training, combined skills training, or a control condition (no training). After a brief mindfulness meditation, participants viewed images of climate change impacts. Emotional reactions and pro-environmental behaviour were measured using self-reports and physiological data (e.g. eye-tracking). **Results:** Self-reported results revealed that the combined mindfulness induction significantly reduced negative emotions following exposure to climate-related images compared to no training. However, no significant differences were observed between acceptance, awareness, and no training groups. Furthermore, there were no significant differences among the groups regarding post-task pro-environmental engagement. Physiological data on emotional reactivity are still under analysis and will also be discussed during the presentation. **Conclusions:** The results highlight a role of mindfulness practice in regulating negative climate-related emotions.

Keywords: mindfulness, mindfulness-based interventions, emotion regulation, pro-environmental behaviour, climate change

**ID-1201: INNER-LED CHANGE: INSIGHTS FROM MINDFULNESS-BASED AND "INNER DEVELOPMENT GOALS" INTERVENTIONS FOR MINDFULNESS PRACTITIONERS AND CHANGE MAKERS IN NGOS AND OTHER ORGANISATIONS.**

Liane Stephan[1], Janss Jeroen[1], Christine Wamsler[2]

*[1]Inner Green Deal gGmbH, Cologne, Germany, [2]Lund University Center for Sustainability Studies, Lund, Sweden*

**Introduction:** The climate crisis is fundamentally a relationship crisis, stemming from our disconnection from ourselves, others, and nature. Mindfulness and other contemplative practices may help bridge this gap, fostering pro-environmental behaviors, increased collaboration and resilience. These inner capacities, as described in the framework of the Inner Development Goals, are critical for addressing external sustainability challenges. **Goals & Objectives:** Over the past three years, in collaboration with Prof. Christine Wamsler, we have explored diverse ways of measuring the impact of our interventions. Our work focuses on participants from various groups—mindfulness practitioners, policy makers, leaders, change makers from NGOs, and teacher training cohorts—to enhance inner capacities that drive sustainable, impactful actions. **Materials & Methods:** We employed pre- and post-assessments and conducted interviews to gather qualitative and quantitative data. Post-assessment surveys included open-ended questions to capture participants' experiences and shifts in behaviors, habits, and perspectives. **Results:** The presentation will include our diverse interventions, different formats as well as a summary of findings across different target groups. Preliminary results suggest significant improvements in participants' connection to themselves, others and nature, alongside increased adoption of sustainable habits and integration and institutionalization of learnings in the workplace. **Conclusions:** Both quantitative data and qualitative feedback from participants indicate that cultivating mindfulness and related practices significantly strengthens individuals' connections and fosters inner capacities for impactful, sustainable actions. These findings underscore the potential of mindfulness-based interventions in addressing the relational dimensions of the climate crisis.

Keywords: mindfulness-based interventions, reconnection, institutionalisation

**ID-1202: THE EFFECT OF MEDITATION ON NEURONAL SYNCHRONIZATION AND THE ENVIRONMENT: FROM EXPERIMENTAL TO COLLECTIVE ECOLOGICAL SETTING, THEORY AND PRACTICE**

Tal Dotan Ben-Soussa[1], Ludovica Ortame[1; 2], Michele Pellegrino [3], Patrizio Paoletti [3], Filippo Carducci [2]

*[1]Research Institute for Neuroscience, Education, and Didactics (RINED), Patrizio, Assisi, Italy, [2]Department of Physiology and Pharmacology, Sapienza University of Rome, Rome, Italy, [3]Research Institute for Neuroscience, Education, and Didactics (RINED), Patrizio, Assisi, Italy*

**Introduction:** Meditation is consistently reported to improve cognitive functioning, enhance neuronal synchronization and structural neuroanatomical changes. Large-scale brain synchronization occurs

during meaningful social interactions, correlating with social cohesion. However, most studies investigate meditation in laboratory setting, limiting validity of results by separating practice from its context. Meditation retreats offer a useful strategy to design ecologically valid research. **Goals & Objectives:** Assess the feasibility of examining the behavioral and EEG effects of meditation retreats in an ecological experimental setting. **Materials & Methods:** We measured effects of 10-days retreat group (n=44) compared with a 10-days relaxation training group (n=18), using a battery of questionnaires and a 4-channel wireless EEG recording system (MUSE2) to collect electrophysiological data before (T0) and after (T1) the 10 days. **Results:** As hypothesized, findings aligned with patterns observed in literature, showing enhanced perceived intensity of spatial, bodily and temporal perception, increased relaxation, as well as increased Alpha power in meditation group. **Conclusion:** Current results provide an innovative contribution highlighting the advantages of assessing meditation in ecological settings by means of tools enabling valid data collection. In light of a dual impact of meditative practices on transformations within individuals, and potential external influences on environment, we emphasize the implications for personal well-being, social dynamics, and broader understandings of the interplay between consciousness and environment produced by meditation, focusing on the importance of devising increasingly more ecological experimental paradigms in order to assess meditation as a powerful tool for enhancing social consciousness leading to positive influence on the environment.

Keywords: mindfulness, meditation retreats, environment, ecological study, feasibility study

**17-06-2025 | 09:45 - 11:00**

**S-057**: **Public participation in climate and energy policymaking**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Lagoon*

Chair: Goda Perlavičiūtė, University of Groningen, Groningen, Netherlands.

### ID-1213: UNVEILING CITIZENS' PERSPECTIVE ON CITIZEN ASSEMBLIES AMONG PARTICIPANTS AND NON-PARTICIPANTS OF A CITIZEN ASSEMBLY ON ENERGY

Goda Perlavičiūtė[1], Gabriel Muinos[1], W A Gorter [1]

[1]*Faculty of Behavioural and Social Science, University of Groningen*, *Groningen*, *Netherlands*

Governments all over Europe are commissioning citizen assemblies (CAs), which could be one possible way to assist the representative democracy in developing more socially acceptable sustainability policies. Yet, little is known about how citizens themselves think about CAs in general, l *et al* one the actual real-life procedures, which perceived aspects of CAs and how influence these opinions, and whether opinions differ between those who participate in CAs and the population at large. We investigated citizens' perceptions and acceptability of CAs, both among the participants of the Dutch Citizen Assembly on Energy (DCAE) and the general Dutch population. First, we studied to what extent both groups thought that CAs, in general, could reach the broader goals of public participation: normative (better democracy),

substantive (improved decisions), and instrumental (enhanced public support) goals. Second, we studied citizens' perceptions of the DCAE in particular, focusing on the 4Ds of public participation: dialogue, diversity, decision-making power, and deliberation. Citizens were generally positive about the potential of CAs to reach broader participation goals, except for some scepticism about their capacity to bring in new knowledge and accelerate the energy transition. Compared to the general population, citizens who join CAs may be more accepting of CAs at the start and evaluate the process more positively at the end. In contrast to conventional wisdom, decision-making power was not the key driver of public acceptability of the DCAE—engaging in dialogue and deliberation might be more important to citizens than having more power per se.

Keywords: citizens assemblies, 4Ds of public participation, goals of public participation

**ID-1214: REVEALING HIDDEN INJUSTICE: CLIMBING THE LADDER OF "HIDDEN MORALITY"**

Sander Ten Caat[1], Nynke Van Uffelen [2], Eefje Cuppen [1]

*[1]Institute of Public Administration, Leiden University, Leiden, Netherlands, [2]Delft University of Technology, Delft, Netherlands*

Governing a just energy transition requires detecting and anticipating energy injustices. Current methods for detecting injustices rely on explicit articulations of grievances through citizen participation or during conflicts. However, it is implausible that all injustices manifest within these contexts. In two papers, we applied (ten Caat et al., 2024) and further developed (van Uffelen & ten Caat, 2025) the 'hidden morality' framework. We introduced the framework, tested its applicability through a case study and analyzed why injustices might remain unseen and unaddressed. The case study focused on migrants in the Dutch city of The Hague. Through the analysis of 15 policy documents and 26 semi-structured interviews, the study uncovered hidden injustices and obstacles to participation. Through philosophical literature and an additional case study, our 2025 paper further investigated the obstacles that could prevent energy injustices from surfacing and being resolved. The framework of hidden morality we constructed conceptualizes several steps between an injustice and social change: (1) experience of injustices; (2) expression; (3) collective action; (4) uptake in public discourse; (5) reformulation; and (6) social change. The case revealed that the interviewed migrants did not experience several procedural injustices they were subject to and that they were considerably prevented from expressing perceived injustices in decision-making. We identified a number of obstacles between each of the steps of the framework. We conclude that the hidden morality framework is the first systematic tool that allows policymakers and scholars to detect injustices and barriers to participation when making or studying energy policies.

Keywords: energy justice, hidden morality, energy controversies, public participation

**ID-836: PUBLIC PARTICIPATION: PANACEA OR PIE IN THE SKY?**

Bas Ankoné[1], Goda Perlaviciute [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

**Introduction**: Public participation is widely advocated as a silver bullet for combating climate change: supposedly, involving citizens in the decision-making around all kinds of climate policies is *the* way to promote public acceptance, and thereby feasibility of implementation, of these policies. Particularly, citizens' assemblies are all the hype right now. Rigorous nuanced empirical support for these claims, however, remains scarce. **Objectives**: We investigated the relationship between (different types of) public participation and (different types of) climate policy in more detail. **Materials & Methods**: We conducted a correlational survey in 13 representative EU samples ($N_{SE}$=1597, $N_{ES}$=1590, $N_{DK}$=1591, $N_{PL}$=1595, $N_{DE}$=1597, $N_{NL}$=1219, $N_{CZ}$=1726, $N_{FR}$=1219, $N_{AT}$=1594, $N_{HU}$=1593, $N_{SI}$=1201, $N_{IT}$=1210, $N_{GR}$=1596) assessing individuals' perceived levels of public participation and their respective acceptance of four policies (beef tax, mandatory insulation, fossil fuel profit tax, flight tax). Additionally, we ran a 3(procedure;top-down,referendum,assembly)x2(policy;beef tax, profit tax) vignette experiment in the Dutch and Slovenian samples, including several possible mediators. **Results**: Overall, we find that perceived participation in climate policymaking positively correlates with acceptance, but to different extents for different policies ($\rho(19326)$=.286;.100;.070;.182[respectively], $p<.001$). Amongst others, results further show that assemblies are unlikely to increase acceptance, while direct citizen involvement (referendum) may increase acceptance of especially policies that target citizens directly (beef tax), by providing a sense of agency over decisions that impose limitations on one's freedom. **Conclusions**: Public participation *can* increase public acceptance, but only for certain policies, and only if done in certain ways. Various explanations and implications for how to best involve citizens in climate policymaking are discussed.

Keywords: policy acceptance, public participation, citizens assembly

**ID-883: WHY CONSERVE? AN ANALYSIS OF HISTORICAL TRENDS IN ENVIRONMENTAL CAMPAIGN MESSAGES SINCE 1960.**

Amanda Carrico[1], Alice Godwin [1], Graham LeFere [1], Victoria Stout [1]

[1]*University of Colorado*, *Boulder*, *United States*

Mass media campaigns are widely used by environmental advocacy groups to mobilize public support for environmental protection. For example, The Nature Conservancy and the World Wildlife Fund have produced highly visible campaigns since 1951 and 1961, respectively. Intentionally or not, these messages shape the way the public understands the natural world; including why it is under threat, who is to blame, and why it ought to be conserved. Much research examines the impact of messages on attitudes and behavior, but few analyses consider aggregate trends over time and how these trends might shape public values. We attempt to address this gap using a dataset of ~1000 print campaign messages produced by environmental organizations from 1960 to 2019. All messages were coded by two independent researchers to characterize how they frame the source of environmental problems (e.g., human behavior, corporations), solutions to those problems (e.g., behavior change, technology), and the reasons for environmental protection (e.g., human well-being, intrinsic value of nature). Preliminary analyses reveal that messages emphasizing the intrinsic value of nature have declined since the 1980's, whereas those

emphasizing the impacts of environmental degradation on human well-being have increased. We also observe variability over time in the role of the private sector in environmental campaigns and how solutions to environmental problems are framed. We will discuss these recent trends in light of evidence from the field of environmental psychology to consider how recent trends in environmental communication may influence values, beliefs, and behavior.

Keywords: environmental communication, media, environmental campaign, longitudinal

**17-06-2025 | 09:45 - 11:00**

**S-052**: **Nature-based therapeutic interventions**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Freddie Lymeus, Uppsala university / Institute for Housing and Urban Research, Uppsala, Sweden.
Chair: Terry Hartig, Uppsala Universitet, Institute for Housing and Urban Research, Uppsala, Sweden.

**ID-1263: EVALUATION OF 'WALK OF LIFE'**

Agnes van den Berg[1], Thomas van Rompay [2], Koen Klemann [3]

*[1]Natuur voor mensen, Apeldoorn, Netherlands, [2]Department of Communication Science, University of Twente, Twente, Netherlands, [3]Drug Target ID, Nijmegen, Netherlands*

The "Walk of Life" initiative is a heartfelt response to the personal experiences of a couple who faced the challenges of accessing mental health care after a traumatic family event. Their story, marked by resilience and a drive to make a difference, inspired this non-profit program to provide accessible, nature-based mental health support to individuals unable to afford or access traditional care. The initiative aims to bridge gaps in mental health services by offering a community-based, supportive environment. **Objectives**: This study evaluated the impact of the "Walk of Life" initiative on participants' mental health and social well-being. Specifically, it examined changes in well-being, resilience, nature connectedness, self-efficacy, and social connections over time. **Materials and Methods**|: Participants include adults aged 18 and older who experience mental health challenges but lack access to institutional care. The program began in October 2024 with a four-day walking event, followed by monthly group walks led by professional volunteer coaches. Data collection involves three survey waves: baseline, post-event, and three months post-event. Two tailored surveys were developed: one for coaches and one for coachees. Instruments include the WHO-5 Well-Being Index, the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS), and the Inclusion of Nature in Self (INS) scale. **Tentative Results and Conclusions**|: Preliminary observations indicate that participation in the "Walk of Life" program enhances mental well-being, resilience, and social connectedness. Final results, expected in early 2025, aim to validate these findings and highlight the transformative potential of nature-based, community-driven mental health initiatives.

Keywords: nature-based therapy, mental health, non-profit initiative, social connectedness, walk-and-talk coaching

**ID-1264: RESTORATIVE EXPERIENCE IN ALTERNATIVE NATURE-BASED INTERVENTIONS FOR STRESS AND ANXIETY: TWO RANDOMIZED TRIALS**

Xinxin Wang[1], Freddie Lymeus [2; 3], Wenjun Yu [1], Terry Hartig [2; 3]

*[1]Department of Landscape Architecture, College of Horticulture, Nanjing Agricultu, Nanjing, China, [2]Uppsala university / Institute for Housing and Urban Research, Uppsala, Sweden, [3]Clinical Psychology Division, Department of Psychology, Uppsala University, Uppsala, Sweden*

Diverse interventions have people engage with natural settings and elements in support of a therapeutic process. Many such interventions recruit restorative experience in the service of therapeutic goals, as depletion of adaptive resources commonly figures in conditions for which people need care, whether as a cause of the condition, a concomitant, or an effect. **Objectives**: In two randomized trials (N1=40; N2=205), we compared outcomes of three different nature-based interventions for stress and anxiety. Depletion of adaptive resources figures as one putative cause of these conditions, which have a high prevalence in the population of university students, an important occupational group from which we recruited participants. **Methods**: Students with self-reported problems with stress and anxiety participated in a 5-week therapeutic recreation program (forest activities) or in a 5-week therapeutic horticulture program (working with plants either in a classroom or outdoors in a green campus setting). Each once-weekly 2-hour session incorporated mindfulness meditation techniques together with other individual and group activities, which were similar across the three programs. In contrast to the first trial, the second trial included a self-selected restorative activity condition. **Results, conclusions**: In both trials, the study design and measures enabled analysis of change in self-reported momentary affect and state anxiety, from before to after each session and across the five weeks. Further analyses assessed mediation of outcomes by perceived restorative qualities of the environment-activity combinations. Our initial analyses indicate substantial beneficial effects of participation in the interventions, and the positive role of perceived restorative quality as a mediator.

Keywords: anxiety, restorative environments, stress, therapeutic horticulture, therapeutic recreation

**ID-1265: ACCEPTABILITY IN TWO NATURE-BASED INTERVENTIONS: MAPPING PARTICIPANTS' PERCEPTIONS, EXPECTATIONS AND EXPERIENCES**

Freddie Lymeus[1; 2], Anna Laura Toth [1]

*[1]Uppsala university / Institute for Housing and Urban Research, Uppsala, Sweden, [2]Clinical Psychology Division, Department of Psychology, Uppsala University, Uppsala, Sweden*

In the development of new health interventions, acceptability (percieved treatment attractiveness, suitability and effectiveness) is key to achieving the desired uptake, cost-effectiveness and widespread adoption. Nature-based therapies (NbT) may be more acceptable than some conventional alternatives for common mental health problems. **Objectives**: As part of the European RESONATE project (grant 101081420), the study contributes to robust evidence for NbT's. Specifically, this presentation addresses

how intervention participants perceive and engage with two NbT's. **Methods**: A factorial RCT compares two group-based, five-week NbT's (a green prescription and a nature-based mindfulness course) with an active control (conventional mindfulness course indoors) and a treatment-as-usual waitlist. 200+ university students with stress, depression or anxiety symptoms will go through interventions in four waves, 2024-2025. Among other things, they report acceptability perceptions before, during and after the interventions, and their experiences in connection with group meetings and homework activities. **Results**: Analyses of wave 1-2 (N=90) indicate low expected burden before intervention start, which had further decreased after the first intervention weeks along with increased general liking and self-efficacy for the NbT's contrary to active control. NbT's were unexpectedly thought less effective in treating mental health symptoms beforehand; however, effectiveness perceptions increased markedly with experience. Wave 3 data will be in by May 2025. **Conclusions**: Even among people who join a study involving NbT's, expected treatment effectiveness does not necessarily motivate participation or match established alternatives. However, participation promotes understanding and appreciation of NbT's, which could have implications for communication and strategies to establish NbT as evidence-based care.

Keywords: nature-based therapy, acceptability, mindfulness, mental health, effectiveness

**ID-1266: STRENGTH TO MOVE ON: THE ROLE OF ENVIRONMENTALLY ORIENTED INTERVENTION ACTIVITIES IN PROMOTING REORIENTATION AND GROWTH AMONG SWEDISH INTIMATE PARTNER VIOLENCE (IPV) SURVIVORS**

Freddie Lymeus[1; 2], Cecilia Strand [3], Ann-Sofie Bergman [4]

*[1]Uppsala university / Institute for Housing and Urban Research*, *Uppsala*, *Sweden*, *[2]Clinical Psychology Division, Department of Psychology, Uppsala University*, *Uppsala*, *Sweden*, *[3]Department of Informatics and Media, Uppsala University*, *Uppsala*, *Sweden*, *[4]Department of Social Work, Stockholm University*, *Stockholm*, *Sweden*

Even after leaving a violent relationship, many IPV survivors struggle to reorient to new living environments, experience connectedness in their immediate surroundings, and reengage with valued activities. Such difficulties are often not considered severe or specific enough for health or social services to prioritize; yet, they may exacerbate psychological symptoms, prevent post-traumatic growth, and lastingly hamper survivors' wellbeing and contribution their community. **Objectives**|: Together with a group of IPV counsellors, we developed *Strength to move on*: a 12-week intervention based on principles and practical exercises drawn from several established therapeutic and health promoting fields, including environmental psychology. **Methods**: Three Swedish women's shelters tested *Strength to move on* with IPV survivors (n=25) up to fall 2024. Four more will do so in spring 2025 (expected n≈25). The presentation builds on participant interviews in the beginning, middle and end of the intervention period, and specifically illuminates how participants described their experiences of place and environments in relation to the intervention and their reorientation process. **Tentative results and conclusions**: Place disruptions related to separation, and difficulties in reorienting to a new city and home, constrain restorative opportunities and resilience-building activities for many survivors. Their responses shed light on the importance and challenges of those intervention components that promote engagement with the environment, including sensory connection with immediate built and natural surroundings as well as exploration and reclaiming of outdoor and public spaces. The intervention may complement already common methods that address other needs and phases in the process of breaking free from IPV.

Keywords: intimate partner violence, home, city, nature, mindfulness

**17-06-2025 | 09:45 - 11:00**

**S-029**: **Cognitive and Social Dynamics within Environmental Psychology (Part I)**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Social ecology)

*Valley Room*

Chair: Fernanda Reintgen Kamphuisen, University of Groningen, Groningen, Netherlands.
Co-Chair: Egham Surrey, United Kingdom.

### ID-1166: WHAT CAN ENVIRONMENTAL PSYCHOLOGISTS CONTRIBUTE TO CLIMATE MODELS? INTRODUCING A NEW META-THEORETICAL FRAMEWORK AND RESEARCH AGENDA TO ADVANCE THE REPRESENTATION OF PRO-ENVIRONMENTAL BEHAVIOUR

Anne Van Valkengoed[1], Goda Perlaviciute [1], Linda Steg [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

Climate models (such as integrated assessment models and earth systems models) play a central role in climate science and have an enormous influence on climate policy making. These models feature highly sophisticated representations of the physical systems of the earth, economic and demographic processes, and industrial systems. Yet, people's behaviour and its drivers are not systematically included in such models, even though lifestyle change represents a key pathway to achieve reductions in CO2 emissions. Some modelers aim to more of systematically integrate people's behaviour and its drivers in climate models, but recognize that this is an enormous challenge that requires interdisciplinary collaboration. Environmental psychologists can make a key contribution in advancing the representation of pro-environmental behaviour and its drivers in climate models. Yet, we are currently participating in this discussion only to a limited extent. In this talk, I'll present a paper that gives an overview of the current challenge of modelling human behaviour, and a perspective on the insights that environmental psychology can offer to this discussion. It introduces a new meta-theoretical framework that summarizes the most important theoretical insights from the field of environmental psychology: the Motivations, Agency, and Past Behavior framework. We also introduce a research agenda for environmental psychologists to make our theorizing more precise and useful for modelling purposes. We hope this paper can help to kick off the discussion on how we as environmental psychologists can help modellers to advance the representation of human behaviour in climate models.

Keywords: pro-environmental behaviour, climate model, meta-theory, environmental psychology, IAM

### ID-1168: UNDERSTANDING THE DYNAMICS IN THE RELATIONSHIP BETWEEN DESCRIPTIVE NORMS AND PRO-ENVIRONMENTAL BEHAVIOUR

Fernanda Reintgen Kamphuisen[1], Thijs Bouman [1], Ellen Van der Werff [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

Counteracting climate change and other environmental problems requires large-scale adoption of pro-environmental behaviour (PEB). However, many PEBs are still minority practices, only being adopted at a small scale. Previous research identified that individuals may adopt behaviours that they perceive others to perform, however such descriptive norms may backfire when the desired behaviour is performed by a minority (i.e., weak descriptive norm). A key question therefore is: How can small-scale PEBs become majority practices? We explore two factors that may cause people to adopt PEBs that are still uncommon: (i) environment self-identity and (ii) dynamic norms, and how these may eventually lead to a strong descriptive norm for PEB. Applied to the adoption of electric vehicles (EVs), we test these propositions via an empirically informed agent-based model showing that the relationships of (factors of) EV adoption, dynamic and descriptive norms form a dynamic interplay that can explain how EV adoption of a minority can lead to large-scale changes. Limitations and implications will be discussed.

Keywords: pro-environmental behaviour, descriptive norms, dynamic norms, environmental self-identity, agent-based modelling

**ID-1282: A SYSTEMATIC REVIEW OF PUBLIC ACCEPTABILITY OF HYDROGEN IN NON-HOUSEHOLD APPLICATIONS**

Adelaida Patrasc-Lungu[1], Goda Perlaviciute [1], Gonzalo Palomo-Vélez [1]

[1]*Environmental Psychology Group, University of Groningen*, *Groningen*, *Netherlands*

Hydrogen has received increasing attention in research and policy. While some past reviews focused on household-level applications, significant reduction potentials exist in non-household applications such as heavy industry and freight transport. The present review synthesises knowledge about public acceptability of non-household applications of hydrogen, examining measurement approaches, potential predictors, and key themes. The review follows PRISMA 2020 guidelines. Following a search in Scopus and Web of Science databases, 33 empirical quantitative studies qualified for analysis. Approximately half of the studies differentiated acceptability by hydrogen type and some also differentiated acceptability by participants' proximity to hydrogen projects. In the past three years, the acceptability of hydrogen imports and exports emerged as a topic of interest. When considering hydrogen across its value chain, most studies focused on end-use and, to a lesser extent, production. Thus, stages such as storage and transportation of hydrogen are currently under-represented. Few countries were found to have repeat surveys of public acceptability, making temporal analyses of acceptability trends challenging. Top themes included environmental, safety, and economic aspects, along with trust, convenience, justice, and fairness. The most frequently studied potential predictors were demographic characteristics, safety considerations, trust in stakeholders, and knowledge. The hydrogen acceptability literature is rapidly evolving but would benefit from more studies with clearer differentiation between application types and value chain stages. Future research should consider the role of the general public beyond consumer/local community perspectives, increase consistency in data reporting and knowledge measures being employed, and employ longitudinal designs to better inform policy development.

Keywords: hydrogen, energy, acceptability, perceptions, review

**ID-790: FROM THEORY TO PRACTICE: DEVELOPING CLIMATE JUSTICE SCALES AND TESTING THEM IN A NOMOLOGICAL NETWORK**

Lisa Marie Hempel[1], Hellen Temme [1; 2], Lena Lehrer [1; 2], Mattis Geiger [1; 2], Cornelia Betsch [1; 2]

*[1]Bernhard Nocht Institute for Tropical Medicine*, *Hamburg*, *Germany*, *[2]University of Erfurt*, *Erfurt*, *Germany*

Climate change presents geophysical challenges that already impose unequal risks and burdens on different groups, exacerbating social injustices. To empirically capture specific aspects of climate justice, this study (N = 1032) developed two measures based on a comprehensive taxonomy of climate justice and identified the best measurement models for each of the following aspects. First, *Sensitivity to Climate Injustice*, structured in a two-factor model, assesses how individuals perceive unequal contributions to (factor "cause") and burdens from (factor "suffer") climate change across affected groups as unjust. Second, *Responsibility for Implementing Climate Justice*, modelled in a bifactor model, considers general and specific assignments of responsibility for addressing these injustices. Construct validity was demonstrated by the Sensitivity to Climate Injustice factors revealing differential perceptions of inequity across affected groups (e.g., stronger perceived disparities between low- vs. high-income groups than between women and men) and by associations of both aspects with climate change knowledge, basic human values and prosociality in expected magnitudes. Criterion validation revealed distinct correlation patterns with climate action indicators. The readiness to act against climate change showed slight associations with perceived inequalities in causation, moderate associations with perceived unequal burdens, and the strongest associations when general responsibility for addressing injustices was assigned. Readiness to act indicators also revealed differential correlations with the climate justice aspects. This highlights the importance of separate instruments to capture nuanced aspects of climate justice, offering a foundation for future research to further examine causal pathways toward meaningful climate action and social justice improvements.

Keywords: climate justice taxonomy, measurement, inequity perceptions, social injustice

**17-06-2025 | 09:45 - 11:00**

**S-027**: **Knowledge for impact: distorted perceptions of mitigation actions and climate policies and how to correct them**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Mario Herberz, University of Geneva, Department of Psychology, Geneva, Switzerland.

## ID-1174: BEHAVIORAL IMPACT PERCEPTIONS AND THEIR RELATIONSHIP WITH CLIMATE-RELEVANT BEHAVIOR AND POLICY SUPPORT ACROSS CHINA, GERMANY, AND THE UNITED STATES

Nina L. Frings[1], Kristian Steensen Nielsen [2], Ulf J. J. Hahnel [1; 3]

*[1]University of Basel Faculty of Psychology, Basel, Switzerland, [2]Copenhagen Business School/Department of Management, Society and Communication, Frederiksberg, Denmark, [3]Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland*

To accelerate climate change mitigation, lifestyle changes and more ambitious climate policies are needed. However, due to the widespread misperceptions about the impact of different mitigation behaviors documented in Western countries, even motivated individuals may not know which actions to prioritize and which policies to support. Little is known about the cross-national variability of these perceptions and the variability of their association with climate-relevant outcomes. Here, we aim to address this gap with a preregistered cross-country study (N=2'825) in China, Germany, and the United States. Using experimental tasks, we investigate the association between individuals' behavioral impact perceptions and the accuracy of their carbon footprint perceptions with their climate-related behavior as well as support for behavior-targeted climate policies. We find that perceptions of the climate impact of different behaviors, and carbon footprint accuracy differed significantly between countries and were predicted by different individual variables. While impact perceptions and carbon footprint accuracy were related to individuals' own carbon footprints in all countries, impacts on climate policy support emerged only in Germany, and in the United States via a moderation of political orientation. Based on these findings, we additionally test the effectiveness of interventions to increase the understanding of the differential impact of behaviors and to ultimately improve policy support and behaviors in line with climate impact in a second sample.

Keywords: behavioral impact perceptions, cross-country investigation, climate-relevant behavior, climate policy support

## ID-1176: CITIZENS MISJUDGE THE MITIGATION POTENTIAL OF CLIMATE POLICY

Jonas Ludwig[1], Arian Trieb [2], Vanessa Hieß [2], Eli R. Sugerman [3], Jake Reynolds [3], Elke U. Weber [2; 4], Eric J. Johnson [2; 3]

*[1]ACenter for Research on Environmental Decisions in Berlin, Technische Universitä, Berlin, Germany, [2]Center for Research on Environmental Decisions in Berlin, Technische Universität, Berlin, Germany, [3]Columbia Business School, Columbia University, New York, United States, [4]Andlinger Center for Energy and the Environment, Princeton University, Princeton, New Jersey, United States*

Do citizens know which government actions are more or less effective in reducing carbon emissions? Results from a line of seven studies with 3400 participants in four countries (Germany, France, United Kingdom, United States) show that citizens' ability to accurately judge the relative mitigation potential of currently discussed policies in their respective countries is quite limited. Moreover, judgments are systematically distorted by factors that do not affect actual or projected emission reduction. In Germany, for instance, climate policy endorsement is inversely related with projected emissions savings—German citizens, on average, favor comparatively ineffective climate policy, like a ban on ultra-short distance flights, and denigrate proposals with much larger emissions savings, like a highway toll. Despite this negative relationship, policy endorsement positively predicts perceived effectiveness. Our results align with the idea that cognitive processes of attribute substitution contribute to misestimations of climate policy effectiveness. Decision makers may address the complex and difficult question of emissions reductions by answering an easier, more accessible question, like how much they endorse or could profit from proposed new regulations. Our findings suggest that citizens rely on such salient but potentially misleading cues and thus fail to accurately assess which policies would have a bigger impact on emissions than others. The resulting judgment inaccuracy limits citizens' ability to align their sustainability intentions with the most effective policy support.

Keywords: public policy, carbon competence, emissions judgment, attribute substitution, mitigation potential

**ID-1177: PSYCHOLOGICAL BARRIERS AND (PARTIAL) SOLUTIONS TO IMPROVING CARBON COMPETENCE**

Mario Herberz[1; 2], Lukas Engel [3], Tobias Brosch [1; 2]

*[1]University of Geneva, Consumer Decision & Sustainable Behaviour Lab, Geneva, Switzerland, [2]Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland, [3]University of Basel Faculty of Psychology, Basel, Switzerland*

Individuals need to acquire carbon competence to engage in high impact climate actions. While research has found substantial gaps in impact knowledge, its psychological barriers have remained largely unexplored, and few attempts have been made to improve it. Here we ask how heuristic and motivated reasoning processes shape estimates of the mitigation potential of climate actions and evaluate three corrective interventions. Across three studies ($N_{total}$ = 2909) with representative U.S. samples, we show that (1) individuals consistently rely on the availability heuristic and motivated reasoning in their impact estimates, (2) individuals' perceptions of the behavioral costs and the social norm of climate actions are moderately associated with actual impact and can therefore be used to improve impact estimates, and (3) a behavioral costs and social norm heuristic, as well as simply providing information on the four most effective climate actions do not improve impact estimates across the board, but only for some individuals in line with theoretically predicted heterogeneity in the intervention effects. Our findings suggest that inappropriate heuristics and the motivated belief that actions already taken have a higher impact than they actually have distort perceptions of impact. Building better intuitions about climate impact may usefully complement conventional communication approaches, but both approaches need to account for

heterogeneity among the target population and carefully guide (as opposed to superficially nudge) individuals in order to unfold their potential to improve carbon competence.

Keywords: impact knowledge, carbon competence, heuristic reasoning, motivated reasoning, climate action

**ID-679: "I DON'T DENY IT BUT…". CLIMATE DELAYISM AND ITS LINKS TO CLIMATE ANXIETY AND DENIAL**

Adrian Dominik Wojcik[1], Aleksandra Cislak [2], Taciano Milfont [3], Michal Glowczewski [1]

*[1]Nicolaus Copernicus University*, *Toruń*, *Poland*, *[2]University SWPS*, *Warsaw*, *Poland*, *[3]University of Waikato / School of Psychology*, *Tauranga*, *New Zealand*

Addressing the climate crisis requires understanding beliefs that undermine individual and collective action,. Here we focus on less studied beliefs undermining climate action: climate delayism beliefs. These beliefs do not necessarily negate the reality of anthropogenic climate change, but rather negate the need for urgent and decisive action. Climate delayism beliefs focus on shifting responsibility for climate action, pursuing non-transformational solutions, emphasizing the flaws of climate policies, and downplaying negative climate impacts. Climate delayism beliefs have been studied primarily in the context of rhetorical strategies used by corporate leaders and government officials to avoid transformative solutions. However, more attention must be paid to researching the extent to which the general public denies the need for immediate climate action. Based on two representative samples of citizens in Poland and the UK ( $N_{total}$=1,000), we examined the prevalence of climate delayism beliefs and their associations with climate anxiety and denial. Our results show that: (1) the overall factor structure of climate delayism beliefs is similar in both countries; (2) greater levels of climate delayism beliefs are associated with lower climate anxiety and higher climate denial; but (3) some delay beliefs are held by respondents who believe in climate change and are concerned about it. We discuss these results and propose explanations for why denialist beliefs are waning, while delay discourses that undermine individual and collective action are becoming more predominant.

Keywords: climate denial, climate obstructionism, cimeta delayism, climate anxiety, climate change

**ID-241: TESTING PREBUNKING STRATEGIES TO COUNTER MISINFORMATION ON CLIMATE CHANGE**

Mauro Bertolotti[1], Patrizia Catellani [1], Alice Pirovano [1]

*[1]Università Cattolica del Sacro Cuore*, *Milan*, *Italy*

**Introduction**: The widespread dissemination of fake news about climate change poses a major challenge as it undermines trust in scientific information and hinders effective policy implementation. Research on communication strategies against misinformation has shown that a preventive approach, called

"prebunking", can be used to raise awareness of false content on the Internet and provide people with appropriate tools to critically evaluate it. **Goals & objectives**: We developed a smartphone app to test the effectiveness of three different prebunking strategies: factual, counterfactual and metacognitive prebunking. Factual prebunking provides accurate information that helps people assess the veracity of future content. Counterfactual prebunking uses hypothetical scenarios to uncover patterns of reasoning in conspiracy theories and enables individuals to recognize and deconstruct similar content. Metacognitive prebunking alerts people to cognitive biases and enables rational evaluation of dubious information. **Materials & Methods**: Participants (*N* = 595) received five messages (one per day) with examples of the three strategies depending on the experimental condition (no messages were sent in the control condition). We then examined participants' ability to distinguish between true and false messages about climate change. We also analyzed the effects of possible moderating variables such as conspiracy beliefs, political orientation, and pre-existing attitudes and concerns about climate change. **Results**: The results show that prebunking interventions generally improve people's ability to recognize fake news, and that counterfactual prebunking is particularly effective for those who are more exposed to the allure of fake news. **Conclusion**: The discussion will focus on the potential applications of this approach in climate change communication.

Keywords: misinformation, prebunking, fake news, communication

**17-06-2025 | 09:45 - 11:00**

**S-067**: **Climate adaptation/mitigation**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Forest Room*

Chair (IS): Wokje Abrahamse, Victoria University of Wellington / School of Geography, Environment & Earth Sci, Wellington, New Zealand.

## ID-669: A META-ANALYSIS OF THE EFFECTIVENESS OF INTERVENTIONS TO ENCOURAGE PEOPLE TO ADAPT TO CLIMATE CHANGE

Wokje Abrahamse[1], Hayam Elshirbiny[1]

[1]*Te Herenga Waka - Victoria University of Wellington*, *Wellington*, *New Zealand*

**Introduction**: People are increasingly exposed to climate change related risks, such as sea level rise, flooding, and wildfires. Despite the heightened risks, rates of personal preparedness remain low. Encouraging people adapt to climate change is of critical importance to reduce or avoid negative impacts of climate change. Many studies have examined how interventions, such as information provision, serious games, and visualization, can motivate people to take adaptive actions. However, a comprehensive review of this intervention literature is currently lacking. **Goals and objectives**: The overarching goal of this meta-analysis is to synthesise the evidence base concerning the effectiveness of interventions to encourage climate change adaptation behaviour. **Materials and methods**: The meta-analysis follows PRISMA

(Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. We use the following criteria for studies to be included in the meta-analysis. First, the study implemented an intervention aimed at increasing individual adaptation behaviour. Second, the study used a (quasi-) experimental design that includes a no-intervention control group. Third, the intervention's effect was measured via changes in behavioural intention or behaviour (e.g., information-seeking, preparedness behaviours) and sufficient statistical information was available to calculate effect sizes. **Results and conclusions**: The meta-analysis will be completed at the time of the conference. Our meta-analysis provides a much-needed quantitative synthesis of the efficacy of interventions to promote climate change adaptation. In doing so, it will improve our understanding of how to effectively encourage the update of adaptation behaviours and how to support people to prepare for the climate risks that lie ahead.

Keywords: meta-analysis, climate change adaptation, behaviour change interventions

**ID-512: INDIVIDUAL CLIMATE CHANGE ADAPTATION IN NEW ZEALAND: AN EXTENSION OF THE PROTECTION MOTIVATION THEORY**

Wokje Abrahamse[1], Hayam Elshirbiny [1], Matt Hammond [2]

*[1]Victoria University of Wellington / School of Geography, Environment & Earth Sci*, *Wellington*, *New Zealand*, *[2]Victoria University of Wellington / School of Psychology*, *Wellington*, *New Zealand*

**Introduction*:*** Climate change poses significant challenges to human health and wellbeing. In New Zealand, with rising sea levels, more frequent extreme weather events, and shifting precipitation patterns, the need for effective adaptation is paramount for safeguarding communities and ecosystems. Hence, it is important to investigate what motivates individuals to adapt to climate change. **Goals & Objectives*:*** This research investigates the predictors of individual climate change adaptation intentions in New Zealand using an extension of the Protection Motivation Theory (PMT). By focusing on individual-level adaptation, this study aims to inform the design of interventions that can encourage adaptation behaviours, and subsequently enhance public engagement with climate change adaptation and inform adaptation policies. **Materials & Methods:** An online survey was used to examine the determinants of climate change adaptation intentions in a large representative sample of the New Zealand public (N =1,353). The PMT variables were used to explain the variance in adaptation intentions, and additional variables were included to offer a more detailed explanation. **Results & Conclusions:** The PMT variables were all significantly correlated with intentions to adapt. The PMT explained 64% of the variance in intentions to adapt and the extended PMT explained an additional 7%. Responsibility to adapt and self-efficacy were the strongest predictors. Results show that the PMT is a useful theory in predicting individual climate change adaptation intentions in New Zealand. The results also indicate that interventions aimed at increasing adaptation intentions could focus on enhancing perceived responsibility and self-efficacy to increase people's preparedness for climate risks.

Keywords: climate change, adaptation, protection motivation theory, New Zealand, behavioural intentions

## ID-901: "IT'S COMPLEX"- BUT HOW? MEASURING THE PERCEIVED COMPLEXITY OF CLIMATE CHANGE MITIGATION

Saara Taavila[1], Nils Jostmann [1], Bastiaan Rutjens [1]

[1]*University of Amsterdam*, *Amsterdam*, *Netherlands*

Climate change mitigation is often deemed a "wicked problem" due to the complex interaction between many variables and the resulting uncertainty for decision-making. But how do individuals perceive this complexity in climate change mitigation, and are these complexity perceptions related to climate inaction?This presentation introduces a novel scale to measure perceived complexity of climate change mitigation. Building on an existing theoretical framework of complexity, we constructed a 12-item scale and validated it across three survey studies conducted in the UK (total N = 1 194). Utilizing exploratory (Studies 1 and 2) and confirmatory (Study 3) factor analyses, we identified three dimensions that constitute the final scale: uncertainty of predictions, perceived trade-offs between different sustainability actions (e.g. changing one's behavior in one way but inadvertently making it less sustainable in other ways), and goal conflict (between sustainability and other considerations, e.g. monetary costs). The scale proved to have strong construct validity and high reliability. Furthermore, higher perceptions of complexity predicted higher climate change skepticism and lower support for climate policy and sustainable behavioral intentions, also when controlling for demographic characteristics and political ideology.Understanding the perceived complexity of climate change mitigation can help governments, organizations, and educators effectively communicate about climate change mitigation and ultimately equip individuals with tools to navigate this complexity.

Keywords: complexity, measurement, climate inaction, policy support, climate communication

## ID-343: EXPLORING FOREST MANAGERS' CLIMATE CHANGE ADAPTATION INTENTIONS: EMPIRICAL EVIDENCE ACROSS EUROPE

Anne Lehr[1], Elisabeth Gotschi [1], Alice Ludvig [2], Nicu Tudose [3], Mirabela Marin [3], Romulus Oprica [3], Hapa Mihai [3], Cezar Ungurean [3], Teodoro Georgiadis [4], Ilaria Zorzi [5], Francesca Giannetti [6], Letizia Cremonini [4], Mar Riera-Spiegelhalder [7], Florian Knutzen [8], Marius Rhode Johannessen [9], Eglė Baltranaitė [10], Miguel Inácio [10], Paulo Pereira [11], Hermine Mitter [12]

[1]*Institute of Sustainable Economic Development, BOKU University*, *Vienna*, *Austria*, [2]*Institute of Forest, Environmental and Natural Resource Policy, BOKU University*, *Vienna*, *Austria*, [3]*National Institute for Research and Development in Forestry*, *Brasov County*, *Romania*, [4]*Institute for Bio Economy*, *Bologna*, *Italy*, [5]*Bluebiloba Startup*, *Florence*, *Italy*, [6]*Department of Agriculture, Food, Environment & Forestry, University of Florence*, *Florence*, *Italy*, [7]*ENT Environment & Management*, *Barcelona*, *Spain*, [8]*Climate Service Center Germany*, *Hamburg*, *Germany*, [9]*School of Business, University of South-Eastern Norway*, *Borre*, *Norway*, [10]*Environmental Management Laboratory*, *Vilnius*, *Lithuania*, [11]*Environmental Management Laboratory, Mykolas Romeris University*, *Vilnius*, *Lithuania*, [12]*Department of Environmental Systems Sciences, University of Graz*, *Graz*, *Austria*

Supporting forests adapt to the impacts of a changing climate with increasing temperatures and more frequent and intense weather extremes is becoming more pressing. While effective adaptation measures

have been investigated, knowledge on forest managers' intentions to implement these measures have rarely been investigated. In our study we explore forest managers' perceptions of climate change impacts and analyse socio-cognitive processes which are key in determining forest managers' intentions to implement adaptation measures. Building on the Model of Private Proactive-Adaptation to Climate Change we look at perceptions of forest managers, including risk and adaptive capacity, to improve our understanding of socio-cognitive processes which are forming their adaptation behaviour. A total of 56 semi-structured interviews were conducted with forest managers in eight European countries (Norway, Lithuania, UK, Germany, Austria, Romania, Spain and Italy). The qualitative content analysis reveals that forest managers agree that changes in climate pose a serious risk and impact on forest structure, species composition and management practices. Heat waves culminating with periods of drought have been reported as particularly challenging in several case study areas. Depending on socio-cognitive processes as well as regional characteristics, their response strategy in how to deal with these risks vary from favouring natural regeneration methods, increasing structural diversity, to wishful thinking or fatalistic approaches. Given the lack of control over an increase in expected adverse weather extremes and long-time horizons in forest management, the perceptions of forest managers regarding future viability of their forests are often characterised by high levels of uncertainty.

Keywords: socio-cognitive process, climate change adaptation, qualitative analysis, forest manager, risk appraisal

**ID-655: ESTIMATING THE CLIMATE CHANGE MITIGATION POTENTIAL OF BEHAVIOR CHANGE INTERVENTIONS**

Malte Friese[1], Maximilian Thiel [1]

[1]*Saarland University, Department of Psychology*, *Saarbrücken*, *Germany*

**Introduction**: Behavioral interventions are an important means of addressing climate change. Interventions that are more effective as indicated by a standardized effect size are typically assumed to have greater potential to contribute to climate change mitigation. In this talk, we argue that standardized effect sizes do not provide sufficiently robust evidence to inform public policy recommendations on the most promising behavioral interventions to tackle climate change. **Goals & Objectives:** First, we explain why the effectiveness of interventions should be assessed on the basis of estimated reductions in greenhouse gas emissions over the study period, not standardized effect sizes. Second, from a public policy perspective, it is important to estimate the extent to which different interventions can prospectively contribute to climate change mitigation. To this end, we present a theoretical framework that illustrates that in order to estimate the climate change mitigation potential of an intervention, researchers need to consider the effect of the intervention, its persistence over time, and the scalability of the intervention to large and diverse populations. These determinants can interact in different ways and we illustrate how these interactions affect the climate change mitigation potential of an intervention. **Materials & Methods, Results**: Narrative review and theoretical perspective. Conclusions: Not considering one or several components of the framework hinders researchers' ability to identify the most promising behavioral interventions. We derive concrete recommendations for the design and reporting of future

behavioral interventions, which will allow public policy recommendations to be based on stronger evidence.

Keywords: behavioral interventions, standardized effect size, climate change mitigation, greenhouse gas emissions,

**17-06-2025 | 09:45 - 11:00**

**S-064**: **Natural & urban environments in virtual settings**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Dawn Room*

Chair (IS): Marino Bonaiuto, Sapienza University of Rome / Department of Social and Developmental Psychology, Rome, Italy.

**ID-723: EFFECTS OF VIEWING NATURAL AND URBAN SCENARIOS IN VIDEO AND VIRTUAL REALITY ON EMOTION REGULATION PROCESSES: TWO EXPERIMENTAL STUDIES**

Marino Bonaiuto[1; 2], Valeria Vitale [1]

*[1]Department of Psychology of Developmental and Socialization Processes, Sapienza, Rome, Italy, [2]CIRPA – Centre for Interuniversity Research in Environmental Psychology, Rome, Italy*

Research has demonstrated the benefits of nature on well-being, particularly through its influence on emotions and emotion regulation (ER) processes. Studies suggest that exposure to nature promotes adaptive ER strategies and reduces maladaptive ones (Vitale & Bonaiuto, 2024). This contribution presents two studies examining the effects of virtual nature (videos/VR) on emotions and ER strategies following a negative mood induction procedure (MIP). It is hypothesized that natural environments, due to their higher restorative potential (PRS), foster more adaptive strategies compared to urban environments, leading to greater reductions in negative emotions. The first study uses a within-subject design with 3 experimental conditions (nature, city center, busy street) and 3 emotion measurements (baseline, post-MIP, post-intervention). A sample of 56 participants (42 women, $M_{age}$ = 28.8) tested a serial mediation model, with experimental conditions predicting post-intervention negative emotions, and PRS and adaptive/maladaptive strategies as mediators. A significant serial mediation effect was found, with PRS and adaptive strategies influencing negative emotions in the nature condition ($\beta$ = -0.06, $p$ = 0.028). The second study adopts a mixed design, with 5 experimental groups (Arctic, Island, Forest, Countryside, Urban) as between-subjects and 3 emotion measurements as within-subjects. A sample of 79 participants (54 women, $M_{age}$ = 25.2) found no support for the mediation of ER strategies but revealed a parallel mediation effect, where the experimental group influenced negative emotions through participants' perception of the location as suitable for down-regulation. The research highlights the importance of natural stimuli for emotion regulation and their potential to enhance well-being.

Keywords: nature, simulated nature, virtual nature, emotion regulation, emotion

## ID-720: UNRAVELING THE INTERPLAY OF PHYSICAL AND PSYCHOLOGICAL ENVIRONMENTS ON GENERAL HEALTH

Simone Di Plinio[1], Elisa Menardo [2], Claudia Greco [1], Margherita Brondino [2], Margherita Pasini [2], Sjoerd Johannes Endrikus Ebisch [1]

*[1]University of Chieti-Pescara, Chieti, Italy, [2]Department of Human Sciences, University of Verona, Verona, Italy*

Emerging evidence suggests that both physical and psychological elements of one's immediate surroundings critically shape individual well-being. In addition to increased urbanization, the increasingly pervasive role of technology has been associated with the phenomenon of technostress. This longitudinal study examines the psychological mechanisms involved in the relationship between near-home, environmental greenery and gray infrastructures, perceived restorativeness, technostress and mental well-being more generally, with a particular emphasis on the possible mediating role of the sense of self (encompassing basic senses of identity and agency). We surveyed more than 900 Italian participants over time. Building on environmental psychology frameworks, we hypothesized that diminished vegetation coverage around one's residence correlates with lower perceived restorativeness and heightened technostress, adversely affecting general mental health outcomes over time. Conversely, a stronger sense of self is expected to buffer these negative impacts, enhancing perceived restorativeness even in gray-dominated settings. Our results indicate a robust mediating role of restorativeness and the sense of self, linking objective environmental measures and technostress levels to general health. Notably, participants reporting higher sense of self show greater resilience in coping with limited green space, suggesting that psychological traits can mitigate some detrimental effects of suboptimal environments. By integrating longitudinal data with advanced statistical modeling, this study underscores the complex interplay between physical surroundings and psychological factors in shaping health trajectories. Our findings offer insights for policymakers, urban planners, and mental health professionals aiming to foster well-being by enhancing green infrastructure and supporting an individual sense of self.

Keywords: physical and psychological environments, near-home environment, sense of self, restorativeness, general health

## ID-412: RESTORATIVENESS OF NATURAL ENVIRONMENTS: AN EXPLORATORY STUDY IN VIRTUAL REALITY

Silvia Marocco[1], Valeria Vitale [1], Elena Grossi [1], Fabio Presaghi [1], Marino Bonaiuto [1; 2], Alessandra Talamo [1]

*[1]Sapienza University of Rome / Department of Social and Developmental Psychology, Rome, Italy, [2]CIRPA – Centre for Interuniversity Research in Environmental Psychology, Rome, Italy*

Several studies have highlighted the benefits of natural environments in fostering positive emotions and well-being. Virtual Reality (VR) has emerged as a powerful tool to investigate environmental effects on emotional responses. This study explores the restorative potential of virtual natural environments by assessing their impact on emotional recovery in terms of valence and arousal, using both self-report (i.e. explicit) and physiological (i.e. implicit) measures. The study involved three experimental groups, each

exposed to a preferred virtual natural environment, and a Control group exposed to a neutral scenario. The main hypothesis proposed that participants exposed to natural environments after arousing scenarios would report increased positive emotions and reduced activation compared to those in the neutral scenario. The sample included 52 participants, equally distributed across the groups. Results from self-report data confirmed that virtual natural environments restored positive emotions in terms of valence. Regarding arousal, the analysis from explicit and implicit measures revealed the effectiveness of both neutral and natural scenarios. Moreover, implicit measures indicated that participants in the experimental groups exhibited higher levels of physiological activation compared to the Control group. However, upon examining both explicit and implicit measures, it becomes evident that this activation was positively appraised in terms of valence, supporting the maintenance of positive affect. In conclusion, this study supports the restorative potential of virtual natural environments in enhancing emotional valence, while highlighting more complex effects on the arousal component.

Keywords: nature exposure, virtual reality, emotions, valence, arousal

**ID-555: CONTEXT MATTERS: DEVELOPMENT OF THE CONCEPT OF LOCATION SELECTION FOR EMOTION REGULATION AND VALIDATION OF A SCALE FOR NATURAL ENVIRONMENTS**

Valeria Vitale[1], Marino Bonaiuto [1; 2], Gregory N. Bratman [3], James J. Gross [4], David A. Preece [4; 5; 6], Mathew P. White [7; 8]

*[1]Sapienza University of Rome / Department of Social and Developmental Psychology, Roma, Italy, [2]CIRPA – Centre for Interuniversity Research in Environmental Psychology, Rome, Italy, [3]University of Washington, School of Environmental and Forest Sciences, Seattle, United States, [4]Department of Psychology, Stanford University, Palo Alto, United States, [5]School of Population Health, Curtin University, Perth, Western Australia, Australia, [6]School of Psychological Science, University of Western Australia, Perth, Western Australia, Australia, [7]University of Vienna, Urban and Environmental Psychology Group, Vienna, Austria, [8]University of Vienna, Vienna Cognitive Science Hub, Vienna, Austria*

This work introduces “location selection” as a new category of emotion regulation strategies within the Process Model of Emotion Regulation (Gross, 2002), emphasizing how environmental contexts, particularly natural settings, shape emotion regulation by facilitating or hindering effective emotional responses and management. Building on this, this research details the validation of a scale specifically designed to measure location selection in natural environments, through four studies. The first study ($N_{S1}$ = 292) focused on developing and preliminarily validating the English version of the scale, starting with an initial set of 20 items. The second study ($N_{S2\text{-}T1}$ = 302) examined a reduced version of the scale, testing its reliability, convergent and discriminant validity, as well as test-retest reliability and predictive validity through a follow-up survey ($N_{S2\text{-}T2}$ = 125). This process resulted in a final version of the scale consisting of 12 items, organized into two factors: up-regulation and down-regulation. The third study ($N_{S3}$ = 308) adapted the scale for Italian speakers, confirming the two-factor structure and its validity. Across these studies, alternative models for the scale structure were tested, and the two-correlated-factor model representing up-regulation and down-regulation, consistently provided the best fit. The fourth study ($N_{S4}$ = 200) developed an adapted shortened Italian version of the scale to explore its practical application by evaluating specific environmental stimuli (i.e., images) in an experimental study, demonstrating its

versatility in assessing the emotional impact of various environments. Furthermore, measurement invariance across experimental images was confirmed, highlighting the scale's consistency across experimental conditions.

Keywords: nature, emotion regulation, emotion, valence and arousal, scale validation

**ID-280: GENDER AND URBAN GREENSPACE: HOW GENDER AND SAFETY PERCEPTIONS AFFECT RESTORATIVE EXPERIENCES IN URBAN GREENSPACES**

Anna Bornioli[1; 2], Birgitta Gatersleben [2]

*[1]ISGlobal*, *Barcelona*, *Spain*, *[2]Environmental Psychology Research Group, University of Surrey*, *Guildford*, *United Kingdom*

This paper examines the role of gender in restorative processes in urban greenspace, examining women's experiences of urban nature. First, we review theories and evidence from psychology, epidemiology and feminist urbanism on how gender socio-cultural norms, attitudes, and behaviours, roles and relations, stereotypes, expressions, identity and sexual orientation, as well as certain sex-related factors, can affect experiences in public space. Several potential barriers to women's and gender minorities' experiences in urban greenspaces are identified. These relate to 1. visit characteristics (transport accessibility, frequency, time, social context and purpose of visits), 2. experiences of contextual features (perceived and objective safety, the quality and maintenance of urban greenspace, infrastructure features), and 3. several top-down person and group-based experiences (personal meanings, majority dynamics and group belonging, intersecting sociodemographic and personal characteristics). Second, we focus on safety perceptions, and present results from four experiments conducted with UK residents (sample size range: n=51 to n=409; total n = 1020; Mean age range: 21 to 36 years old), testing restoration in nature settings of different density and the role of gender, fear, and social threats. Findings show that women reported higher perceptions of danger and fear, especially in dense environments. Women were also concerned about social dangers, while men were not. Overall, the person-environment fit in urban greenspaces seems lower for women, potentially reducing restorative and psychological benefits of urban greenspaces. From a research and policy perspective, identifying and tackling such potential safety concerns is crucial in order to ensure greenspace benefits for women.

Keywords: restorative environments, urban greenspace, gender, review, experimental design

**17-06-2025 | 09:45 - 11:00**

**S-093**: **Single-use plastic**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Sun Room*

Chair (IS): Kayleigh Wyles, School of Psychology, University of Plymouth, Plymouth, United Kingdom.

**ID-520: SINGLE-USE SACHETS: USING PSYCHOLOGY TO UNDERSTAND WHY PEOPLE BUY AND LITTER THIS TYPE OF PACKAGING COMMONLY FOUND IN THE GLOBAL SOUTH**

Kayleigh J Wyles[1], Anastasia Voronkova [1]

[1]*School of Psychology, University of Plymouth*, *Plymouth*, *United Kingdom*

**Introduction*:*** Plastic waste continues to accumulate, causing multiple socioeconomic and environmental issues. To address this challenge, it is crucial to mitigate this issue at its source: production and consumption. This is especially true for unrecyclable single-use single-portion plastics, like sachets, particularly prevalent in the Global South. For example, in Indonesia, plastic sachets amount to 768,000 tons of plastic waste per year and are largely unmanaged. **Objectives*:*** This study aimed to examine the key reasons why people both buy this type of packaging and choose to litter the resulting waste. **Methods*:*** Through a survey in East Java, Indonesia (*n* = 501) we explore the prevalence of sachet purchasing practices and the factors that affect those, such as type of products, practical facilitating factors and psychological variables. **Results**: Our findings show that purchasing products in sachets was highly prevalent among our sample, especially for products like instant coffee. Some product features were particular noted (e.g., the importance of portioning and it being affordable). Most notably, psychological factors were found to be important: habit strength, level of concern towards plastic pollution, consideration of future consequences, connection to nature and social norms. **Conclusions*:*** These findings provide an important insight into the reasons why people use a type of packaging that is ultimately contributing to plastic pollution. This helps strengthen the science, filling gaps on this behavior and broadening the research into the Global South, but also provides practical applications to help minimize the use and disposal of this type of waste.

Keywords: plastic pollution, consumption, waste management, drivers of behavior

**ID-904: SOCIOECONOMIC BARRIERS TO SINGLE-USE PLASTIC MITIGATION: PHILIPPINE YOUTH PERSPECTIVES ON SACHETS**

Angel Bella[2], Nicole Spiegelaar[1]

[1]*University of Toronto*, *Toronto*, *Canada*, [2]*University of British Columbia*, *Vancouver*, *Canada*

Sachets are single-use plastic packages holding small volumes of essential goods. Marketing strategies by multinational corporations targeted low-income households of the Global South, which have subsequently seen an increase in sachet use and plastic pollution. In the Philippines, sixty billion sachets are used annually, amounting to 10% of waste in the country; 83% of that waste is not properly disposed. This study explores systemic barriers to pro-environmental consumerism; specifically, barriers to single-use sachet alternatives in the Philippines from the perspective of youth environmentalists. Youth (aged 19-25) engaged in environmental advocacy in Negros Occidental, Philippines participated in photovoice reflections of daily sachet interactions, followed by semi-structured interviews elaborating on personal and observed patterns of sachet consumption and disposal. Youth suggest sachet consumption is necessitated by lack of accessible and affordable alternatives, complicated by the infiltration of sachet marketing into cultural identities. Philippine Elders, respected as senior knowledge keepers, have established sachets as the domestic standard for future generations. Visits to local *sari-sari* stores, offering essential goods and traditional food ingredients in affordable sachets, are accessible for over-worked, low-income families, and part of daily cultural routines. Environmentally-engaged youth are deeply troubled by sachet waste, yet feel powerless to change consumer practices without compromising their cultural identity, social relationships or their family's financial sustainability. This study highlights how sociocultural and economic contexts lend to plastic single-use dependence in ways irresolvable through environmental activism, understanding environmental issues, or pro-environmental initiatives alone. This has implications for inquiry and application of pro-environmental behaviour research.

Keywords: pro-environmental behaviour, plastic pollution, sociocultural perspectives, qualitative research, global south

**ID-642: ENHANCING OCEAN-FRIENDLY BEHAVIOUR: THE ROLE OF SELF-EFFICACY AND RESPONSIBILITY ATTRIBUTIONS AMONG RESIDENTS AND TOURISTS ON THE FRENCH MEDITERRANEAN SEA COAST**

Rebecca Demmler[1], Susanne Stoll-Kleemann[1]

[1]*University of Greifswald, Greifswald, Germany*

A key element of Ocean Literacy is fostering ocean-friendly behaviour to mitigate human impacts on marine ecosystems. Although self-efficacy and responsibility attributions are known to influence pro-environmental behaviours, research in the marine context remains limited. This study addresses this gap by examining the self-efficacy beliefs of tourists and residents of the French Mediterranean Sea coast (N = 405) regarding their ocean-friendly behaviour and responsibility attributions for ocean conservation. Data were collected through face-to-face interviews in Hyères and the Giens Peninsula, France. Statistical analysis showed that individuals with strong ocean-preserving self-efficacy reported significantly higher engagement in ocean-friendly behaviour. Age showed a minor but significant negative correlation with self-efficacy beliefs. Self-efficacy and gender were significant predictors for attributing responsibility. However, this appears to apply only to the responsibility attributed to individuals, locals and tourists and the institutions of the European Union. Finally, a significant positive correlation between responsibility attribution and ocean-friendly behaviour was observed only for responsibility assigned to industry and businesses. The findings underscore the role of self-efficacy in promoting ocean-friendly behaviours and

suggest that tailored interventions—considering factors such as gender and age—along with addressing varying attributions of responsibility, could enhance conservation efforts among coastal residents and tourists in France.

Keywords: ocean literacy, Mediterranean Sea, ocean-friendly behaviour, self-efficacy, responsibility

**ID-833: EXPLORING THE SUSTAINABILITY-LEARNING LINK: A CROSS-LAGGED PANEL ANALYSIS OF INFORMAL LEARNING AND EMPLOYEE GREEN BEHAVIOR**

Annelie Lorber[1], Julian Decius [1]

[1]*Universität Bremen*, *Bremen*, *Germany*

**Introduction**: Organizations are recognizing the need to address environmental issues, resulting in a focus on sustainable work practices. Employee green behavior (EGB) is a crucial foundation for organizations to achieve these environmental objectives. Recent literature primarily highlights green human resource management, especially green training, in promoting EGB. However, most of the learning in the workplace happens informally. **Objectives**: We investigate how informal workplace learning (IWL) relates to EGB. Behavior creates opportunities for informal learning, while learning, in turn, forms the basis for behavioral change. Therefore, we assume that EGB and IWL have a reciprocal relationship. Based on the model of proactive motivation, we propose that the relationship is mediated by different motivational states (i.e., can do, reason to, and energized to motivation). **Methods**: We conduct a three-wave online survey, analyzing the data using structural equation modeling. **Results**: Preliminary results from 361 participants (we aim for 500) suggest that 'reason to' motivation and 'energized to' motivation are significant mediators between IWL and EGB. Additionally, 'energized to' motivation mediates the relationship between EGB and IWL. We found no significant effects for 'can do' motivation as a mediator. **Conclusion**: Our study highlights the reciprocity between IWL and EGB, emphasizing the importance of motivational states. Organizations could leverage 'reason to' and 'energized to' motivation, for example, by communicating the meaningfulness of the topic and promoting enthusiasm through projects or competitions to enhance their environmental objectives. 'Can do' motivation might be less applicable for EGB or learning activities that are perceived as simple or commonplace.

Keywords: employee green behavior, informal learning, workplace, motivation, quantitative survey

**ID-196: GLOVES OFF FOR SUSTAINABILITY? DRIVERS AND BARRIERS FOR REDUCING PLASTIC GLOVE CONSUMPTION AMONG HOSPITAL STAFF**

Susanne Pedersen[1], Nikoline Garner Oturai [2], Nadja Vestergaard Pedersen [1], Gwen Fox [2], Thomas Budde Christensen [3], Kristian Syberg [2]

[1]*Aarhus University, Department of Management*, *Aarhus V*, *Denmark*, [2]*Roskilde University, Department of Science and Environment, Roskilde*, *Denmark*, [3]*Roskilde University, Department of People and Technology*, *Roskilde*, *Denmark*

**Introduction**: The healthcare sector significantly impacts the environment, contributing an estimated 5% of the global consumption-based carbon footprint with hospitals being the primary source of emissions. Especially non-sterile plastic gloves contribute significantly to $CO_2$ emissions. Despite political goals about $CO_2$ reduction, little is known about drivers and barriers for more sustainable consumption practices among hospital staff. **Objectives:** The aim is to identify barriers and drivers for reducing plastic glove use without compromising hygiene and infection prevention among hospital staff. **Materials & Methods:** A multiple-method qualitative approach was utilized at 10 different wards at seven different hospitals in Denmark. We conducted 60 hours of observations of care routines and 41 interviews of 30-minutes duration with nursing staff (nurses, midwifes, ergo- and physiotherapists) in November-December 2024. Ethical approval was obtained. **Results:** Preliminary findings show that professional competences (including hygiene considerations) and economic considerations overrule sustainability concerns among most nursing staff. However, by exploring workflows and establishing communication and more circular routines, there might be potential to reduce the use of plastic gloves as well as other types of single-use products among nursing staff at hospitals. **Conclusions**: This research highlights various aspects of the complex behaviour change needed for securing more circular practices among nursing staff. It offers strong insights about drivers and barriers for reducing the use of plastic gloves and other type of single-use products, which may be of interest to hospital managers and staff.

Keywords: sustainability, consumption reduction, hygiene, plastic gloves, hospitals

**17-06-2025 | 09:45 - 11:00**

**S-0106**: **Pro-environmental behaviour**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Cove*

Chair (IS): Sandor Czellar, University of Lausanne, Lausanne, Switzerland.

## ID-709: THE GREEN SIDE OF SELF-ENDORSEMENT: USING ALGORITHMS TO PROMOTE PRO-ENVIRONMENTAL BEHAVIOR

Lindsay B Miller[1], Kristy A Hamilton [1]

[1]*University of California, Santa Barbara / Communication*, *Santa Barbara*, *United States*

**Introduction:** Artificial intelligence (AI)-driven technologies, such as intelligent recommendation systems, introduce a new frontier of persuasive influence in the form of self-endorsement—depicting the "self" as endorsing a product or service. **Objectives:** This experiment explores the efficacy of self-endorsement to

increase pro-environmental tourism choices—a sector unprepared to decarbonize and increasingly driven by AI. Furthermore, it extends the theoretical understanding of self-endorsement by investigating its boundary conditions within a new AI-mediated context. **Materials & Methods:** 300 U.S. adults from Prolific participated in a three-level within-subjects experiment. Participants interacted with three versions of an ostensibly AI-driven digital travel agent: One purportedly based on their data (self-endorsed), one purportedly based on previous users (other-endorsed), and one not programmed (control). Across 18 travel categories, each agent provided 4 options, one of which was randomly depicted as being "recommended," and one of which was eco-friendly; 50% of the time, the recommended and eco-friendly option were the same. For each agent, participants made selections across the 18 categories before completing measures of their sustainable consumption values, identification, perceived interactivity, and usefulness. **Results:** Participants were more likely to accept recommendations and eco-friendly options from the self-endorsing agent than the other-endorsing or control agents. Aligning with prior research, the effect of self-endorsement was moderated by identification, perceived interactivity, and usefulness. Preliminary evidence suggests self-endorsement can increase sustainable consumption values. **Conclusions:** This study demonstrates the potential of self-endorsement to foster pro-environmental behavior and values in AI recommendation systems, offering a mechanism to align this increasingly ubiquitous technology with environmental goals.

Keywords: pro-environmental behavior (peb), artificial intelligence (ai), recommendation systems, tourism behavior, self-endorsement

## ID-407: KNOWING ME, KNOWING YOU: AFFECTIVE EMPATHY, COMPASSION, AND OTHER-ORIENTED JUSTICE SENSITIVITY ARE CORRELATED WITH PRO-ENVIRONMENTAL BEHAVIOR, WHEREAS COGNITIVE EMPATHY IS NOT

Susanne Nicolai[1]

[1]*University of Greifswald*, *Greifswald*, *Germany*

Extensive psychological research has documented that becoming aware of injustice, coupled with a negative evaluation of it, motivates actions aimed at addressing the injustice. These findings are potentially highly relevant for research on pro-environmental behavior, because harming the environment (by emitting CO2, pollution etc.) is also unjust, inasmuch as it disproportionally affects those who contribute least to its cause. Therefore, becoming or being made aware of this fact could be an important motivator of pro-environmental behavior (PEB). So far, however, very little research has addressed this hypothesis, and the existing findings are ambiguous (see below). In this study, we aim to investigate whether empathy plays a role in this process. To further clarify this issue, a preregistered study (N = 327) was conducted to investigate the effects and interactions of Justice Sensitivity (with four subfacets), different facets of empathy (cognitive empathy, affective empathy, and compassion), and PEB. Even though empathy shows various pro-social and pro-environmental effects in literature, our study could not demonstrate a clear association of various aspects of empathy and pro-environmental behavior. Way more clear was the positive relation of other-oriented justice sensitivities (perpetrator, beneficiary and observer) with pro-environmental behavior as well as the negative association with victim sensitivity. We derive two points from this: First, more research is needed to fully understand mechanisms and

relations of empathy facets. Second, justice sensitivity is a promising factor to foster pro-environmental behavior. As justice is a fundamental human motive, both, researchers and practitioners should include it in their frameworks.

Keywords: pro-environmental behavior, justice sensitivity, empathy, compassion, other-oriented justice sensitivity

**ID-784: BEYOND ONE IDENTITY: LEVERAGING INTER-IDENTITY ASSOCIATIONS TO ACTIVATE ENVIRONMENTAL IDENTITY AND FOSTER PRO-ENVIRONMENTAL BEHAVIORS**

Sandor Czellar[1], Simona Haasova [1], Leila Rahmani [1]

[1]*University of Lausanne*, *Lausanne*, *Switzerland*

Extant research shows that environmental identity is one of the key drivers of pro-environmental behavior. Because environmental identity is formed from early childhood through multifaceted influences, its effects on behavior may not only operate in isolation but rather through the interplay between environmental and other self-relevant identities. If environmental identity is mentally associated with other identities, the situational salience of the latter may co-activate the former, potentially leading to identity-consistent pro-environmental actions. Other identites may thus be regarded as "gatekeepers" to the influence of environmental identity, especially if those identities are more (vs. less) self-important. We conducted two pre-registered online experiments to test this theoretical framework: Study 1 compared environmental identity with another identity (consumer identity), while Study 2 examined seven other identities of varying self-importance (gender, political, place, recreational, family, ethnocultural, and religious identities). Results show that the stronger the association of environmental identity to other identities in the self, the higher the self-reported engagement in pro-environmental behaviors, especially when the other identity is self-important. Findings also suggest that environmental identity is more likely to be associated with other identities that are more (vs. less) self-important, which may facilitate identity co-activation effects. Our next steps involve experimentally manipulating the salience of an alternative identity to test whether, for identities with a stronger (vs. weaker) association with the self, the increased co-activation of environmental identity indeed leads to stronger engagement in pro-environmental behaviors. We also plan a study in a retail environment using real marketing stimuli to test this hypothesis.

Keywords: environmental identity, identity associations, identity theory, pro-environmental behavior

**ID-797: INVESTIGATING IF TAILORING TO PERSONALITY DIMENSIONS INCREASE APPEAL OF PRO-ENVIRONMENTAL INTERVENTIONS**

Cecilie Fenja Strandsbjerg[1], Ingo Zettler [1; 2]

[1]*Copenhagen Center for Social Data Science (SODAS), University of Copenhagen*, *Copenhagen*, *Denmark*, [2]*Department of Psychology, University of Copenhagen*, *Copenhagen*, *Denmark*

**Introduction**: Tailoring interventions to personality characteristics, sometimes termed psychological targeting, has gained significant attention in psychological research. While this approach has been successfully applied in some areas, few studies have investigated this with regards to pro-environmental behaviour. **Objectives**: This project investigates the perceived appeal of personality-tailored interventions addressing pro-environmental behaviour. **Materials & Methods**: An initial correlational study investigated associations between HEXACO personality dimensions and personality-tailored justifications for taking climate relevant actions (*N* = 622). Building on results from this, an experimental study investigated the perceived appeal of personality-tailored interventions addressing sustainable food consumption, focusing on Openness to Experience and Emotionality, in a UK sample recruited via Prolific Academic (*N* = 1,735). Participants were randomly assigned to one of five conditions: high vs. low Openness to Experience, high vs. low Emotionality, or control. Using multiple linear regression, we predicted perceived appeal (and, exploratorily, intentions) from personality dimension level, condition (high vs. low), and dimension level x condition for each of the two HEXACO dimensions, focusing on participants following an omnivorous diet. **Results**: While findings concerning appeal descriptively support a positive interaction effect for Openness to Experience, this result was not statistically significant. There was no support for a positive interaction effect for Emotionality or intentions. **Conclusions**: This investigation contributes to the ongoing debate on psychological targeting across various domains, applying it to the context of sustainable food consumption. Results suggest that targeting interventions does not work for Emotionality, and that future research might test for smaller effects concerning Openness to Experience.

Keywords: personality, psychological targeting, sustainable diets, pro-environmental behaviour, HEXACO

**17-06-2025 | 11:00 - 11:30**

**Coffee Break**

*Campus Courtyard*

**17-06-2025 | 11:30 - 12:45**

**S-031**: **To Support or not to Support? Factors Affecting Support for Climate Policies Across a Range of Countries**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Zan Mlakar, University of Groningen, Groningen, Netherlands.

**ID-1183: FAIRNESS PERCEPTIONS OF CLIMATE TAXES AND SUBSIDIES**

Lea Stapper[1], E. Keith Smith [1], Thomas Bernauer [1]

[1]*ETH Zurich*, *Zurich*, *Switzerland*

The implementation of ambitious climate mitigation policies is likely to lead to significant changes in economic and social structure that could imply distributional consequences, within and between countries. Thus, understanding how the public perceives distributional impacts and how these perceptions impact policy support is crucial for successful and politically feasible climate action. This study builds on literature on public support for climate policies by establishing a causal link between beliefs about distributional impacts and climate policy support and comparing both subsidies and taxes rather than focusing on carbon taxes. We collected survey data in Denmark and Greece to measure perceptions around various dimensions of fairness and distributional impacts of fuel taxes and electric vehicle subsidies. In addition to measuring perceptions, we use a survey experiment with an information treatment to understand *why* people have certain (mis)perceptions about the distributional impacts of climate taxes and subsidies. The experimental set-up allows us to disentangle to what extent incomplete information or motivated reasoning – due to policy rejection or support – may be driving differences in policy support for these different policy instruments. A better understanding of the role of (mis)perceptions in determining support for climate policies can help policymakers address the lack of support for ambitious policies such as carbon taxes. The findings of this study will also provide a better understanding of the role of fairness and distributional concerns in public perceptions of climate policy.

Keywords: climate policy support, distributional impacts, fairness, policy perceptions, survey experiment

**ID-1184: ATTITUDES TOWARDS CARBON TAXATION IN THE EU: MESSENGER EFFECTS VS. CONTENT EFFECTS**

Alessio Levis[1], E. Keith Smith [1], Silvia Pianta [2]

[1]*ETH Zurich*, *Zurich*, *Switzerland*, [2]*CMCC Foundation - Euro-Mediterranean Center on Climate Change*, *Milan*, *Italy*

This paper investigates the role of institutional messenger effects in shaping public support for carbon taxation policies within the European Union. While carbon taxes are often described as economically efficient measures for discouraging fossil fuel consumption, they lack political feasibility due to their perceived coerciveness and high individual costs. This research investigates how institutional sources—specifically, national/foreign governments or the European Commission—shape (low) public support for carbon taxes via messenger effects. We hypothesize that support decreases with increasing tax rates but is moderated by respondents' association with institutional sources, where we expect respondents' trust, euroscepticism, and national identity to drive the moderating effect. We test these assumptions by running a survey-embedded vignette experiment in Germany and Poland, with 1,600 respondents in each country evaluating proposals for EU-wide carbon taxes for fuels used in transport, aviation, and heating. Presented vignettes vary in their tax rate (10%, 50%, 100%) and institutional source (European Commission, national government, foreign government). The results of this study hold significant implications for both research and policymakers within the European Union. Academically, the study deepens understanding of how messenger effects and institutional cues influence public support of divisive policies like carbon taxation. For policymakers, the findings highlight how trust and public

perceptions can be leveraged to bridge the gap between the efficiency of carbon taxes and their (low) political feasibility.

Keywords: messenger effects, carbon tax, cues, trust, euroscepticism

**ID-1185: SHIFTING SANDS: HOW POLITICAL INCONSISTENCY UNDERMINES PUBLIC TRUST AND CLIMATE POLICY SUPPORT**

Zan Mlakar[1], Thijs Bouman [1], Goda Perlaviciute [1]

[1]*University of Groningen*, *Groningen*, *Netherlands*

In order to enact mitigation policies needed to avoid the most devastating impacts of the climate crisis, the collaboration of political parties that have previously not been supportive of climate policy is necessary. However, sudden support for progressive climate policy creates inconsistency in the behaviour of those parties, which past research has found diminishes trust in the inconsistent actors and fosters disapproval of their actions. Here, we thus examine to what extent people support progressive policies proposed by political parties that have previously not supported climate action. To address this question, we conduct multiple survey-embedded vignette experiments on a convenience sample of EU citizens, as well as on representative samples in Slovenia and the Netherlands (total N = 3,020). In the experiments, we vary whether a fictional party proposing a progressive climate policy has previously supported climate action (consistent) or not (inconsistent). Then, we measure support for the policy package, trust in the political party, multiple policy package perceptions, and individual political/climate attitudes. We find that inconsistency does not directly lower policy support. Rather, it diminishes the trust people have in the inconsistent political party, which in turn decreases policy support. This effect persists across groups of people with different political ideologies, policy perceptions, and climate attitudes. Our results suggest that sudden shifts towards enacting climate policies may not be as detrimental as past research suggests if the inconsistent parties are able to restore citizens' trust.

Keywords: climate policy support, political inconsistency, trust

**ID-1186: DOUBLE-EDGED SWORD? CHANGE IN ENERGY BEHAVIOURS IN DUTCH HOUSEHOLDS AFTER ASSISTANCE FROM GOVERNMENTS**

Lisa Novoradovskaya[1], Thijs Bouman [1]

[1]*University of Groningen*, *Groningen*, *Netherlands*

With the transition to renewable energy not happening fast enough, households carry the burden of paying the high energy bills when energy crises hit. Governments throughout the world are attempting to help mitigate high energy prices for the citizens. In the Netherlands government policies were implemented in 2022-2023 in the form of a monetary contribution of €190 and a cap on energy prices.

This can have a negative side effect on energy saving behaviours at home, as they are not financially necessary anymore. We investigated how these policies affected energy behaviours, support for those policies among Dutch households and which psychological factors may be at play. A questionnaire assessing energy-saving behaviours, personal values, motivation to save energy, energy poverty, and policy support was administered to a representative Dutch sample of N = 447 participants in December 2022 after the implementation of the contribution policy and in February 2023 after the cap policy was introduced. The support for policies increased over time and was predicted by how much people care for those around them, rather than by how much they care for the environment, comfort or money. People tended to perform less energy saving behaviours after the policies were introduced, moreover, overall motivation to save energy reduced. More energy poverty was reported at the second measurement contrary to expectations. These results show that policies aimed to help households during an energy crisis can be a double-edged sword that could undermine the engagement in energy saving behaviours.

Keywords: climate policy support, personal values, energy crisis, energy saving

**17-06-2025 | 11:30 - 12:45**

**S-026**: **Emotions in the Face of Environmental Collapse: Challenges and Opportunities**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Flora Room*

Chair: Clara Kühner, Leipzig University, Leipzig, Germany.
Co-Chair: Myriam N. Bechtoldt, EBS Business School, 65375 Oestrich-Winkel, Germany.

**ID-1035: CLIMATE CHANGE ANXIETY: RESULTS OF A META-ANALYSIS**

Clara Kühner[1], Corinna Gemmecke [2], Joachim Hüffmeier [2], Hannes Zacher [1]

[1]*University of Leipzig*, *Leipzig*, *Germany*, [2]*TU Dortmund University*, *Dortmund*, *Germany*

**Introduction:** Climate change poses an existential threat to human well-being, leading to a notable rise in global climate change anxiety. This phenomenon has garnered significant scientific and societal attention, yet the existing literature remains fragmented across disciplines, with inconsistent measurement tools and inconclusive findings. Consequently, researchers, practitioners, and policymakers face challenges in comprehensively understanding its potential antecedents and consequences. **Objectives:** This meta-analysis aims to (1) quantify the relations between climate change anxiety and 33 correlates, categorized into 24 conceptual antecedents and nine conceptual consequences, (b) explore

heterogeneity in these relationships in moderator analyses, (c) distinguish climate change anxiety from general anxiety, and (d) examine the impact of study quality on observed associations. **Materials and Methods**: Based on an extensive literature search, we included 94 studies comprising 170,747 adult participants from 27 countries, integrating their findings using meta-analytic methods. **Results**: Our results reveal that certain groups are more vulnerable to climate change anxiety, including younger, female, and emotional unstable individuals, and those with left-leaning political views, heightened environmental or future concerns, and individuals exposed to extreme weather or frequent climate change information. Positive associations were found with belief in climate change, risk perceptions, and perceived scientific consensus. Furthermore, climate change anxiety was negatively related to well-being but positively to climate action, with these associations surpassing those of general anxiety. **Conclusions**: These findings underscore the dual nature of climate change anxiety as both a risk to mental health and a motivator for climate action, highlighting its growing significance in research and policymaking.

Keywords: climate change anxiety, meta-analysis, climate crisis, synthesis

**ID-1036: RADICAL VOICES, PUBLIC CHOICES: HOW NEGATIVE EMOTIONS IN MEDIA DISCOURSE SHAPE CLIMATE ACTION SUPPORT**

Myriam N. Bechtoldt[1], Martina Testori [2], Bianca Beersma [3]

*[1]EBS Business School*, *Oestrich-Winkel*, *Germany*, *[2]University of Greenwich*, *London*, *Uganda*, *[3]Vrije Universiteit Amsterdam*, *Amsterdam*, *Netherlands*

**Introduction**: Do radical climate activists harm or boost support for climate action? Previous research found that neutral reports about radical activists can increase support for moderate climate activists. However, media coverage often portrays activists negatively, creating uncertainty about how such discourse impacts support for climate action. This study investigates how negative public discourse about climate activists—specifically distinguishing between radical and modest activists—affects public support for climate action. **Materials & Methods**: Participants (N = 1,907) were recruited via Prolific in the UK. At the start of this pre-registered experiment, participants could earn a bonus of up to £2 by completing a real-effort task. Subsequently, they were asked to decide how much of their bonus they would donate to a green charity. Participants were randomly assigned to one of four vignettes describing climate activists' behaviors, which varied in radicalness (modest/radical) and framing (neutral/negative). **Results**: On average, participants donated 21.63% of their bonus. Bayesian ANOVA indicated that radicalness and negativity had little to no effect on the percentage donated. However, negative framing of radical activists was associated with a modest reduction in donations, with an average decrease of 2.6%, representing a 12% reduction in overall donation levels compared to the other conditions. **Conclusion**: Negative media reports about radical climate activists slightly reduce willingness to donate to climate protection projects. Although the effect is small, it underscores the influence of media framing on public support for climate action.

Keywords: climate activists, media framing, public support, radical vs. modest activism, donation behavior

**ID-1037: ECO-ANXIETY: EXPLORING THE PSYCHOLOGICAL REPERCUSSIONS OF ECOLOGICAL PROBLEMS**

Teaghan Hogg[1], Léan O'Brien [1], Samantha Stanley [2], Iain Walker [3], Clare Watsford [1], Marc Wilson [4], Katharine Scutt [5]

*[1]University of Canberra, Canberra, Australia, [2]University of New South Wales, Sydney, Australia, [3]University of Melbourne, Melbourne, Australia, [4]Victoria University of Wellington, Wellington, New Zealand, [5]Australian National University, Canberra, Australia*

**Introduction:** Many people around the world feel anxious and worried about ecological crises—a phenomenon commonly referred to as 'eco-anxiety'. As the state of the planet further deteriorates without adequate action on climate change, it is expected that eco-anxiety will become more pervasive. Thus, we need to clarify what eco-anxiety is, who experiences it, and what role it plays in people's lives. **Objectives:** This programme of research aimed to: 1) advance the conceptualisation and operationalisation of eco-anxiety, 2) situate it within a broader context of predictors and outcomes, and 3) investigate profiles (subpopulations) of eco-anxiety. **Materials and Methods:** We began by developing and validating a multidimensional measurement model of eco-anxiety, which we then used in subsequent studies to document how eco-anxiety relates to individual and contextual factors, and various indicators of mental wellbeing and pro-environmental behaviour. In a final study, we identified distinct eco-anxiety profiles that show unique wellbeing and behavioural characteristics. **Results:** Our research produced a novel conceptualisation of eco-anxiety and a robust measurement model that has since been validated in ten countries. We found that individual (risk perceptions) and contextual factors (direct exposure to ecological problems, how people engage with the media) play an important role in shaping people's experiences of eco-anxiety, and that eco-anxiety is implicated in both poorer mental health and greater pro-environmental behaviour. **Conclusion:** This work advances our understanding of eco-anxiety and may helpfully inform the development of climate-informed programs that meet the multiple needs of people experiencing eco-anxiety as ecological conditions worsen.

Keywords: climate change anxiety, eco-anxiety, ecological problems, mental health, pro-environmental behaviour

## ID-1038: COPING WITH GLOBAL ENVIRONMENTAL CHANGE AND THE EMOTIONS IT EVOKES: CONSIDERING THE ROLE OF EMPATHY

Marlis Wullenkord[1], Maria Johansson [1]

*[1]Lund University, Lund, Sweden*

**Introduction**: The climate and biodiversity crises are interconnected, unprecedented, existential threats that cause disturbing emotions, such as anxiety, grief, and anger. While there is increasing research about antecedents and outcomes of such eco-emotions, less is known about how to cope with them constructively, to benefit both mental health and pro-environmental action. **Objectives**: This study aimed to understand the role of empathy in private conversations about global environmental change as a way of constructive coping. More specifically, we investigated in how far the experience of empathy might buffer from more detrimental consequences of uncomfortable eco-emotions (i.e., impairments in mental health) and might enable pro-environmental action. **Materials and Methods**: We invited a random sample of N=7000 adults in the South of Sweden to participate in the study. **Results**: Using multiple

regression analysis, we found that the more people talked about global environmental change and the more they talked about their emotions in those conversations, the more pro-environmental action they engaged in. Furthermore, empathic understanding emerged as a moderator for some eco-emotions, i.e., strong emotions for which participants received empathy were associated with stronger pro-environmental action. Interestingly, none of the considered variables predicted mental health. **Conclusion**: We discuss these results and suggest implications for constructive coping with eco-emotions.

Keywords: climate change, biodiversity loss, eco-emotions, empathy, communication

**ID-1039: VALIDATION OF THE INVENTORY OF CLIMATE EMOTIONS (ICE) IN A GERMAN SAMPLE AND ASSOCIATIONS TO PRO-ENVIRONMENTAL BEHAVIOR AND MENTAL HEALTH**

Stephan Heinzel[1], Paula Blumenschein [1], Felix Peter [2], Myriam N. Bechtoldt [3], Alexandra Lina Frisch [1], Mira Tschorn [4], Dorothea Metzen [1]

*[1]TU Dortmund University, Dortmund, Germany, [2]State School Administration of Saxony-Anhalt, Halle, Germany, [3]EBS Business School, Oestrich-Winkel, Germany, [4]University of Potsdam, Potsdam, Germany*

**Introduction:** The confrontation with the severe consequences of the climate crisis can provoke intense emotions in people. These so-called climate emotions play a significant role in motivating pro-environmental behavior, but they are also linked to negative mental health outcomes. **Objectives**: Given the substantial challenges we face, it is essential to comprehend the complex relationships between emotions, behavior, and mental health. **Material & Methods**: The Inventory of Climate Emotions (ICE) is the first validated scale designed to measure a range of emotional responses (such as anger, contempt, enthusiasm, powerlessness, guilt, isolation, anxiety, and sorrow) to the climate crisis. This pre-registered study aimed to translate and validate the ICE within a representative German sample (N = 966). **Results**: We confirmed the 8-factor structure, and all subscales demonstrated acceptable to good internal consistency. Additionally, we found a positive correlation between several climate emotions (powerlessness, guilt, isolation, anxiety, sorrow) and general symptoms of depression and anxiety. Furthermore, our findings indicate that climate emotions are generally positively correlated with pro-environmental behavior, with the exception of climate contempt, which showed a negative correlation with such behavior. **Conclusion**: In summary, we present a validated German translation of the ICE and provide evidence for the negative relationship between climate emotions and mental health, as well as the positive relationship between climate emotions and pro-environmental behavior.

Keywords: climate emotions, climate anxiety, pro-environmental behavior, mental health, scale validation

**17-06-2025 | 11:30 - 12:45**

**S-054**: **Restoration and resilience through nature experience: From individual-level contingencies to social ecological complexities**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Earth Hall Plenary*

Chair: Terry Hartig, Uppsala Universitet, Institute for Housing and Urban Research, Uppsala, Sweden.

## ID-1267: PERSONAL PREFERENCE FOR A BREAK IN A NATURAL LOCATION DOES NOT PREDICT PERFORMANCE OF ATTENTION NETWORKS, RESTORATIVE EXPERIENCE, OR MOOD

Katherine A. Johnson[1], Sarah Candeloro [1], Leilani Frost [1], Anastasia Liu [1], Rose Macaulay [2], Kathryn J. Williams [2]

*[1]Melbourne School of Psychological Sciences, The University of Melbourne, Parkville, Australia, [2]School of Agriculture, Food and Ecosystem Sciences, The University of Melbourne, Parkville, Australia*

Effects of nature experience on attention, mood, and perceived restoration have been widely researched, with mixed findings. One's compatibility with the location of a nature break and how connected one feels with nature may help explain this relationship. The effects of spending 15 minutes seated in a nature location on attention control, restorative experience, and mood, and the moderating effect of connectedness to nature were examined in two studies. In Study 1, 84 participants completed a mood questionnaire, then the Alerting and Endogenous conditions of the Staged Attention Network Task (ANT) to measure attention control. They were then randomly allocated to their lowest, middle, or highest preference nature location. Participants then repeated the Staged ANT, mood questionnaire, and completed the Restoration Outcome Scale and Connectedness to Nature Scale. In Study 2, 88 participants completed the same method as Study 1, but the Exogenous, rather than Endogenous, condition of the Staged ANT. Across both studies, preference allocation did not predict performance on any of the attention indices. The effect of one's connectedness to nature was subtle, moderating the relationship between preference allocation and restorative experience, and preference allocation and negative affect in Study 1, but not in Study 2. The results suggested that compatibility, indicated by personal preference, did not directly impact attention control – alerting, executive attention, endogenous orienting, or exogenous orienting of attention. Further investigation is required on the moderating effect of connection with nature on preference allocation and how they impact negative mood and restorative experience.

Keywords: attention network test, attention restoration, compatibility, connectedness to nature, effect moderation

## ID-1268: PSYCHOMETRIC PROPERTIES OF A SHORT PILOT VERSION OF A RELATIONAL RESTORATION IN NATURE SCALE

Angel M. Dzhambov[1], Angel Burov [2], Donka Dimitrova [3], Julia Egger [4], Terry Hartig [5], Mathew P. White[4]

*[1]Environmental Health Division, Research Institute, Medical University of Plovdiv, Plovdiv, Bulgaria, [2]University of Architecture, Civil Engineering and Geodesy, Sofia, Bulgaria, [3]Medical University of Plovdiv, Plovdiv, Bulgaria, [4]Cognitive Science Hub, University of Vienna, Vienna, Austria, [5]Institute for Housing and Urban Research, Uppsala University, Uppsala, Sweden*

**Introduction**: Relational restoration theory holds that nature contact can help to replenish depleted personal and social resources, which can build social resilience to stress. However, relational restoration

in nature lacks a specific psychometric operationalization. **Objectives**: To assess the psychometric properties and correlates of a bespoke scale measuring relational restoration in nature. **Materials & Methods**: In 2024, we sampled 1506 (53% female, age 49.44 ± 17.58 years) residents of Plovdiv, Bulgaria. Face-to-face interviews provided information on sociodemographics, nature experiences, social relationships, and restoration-related constructs. Participants responded to 5 theoretically derived initial items designed to capture different aspects of relational restoration in nature, such as permitting/promoting standing arrangements for nature experiences, shared experiences of being in nature, and solitary experiences in nature that could strengthen interpersonal relationships in other contexts. **Results**: This initial short pilot version of a relational restoration in nature scale had acceptable internal consistency (ω = 0.77), and exploratory factor analysis supported a one-factor structure. In terms of predictive validity, it was positively correlated with social support, social cohesion, and social contacts, and negatively correlated with loneliness. Discriminant validity was partially demonstrated by correlations with neighborhood restorative quality, restorative experiences in nature, and nature connectedness (around r = 0.50). **Conclusions**: n initial short scale tapping into restoration of relational resources in nature had good psychometric properties, but its content should be refined and undergo a full validation process. The conceptual role of this construct in the wider network of related constructs is likely to be complex deserving special consideration.

Keywords: greenspace, nature, psychometrics, restorativeness, social support

## ID-1269: TESTING NATURE-BASED BIOPSYCHOSOCIAL RESILIENCE THEORY (NBRT) USING DATA FROM OVER 16,000 RECENT NATURE VISITS

Valentina Hampejs[1], Addi Wala [1], Julia Egger [1], Sabine Pahl [2], Ulrich S. Tran [3], Martin Voracek [3], Mathew P. White [1]

*[1]Cognitive Science Hub, University of Vienna*, *Vienna*, *Austria*, *[2]Environment and Climate Research Hub, University of Vienna.*, *Vienna*, *Austria*, *[3]University of Vienna*, *Vienna*, *Austria*

Using secondary data from approximately 16,800 recent visits to natural environments collected as part of the People and Nature Survey in England, we concurrently tested several elements of nature-based biopsychosocial resilience theory (NBRT). In Part 1, blockwise linear regressions were employed to predict self-reported state-level a) biological, b) psychological, and c) social resilience resources. Analyses included elements of the theory's operationalisation of 'nature' (settings and elements) and 'nature contact' (interactional, temporal, interpersonal, and intrapersonal) as visit-related predictors, and controlled for relevant person-specific covariates (age, income, gender, trait-level resiliencies). The results indicated that while setting (urban green, rural green, inland blue, coastal blue) had relatively little association with the resilience resource outcomes, elements demonstrated a consistent positive association. In terms of nature contact, both duration (temporal) and nature connectedness (intrapersonal) were found to be associated with all outcomes. Social activities, such as picnicking and playing with children, and the presence of companions (interpersonal) were positively associated with social resilience resources. In Part 2 we explored potential interactions between temporal, interpersonal and intrapersonal aspects of the theory by focusing on 8,727 walking visits across all settings and resilience resources outcomes simultaneously, using a Structural Equation Model. Nature connectedness (intrapersonal) was found to

significantly moderate the relationship between visit duration (temporal) and social resilience, such that longer visits resulted in especially high social resilience for those lower in nature connectedness. These results suggest that NBRT offers a productive framework to explore the interconnectedness of multiple nature-related factors and multiple biopsychosocial outcomes.

Keywords: biopsychosocial resilience, companions, nature, nature contact

**ID-1270: A PATHWAY DOMAIN FRAMEWORK FOR THE STUDY OF NATURE-HEALTH RELATIONS: DEVELOPMENT AND COMPLEMENTARY THEORIZING**

Terry Hartig[1]

[1]*Institute for Housing and Urban Research, Uppsala University, Uppsala, Sweden*

The past 20 years have seen a surge in research on relations between nature and health. Much of it has focused on documenting associations between some quantitative representation of the natural environment and particular forms of ill health among people in urbanized societies, while another significant portion has focused on known and likely pathways through which exposures, behaviors, and experiences in nature can prevent disease and promote health. Recent years have seen the emergence and evolution of a framework for organizing known and potentially yet-to-be-described pathways into four domains defined in terms of adaptive relevance (i.e., pathways through which the natural environment either causes harm, reduces harm, supports acquisition and development of adaptive capacities, or supports the restoration of depleted adaptive capacities). The pathway domain framework further acknowledges that some pathway(s) in one domain may intertwine with some pathway(s) in one or more of the other domains, as described for example in nature-based resilience theory (NBRT). It also acknowledges that, within domains, different pathways may work together on and across multiple levels of analysis (individuals, small groups, collectives), as described for example in the extension of the general framework for theories about restorative environments. In this presentation I will first survey the origins, further development, and main features of the pathway domain framework. I will then consider how it is complemented by more specific theorizing concerned with cross-domain and within-domain dynamics. The account thus serves a narrative about benefits of nature experience that better acknowledges their underlying social ecological complexities.

Keywords: nature experience, public health, resilience, restoration

**17-06-2025 | 11:30 - 12:45**

**S-033**: **Integrating Psychology and Agent-Based Modelling for Pro-Environmental Transitions (Part II)**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Valley Room*

Chair: Philipp Eppe, University of Bremen, Bremen, Germany.
Chair: Lynn De Jager, 3National Institute for Public Health and the Environment, Bilthoven, Netherlands.

**ID-1098: UNVEILING ADOPTION DYNAMICS: PSYCHOLOGICAL AND CONTEXTUAL FACTORS IN SUSTAINABLE TECHNOLOGY TRANSITIONS**

Philipp Sebastian Eppe[1; 2], Casper Albers [2], Thijs Bouman [2]

[1]*University of Bremen*, *Bremen*, *Germany*, [2]*University of Groningen*, *Groningen*, *Netherlands*

Understanding how the adoption of sustainable technologies evolves over time is important to advancing sustainability transitions. This research develops an agent-based model (ABM) to explore adoption dynamics. It incorporates findings from a systematic meta-analysis of psychological factors and empirical data on decision-making in households and organisations. The conceptual framework underlying the model captures adoption as a gradual process that is influenced by psychological drivers, structural barriers and technology-specific characteristics. It therefore combines contextual, intrapersonal and technological levels and reflects the diversity of motivations and barriers in different contexts and for different adoption types. The ABM simulates emergent behaviours, feedback loops and system-wide dynamics, offering insights into how targeted interventions can influence the trajectory of adoption and accelerate the transition to sustainability. By capturing the interplay between adopter heterogeneity, contextual variability and dynamic phases, the framework provides a nuanced understanding of how individual choices lead to collective outcomes. This dynamic approach emphasises how motivations and barriers evolve over the course of the adoption process and highlights critical points where interventions can have the greatest impact. This research provides actionable recommendations for policymakers and practitioners and helps to develop strategies that address different needs and improve adoption rates. At a scientific level, it advances the integration of psychological insights with computational modelling, highlighting the value of interdisciplinary approaches to tackling complex societal challenges. By linking micro-level decision-making with macro-level outcomes, this study provides a comprehensive framework for understanding and promoting the adoption of sustainable technologies.

Keywords: agent-based modelling, technology adoption, sustainability transitions, psychological drivers, dynamic decision-making

**ID-1099: BRIDGING LIFE CYCLE ASSESSMENT AND ENVIRONMENTAL PSYCHOLOGY THROUGH AGENT-BASED MODELLING: TRANSITION TO SUSTAINABLE DIETARY BEHAVIOURS**

Ryu Koide[1; 2], Geeske Scholz [2], Jaco Quist [2], Émile Chappin [2]

[1]*National Institute for Environmental Studies*, *Tsukuba*, *Japan*, [2]*Delft University of Technology*, *Delft*, *Netherlands*

Meat consumption significantly contributes to personal carbon footprints; however, breaking this social and habitual behaviour can be challenging. Conventional environmental psychology studies on carbon footprints mainly focus on information strategies that do not consider dynamic, interactive, or multi-

strategy perspectives. This study proposes an approach to explore effective interventions for triggering large-scale dietary shifts to meet decarbonisation targets by incorporating environmental psychology theories and methods into social simulations using agent-based modelling. Based on reviews of the behavioural determinants of vegetarianism, we developed a conceptual agent-based model to simulate the formation and breaking of habits, switching between heuristics and rationality, and the influences of personal norms and social interactions. The model incorporated stylised versions of environmental psychology theories, such as the theory of planned behaviour, norm activation theory, and theories of habits, which were adjusted to the simulation model to reflect dynamic and interactive elements. Life-cycle assessment data were linked to the model to quantify carbon footprints dynamically. Our preliminary results showed the model's ability to explore different combinations of interventions such as targeted campaigns, nudging and default options, (dis)incentives, and partial restrictions. The simulation model considered feedback loops by breaking habits and reinforcing social influences, eventually reaching social tipping points. In this presentation, we also discuss how to empirically parameterise the agent-based model based on survey data and psychological literature. In conclusion, this study demonstrates the contributions of agent-based modelling to environmental psychology, which enables the search for target-achieving scenarios through computational experiments.

Keywords: agent-based modelling, life cycle assessment, dietary shift, carbon footprints, social tipping points

**ID-1100: REVISITING HOUSEHOLD-PERSON-FIT WITH AGENT-BASED MODELING: SIMULATING HOUSEHOLD DECISION-MAKING FOR RENEWABLE ENERGY TECHNOLOGIES**

Stephanie Stumpf[1], Daniel Sloot [1], Wolf Fichtner [1]

[1]*Karlsruhe Institute of Technology*, *Karlsruhe*, *Germany*

Pro-environmental behaviors, such as adopting renewable energy technologies, are pivotal to addressing climate change and achieving sustainability goals. Many of these behaviors, including energy decisions, are household-level decisions emerging from interactions between multiple household members. Understanding these behaviors at the micro-level is crucial for designing effective policies to drive system-level transitions. However, environmental psychology research often relies on single-respondent surveys, assuming that one individual's response represents household decision-making processes. This reliance, largely driven by the methodological challenges of surveying all household members, risks oversimplifying intra-household dynamics and may introduce biases in decision outcomes and policy evaluations. In line with this, previous research has shown varying levels of consistency in the decision-making across members household members (Seebauer et al. 2017). To address these issues, our study employs agent-based modeling (ABM) to simulate household decision-making processes. Based on survey data of attitudes towards solar adoption, we implement the responses of the surveyed household member into an ABM and model varying levels of consistency between household members to represent intra-household variability. Thus, simulating its impact on adoption likelihood, which allows for a comparison of decision-making outcomes between ABM simulations and survey results. This approach facilitates the identification of biases inherent in single-respondent surveys in the context of energy technology adoption. Our results explore the importance of accounting for intra-household variability. Furthermore,

by integrating environmental psychology and ABM, our study provides a nuanced understanding of household dynamics, contributing to a better understanding of household decision-making and addressing complexities that conventional approaches struggle to capture.

Keywords: agent-based modelling, energy technology adoption, household-person-fit, PV

**ID-1101: AGENT-BASED MODELS OF PROSUMER SELF-SUFFICIENCY AND EQUITABLE ENERGY TRANSITIONS**

Mart Van der Kam[1], Anne Günther [1], Ulf J. J. Hahnel [1]

*[1]University of Basel, Basel, Switzerland*

Energy transition pathways shape and are shaped by choices of heterogeneous individuals who adopt low-carbon energy technologies, provide flexible energy demand, and support various transition policies. In turn, these choices are influenced by contextual factors such as norms, emerging technologies, and policy mixes. The resulting interdependencies complicate the development of effective behavioral incentives for the energy transition. In such complex settings, agent-based models can support policy design by integrating behavioral data with energy system models, making these interdependencies visible to policymakers. Here, we demonstrate this approach by presenting two projects that combine experimental data on decision-making with energy transition models to inform policy recommendations. First, we introduce a model that investigates how co-adoption of low-carbon energy technologies and willingness to use smart energy systems impact the transition to self-sufficient prosumer households. This model, which integrates experimental data collected among Swiss households (N = 1469) with energy system models at societal and household level, reveals that self-sufficiency levels are highest when policies target low-carbon technology adopters motivated by environmental concerns. These households are more likely to participate in flexible energy demand, in contrast to financially motivated adopters who are interested in co-adoption but less interested in demand flexibility. Second, we present a model that evaluates the distributional impacts and perceived fairness of different e-mobility transition pathways. By identifying policy pathways that minimize environmental impact and maximize societal equity, this model identifies policy pathways that minimize environmental impacts while ensuring societal equity, offering short-term and long-term solutions that have broad policy acceptance.

**ID-1102: GROUNDING AN AGENT-BASED MODEL IN SOCIO-PSYCHOLOGICAL THEORY TO EXPLORE THE ADOPTION OF HEAT PUMPS**

Lynn De Jager[1; 2], Agnese Fuortes [3; 4], Geeske Scholz [2], Liesbeth Claassen [3], Émile Chappin [2]

*[1]Dutch National Institute for Public Health and the Environment, Bilthoven, Netherlands, [2]Delft University of Technology, Delft, Netherlands, [3]Dutch National Institute for Public Health and the Environment, Bilthoven, Netherlands, [4]Leiden University, Leiden, Netherlands*

The combustion of fossil fuels for residential heating contributes to global warming, necessitating a shift toward low-carbon alternatives (Kieft et al., 2021). Heat pumps can reduce carbon emissions in the

residential sector, but their adoption faces several barriers, among which are concerns about noise (Langerova et al., 2025). These concerns stem both from actual noise emitted by outdoor heat pump units and from expectations that heat pumps make noise which are shaped by social interactions. Research in the Netherlands has found that heat pump owners are less likely to recommend a heat pump to peers if they have experienced noise from their heat pump (Installatiemonitor, 2024). This study explores how both real and expected noise affect household decisions to adopt a heat pump. Considering that a number of factors influence heat pump adoption besides noise, we develop a conceptual model that includes factors across heat pump-specific, contextual, and psychological dimensions. This conceptual model is grounded in socio-psychological theory and is developed through a systematic literature review and interviews with behavioral experts. To capture the dynamics between household decision-making, social interaction, and the environment, we implement our conceptual model in an agent-based model that simulates the transition to heat pumps in urban, suburban, and rural areas of the Netherlands. The findings of this study contribute to understanding how real and expected noise influence heat pump adoption and offer insights for policy design to effectively target barriers in the heat transition.

Keywords: agent-based model, adoption, energy transition, heat pump, noise

**17-06-2025 | 11:30 - 12:45**

**S-071**: **Climate change action**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Forest Room*

Chair (IS): Sarah Chan, Singapore University of Technology and Design, Singapore, Singapore.

**ID-698: THE INTENTION-BEHAVIOR GAP IN PLURALISTIC IGNORANCE: PEOPLE OVERESTIMATE THE PROPORTION OF PEOPLE ACTUALLY ACTING AGAINST CLIMATE CHANGE**

Kevin E. Tiede[1; 2], Cornelia Betsch [1; 2]

[1]*University of Erfurt*, *Erfurt*, *Germany*, [2]*Bernhard Nocht Institute for Tropical Medicine*, *Hamburg*, *Germany*

Previous research has consistently shown that people underestimate the proportion of individuals who believe in climate change and support climate action, a phenomenon known as pluralistic ignorance. This underestimation of public support has been identified as a barrier to climate action, with the suggestion that communicating the broad support for climate action could be a powerful strategy to promote it. However, prior studies have predominantly relied on inconsequential, self-report measures of climate action and attitudes, leaving it unclear whether people similarly underestimate public climate action when assessed through real, consequential behaviors. To address this gap, we conducted two preregistered studies with representative samples of German citizens. In Study 1 (*N* = 2,409), participants were asked if they would like to participate in a real public lawsuit against the German government demanding stricter climate policies. In Study 2 (*N* = 1,130), participants were asked if they would donate 1% of their household income to fight climate change. In both cases, participants were given the opportunity to act on their

stated intentions. Subsequently, we assessed participants' beliefs about the behavior of others. In both studies, only a small minority of participants verifiably participated in the lawsuit or donated money. Crucially, we observed pluralistic ignorance in the opposite direction: Participants considerably *over*estimated the proportion of others engaging in these behaviors. These results underscore the importance of distinguishing self-reported intentions and attitudes from actual behavior when studying pluralistic ignorance and developing strategies to promote climate action.

Keywords: pluralistic ignorance, climate action, pro-environmental behavior, political participation

**ID-785: COOL HOMES, HOT BEDS: DILEMMAS SURROUNDING HEAT ADAPTATION AND CLIMATE ACTION IN THE URBAN TROPICS**

Sarah Hian May Chan[1], Natalia Borzino [2], Yi Xuan Tay [1], Khant Min Naing [1], Samuel Chong Wei Chng [1], Kai Zheng [1], Harvey Neo [1], Jonas Joerin [2]

*[1]Singapore University of Technology and Design*, *Singapore*, *Singapore*, *[2]ETH Zurich, Singapore-ETH Centre*, *Singapore*, *Singapore*

In tropical urban regions like Singapore, where heat is an everyday experience rather than an occasional extreme, air-conditioning has become a common adaptation strategy. While aircon use alleviates immediate thermal discomfort, it is also a high-carbon practice that contributes to the Urban Heat Island effect and exacerbates local temperatures. This study investigates how everyday heat adaptation behaviors relate to climate beliefs and actions, with a focus on dynamics within multi-generational households and shared environments. Data from 335 individuals across 143 households reveal significant household-level variance, with intraclass correlation coefficients for perceived heat impact, psychological distance of climate change, and pro-environmental behavior ranging from 21% to 34%. Daily aircon use, practiced by 56% of households, is associated with higher perceived heat impact. Notably, greater heat impact also predicts reduced psychological distance of climate change and increased pro-environmental behavior, positioning heat as a powerful entry point for climate engagement. However, the paradoxical association between heat impacts and unsustainable aircon use highlights the complexities of aligning adaptation with mitigation. The study further found correlations between household characteristics and heat adaptation behaviors. Smaller living spaces and higher levels of clutter are linked to increased aircon use. Additionally, higher-floor households are less likely to close windows for non-thermal reasons (e.g., air quality, noise, pests), indicating that factors such as privacy or external conditions may constrain adaptive behavior. These findings underscore the need for interventions that target both individual behaviors and shared household dynamics, as well as the built environment, to foster sustainable climate adaptation strategies.

Keywords: urban heat, air-conditioning, psychological distance, climate adaptation, pro-environmental behavior

**ID-801: DOES PSYCHOLOGICAL DISTANCE TO CLIMATE CHANGE AFFECT CLIMATE ACTION? PREREGISTERED META-ANALYSES OF CORRELATIONAL AND EXPERIMENTAL EVIDENCE**

Camille Langlais[1], Maxime Mauduy [2], Adam Chesterman [1], Christophe Demarque [3], Cécile Sénémeaud [1]

*[1]Department of Psychology, University of Caen Normandy, Caen, France, [2]Institute of Psychology, Paris Cité University, Boulogne-Billancourt, France, [3]Aix-Marseille Univ, LPS, Aix-en-Provence, France*

In a report on climate change, the Council of Europe (2016) recommended to '*bring climate change [...] to the present, to a local scene and to a similar social setting*' to encourage public engagement. In psychology, this ubiquitous idea has been studied through the concept of psychological distance (PD) to climate change (Milfont, 2010). However, while numerous correlational and experimental studies have been conducted, three recent systematic reviews have yielded conflicting conclusions regarding the role of PD in climate action, with one reporting significant relationships (Maiella et al., 2020), a second highlighting inconsistent effects (Keller et al., 2023) and a third indicating no impact of PD (van Valkengoed et al., 2023). To address these contrasting positions, we are conducting two pre-registered meta-analyses (provisionally accepted Stage 1 Registered Report: https://osf.io/v8953) to assess the average effect of measured or manipulated PD to climate change on climate action, and to examine some potential moderators (e.g., national vulnerability, PD dimensions). From a total of 1,350 keyword-identified articles and 33 additional published or unpublished studies, we included 42 correlational and 33 experimental studies in the final sample. Based on ongoing meta-analytical analyses (to be completed by the end of January), we will provide novel insights into whether empirical evidence supports a negative effect of PD on climate action in correlational and experimental studies, while also describing potential between-study factors that could moderate this relationship. The discussion will focus on implications for future PD research and climate policies aimed at promoting climate change mitigation and adaptation.

Keywords: psychological distance, meta-analysis, climate change, construal level theory, climate action

## ID-869: THE INTENTION-BEHAVIOR GAP IN CRITERION VALIDITY: PREDICTING ACTUAL POLITICAL PARTICIPATION BEHAVIOR WITH THE READINESS TO ACT AGAINST CLIMATE CHANGE

Mattis Geiger[1; 2], Lisa-Marie Hempel [1; 3], Kira Maur [2], Cornelia Betsch [1; 2]

*[1]Bernhard Nocht Institute for Tropical Medicine, Hamburg, Germany, [2]University of Erfurt, Erfurt, Germany, [3]Dresden University of Technology, Dresden, Germany*

**Introduction**: Pro-environmental behaviors are typically measured as intentions or self-reports of behaviors. Despite a broad understanding of the intention-behavior gap with respect to mean differences, it is unclear whether these different modes of measurement affect criterion validity of related scales. **Objectives**: In this longitudinal study, we compare the criterion validity of measures based on intentions vs. on self-reports of past behaviors, both assessing people's readiness to act against climate change. **Materials & Methods**: N = 1972 participants took part in three consecutive surveys (T0: Jan'23-Nov'23; T1: Jul'24; T2: Sep'24). Their readiness to act against climate change was assessed as past behavior during the last 12 months at T0 and as intentions to show behaviors in the upcoming 12 months at T2. Between T1 and T2 the criterion behavior was measured: participants could join a constitutional climate lawsuit, inquire of local politicians about climate change issues, and sign climate change related petitions. Behavior was verified at T2. **Results**: The past-behavior based readiness to act factors ($R^2$ = .65) outperformed the intention-based factors ($R^2$ = .56) in predicting a general factor of actual political

participation behavior. **Conclusion**: Pro-environmental dispositions, such as the readiness to act against climate change, are strong predictors of actual pro-environmental behaviors. Both measurement modes (intention & past-behavior) explain large proportions of variance in actual political participation behavior. This justifies employing intention-based dispositional constructs for interventions, where past-behavior based assessment is not reasonable. For correlational studies, we recommend the use of past-behavior based measures given their greater criterion validity.

Keywords: pro-environmental behavior, readiness to act against climate change, intention behavior gap, measurement, criterion validity

**ID-849: DO POLITICS AFFECT OUR PERSONAL RESPONSIBILITY TO REDUCE CLIMATE CHANGE?**

Gabija Jarašiūnaitė-Fedosejeva[1], Tadas Vadvilavičius [2]

*[1]Vytautas Magnus University, Department of Psychology*, *Kaunas*, *Lithuania*, *[2]Vytautas Magnus University, V. Kavolis Transdisciplinary Research Institute*, *Kaunas*, *Lithuania*

Billions of euros are and will be invested annually to deal with climate change. However, political goals to become carbon-neutral are not always accepted or understood by citizens. This study examines how trust in various political institutions and satisfaction with democratic processes influence individuals' perceived personal responsibility to mitigate climate change. Data were obtained from the European Social Survey (ESS), Round 11 (2023–2024, v2.0), involving participants from 24 European countries (N = 36,501). Multilevel modeling was applied to test whether trust in a country's parliament, trust in politicians, trust in political parties, trust in the European Parliament, trust in the United Nations, satisfaction with the national government, and satisfaction with the way democracy works in the country predict personal responsibility to reduce climate change. All variables were measured using a single item on a scale from 0 to 10. First, a null model was analyzed. Results revealed a significant amount of variation, suggesting country differences and supporting multilevel modeling. Second, results revealed that trust in a country's parliament, trust in the European Parliament, trust in the United Nations, and satisfaction with the way democracy works in the country predict higher personal responsibility to reduce climate change, while satisfaction with the national government predicts lower personal responsibility (model fit: AIC = 157497.46, BIC = 157581.98, ICC = .08). However, results revealed that only a small part of personal responsibility to reduce climate change can be explained by the political system per se ($\sigma^2 = 5.52$).

Keywords: personal responsibility, climate change, country differences, European social survey, multilevel analysis

**17-06-2025 | 11:30 - 12:45**

**S-070**: **Environment & health**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Dawn Room*

Chair (IS): Susanne Pedersen, Aarhus University, Aarhus, Denmark

**ID-486: THE INTERPLAY OF ENVIRONMENTAL FEATURES: INSIGHTS FROM THE DAY2DAY ENVIRONMENT PROJECT**

Kim Falkenstein[1], Claire Pauley [1], Simone Kühn [1; 2]

*[1]Max Planck Institute for Human Development, CEN, Berlin, Germany, [2]University Medical Center Hamburg-Eppendorf, Hamburg, Germany*

Understanding how everyday environmental exposures affect the human brain and mental health is increasingly important in the context of global urbanization and climate change. Previous studies have primarily focused on long-term environmental factors or isolated features such as green space and air quality, neglecting the interaction between multiple exposures encountered in daily life. The ongoing Day2Day Environment study addresses this gap by providing a unique and rich resource to investigate how real-world, day-to-day environmental variability affects brain structure, function, and well-being. To achieve this, the longitudinal study collects multimodal data over 25 testing sessions, including neuroimaging and tracking of physiological, behavioral, and environmental variables. We gather data on air quality, noise, light exposure, physical activity, stress, cognition, and affect using wearable devices, geographic ecological momentary assessments, and GPS-based geospatial tracking. A key objective of the project is to investigate short-term neuroplasticity in response to the dynamic interplay between multiple environmental exposures. As a foundational step in our analysis, we are using network analysis to explore how various environmental measures are interrelated and to identify patterns that may inform their collective impact on brain and mental health. We will present the study design alongside preliminary network analysis findings from 13 participants.

Keywords: environmental neuroscience, geographic ecological momentary assessment, wearable devices, neuroimaging, variability

**ID-485: EXPLORING THE LINK BETWEEN DAILY ENVIRONMENTAL FLUCTUATIONS AND BRAIN STRUCTURE**

Claire Pauley[1], Kim Falkenstein [1], Simone Kühn [1; 2]

*[1]Max Planck Institute for Human Development, CEN, Berlin, Germany, [2]University Medical Center Hamburg-Eppendorf, Hamburg, Germany*

The emerging field of environmental neuroscience aims to characterize the influence of our physical environments on our brains and mental well-being. Prior research has demonstrated a positive association between spending time outdoors and improved mood, as well as increased gray matter volume in various brain regions. In order to investigate the interplay of multiple environmental factors on brain structure and function, we have initiated the Day2Day Environment project: a longitudinal, multimodal dataset in which a range of measures are collected across 25 time points per participant. These include neuroimaging (magnetic resonance imaging), physiological, behavioral, cognitive, affective,

and environmental data. Wearable devices, geographic ecological momentary assessments, and GPS-based geospatial tracking are employed to collect data on air quality, noise, light exposure, physical activity, stress, cognition, and affect for 24 hours preceding each neuroimaging test session. Neuroimaging measures include T-1 weighted, T2*-weighted images during rest and tasks, quantitative multi-parameter mapping, high-resolution proton density imaging of the hippocampus, and diffusion tensor imaging sequences. This rich dataset will allow us to examine how day-to-day variations in multiple environmental factors are related to short-term neuroplasticity. Data collection is ongoing, but we expect to present our findings for 13 participants at the conference. Specifically, we plan to explore how selected environmental variables are linked to measures of neural structure, such as gray matter volume, using whole-brain voxel-wise analyses.

Keywords: environmental neuroscience, longitudinal design, variability, neuroimaging, brain plasticity

**ID-495: PSYCHOLOGICAL PREDICTORS OF BEHAVIOURAL CHANGE TO IMPROVE INDOOR AIR QUALITY**

Francesca Ausilia Tirotto[1], Diana Varaden [2], Wouter Poortinga [1]

*[1]Cardiff University / School of Psychology, Cardiff, United Kingdom, [2]Environmental Research Group, Imperial College London, London, United Kingdom*

Both indoor and outdoor airborne pollutants are increasingly acknowledged as substantial health risks. The home is seen as a place of safety and comfort, yet it can also contain pollutants that threaten health. Prolonged exposure to pollutants like volatile organic compounds (VOCs) or particulate matter (PM) can lead to respiratory issues, allergic reactions, and even chronic diseases such as cardiovascular problems. Despite its impact on health, the literature on psychological approaches to addressing indoor air pollution remains limited. Most studies focus on technical solutions, such as air purifiers or improved building design, whereas changing human behaviour is often a more cost-effective way to reduce exposure. This study, conducted as part of the WellHome project in London, investigated the psychological predictors of behavioural change related to indoor air quality, drawing on the Health Belief Model (HBM). Specifically, it examined the role of perceived severity, barriers, and self-efficacy as key factors influencing behavioural changes. Data were collected through an online survey administered to recruit a nationally representative UK sample (n = 2,000). Latent Profile Analysis (LPA) was used to identify distinct psychological profiles based on HBM constructs, offering insights into how these profiles are associated with past behaviours and future intentions. Furthermore, multigroup analysis is used to compare predictors of behaviour between minority groups and the general population, shedding light on the influence of socio-cultural factors and structural inequalities. The findings are intended to inform strategies for fostering healthier home environments and promoting effective behavioural changes.

Keywords: indoor air pollution, health belief model, behavioural change, latent profile analysis, socio-cultural factors

## ID-787: EXPLORING THE INTERPLAY BETWEEN GREEN SPACE QUALITY, SOCIO-ECONOMIC CONTEXTS, AND WELL-BEING: INSIGHTS FROM THE PEOPLE AND NATURE SURVEY FOR ENGLAND

Jo K. Garrett[1], Lewis R. Elliott [1], Rebecca Lovell [1], Tom Marshall [2], Fraenze Kibowski [2], Kevin J. Gaston [3]

*[1]University of Exeter / European Centre for Environment and Human Health*, *Penryn*, *United Kingdom*, *[2]Natural England*, *York*, *United Kingdom*, *[3]University of Exeter, Environment and Sustainability Institute*, *Penryn*, *United Kingdom*

**Background**: Research into the relationship between green spaces and health and well-being often relies on relatively simple measures of greenspace availability. However, green and natural spaces encompass diverse land covers and habitats. Additionally, socio-economic factors are also likely to influence both the physical and perceived availability and quality of natural habitats. There is a need to explore the more nuanced interplay between environmental quality, socio-economic contexts, and individual perceptions that are related to health and well-being. **Method**: In this study we explore how environmental and socio-economic characteristics influence perceptions of greenspace quality (RQ1) and how these perceptions, in turn, relate to visit frequency and life satisfaction (RQ2). Finally, we utilise a structural equation modelling approach to bring together RQ1 and RQ2, enabling us to explore these questions simultaneously, taking into account direct and indirect relationships. We utilise data from the People and Nature Survey for England (PANS; April 2020–March 2023), linking survey responses with local land cover characteristics at a small statistical geography level. **Results**: Among 54,112 participants (excluding respondents with missing data) 74% (weighted) agreed that their nearby green and natural spaces had good opportunities to see nature. Land cover analysis revealed that 29% (weighted) of respondents lived in areas with less than 5% Broadleaved, Mixed, and Yew Woodland, while 72% (weighted) lived in areas with at least 50% Built-Up Area and Gardens. We will present and discuss the results of statistical analysis exploring these factors and how they relate to life satisfaction and visit frequency.

Keywords: well-being, greenspace, inequality, land cover, perceptions of nature

## ID-928: THE ROLE OF RESIDENTIAL GREENSPACE QUALITIES AND BEHAVIOUR RELATED EXPOSURES FOR MENTAL HEALTH OUTCOMES IN POPULATION-BASED COHORT STUDIES

Cecilia Ulrika Dagsdotter Stenfors[1]

*[1]Department of Psychology, Stockholm University*, *Stockholm*, *Sweden*

Background: Exposure to natural environments such as green (vegetation) and blue (water) space provide multiple ecosystem services and are associated with a range of human health benefits. However, population-based studies investigating high-resolution, individual-level residential greenspace and potential buffering effects against urban stressors have been limited. Objectives & methods: In a set of population-based longitudinal studies, on nationwide cohorts in Sweden (≈130 000), objective high-resolution individual-level residential greenspace land cover assessments were made. The role of spatial residential greenspace qualities was investigated longitudinally for: 1) objective prescription medication purchase for common mental health problems, and 2) self-reported symptoms. Moreover, potential

buffering effects against urban stressors, and behaviour-related use and exposure to different types of natural environments were assessed in a sub-cohort, and their significance for mental health indicators. Results & discussion: Results across studies show residential greenspace is associated with lower psychopharmacological prescription medication purchases and less symptoms, especially relating to the immediate residential surrounding, and buffering against urban noise. Behaviour related exposure, incl. spending time in forests and residential garden were important for several aspects of mental health and health behaviours, especially during the COVID-19 pandemic and associated restrictions. Results highlight the role of greenspace in the immediate residential surroundings, as well as access to high quality greenspaces (i.e. larger coherent green areas) for mental health and health related behaviours. The multiple pathways through which different greenspace qualities can affect human health and contribute to human and environmental resilience should be considered in policy and implementation.

Keywords: residential greenspace, natural environment, nature-based solutions, mental health outcomes, population-based cohorts

**17-06-2025 | 11:30 - 12:45**

**S-094**: **Environmental issues & mental health**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Sun Room*

Chair (IS): Hoi-Wing Chan, The Hong Kong Polytechnic University, Hong Kong, Hong Kong.

## ID-422: IS IT CONCERN, ANXIETY, OR JUST NEGATIVE? USING LATENT PROFILE ANALYSES TO UNDERSTAND THE RELATIONSHIP BETWEEN CLIMATE CHANGE CONCERNS, CLIMATE EMOTIONS, AND ANXIETY

Hoi-Wing Chan[1], Kim-Pong Tam [2]

*[1]The Hong Kong Polytechnic University, Hong Kong, Hong Kong, [2]The Hong Kong University of Science and Technology, Hong Kong, Hong Kong*

Multiple studies have documented that people can experience distress and anxiety when coming to terms with or thinking about climate change (i.e., climate change anxiety). While previous studies have attempted to examine its prevalence, antecedents, and implications for well-being and pro-climate actions, the current understanding of what constitutes climate change anxiety is still unclear. Some researchers consider “concern” and “worry” as synonyms of climate change anxiety; others suggest that anxiety and worry are related but distinct constructs. Against this backdrop, we aim to provide a nuanced understanding of how people simultaneously experience climate change anxiety, concern, and other relevant emotions through latent profile analyses. With samples of US (N = 946) and mainland Chinese (N = 1000) adult participants, we identified groups of individuals who showed similar levels of climate change concerns and negative emotions but different levels of climate change anxiety, which was predicted by more frequent exposure to climate change-related information. Among the U.S. sample, we observed that

people who trusted scientists more were more likely to experience moderate levels of concern but lower levels of climate change anxiety. These findings suggest that climate change anxiety, as captured by the climate change anxiety scale, is distinct from climate change concerns and other climate emotions. Our results provide insights into understanding how people may maintain a moderate level of climate change concerns without experiencing impairment associated with climate change anxiety.

Keywords: climate change anxiety, climate change concern, climate emotions, latent profile analysis

### ID-919: DIAGNOSED DEPRESSION AND/OR ANXIETY AS A RISK FACTOR FOR EMOTIONALLY IMPAIRING CLIMATE ANXIETY

Timothy Mc Call[1], Gloria Düllberg [1], Michel Rinderhagen [1], Kristina Hennig-Fast [2], Claudia Hornberg [1]

*[1]Bielefeld University, Medical School OWL, Bielefeld, Germany, [2]Bielefeld University, Department of Psychology and Sports Science, Bielefeld, Germany*

**Introduction**: Awareness of climate change consequences can severely affect mental health. The most studied emotional reaction is climate anxiety, which can range from reasonable and adaptive to pathological and impairing. Research suggests a link between climate anxiety and mental disorders such as depression and anxiety. It is uncertain, however, whether this relationship is unidirectional or bidirectional and how it should be addressed in psychotherapy. **Goals & Objectives**: The aim of the study is to investigate whether adults with a depression and/or anxiety disorder diagnosis (DoA) have higher levels of climate anxiety compared to the general population. In addition, we aim to determine to which extent climate awareness, willingness to engage in climate-friendly behavior, DoA, general anxiety and depression symptoms, and demographics are associated with emotionally impairing climate anxiety. **Materials & Methods**: We surveyed 275 German adults with and without DoA recruited online and in a clinic using quantitative questionnaires. We used Mann-Whitney-U-tests to analyze between-group differences and multiple linear regression analyses to predict climate anxiety. **Results**: Adults with DoA have a significantly higher climate anxiety and willingness to engage in climate-friendly behavior than adults without these diagnoses. Climate awareness, the willingness to engage in climate-friendly behavior, DoA, and general anxiety and depression significantly influence climate anxiety. **Conclusions**: DoA, general anxiety and depression, as well as, climate awareness and the willingness to engage in climate-friendly behavior, are potential risk factors for emotional impairment due to climate anxiety that should be considered in psychotherapy and other mental health interventions.

Keywords: climate anxiety, climate emotions, anxiety, depression, climate change

### ID-839: NEGATIVE MENTAL IMPACTS OF CLIMATE CHANGE AND RESILIENCE FACTORS REDUCING THEM

Torsten Grothmann[1], Carlotta Harms [1], Patrick Ruppel [1], Gerhard Reese [1]

*[1]Institute for Ecological Economy Research, Berlin, Germany*

There have been only a few surveys in Germany on climate change-related mental health issues, which arise from fear of consequences of climate change or from being affected by climate change impacts such as extreme weather events. Particularly, there is a lack of research on resilience factors (e.g. certain forms of coping) that can reduce climate change-related mental health issues. Against this background, one aim of the project "Mental Impacts of Climate Change" was to collect representative survey data on mental climate change impacts and on resilience factors in the German population and thereby enable conclusions about which resilience factors may protect against mental stress from climate change. The 2023 survey, with around 1300 respondents, showed that 21 percent of respondents felt very strongly affected by climate change, but levels of climate anxiety, perceived stress from paralyzing climate emotions (e.g. despair, frustration) and activating emotions (e.g. disgust, anger) as well as the symptoms of extreme weather-related post-traumatic stress disorders (PTSD) were rather low among the respondents. Of the resilience factors included in the survey, meaning-focused coping, which was primarily related to trust in the solvability of the climate problem, and good access to natural spaces had the strongest connections with climate change-related psychological stress: the higher the meaning-focused coping and the better the access to natural spaces were reported, the lower were climate anxiety and stress caused by paralyzing and activating climate emotions. Based on these and other results a "Guide to Mental Health in a Changing Climate" was developed.

Keywords: climate change, mental health, mental resilience, psychological coping, natural spaces

**ID-887: EXPLORING THE IMPORTANCE OF ENVIRONMENTAL ANXIETY THROUGH BIOGRAPHICAL INTERVIEWS: A CROSS-CULTURAL STUDY IN POLAND, UKRAINE, AND HUNGARY**

Klaudia Rodziejczak[1], Krzysztof Mączka [2], Ołena Bodnar-Potopnyk [2], Eszter Markó [2], Barbara Sikora [2], Zuzanna Kurowska [2]

*[1]Adam Mickiewicz University, Faculty of Psychology and Cognitive Science, Poznań, Poland, [2]Adam Mickiewicz University, Faculty of Sociology, Poznań, Poland*

Our presentation examines the relative importance of environmental anxiety compared to other socially constructed anxieties across Poland, Ukraine, and Hungary (PUH). Contemporary risks—such as climate change, weather anomalies, and scarcity of potable drinking water—are closely tied to technological progress, environmental degradation, and the deterioration of global common goods. They may be perceived as uncontrollable, increasing individual anxieties. Additionally, the prevalence and significance of environmental anxieties vary by country and shift across individuals' lifespans. Still, international comparative studies remain scarce. Such investigations could provide decision-makers with valuable insights for more effective public policies. This research is part of the "ANSWER" project (ANxieties and Social coping strategies Within the last 50 years, 2022–2025) and aims to (1) identify and compare environmental and non-environmental anxieties among PUH residents, (2) examine their relative importance, (3) explore coping strategies, (4) analyze how these perceptions evolve over time, and (5) contrast patterns across the three countries. From April to September 2024, we conducted 45 biographical interviews (15 per country). We adopted Mayring's Qualitative Content Analysis to combine inductive and deductive approaches, enabling in-depth comparison of interview material across national contexts. While in-depth analyses are ongoing, initial findings suggest that environmental anxieties, though present,

may not take precedence over other non-environmental anxieties. Their importance can also be influenced by broader socio-political factors, e.g., ongoing military conflicts. These insights highlight the need for context-informed strategies to address a spectrum of anxieties in rapidly changing environments.

Keywords: environmental anxiety, coping strategies, qualitative content analysis, comparative studies

**ID-506: DEVELOPMENT OF A REPRESENTATIVE MEASURE OF CLIMATE ANXIETY USING RASCH MODELLING**

Tomás Gago[1], Rebecca J. Sargisson [1], Taciano L. Milfont [1]

[1]*School of Psychological and Social Sciences, University of Waikato*, *Tauranga*, *New Zealand*

**Introduction:** Despite being an important mental health consequence of climate change, climate anxiety assessment has been fragmented. Different scales correlate strongly and fail to cover the variety of presentations of climate anxiety, raising concerns about their convergent validity and whether they are measuring the same latent construct. **Objectives:** Select the best functioning items from current climate anxiety measures to develop a scale using Rasch methodology. **Materials & Methods:** We used a mixed-method approach for item selection. First, we pooled items from six measures of climate anxiety and neighbouring phenomena and used Rasch modelling to retain items that followed model assumptions in general public (N = 305) and university student (N = 143) samples. We then surveyed (N = 31) and interviewed (N = 12) clinicians and researchers about the relevance of the selected items and suitability of the scale for their professional practice. Our upcoming study will test the selected items for their Rasch model fit, reliability, and discriminant, convergent, and incremental validity in a sample of 400 participants from the general public. **Results:** Of the 129 initial pooled items, we retained 22 that representatively cover the full scope of climate anxiety experience according to the theoretical model of climate anxiety. These items followed Rasch model assumptions and were deemed relevant by the expert participants. Results of the testing of the general public sample will be described. **Conclusions:** Our climate anxiety scale provides a representative measure that allows for easy comparison of scores across a unidimensional latent scale.

Keywords: climate anxiety, mixed methods, questionnaire, rasch

**17-06-2025 | 11:30 - 12:45**

**S-0101**: **Food & diet**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Cove Room*

Chair (IS): Dale Shaffer-Morrison, University of Essex, Colchester, United Kingdom.

## ID-588: CONSUMER PERCEPTIONS OF FOOD ENVIRONMENTAL IMPACTS: INSIGHTS FROM A CARD SORTING STUDY

Daniel Fletcher[1], Gavin Long [2], Jo Parkes [2], John Harvey [2], Evgeniya Lukinova [2], James Goulding [2], Alexa Spence[1]

*[1]School of Psychology, University of Nottingham, Nottingham, United Kingdom, [2]Business School, University of Nottingham, Nottingham, United Kingdom*

Dietary changes can significantly mitigate the negative environmental impact of food systems. However, while the UK public have broadly favourable attitudes towards sustainable food consumption, they also report certain barriers, such as perceived cost, and may have limited awareness about which foods are environmentally harmful. The present study used an online card sorting task to explore people's perceptions and mental models of the environmental impact of a wide range of food products. 150 UK participants were recruited through Prolific to complete an online card sorting task, in which they sorted 40 food products into groups according to perceived environmental impact. The number of groups and how they were labelled was freely determined by participants, allowing natural categorisation of products free from researcher-imposed constraints. Participants subsequently completed self-report measures of behavioural intentions, perceived cost, and awareness of food environmental impacts. Cluster analysis was used to identify common groupings of food products and content analysis was used to identify frequently occurring category descriptions provided by participants. In combination with comparisons to scientific estimates of environmental impacts, these analyses provide insight into lay beliefs, rules, and biases underlying people's perceptions. Comparisons of food categorisations are also planned across participants who reported varying levels of behavioural intentions, cost concerns, and awareness, to explore particular misperceptions that may exist within subgroups. Findings aim to contribute to a greater understanding of people's perceptions of the environmental footprint of different food products, with potential applications for behavioural and educational interventions promoting sustainable consumption.

Keywords: food sustainability, environmental impact, consumer perceptions, mental models, card sorting

## ID-993: WHEN ECO-FRIENDLY VEGANS REFRAIN FROM OR GO FOR UNSUSTAINABLE FOOD CHOICES? SELF-REGULATION IN STRIVING FOR IDENTITY GOALS.

Klaudia Sorys[1], Katarzyna Cantarero [1], Peter M. Gollwitzer [2; 3; 4], Katarzyna Byrka [1]

*[1]SWPS University, Wrocław, Poland, [2]University of Konstanz, Konstanz, Germany, [3]New York University, New York City, United States, [4]Zeppelin University Friedrichshafen, Friedrichshafen, Germany*

**Introduction**: Environmental protection is reported to be one of the most important reasons for the transition to veganism (Curtis & Comer, 2005). The present research examines how striving for identity goals affects sustainable and unsustainable food choices made by eco-friendly vegans. We hypothesized that the experience of being incomplete (coming short of one's own standards) as an eco-friendly vegan who cares for environmental protection leads to refraining from unsustainable temptations. The experience of feeling complete was expected to prompt succumbing to temptations. **Methods**: Eco-friendly vegans (N = 312 in Study 1; N = 219 in Study 2), who received either negative, positive or neutral

feedback on the sustainability of their eating behaviors, were presented with a menu of three dishes and asked to make choices between a nonecological, attractive temptations and an ecologically less attractive meals. **Results**: Study 1 demonstrated that eco-friendly vegans who experienced incompleteness were less likely to choose nonecological, attractive meals such as sweet potato soup, burger with avocado and cashew cake than vegans who experienced completeness and those who were in the control group. This effect was the strongest for the soups always presented as a first choice. In Study 2, we extended the findings of Study 1, showing that the effect was observed regardless of what dish was first presented. **Conclusions**: Our research extends the literature focusing on conflicts between aspired-to-identity goals and temptations originating from hedonic goals. We found that incompleteness is helpful in shielding one's striving for identity goals from unsustainable food temptation.

Keywords: self-completion, self-regulation, identity goals, temptations, self-control

## ID-278: THINKING HELPS EMPOWER VULNERABLE HOUSEHOLDS TO REDUCE FOOD WASTE. EVIDENCE FROM A BEHAVIOURAL FIELD EXPERIMENT IN FIFE, SCOTLAND

Marta Buso[1], Sanchayan Banerjee [2], Peter John [2]

*[1]Vrije Universiteit Amsterdam, Amsterdam, Netherlands, [2]Kings College London, London, United Kingdom*

Food waste accounts for 8-10% of global greenhouse gas emissions. Recent EU-level directives aim to limit per capita food waste to 30% by 2030. There is limited evidence on the effectiveness of behavioural insights in reducing household food waste. This study tested the effectiveness of a nudge+ intervention (nudging combined with individual thinking) versus a nudge in reducing food waste and improving financial savings for 196 vulnerable Scottish households in Fife Council. 196 households were enrolled into a pre-registered cross-over field experiment over 8 weeks (N=1092). All households reported baseline food waste and grocery bills for the first 2 weeks. In week 3, participants randomised in the control group were untreated whereas those in the nudge group received a report comparing their food waste with their neighbours. In weeks 4 & 5, the control group rolled over to the nudge treatment, whereas the nudge group received additional suggestions to encourage thinking on strategies to reduce food waste (nudge+). All treatments were withdrawn in week 6 and thereafter. The nudge is ineffective in reducing food waste and generating financial savings. However, the nudge+ treatment statistically reduced food waste by 395 grams with no meaningful cost reduction. No meaningful changes were found in self-reported food attitudes measured before and after the experiment. A clustering analysis identified three household segments, namely the 'good wasters', 'trying-to-be-good wasters' and 'bad wasters', all equally receptive to treatment uptake. Our findings highlight the importance of empowering citizens with thinking-based interventions to tackle food waste.

Keywords: food waste, nudge+, field experiment, RCT, clustering

## ID-930: MEAT CONSUMPTION AMONG LATIN AMERICAN CONSUMERS PREDICTED BY SOCIAL MOTIVATIONS, HABIT, AND CLIMATE IMPACT KNOWLEDGE

Dale Shaffer-Morrison[1]

[1]*University of Essex*, *Colchester*, *United Kingdom*

Consumers around the globe are growing increasingly aware of the impact that their consumption has on greenhouse gas emissions. This research focuses on meat consumption in Latin America and investigates how climate knowledge and concern, and social-motivational factors like meat attachment, traditional eating, and prosocial orientation relate to preferences for meat. A pre-registered web study (*N* = 3565) was conducted in six countries. It was observed that Latin American consumers, on average, have good understanding of the emissions impact of their food choices, and tended to prefer meat options over vegetarian protein alternatives. Mixed-effects regressions revealed that (self-assessed) carbon emissions knowledge negatively predicted meat choice, while climate concern was unrelated. Several social motivations were linked to choosing meat over plat-based alternatives. Namely, raditional eating predicted meat choice, as well as hedonism connected to meat consumption. Interestingly, the relations between social motives and meat preferences varied substantially across societies. For example, traditional eating was a strong motivational driver of meat consumption only in Argentina and Chile. Brazil was the only country in which feelings of entitlement towards meat consumption predicted meat choices. This work contributes to a better understanding of how climate knowledge and concern, and motivational, social, and cultural factors jointly shape meat consumption in Latin America. Together, the results suggest exploring behavioral interventions that combine educational elements, to improve carbon emissions knowledge, with other strategies tailored to regional contexts, like reducing meat attachment or acknowledging feelings of entitlement.

Keywords: meat consumption, food choice, habit, cultural variation, social factors

**ID-806: THE ROLE OF KNOWLEDGE IN POLICY ACCEPTANCE: INSIGHTS FROM VAT CHANGES AND FOOD CONSUMPTION IN GERMANY –TWO ONLINE EXPERIMENTS**

Hellen Temme[1], Mattis Geiger [1], Mirjam Jenny [2], Cornelia Betsch [2]

[1]*Bernhard Nocht Institute for Tropical Medicine*, *Hamburg*, *Germany*, [2]*University of Erfurt*, *Erfurt*, *Germany*

Adhering to the Planetary Health Diet can increase public health and curb climate change. Recent discussions in Germany explore value-added tax (VAT) modifications targeting reduced consumption of animal-based products and increased plant-based consumption. We conducted two preregistered 2x2 between-participant online experiments with N1 = 993 and N2 = 973 participants (quota-representative for age (18-74) x gender and federal state). The experiments investigate the support for different VAT changes and their potential for promoting the Planetary Health Diet. In the first experiment, individuals were presented with different VAT changes for animal-based foods (increase vs. no change) and plant-based foods (decrease vs. no change). People least accepted a VAT increase (d=-0.81). Despite low acceptance, respondents in the VAT increase condition expected a potential reduction in their meat consumption (d=-0.47). The second experiment focused only on a VAT increase for animal-based products (increase vs. no change) and added an intervention to foster a better understanding of food-related CO2 emissions. In the "seeding" intervention (Bröder et al., 2023), participants rated the carbon footprints of 48 food items twice, with the actual carbon footprints revealed for 25% of the items after the first round. As the dependent variable, participants chose between two gifts they could win: a plant-based or meat-based food box containing a supply of meals for a whole week. Neither acceptance of a VAT increase nor

choosing a plant-based food box increased through the intervention. Despite the VAT-driven intent to reduce meat, participants didn't follow through, revealing an intention-behavior gap that requires investigation.

Keywords: climate change knowledge, seeding intervention, food consumption, policy acceptance

**17-06-2025 | 11:30 - 12:45**

**S-092**: **Policy acceptance**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Lagoon Room*

Chair (IS): Hannah Janßen, Fraunhofer Institute for Systems and Innovations Research ISI, Karlsruhe, Germany

**ID-558: THE ROLE OF PERSONAL COST EXPECTATIONS FOR PUBLIC POLICY ACCEPTANCE IN A CLIMATE CHANGE CONTEXT**

Laura Krumm[1; 2], Sonja Grelle [3], Jan M. Bauer [2], Wencke Gwozdz [1], Wilhelm Hofmann [3]

*[1]Justus Liebig University Giessen, Giessen, Germany, [2]Copenhagen Business School/Department of Management, Society and Communication, Frederiksberg, Denmark, [3]Ruhr-University, Bochum, Germany*

Effectively reducing greenhouse gas emissions will be unlikely without implementing far-reaching public policies and systemic changes, which depend on the acceptance by a critical mass of the public to be politically feasible and achievable. A key factor influencing policy acceptance is (expected) personal cost of policy implementation. Not surprisingly, previous research finds that policies imposing lower personal costs are more likely to be accepted. However, while many of the drastic behavior changes essential for significant emissions reductions will be costly, the type of cost associated with different behaviors and policies varies. Personal costs can, for instance, occur in the form of money, time, effort, or, more intangibly, as loss of pleasure or comfort. Understanding how different types of cost affect policy acceptance is essential to designing high-impact policies with minimal adverse effects. In two pre-registered surveys with German samples, we examine policy acceptance across multiple domains, such as meat consumption or plane travel. In each domain, we present four policy examples: a nudge, an incentive, a tax, and a law. In study 1 (n = 180), we find that both magnitude and type of cost significantly influence policy acceptance, with notable effects for monetary, effort, emotional, autonomy, and social costs. In study 2, for which data collection has been completed (n = 1000), we seek to support the findings of study 1 while additionally examining how individuals' perceived resources – such as money, time, energy, or autonomy - shape their perceptions of policy costs and acceptance.

Keywords: policy acceptance, climate change mitigation, personal cost

## ID-824: RELATIONSHIP BETWEEN EFFICACY BELIEFS AND PUBLIC SUPPORT FOR CARBON PRICING

Jessica Berneiser[1; 2], Goda Perlaviciute [3], Linda Steg [2]

*[1]Fraunhofer Institute for Solar Energy Systems ISE, Freiburg, Germany, [2]University of Groningen, Groningen, Netherlands, [3]University of Groningen - Department of Psychology, Groningen, Netherlands*

Carbon pricing is considered a key policy to curb fossil fuel consumption and catalyze investment in climate-friendly technologies. However, its success hinges on public support. It is therefore important to investigate which factors influence public support. We conducted a large-scale questionnaire study (N=12,157) in Germany to examine the extent to which public support for carbon pricing is related to different types of efficacy beliefs. Specifically, we examined to what extent public support for carbon pricing is related to outcome-efficacy (perceived effectiveness to limit climate change) and self-efficacy (perceived capability to limit cost increases from carbon pricing). We also included perceived personal burden, distributional consequences, and trust in the government to use revenues adequately as predictors of support for carbon pricing. Results show that people evaluate carbon pricing as more acceptable when they feel less of a personal burden and more able to avoid or cope with higher energy costs (i.e., higher self-efficacy), when they believe more strongly that the government will use the revenues adequately, when they think carbon pricing will not increase inequality, and in particular, when they believe more strongly that it helps limiting climate change (i.e., higher outcome-efficacy). Thus, public policy support could potentially be enhanced by communicating to what extent carbon pricing helps mitigating climate change, by ensuring that revenues will serve climate goals and that costs won't increase too much for vulnerable groups. Additionally, promoting self-efficacy, e.g. by providing information on and (financial) support for measures to counter these cost increments could increase policy support.

Keywords: policy support, carbon pricing, outcome-efficacy, self-efficacy

## ID-820: THE ROLE OF INDIVIDUAL-LEVEL VULNERABILITY IN SHAPING PERCEPTIONS OF HOUSING POLICIES

Hannah Janßen[1; 2], Sabine Preuß [1], Elisabeth Dütschke [1]

*[1]Fraunhofer Institute for Systems and Innovations Research ISI, Karlsruhe, Germany, [2]University of Bern, Bern, Switzerland*

Environmental policies play a crucial role in facilitating sustainable transitions by shaping contextual factors that enable changes in individual behavior. Policies and policy implementation can be influenced by society, making societal acceptance essential. However, the consequences of policies do not affect everyone equally. Therefore, this study investigates the influence of individual-level vulnerability on perceptions of environmental policies. We focus on citizen perceptions of two housing policies aimed at reducing living space as the housing sector is a major contributor to energy consumption and land use: (1) a ban on constructing new standard-sized or larger single-family homes, and (2) an annual fee for dwellings exceeding average living space. Utilizing data from citizen surveys conducted in Denmark, Germany, and Italy in 2023 (N = 1903), we conceptualized individual-level vulnerability through three dimensions: exposure, sensitivity, and adaptive capacity. Each dimension was operationalized using

multiple indicators, integrated into linear regression models to predict policy perceptions. Our findings indicate that two of the three vulnerability dimensions are partly significantly related to policy perceptions. Higher potential exposure—defined as being directly affected by the policy—correlates with more negative perceptions across most countries. Conversely, low adaptive capacity, as indicated by limited financial resources, is associated with more favorable views of the ban in Germany and Italy, as well as the fee in Italy. The results support the notion that vulnerability at the individual level is relevant to political perceptions.

Keywords: policy perception, vulnerability, housing sector, environmental policies

**ID-726: SOCIOECONOMIC STRUCTURES AND ENVIRONMENTAL POLICY ACCEPTANCE: THE ROLE OF NEOLIBERALISM, INEQUALITY, AND CARBON DEPENDENCY IN A GLOBAL CONTEXT**

Sascha Kuhn[1], Sonja Grelle [1], Kim Doell [2], Madalina Vlasceanu [3], Wilhelm Hofmann [1]

*[1]Ruhr University Bochum, Bonn, Germany, [2]Konstanz University, Konstanz, Germany, [3]Doerr School of Sustainability, Stanford University, Stanford, United States*

The global climate crisis necessitates transformative policies to address ecological and social challenges. Research on public policy acceptance (PPA) has predominantly focused on individual-level predictors and single-country studies in privileged Euro-American contexts, often overlooking the broader socioeconomic structures that shape public support. This study addresses these gaps by investigating how macro-level predictors, shaped by neoliberalism, influence PPA. Neoliberalism, as a sociopolitical ideology, functions as an architecture for economic and social structures. It privileges economic freedom through competitive markets, reinforces societal inequalities, and drives industrial dependencies on carbon-intensive practices. Drawing on a dataset from the Many Labs Climate project (60,000 participants across 63 countries) and a cultural psychology framework, we demonstrate that structural factors significantly influence PPA. Our findings reveal that economic freedom and per capita carbon emissions both negatively predict PPA. Economic freedom undermines support for transformative policies by fostering individualism and resistance to government intervention. Similarly, higher emissions, indicative of reliance on fossil fuels, correlate with entrenched vested interests and skepticism toward structural transformation. Conversely, inequality positively predicts PPA. While inequality typically erodes social trust and public engagement, its perception can evoke dissatisfaction with the status quo, fostering support for systemic change. These findings underscore the need to move beyond individual-level perspectives and to address broader structural drivers of climate crisis. By integrating macro-level predictors, this study underscores the importance of questioning the hegemonic influence of neoliberalism. This work contributes to a more nuanced understanding of environmental PPA in diverse global contexts, advancing pathways for transformative societal change.

Keywords: public policy acceptance, neoliberalism, inequality, macro-level structures, critical perspective

**17-06-2025 | 12:45 - 14:00**

**Lunch Break**

*Campus Courtyard*

**17-06-2025 | 12:45 - 14:00**

**PS-02**: **Poster Session II**

*Campus Courtyard*

**Codes marked by PSI-XXX are the number indicators for mounting your poster on a dedicated poster wall.*

PSII-001

**ID-133: A SYSTEMATIC REVIEW AND META-ANALYSIS OF THE RELATIONSHIPS AMONG PRO-ENVIRONMENTAL BEHAVIOURS**

Anda-Bianca Ciocirlan[1]

[1]*University of Sheffield*, *Sheffield*, *United Kingdom*

Pro-environmental behaviours are essential to address environmental issues. To effectively encourage pro-environmental behaviour, researchers need to understand how different behaviours relate. This systematic review examines the relationships between different pro-environmental behaviours. We searched Scopus, PsycInfo, and GreenFILE, conducted forward and backward citation searches, and contacted authors of included studies for expert recommendations. Twenty-six empirical studies that measured at least two pro-environmental behaviours at an individual or household level, which provided 1888 correlations between pro-environmental behaviours, were retrieved. Random-effects meta-analysis found a small overall effect size (r = 0.16, 95% CI = [0.08, 0.24]). Associations were observed both between behaviours from distinct domains (e.g., energy conservation and water conservation), and within the same domain (e.g., energy conservation behaviours such as turning off lights). Behaviours that belonged to the same general domain were found to be more strongly correlated than behaviours from distinct domains (e.g., energy conservation behaviours, r = 0.24, 95% CI = [0.06, 0.43]; resource management behaviours, r = 0.23, 95% CI = [0.11, 0.37]). In contrast, behaviours from distinct domains showed weaker associations, such as the correlation between energy conservation and civic actions (r = 0.11, 95% CI = [0.06, 0.16)]. The associations found suggest that there may be an underlying pro-environmental behaviour factor. Interventions targeting the underlying factor have the potential to be universally effective across multiple behaviours, rather than requiring a range of separate interventions targeting individual behaviours. This approach may increase efficiency by addressing multiple behaviours simultaneously, maximising environmental impact while reducing resource expenditure.

Keywords: pro-environmental behaviour, correlations, meta-analysis

PSII-002

**ID-891: A TAXONOMY OF MOTIVATORS FOR PRO-ENVIRONMENTAL BEHAVIOURS**

Ábel Zoltán Szabó[1], Laura Henn [1], Kevin Winter [1], Leonie Ströbele[1]

[1]*University of Hohenheim*, *Stuttgart*, *Germany*

Pro-environmental behaviours (i.e., PEBs) are a heterogenous class of behaviours and many different motivators have been identified that drive people to conduct them. Beyond the shared common motivation to protect the environment, additional motivators for PEBs can be saving money or time, health benefits, enjoyment of the activity itself, or social regard, among others. In our research, we investigate a large set of motivators derived from the literature and from previous qualitative research as to whether meaningful dimensions of motivators can be identified. To this end, we assess the self-reported subjective importance of 86 items representing potential motivating features of PEBs. The items are selected and constructed along 18 factors which organize into 4 larger categories: Social motivators, Gain motivators, Intrinsic personal motivators and Non-social external motivators. With data from a German speaking convenience sample collected via an online questionnaire of approx. *N* = 200 we will investigate with exploratory factor analysis whether motivators reveal the assumed factor structure. Following studies are planned taking place before the ICEP on larger more heterogeneous samples, which results will be also communicated on the poster. During these further evalutions the item set will be validated, with the ultimate goal to gain a more thorough understanding of different motivators for PEBs that might help support the more effective promotion of PEBs among the public.

Keywords: motivation, pro-environmental behaviour, exploratory factor analysis

PSII-003

**ID-866: PROXIMIZING, NOT LOCALIZING: COMBINING TEMPORAL DISTANCE AND DYNAMIC NORM CAN INCREASE PRO-ENVIRONMENTAL BEHAVIOR**

Erim Utku Küçüktopuzlu[1], Serap Akfırat [2]

[1]*Antalya Bilim University, Department of Psychology*, *Antalya*, *Turkey*, [2]*Dokuz Eylül University, Department of Psychology*, *İzmir*, *Turkey*

Public perception that the effects of climate change occur in a distant future and in faraway places (i.e., psychological distance) is considered a substantial barrier to climate action. Many argued that communicating the immediate “here-and-now” effects of climate change can encourage individuals to take action. Despite growing literature, research yielded inconsistent findings. This study aimed to expand previous research, examining the effects of temporal distance, spatial distance, and dynamic norms on pro-environmental behavior intentions in a 2x2x2 experimental design in a sample of 415 university students from Turkey. In an experimental survey, we presented videos about predicted outcomes of climate change, which varied based on temporal frame (10 years vs. 70 years from now) and spatial frame (national vs. global context). We also manipulated the perception of the prevalence of pro-environmental behaviors in university students, highlighting an increasing trend (i.e., dynamic norm). Results revealed that reducing spatial and temporal distance, either individually or in combination, was insufficient to increase intentions. However, presenting a dynamic norm was effective in motivating behavior, and the effect of dynamic norm altered depending on temporal distance levels. Specifically, those led to believe that more and more university students have started taking climate action reported greater behavioral intentions when they perceived the consequences of climate change as temporally closer. Statistical

significance remained after controlling for age, sex, political orientation, belief in anthropogenic climate change, and trust in climate science. Findings underscore the importance of combining different approaches to better understand the conditions increasing climate action.

Keywords: pro-environmental behavior, dynamic norm, temporal distance, spatial distance

PSII-004

**ID-938: THE INFLUENCE OF COGNITIVE DISSONANCE AND MORAL DISENGAGEMENT ON PRO-ENVIRONMENTAL BEHAVIOR**

Nils Demurie[1], KimDierckx [1], Alain Van Hiel [1]

[1]*Ghent University, Department of Developmental, Personality and Social Psychology*, *Ghent*, *Belgium*

**Introduction**: Research indicates a significant gap between pro-environmental attitudes and actual behavior. To explain this gap, we propose a new model integrating models of ecological behavior with theories of cognitive dissonance and moral disengagement. The proposed model suggests that behavioral barriers, such as strong habits, can create an inconsistency between pro-environmental attitudes and behavior, potentially leading to feelings of cognitive dissonance. This dissonance may be resolved either by acting more pro-environmentally or by adjusting one's attitudes through moral disengagement. For instance, someone might reduce their guilt about flying by rationalizing that a single flight won't have much impact, thereby improving their attitudes toward flying. **Goals & objectives**: Two studies were conducted to test the model. **Materials & Methods**: In a between-subjects design, comparing high and low behavioral barriers, we investigated how these barriers affect moral disengagement, cognitive dissonance, behavioral attitudes, behavioral intentions, and pro-environmental behavior. In Study 1 ($n$ = 256), eating less meat was selected as a high-barrier behavior, while recycling was chosen as a low-barrier behavior. Study 2 ($n$ = 188) manipulated behavioral barriers for sustainable consumption with a product choice task. **Results**: The results from both studies indicated that higher behavioral barriers induce moral disengagement, which negatively affects behavioral attitudes and intentions, leading to less pro-environmental behavior. However, barriers had no significant effect on cognitive dissonance. **Conclusions**: The present findings suggest that moral disengagement plays a crucial role in explaining pro-environmental behavior and offers new insights for developing interventions to mitigate this process.

Keywords: pro-environmental behavior, pro-environmental attitudes, attitude-behavior gap, moral disengagement, cognitive dissonance

PSII-005

**ID-425: EFFECTS OF EXPERIENCE OF EXTREME WEATHER AND POLITICAL IDENTIFICATION ON PRO-ENVIRONMENTAL BEHAVIOR OF GERMAN RURAL CITIZEN AT HOME AND AT WORK**

Vanessa Hiess[1], Elke Weber [2]

[1]*Technische Universität Berlin*, *Berlin*, *Germany*, [2]*Princeton University*, *Princeton*, *United States*

Lately, Germany has been subjected to a series of extreme weather events, including flooding and heatwaves, alongside shifts toward conservative and populistic parties, especially in small rural municipalities where a feeling of being neglected and lacking investments to address climate change challenges are often being reported. This study explores the effects of experiencing extreme weather events as a function of political identification on pro-environmental attitudes (PEA) and behaviors (PEB) in private and workplace context. While personal climate change mitigation behaviors matter, workplace behavior may be more impactful, as it transforms individual efforts into collective action and system change. Using data from 854 residents of small German municipalities, we find that both political identification and climate experiences significantly predict PEA and PEB, though in interesting and complex ways. PEB at home and at work varied as a function of political identification, yet experience with extreme weather events reduced this polarization. Gender differences observed in work PEB also disappeared when climate experiences are included in the model. No single party identification significantly influenced PEB at work, while identifying with the SPD or Greens increased PEB at home. The magnitude of reported health damage incurred from extreme weather events increased work PEB, whereas the magnitude of material damages correlated with home PEB. This study highlights the influence of extreme weather experiences in shaping behaviors, offering suggestions for interventions that prioritize shared vulnerabilities over political divides, with the aim of fostering pro-environmental action in rural contexts at home and at work.

Keywords: pro-environmental behavior at home, pro-environmental behavior at work, political identification, extreme weather events, rural context

PSII-006

**ID-571: FROM KNOWLEDGE TO ACTION: THE ROLE OF OBJECTIVE AND ABSTRACT KNOWLEDGE IN PREDICTING PRO-ENVIRONMENTAL BEHAVIOR AND PSYCHOLOGICAL NEED SATISFACTION**

Aivaras Vijaikis[1], Mykolas Simas Poškus [1]

[1]*Mykolas Romeris University, Environmental Psychology Research Centre*, *Vilnius*, *Lithuania*

Pro-environmental behavior is an integral part of a healthy planet, but there is limited research on how this kind of behavior can benefit individuals themselves. In this research we explore how different kinds of knowledge are associated with both private and public sphere pro-environmental behavior and how these behaviors contribute to satisfaction of basic psychological needs, including autonomy, relatedness, competence, and morality. This research was conducted with a convenience sample of 403 adolescents with a mean age of 14.8 years (39.2% male). To explore pathways, we used structural equation modelling. The analysis showed that both types of knowledge, objective and abstract, significantly predict pro-environmental behavior. However, objective knowledge, while significant, negatively predicts public pro-environmental behavior. In relation to pro-environmental behavior and basic psychological need satisfaction, private sphere behavior significantly and positively associates with the satisfaction of all basic psychological needs. In contrast, public sphere behavior significantly associates only with the satisfaction of the need for relatedness, and this association is negative. While both types of knowledge are significant predictors, the negative relationship between objective knowledge and public pro-environmental behavior suggests that greater objective knowledge may not always translate into positive pro-environmental behaviour in the public sphere. Furthermore, only private sphere pro-environmental

behavior is a predictor of the satisfaction of basic psychological needs, positively relating to autonomy, relatedness, competence, and morality. This suggests that private pro-environmental actions may provide individuals with a sense of satisfaction, which could potentially contribute to increased subjective well-being.

Keywords: pro-environmental behavior, objective knowledge, abstract knowledge, basic psychological needs, adolescents

PSII-007

**ID-728: EXPLORING THE IMPACT OF TECHNOLOGY-AS-SOLUTION BELIEFS ON ENVIRONMENTAL ATTITUDES AND BEHAVIORS**

Laurens Van Daele[1], Maggie Geuens [1], Gudrun Roose [1]

[1]*Ghent University*, *Gent*, *Belgium*

The digitization of communication and digital platforms has reshaped global economies, societies, and lives, promoting a belief in technology as a driver of progress and solutions 1. This optimism extends to sustainability, with digitalization often linked to positive environmental impacts despite significant trade-offs 2. However, the potential negative effects of these beliefs on pro-environmental attitudes **(1)** and behaviors **(2)** remain underexplored. A first study hypothesizes that stronger technology-as-solution 3 beliefs are associated with lower environmental concerns **(1)**, possibly due to a reliance on technological innovations, which reduces personal accountability for sustainability 4. Preliminary findings (n=92) show a significant negative correlation between technology-as-solution beliefs and environmental concern ($r(91)=-.41$, $p<.001$). A second study examines the effect of these beliefs on pro-environmental behavior **(2)** comparing willingness-to-pay for a technology-enhanced product versus a handcrafted alternative with equivalent functionality. Preliminary results (n=90) indicate that while respondents viewed the technology-enhanced product as less sustainable ($M_{tech}=3.29$, $M_{hand}=3.99$) ($t(89)=2.617$, $p=.010$), they were still willing to pay more for it ($M_{tech}=$ €16.55, $M_{hand}=$ €14.36) ($t(89)=-2.22$, $p=.029$). This suggests that perceptions of superior functionality, innovation, or convenience outweigh environmental concerns. To obtain more robust results, two larger-scale studies will be conducted on Prolific in January 2025. This research highlights the complex relationship between societal optimism about technology and pro-environmental attitudes and behaviors. Findings suggest that stronger technology-as-solution beliefs correlate with lower environmental concerns and a preference for technology-enhanced products, even when they are correctly perceived as less sustainable. Addressing these cognitive biases could help policymakers promote more sustainable behaviors.

Keywords: pro-environmental behavior, environmental concern, technology-as-solution, sustainability perceptions, willingness-to-pay

PSII-009

**ID-670: ASSESSING OCEAN LITERACY IN COASTAL TOURIST REGIONS: A COMPARATIVE ANALYSIS OF KNOWLEDGE, PERCEPTION, AND BEHAVIOUR AMONG TOURISTS AND RESIDENTS ON THE FRENCH MEDITERRANEAN AND GERMAN BALTIC SEA COASTS**

Susanne Stoll-Kleemann[1], Rebecca Demmler [1]

[1]*University of Greifswald*, *Greifswald*, *Germany*

The ocean plays a crucial role in climate regulation, biodiversity, and sustaining ecosystems, yet human activities increasingly threaten marine environments. Ocean Literacy (OL) aims to address this by fostering understanding of the human-ocean relationship, encouraging informed decisions, and promoting sustainable behaviour. However, prior research indicates that public understanding of marine issues is limited and often affected by misconceptions.This study compares OL among residents and tourists in Mediterranean (N = 405) and Baltic Sea regions (N = 628) to identify potential regional differences. Through a face-to-face survey, regional ocean-related knowledge, threat perception, and general ocean-related behaviour were analysed, alongside the relationship between knowledge and behaviour. The results indicate no significant regional differences in the overall assessment of knowledge or behaviour. However, within the knowledge and behaviour categories, there is a divergence between higher confidence in general knowledge and lower confidence in specific knowledge, as well as higher scores in low-cost and lower scores in high-cost behaviours. Threat perceptions exhibit regional nuances, particularly in the Baltic Sea regions, where local contexts shape these perceptions. On both the Mediterranean Sea coast and the Baltic Sea coast, a positive correlation was found between ocean-related knowledge and ocean-friendly behaviour. The findings reveal valuable insights, showing no major differences in general knowledge, threat perception, or behaviour between the two coastal regions. However, understanding regional nuances and variations in ocean knowledge, specific (mis)conceptions, and behaviours may still be essential for developing targeted policy strategies that align with local contexts and values to enhance Ocean Literacy.

Keywords: ocean friendly behavior, ocean literacy, behavior change, ocean connectedness

PSII-010

**ID-805: PERSONAL VALUES, PERSONAL RESPONSIBILITY, AND CONCERN ABOUT CLIMATE CHANGE: HOW DO PEOPLE IN LITHUANIA DIFFER?**

Tadas Vadvilavičius[1], Gabija Jarašiūnaitė-Fedosejeva [2]

[1]*Vytautas Magnus University, V. Kavolis Transdisciplinary Research Institute*, *Kaunas*, *Lithuania*, [2]*Vytautas Magnus University, Department of Psychology*, *Kaunas*, *Lithuania*

Values motivate and help to identify what is important to us personally. Studies have shown that environmental awareness was related to personal values; however, analyses are mostly limited to a variable-centric approach. This study aims to identify differences in environmental concern across various value profiles among Lithuanian citizens. A Lithuanian sample (n = 1365) from the European Social Survey data (Round 11, year 2023-2024; v1.0) was used. The sample consisted of 61.5% women, with a mean age of 50.34 years (SD = 17.79). Latent profile analysis was performed using Schwartz's higher-order. Two

questions used for profiles comparison "To what extent do you feel a personal responsibility to reduce climate change?" and "How worried are you about climate change?". An eight-profile solution was chosen (AIC = 12305.27; BIC = 1529.24; SABIC = 12392.65; Entropy = .72; BLRT $p < .05$) for comparison. There was also a statistically significant effect on both personal responsibility for climate change ($F(7, 1286) = 6.82$, $p < .001$) and concern about climate change ($F(7, 1286) = 4.16$, $p < .001$), although only between certain profiles. For example, people who expressed higher levels of self-transcendence, average self-enhancement, openness, and conservation exhibited one of the highest levels of personal responsibility about climate change. Conversely, those who expressed lower levels of self-transcendence, conservation, and average self-enhancement and openness displayed one of the lowest levels of worry about climate change. A person-centered approach could offer valuable insights for developing future climate change interventions.

Keywords: personal values, latent profile analysis, personal responsibility, environmental concern, European social survey

PSII-011

**ID-420: INTERACTION BETWEEN IDENTITIES AND FRAMING IN INCREASING THE SUPPORT FOR THE IMPLEMENTATION OF NUDGES**

Žan Lep[1; 2], Žiga Mekiš Recek [1], Katarina Babnik [1]

*[1]Department of Psychology, Faculty of Arts, University of Ljubljana, Ljubljana, Slovenia, [2]Centre for Applied Epistemology, Educational Research Institute, Ljubljana, Slovenia*

Nudges are a simple, affordable, and efficient way to encourage pro-environmental behaviour. Research suggests that nudges are especially effective when tapping into people's (social) identities, but empirical evidence explaining the specifics of the interaction is scarce. Moreover, nudges' efficiency may not manifest if their implementation on policy level evokes opposition (reactance). We thus aim to explore how the support of green nudges implementation is linked with various social identities (pro-environmental, civic, national, transnational). Second, using an experimental intervention (within-subject design), we will test how these identities interact with the framing of a proposed nudge when predicting support. Data collection is underway using convenient sampling of Slovenian university students (planned $N = 250$). They report their identities using items adapted from Multidimensional and Multicomponent Measure of Social Identification and their support of 12 nudges. Additionally, they are presented with two framings of a plastic bottle tax nudge. One involves cues to community benefit (social identity) and the other to personal responsibility (personal identity). Within a regression model, we expect “personal” framing will interact with pro-environmental and “social” framing with other identities in increasing the support for both a tested green nudge and nudges as a general policy intervention (spill-over effect). While we expect all identities contribute to higher support of nudges implementation, we surmise the link with pro-environmental identity will be strongest. The findings could be useful in more efficient nudge design and implementation, especially where certain identities are salient and foreknown and if the framing-identity interaction shows a spill-over effect.

Keywords: green nudges, public support, pro-environmental behaviour, pro-environmental identity, public policy

PSII-013

**ID-680: PROMOTING THE PURCHASE OF PRODUCTS STIGMATIZED BY CONTROVERSIAL FACILITIES THROUGH VISUAL STIMULI**

Ziying Li[1], Toshiaki Aoki [1], Masahiro Sato [1]

[1]*Graduate School of International Cultural Studies, Tohoku University*, *SENDAI*, *Japan*

Controversial facilities, such as landfills and nuclear power plants, can enhance societal welfare but also pose risks and hazards to surrounding areas, leading to stigma. In Fukushima, the agriculture and fishing industries were heavily affected by stigma from nuclear power plant accidents. Therefore, in order to build a resilient society, it is important to find ways to alleviate stigma. Based on an online experiment with 595 Japanese consumers, this study investigated the effect of visual stimuli on promoting the purchase of products stigmatized by nuclear power plants. In this experiment, Participants first engaged in a "spot the difference" game designed to deliver visual stimuli. Four types of stimuli were employed: (1) positive emotions, (2) compassion, (3) scientific thinking, and (4) neutral stimuli (random lines and figures). One of the four stimuli was randomly assigned to participants. In the second stage, a choice experiment was conducted to examine consumer preferences. Two fictitious rice-producing areas, A and B, were introduced. Area B had previously been affected by a nuclear power plant accident but was now certified safe by the government. Participants completed six trials in which they chose between rice from areas A and B. Results from the mixed logit model showed that participants exposed to the first three stimuli evaluated rice from area B more favorably compared to the neutral stimuli. Among the three, compassion had the strongest effect (effect size = 0.18). These findings suggest that visual stimuli can significantly improve consumers' evaluations of stigmatized products.

Keywords: stigma, choice experiment, priming, risk perception, consumer preference

PSII-014

**ID-724: THE ROLE OF IMPLICIT GOAL HIERARCHIES IN EFFECTIVELY PROMOTING SUSTAINABLE CONSUMPTION**

Morgan De Rocker[1], Iris Vermeir [1], Adriaan Spruyt [1]

[1]*Ghent University*, *Gent*, *Belgium*

The European Union could reduce its carbon footprint by nearly 25% by changing consumption patterns (Thogersen, 2021). A crucial component to accomplish this shift is for consumers to consistently make sustainable choices. From a goal-attainment perspective, the observation that consumers (often) engage in behaviour they know is unsustainable, implies that competing goal are deemed more valuable, either at the implicit level or at the explicit level. Interventions are thus needed to make consumers prioritize

sustainability goals, even at the implicit level. This paper introduces a novel implicit measure designed to capture inter-individual differences in implicit goal hierarchies (i.e., the Goal-IMPACT, Experiment 1) and demonstrates how these implicit goal hierarchies are influenced by in-store (nudging) interventions (Experiment 2) and fear-appeal messages (Experiment 3). Furthermore, given the challenge of promoting multiple sustainable choices, we investigate the role of implicit goal hierarchies in behavioural spillover (i.e., the influence of an intervention on not-targeted behaviour). Experiment 4 is designed to demonstrate that experimentally induced changes in (implicit) goal hierarchies determine whether behavioural interventions result in positive (i.e., subsequent behaviours remain driven by sustainable goals) vs. negative spillover effects (i.e., subsequent behaviours revert to competing goals). Specifically, we expect the elicitation of sustainable behaviour at a first moment to result in sustainable behaviour at a subsequent moment only in participants who prioritize sustainability at the implicit level (i.e., positive spillover). Ultimately, this research will help identify new pathways to promote sustainable consumer behaviour effectively. Results will be presented at the conference.

Keywords: Behavioural interventions, sustainable consumption, goal hierarchies, implicit measure, behavioural spillover

PSII-015

**ID-560: CRAFTING SUSTAINABLE NARRATIVES: THE EFFECTS OF SUSTAINABILITY AND EXCLUSIVITY FRAMING ON CONSUMER ACCEPTANCE OF RECYCLED MATERIALS IN LUXURY FASHION**

Anqi Yu[1], Veroline Cauberghe [1], Shubin Yu [2]

*[1]Ghent Univeristy / Department of Communication Sciences*, *Ghent*, *Belgium*, *[2]BI Norwegian Business School / Department of Communication and Culture*, *Oslo*, *Norway*

Luxury fashion is widely accused of its heavy reliance on nonrenewable materials (Jain, 2019). Driven by growing sustainability awareness, a promising shift in consumer behavior toward recycled materials has emerged. Empirical evidence has indicated that fashion products made from recycled materials positively affect consumers' brand attitude and purchase intentions (Grazzini et al., 2021; Kumagai & Nagasawa, 2020). However, incorporating recycled materials presents a paradox in luxury fashion's communication, as it seemingly contradicts the celebrated exclusivity of luxury. Research investigating how luxury fashion brands effectively communicate their use of recycled materials remains limited. To address this gap, drawing on signaling theory, this study implements a 2 x 2 x 2 between-subjects experimental design to examine the influence of sustainability-focused vs. exclusivity-focused messages, the type of recycled materials (highly contaminated/non-fashion-related, e.g., recycled fishing net vs. lowly contaminated/fashion-related, e.g., recycled cotton) and the proximity of the recycled materials to the skin (low, e.g., handbag vs. high, e.g., shirt) on consumer acceptance of luxury fashion products made from recycled materials and brand perceptions. Through ANOVA and moderated regression analyses, the results reveal the effect of different framing types on the consumer acceptance of recycled materials in luxury fashion, and provide insights into optimal framing strategies for communicating such products.

Keywords: recycled materials, luxury fashion, sustainability, exclusivity, framing strategy

PSII-016

**ID-711: BEHIND THE SEAMS: PREDICTORS OF SUSTAINABLE FASHION CONSUMPTION AMONG ITALIAN CONSUMERS**

Alessandra Carella[1], Marta Caserotti [1], Enrico Rubaltelli [1]

[1]*Department of Developmental Psychology and Socialization, University of Padua*, *Padua*, *Italy*

The fast fashion industry is one of the most polluting sectors in the global market, as producing low-cost, low-quality garments inspired by high-fashion trends causes significant environmental damage (Mukherjee, 2015; Niinimäki, 2020). Identifying psychological predictors of fast fashion purchasing behavior can help promote sustainable choices. Research has shown that materialism drives the desire for symbolic goods, impulsivity leads to unplanned purchases, and environmentalism reflects how ecological values guide sustainable preferences (Belk, 1984; Dittmar & Bond, 2010; Cho et al., 2015). This pre-registered study examined how product attributes such as durability, material, and trendiness influence choices between sustainable and non-sustainable sweaters, considering impulsivity, materialism, and green identity as influencing variables. The results indicated that the sustainable sweater was chosen less frequently as materialism and impulsivity increased and as green identity decreased. Conversely, the new collection sweater, representing the trendy option, was selected more often under the same conditions. Furthermore, information about the product's durability had the most significant impact on the choice of the sustainable option, followed by information about the material and trendiness. These findings are particularly noteworthy as they highlight how the sustainability attributes of clothing can influence consumer choices. For instance, informing consumers about the benefits of purchasing a more expensive but longer-lasting garment can encourage more sustainable decisions. Moreover, the results underscore the importance of providing such information while considering consumers' levels of impulsivity, materialism, and environmental identity.

Keywords: pro-environmental behavior, sustainability, consumer behavior, pro-environmental identity, fast fashion

PSII-017

**ID-947: RESEARCH ON SUSTAINABLE CONSUMPTION OF CLOTHING: A BIBLIOMETRIC REVIEW AND CONTENT ANALYSIS**

Ricardo Garcia Mira[1], Aryasree Kuttiattoor Veetil [1]

[1]*University of A coruna*, *A Coruña*, *Spain*

Textile waste is one of the major concerns of sustainability advocates and its management requires a lot of manpower. Studies state that out of the total textile waste, 82% was post-consumer waste and the use phase is responsible for up to 80% of the carbon footprint. Using bibiliometric analysis, this study analysed the literature on sustainable consumption and whether they address clothing consumption behaviour. The data for this study was obtained from Scopus database from the period 1992 to 10th of December 2024. Further, the theories used and the interventions if any is identified using content analysis.

Bibliometric analysis identified a total of 8494 publications which mentioned “sustainable consumption” in the period studied. Out of this, only 508 articles mentioned clothing or related terms which is 5.98% of the total publications. United States was the largest contributor in this area followed by China and United Kingdom. Majority of the papers addressed the purchasing behaviour of clothing while the use and disposal behaviour were underrepresented. The research on sustainable consumption behaviour of clothing showed an increasing trend from the early 2000s. The study also summarises the future scope and challenges to sustainable clothing consumption behaviour. This research would help in designing effective interventions to promote sustainable behaviour in clothing use and delaying clothing disposal.

Keywords: sustainable clothing consumption, sustainable behaviour, fashion, clothing, bibliometric analysis

PSII-018

**ID-946: THE ENVIRONMENTAL IMPLICATIONS OF BUY NOW PAY LATER (BNPL): EXPLORING PRESENT BIAS, FUTURE ORIENTATION, AND SUSTAINABLE CONSUMPTION**

Katelyn Joann Taylor[1]

[1]*London School of Economics*, *London*, *United Kingdom*

**Introduction**: The proliferation of Buy Now Pay Later (BNPL) services has raised concerns about consumer behaviour and its implications for environmental sustainability. This study examines whether BNPL usage aligns—or conflicts—with individuals' stated sustainability preferences, focusing on overconsumption and hedonic consumption in key areas: fast fashion, food, and travel. Specifically, we explore whether BNPL amplifies present bias, encouraging short-term gratification at the expense of long-term environmental goals and whether a future orientation mitigates these effects. **Objectives**: - Determine whether BNPL usage predicts consumption at odds with sustainability preferences or leads to post-purchase regret. - Examine whether a future-oriented mindset reduces BNPL usage in environmentally impactful domains: fast fashion, food, and travel. - Investigate whether individuals with strong sustainability preferences are less likely to use BNPL services. - Explore whether temporal orientation predicts the types of goods purchased using BNPL. **Methods**: Consumption behaviours and preferences will be analysed using structural equation modelling (SEM) and month reconstruction sampling methods. Zimbardo's Time Perspective Inventory (ZTPI) will measure participants' temporal orientations. Outcomes will include purchase alignment with sustainability values, hedonic versus utilitarian consumption, and measures of post-purchase regret. **Predicted Outcomes**: We anticipate that individuals with high present bias will use BNPL more frequently, resulting in purchases that conflict with sustainability goals and lead to regret. In contrast, a future-oriented mindset is expected to mitigate these effects. BNPL usage is likely to favour hedonic over sustainable purchases, highlighting the need for strategies to reduce BNPL-driven overconsumption and its impact on consumer and environmental well-being.

Keywords: buy now pay later (BNPL), future orientation, present bias, overconsumption, zimbardo time perspective inventory (ZTPI)

PSII-019

**ID-239: WHAT DO I WANT AND WHY? - REFLECTING ON ONE'S CONSUMPTION DESIRES TO PROMOTE SUFFICIENT CONSUMPTION BEHAVIOR**

Paula Gerda Rosendahl[1; 2], Andreas Ernst [1]

*[1]Center for Environmental Systems Research, University of Kassel, Kassel, Germany, [2]Scholarship Programme of the Deutsche Bundesstiftung Umwelt, Osnabrück, Germany*

High levels of consumption and the resulting overuse of resources cause various environmental and social problems. Sufficiency is a strategy that aims to reduce absolute resource use and includes a reduction in consumption. To take consumption decisions according to sufficiency principles (e.g., reusing existing possessions and avoiding the purchase of new consumer goods), consumers need to be aware of their consumption desires and critically question them. This ability to reflect on one's consumption desires (*reflection ability*) has not yet been operationalized in sufficiency research. Therefore, this study aims to develop a scale that measures the extent to which consumers reflect on their consumption desires in consumption situations. Moreover, it examines whether a higher reflection ability is associated with more sufficient consumption behavior. In a first step, interviews are conducted with individuals who practice sufficient or minimalist lifestyles and presumably show higher levels of reflection ability in consumption contexts. Qualitative content analysis is used to identify dimensions of reflection ability, which serve as a basis for item generation. In a second step, the scale is developed and tested. Its dimensionality is examined using exploratory factor analysis, and its psychometric properties are evaluated based on a larger sample of consumers. Preliminary results of the scale development process will be presented at the conference. The findings may provide insight into decision-making processes related to sufficient consumption and thus advance research in this field. Improving reflection ability could promote sufficient consumption and possibly contribute to changing resource-intensive consumption habits.

Keywords: sufficiency, consumption desires, consumption reflection, reflection ability

PSII-020

**ID-377: HARNESSING SELF-COMPASSION TO ATTENUATE THE EFFECT OF STATUS INSECURITY ON MATERIALISTIC CONSUMPTION**

Yimeng Han[1], Dan Bailis [1]

*[1]University of Manitoba, Winnipeg, Canada*

**Introduction:** Materialistic consumption is characterized by self-centeredness and buying things beyond one's basic needs, causing excessive greenhouse gas emissions and environmental problems. One major motive for it is status insecurity. Therefore, advancing knowledge of factors that attenuate the linkage between status insecurity and materialistic consumption is important. **Goals & Objectives**: The study aims to test whether promoting self-compassion can attenuate individuals' intention for materialistic consumption in response to socioeconomic status (SES) insecurity. **Materials & Methods**: The study (preregistered) follows a randomized 2 (Self-Compassion: Treatment vs Control) X 2 (Status Insecurity:

High vs Low SES Affiliation) between-subjects experimental design. Participants (N = 212) will first complete either treatment or control writing tasks of the Self-Compassionate Mindstate Induction, followed by either a high- or low-SES visualization exercise. Lastly, two tasks assessing the proportion of money participants spend on themselves and momentary desire for retail therapy will be used to measure materialistic consumption intention. Sample recruitment will occur through Prolific. Qualtrics will be used to present materials and record responses. Data will be collected in January 2025 and analyzed using Model 1 in PROCESS with SPSS. **Expected Results**: Participants in the low-SES affiliation condition will report a higher tendency to materialistic consumption than those in the high-SES affiliation condition. This relationship will be significantly attenuated among participants in the self-compassion condition compared to those in the control condition. **Conclusions**: The study addresses the opportunity for self-compassion to combat consumerism and will be unique in its ability to address causal relationships among these variables.

Keywords: materialistic consumption, status insecurity, self-compassion, sustainable lifestyle, socioeconomic status

PSII-021

**ID-432: GREEN PURCHASING: A CONSEQUENCE OF TRAIT SELF-CONTROL AND SELF-REGULATORY RESOURCES**

Liane Scholten[1], Mathias Streicher [1]

[1]*University of Innsbruck*, *Innsbruck*, *Austria*

**Introduction & Objectives:** Green purchase decisions (GPD) require a long-term perspective, recognizing that today's often costly sustainable choices have enduring impacts (White et al., 2019). These decisions rely on self-regulatory resources, or self-control (White, Habib, & Hardisty, 2019). Self-control may vary across individuals (trait self-control) and within individuals over time (Dang, 2021). We hypothesize that depleting situational self-control will reduce GPD (H1) and that this effect will be moderated by trait self-control, with high trait self-control lessening the impact of depletion (H2). **Methods**: In a study with 52 students (64% female), participants chose between organic and conventional products across 10 trials. The experimental group completed a Stroop task (75% incongruent trials), which depleted self-regulatory resources, while the control group performed a congruent version. Naming font colors instead of reading words in the incongruent task required inhibiting impulses, utilizing self-control resources (Stroop, 1992). After the Stroop task, participants made price-influenced product choices. **Results**: Impulse inhibition (M = 2.54, SE = 3.02) showed a tendency to reduce green purchases compared to no inhibition (M = 3.46, SE = 3.82), t(50) = -.966, p = .14. Moderation analysis (Hayes Model 1) revealed significant interaction effects (H2), B = 3.48, SE = 1.34, p = .013, with self-control improving the model (F(3, 48) = 3.036, p = .038). **Conclusion**: High trait self-control mitigates resource depletion's negative impact on green purchases. Managers can enhance consumer self-control by reducing in-store distractions. A stressor could be crowding, which is linked to reduced self-control resources (Vohs & Baumeister 2018).

Keywords: green purchasing, sustainability, self-control, self-regulation, goal pursuit

PSII-022

## ID-511: COLLECTIVE ACTION AGAINST CONVENTIONAL PALM OIL PRODUCTION: HOW PERCEIVED PARTICIPATION NORMS ARE LINKED TO COLLECTIVE ACTION AGAINST ENVIRONMENTAL ISSUES

Sarah Gina Febriana[1], Lara Ditrich [1]

[1]*Leibniz-Institut für Wissensmedien*, *Tübingen*, *Germany*

Conventional palm oil production has serious environmental costs, including deforestation, greenhouse gas emissions, and air and water pollution. These impacts have sparked protests and boycotts of the practice and products containing palm oil. In five studies (total N = 1084), we test the hypothesis that communicating (vs. not communicating) participation norms would increase collective action intentions and investigate under which circumstances communicating norms is particularly effective. Specifically, we focus on the framing of palm oil production practices as a moral issue (Studies 1-3), the group membership of the communicator (Study 4), and the type of norm communicated (Study 5). We found mixed evidence for an effect of norm communication but no evidence that moral framing of the issue or communicator group membership influenced outcomes. However, exploratory findings consistently showed a positive relationship between perceived participation norms and collective action intentions across Studies 2–5. Study 5 further revealed that perceived participation norms mediated the relationship between the communicated norms and collective action intentions. These findings highlight the critical role of perceived participation norms in encouraging pro-environmental collective action. They suggest that observing others' engagement in such actions can shape individual intentions to participate, underscoring the importance of participation norms in addressing the environmental challenges posed by conventional palm oil production.

Keywords: participation norms, collective action, environmental activism, palm oil

PSII-023

## ID-1001: NARRATIVE CONSTRUCTION OF ACTIVIST IDENTITIES AMONG YOUNG FINNISH CLIMATE ACTIVISTS

Juni Roosa Natalia Sinkkonen[1], Irmeli Mustalahti [1]

[1]*University of Eastern Finland*, *Joensuu*, *Finland*

**Introduction**: This paper brings forth observations of how young Finnish climate activists construct activist identities in their narration. They resist negative activist identity categories embedded in master narratives by creating counter-narratives and reconceptualising activism as an essential part of good life. **Objectives**: In the study we ask 1) what types of activist identities the participants construct in their narration, and 2) what kind of activism-related master narratives are addressed and how they're resisted. **Materials** & **Methods**: The research data consists of twelve interviews conducted with 18–25-year-old Finnish activists in spring 2020. Theoretical framework of the study is narrative-discursive psychology. The data is analyzed using positioning and categorization analysis. **Results**: Negative activism-related master narratives emerging from the data are: 1) activism as disturbing activity, 2) activism as forced activity, and

3) activism as an activity requiring sacrifices. Some negative activist identity categories are 'activists as bullies' and 'hard activists'. Other categories that emerged are 'soft activists' and 'responsible citizen activists' which are linked to counter-narratives: 1) activism as a part of good life, and 2) activism as planetary care. **Conclusions**: Environmental issues are an essential part of the life of many young people, influencing their identity construction and social relations. In our study the participants resisted the negative master narratives and constructed counter-narratives regarding activism and good life. Several activist identity categories emerged and even co-existed in their narration. To promote the societal activity and well-being of youth, we suggest it'd be helpful to dismantle negative connotations associated with activism.

Keywords: climate activism, youth, narrative psychology, identity, categorization

PSII-025

**ID-871: CAN THE NEW GENERATION CHANGE THE WORLD? CHILDREN AND YOUNG PEOPLE BEHAVIOUR FOR CLIMATE CHANGE**

Fátima Bernardo[1], Raquel Barreto [2], Isabel Loupa-Ramos [1], Joana Fernandes Dias [1]

*[1]CITUA – Center for Innovation in Territory, Urbanism, and Architecture - Univ of, Lisbon, Portugal, [2]University of Évora, Évora, Portugal*

Literature and international sustainability goals highlight the importance of creating a new generation with a strong environmental identity, capable of making the transition to sustainable energy and addressing climate change issues. This can be leveraged within the school context, with a spill-over effect to other areas of action of this generation (Taghvaee, 2022). The school population has the capacity to promote intergenerational influence, gradually stimulating changes in the behaviour of family members and enabling a more rapid change in the behaviour of the general population (Collado et al., 2019). The aim of this research project is to apply a questionnaire to students in 6th, 9th and 12th grades, covering the 5 continental regions, with schools selected as eco-school/non-eco-school programmes. The questionnaires are closed-ended and include scales to measure attitudes (NEP), environmental values (2-MEV), social norms (descriptive and prescriptive norms), personal norms, children's pro-environmental behaviour and socio-demographic data. The results show the gap between pro-environmental attitudes and behaviour, highlighting the importance of psychosocial factors, such as norms and attitudes, and socio-demographic factors in pro-environmental behaviour. This study also allowed the evaluation of the Portuguese Eco-Schools Programme, highlighting the importance of developing a programme based on the impact of behaviour and helping to break down the barriers between attitudes and behaviour. This research should provide new and useful information for decision making, strengthening the role of schools in the environmental education of citizens and allowing a faster transition towards renewable energy and reduced consumption.

Keywords: pro-environmental behaviour, social norms, personal norms, attitudes

PSII-027

## ID-209: COPING WITH SUSTAINABILITY CONFLICTS: ASSOCIATIONS WITH CLIMATE-FRIENDLY BEHAVIOR IN TWO COHORTS OF LATE ADOLESCENTS

Sonja Palmo[1], Maria Ojala [1], Sohvi Nuojua [1]

[1]*University of Oulu / Faculty of Education and Psychology*, *Oulu*, *Finland*

**Introduction**: Qualitative studies show that young people experience conflicts when trying to live more sustainably and use dialectical thinking and black-and-white thinking to cope with these conflicts. **Goals & Objectives**: This research explores if these coping strategies are connected to climate-friendly food choices (Study 1) and climate-friendly behavior in general (Study 2), also when controlling for well-known predictors of pro-environmental behavior. Furthermore, we investigate if these coping strategies moderate the relation between perceived knowledge and behavioral outcomes. **Materials & Methods**: Survey data from two cohorts of late adolescents in Sweden (2020, 2022) were collected in school and analyzed using correlation, regression and moderation analyses. The sample sizes were 470 and 559. Control variables included gender, parental descriptive norms, attitudes, perceived knowledge, and trust in science. **Results**: Dialectical thinking was positively associated with climate-friendly food choices and climate-friendly behavior, while black-and-white thinking was negatively associated with both behavioral outcomes. These connections remained significant when accounting for control variables. Dialectical thinking moderated the connection between perceived knowledge and food choices, but not general behavior, while black-and-white thinking moderated the link between perceived knowledge and climate-friendly behavior in general, but not food choices. **Conclusions**: This study is the first to show that coping through dialectical and black-and-white thinking are unique predictors of climate-friendly behavior and to a certain degree moderate the association between knowledge and behavior. These coping strategies could be important when promoting climate-friendly behavior among late adolescents.

Keywords: coping, conflicts, climate behavior, food choices, thinking strategies

PSII-030

## ID-810: EATING GREEN TOGETHER: A QUALITATIVE STUDY TO EXPLORE CHILDREN'S ROLE IN HOUSEHOLD DECISION-MAKING FOR ENVIRONMENTALLY SUSTAINABLE FOOD CHOICES

Lies Beugnies[1], Dieneke Van de Sompel [1], Wendy Van Lippevelde [2]

[1]*Ghent Univeristy / Department of Communication Sciences*, *Ghent*, *Belgium*, [2]*Ghent University / Department of Marketing, Innovation and Organisation*, *Ghent*, *Belgium*

The transition to more sustainable food patterns is essential to address climate change and children are a key target group, as their dietary habits often track into adulthood and shape their parents' food decisions. However, little is known about children's motivations and role in household decision-making for sustainable food choices. According to the Self-Determination Theory of Deci and Ryan (1980), there is a higher motivation to engage in a particular behaviour (e.g. making sustainable food choices) when three psychological needs are fulfilled, i.e. autonomy (e.g. feeling in control of one's own food choices),

competence (e.g. feeling capable and knowledgeable in making sustainable food choices) and relatedness (e.g. feeling connected and receiving support). As such, we aim to understand the (a)motivations and influence of children between 8 and 12 years old in the household's sustainable food choices taking into account children's need for autonomy, competence and relatedness and how they communicate with their parents about sustainable food choices. To do so, individual in-depth interviews are conducted with 20 children between 8 and 12 years old and one of their parents, including families with varying levels of environmental concern. A semi-structured interview guide is used and thematic content analysis is performed to identify patterns related to children's motivations as well as household communication strategies concerning sustainable food choices. Results and implications to encourage sustainable food choices in households will be presented, highlighting the value of children's unique perspectives and offering insights to develop further strategies and interventions targeting both children and parents.

Keywords: sustainable food, household decision-making, children, food decisions, environmental psychology

PSII-031

**ID-713: NAVIGATING FAMILY DYNAMICS IN THE TRANSITION TO A PLANT-FORWARD DIET: THE ROLE OF SOCIAL SUPPORT**

Rebecca Asheligh Gregson[1], Jared Piazza [1]

[1]*Lancaster University, Department of Psychology*, *Lancaster*, *United Kingdom*

**Introduction:** While most research into sustainable diets has offered an individual decision-making perspective, scholars increasingly acknowledge that the adoption and maintenance of sustainable diets is, at least in part, governed by the established eating practices of a household and the relational dynamics of the cohabiting unit (i.e., families and couples). **Objectives:** In the present study we examined how the relational dynamics of cohesion (i.e., emotional connectedness) and flexibility (i.e., ability to adapt to change) modulate how family respond when one family member decides to a plant-based diet. **Materials & Methods:** Using smartphone-based experience sampling, plant-based participants provided qualitative diary entries and quantitative ratings of support, dietary coordination, tension, and food consumption. Baseline, out-take, and follow-up surveys investigated the moderating effects of cohesion and flexibility as well as changes in participants food consumption, dietary "stage of change", goal achievement and goal commitment. **Results:** Our analyses revealed that individuals from families with *balanced* levels of cohesion received more support (both emotional support and tangible assistance), and as a result, consumed fewer animal-products and reported greater goal achievement and goal commitment over time. By contrast, participants from highly interdependent or "enmeshed" families reported greater tension and increased animal-product consumption over time. **Conclusion:** This mixed-methods work yielded novel insights pertaining to the variable reactions and strategies that families utilise when navigating transitions toward more sustainable eating. Taken together, it highlights the importance of relational climate and felt social support for bolstering more sustainable eating practices within families.

Keywords: animal-product reduction, social support, family systems, relational climate, experience sampling

PSII-032

**ID-365: MEAT-EATERS' WILLINGNESS TO TRY A VEGAN DIET IS ASSOCIATED WITH THE QUALITY OF THEIR INTERACTIONS WITH VEGANS (VIA TWO OPPOSING INDIRECT PATHS)**

Monica Barnard[1], Anna Rabinovich [1], Tim Kurz [2]

[1]*University of Sussex*, *Brighton*, *United Kingdom*, [2]*University of Western Australia*, *Perth*, *Australia*

Intergroup contact theory suggests that having high-quality interactions with members of a different group can improve our attitudes towards other members of that group (Allport, 1954). However, little research has explored the relationship between the quality of meat eaters' interactions with vegans and the former's subsequent attitudes towards vegans or their willingness to adopt a vegan diet. We aimed to explore these relationships in a cross-sectional survey of meat-eaters (N = 308) recruited via Prolific. The relationship between the quality of participants' contact with vegans and their willingness to try a vegan diet was positive overall, but path analysis suggested two opposing indirect paths. Higher quality contact was associated with a greater willingness to try a vegan diet via greater perceived intergroup similarity, less intergroup anxiety, and more positive attitudes towards vegans. However, higher quality intergroup contact was also associated with less willingness to try a vegan diet via less perceived threat to the moral value of meat-eaters as a group. These findings suggest a more complex relationship between quality of contact with vegans and meat-eaters' willingness to try a vegan diet. Further research is needed to establish causation and to explore how different types of meat-eaters respond to different types of contact with vegans.

Keywords: diet, intergroup contact, social identity, behaviour change, veganism

PSII-034

**ID-734: WILLINGNESS TO REDUCE DAIRY CONSUMPTION AND CONSUME PLANT-BASED DAIRY ALTERNATIVES: A CROSS-COUNTRY STUDY APPLYING THE THEORY OF PLANNED BEHAVIOR AND DAIRY ATTACHMENT**

Leonie Carolin Peiffer[1], Yijing Wang [1], Freya De Keyzer [1], Anne-Marie Van Prooijen [1], Athanasios Polyportis [1], Susanne Janssen [1]

[1]*Erasmus University Rotterdam / Department of Media and Communication*, *Rotterdam*, *Netherlands*

**Introduction**: Transitioning to more plant-based diets globally is crucial not only for fostering environmental sustainability, but also for promoting animal welfare, biodiversity, and public health. While research has explored consumers' attitudes toward meat reduction and plant-based meat alternatives, there is limited understanding of consumers' willingness to reduce dairy consumption or adopt plant-based dairy alternatives, especially across diverse European countries. Despite dairy's cultural and dietary significance, quantitative research on consumer attachment to dairy and its behavioral impact remains underexplored. **Goals & Objectives**: Grounded in the Theory of Planned Behavior, this research aims to investigate key factors influencing consumers' willingness to reduce dairy consumption and to consume plant-based dairy alternatives across Europe. To study consumers' emotional relationship with dairy, this

study modifies a validated Meat Attachment scale to focus on dairy consumption. The findings aim to provide a deeper understanding of consumer behavior regarding dairy and plant-based alternatives, offering valuable insights to diverse stakeholders and supporting sustainable food transitions across Europe. **Materials & Methods**: Data will be collected in January 2025 through an online representative survey targeting 2,000 consumers following an omnivore, flexitarian, pescetarian, or vegetarian diet in Finland, Germany, Hungary, and Spain. Survey items are derived from previous research applying the Theory of Planned Behavior and Meat Attachment on consumer attitudes, behaviors, and perceptions toward meat reduction and plant-based meat or dairy alternatives. Data analysis, employing confirmatory factor analysis and structural equation modeling, is scheduled for early 2025 to identify predictors and derive behavioral insights.

Keywords: consumer behavior, sustainable food transition, theory of planned behavior, dairy attachment, plant-based alternatives

PSII-035

**ID-191: A DIET-RELATED PROMPT TO REDUCE MEAT CONSUMPTION IN STAFF RESTAURANTS**

Samuel Zumthurm[1; 2], Ioannis Papathanail [3], Lubnaa Abdur Rahman [3], Lorenzo Brigato [3], Stavroula Mougiakakou [3], Aline Stämpfli [1]

*[1]Agroscope, Research Group Human Nutrition, Sensory Analysis and Flavor*, *Bern*, *Switzerland*, *[2]University of Bern, Department Consumer Behavior*, *Bern*, *Switzerland*, *[3]University of Bern, ARTORG Center for Biomedical Engineering Research*, *Bern*, *Switzerland*

**Introduction:** High meat consumption in developed countries contributes to climate change and causes health issues. **Objective:** The objective of the study was to test an intervention to reduce meat consumption in staff restaurants. **Materials and Methods:** The intervention was a diet-related prompt that suggested choosing vegetarian options more often and visualized that the Swiss population consumes more meat than the national dietary guidelines recommend. The study took place simultaneously in two staff restaurants, with a two-week baseline period and a two-week intervention period. One staff restaurant's customers worked on topics unrelated to nutrition, and the other's customers worked on food- or health-related issues. Participants (*N* = 131) photographed their food choices using a camera with a depth sensor. The amount of meat was measured using an artificial intelligence-based dietary assessment system called goFOOD™. **Results:** During the intervention, participants in the staff restaurant with customers who work on topics unrelated to nutrition preferred a vegetarian option over a meat menu option more often than at baseline. They mainly reduced their meat consumption by switching from the meat menu to the vegetarian menu rather than taking less meat from the buffet. A positive attitude toward environmental protection increased this effect. In the other staff restaurant—customers had already consumed lower amounts of meat at baseline—the intervention did not further reduce meat consumption. **Conclusions:** The intervention could also reduce meat consumption in other restaurants where customers are not too knowledgeable about dietary issues, especially among customers with positive environmental attitudes.

Keywords: reducing meat consumption, prompt, field study, pro-environmental attitude

PSII-036

**ID-559: PLAN(T)S FOR DINNER? HOW PAIRING PLANT-BASED PROTEINS WITH MEAL KITS ENHANCES PLANT-BASED PROTEIN SELECTION**

Eileen Alexander[1], Hendrik Slabbinck [1]

[1]*Ghent University*, *Gent*, *Belgium*

**Purpose:** Reducing meat consumption is vital for improving environmental sustainability and public health, emphasising the need for strategies to encourage plant-based protein adoption. This research examines how pairing meal kits with different plant-based protein types influences the selection of plant-based products. **Design & Results**: In Study 1, 232 undergraduate students (125 men; $M_{Age}$ = 20.57, SD = 0.79) participated in a mock retail store experiment using a 2×2 between-subjects design with plant-based analogues (present vs. absent) and non-analogues (present vs. absent) alongside a meal kit. Results of a binary logistic regression showed that pairing meal kits with analogues (b = 1.09, OR=2.97, p=0.054) or non-analogues (b = 1.34, OR=3.82, p=0.017) (marginally) significantly increased plant-based protein selection but combining both did not enhance uptake further (b = -1.28, OR=0.28, p=0.07). Study 2 involved 428 participants (110 men; $M_{Age}$= 40.35, SD = 16.88) in an online experiment, testing pairwise presentation (with vs. without picture of plant-based protein) and default suggested protein type (analogue vs. non-analogue). Results showed that suggesting a meal kit with a non-analogue protein as the default option also increased plant-based product selection (b = 0.46, OR =1.58; p=0.03). However, adding photos of the plant-based products alongside the meal kit did not increase plant-based choices (b = 0.17, OR= 1.19, p = 0.41). **Value:** This research demonstrates how choice architecture, particularly pairing meal kits with non-analogues, can encourage plant-based choices. These findings offer actionable insights for retailers and policymakers to support the shift toward sustainable diets.

Keywords: plant-based protein alternatives, choice architecture, consumer behaviour, meat reduction, meal context

PSII-037

**ID-217: THE MOST PROMISING PROTEIN SOURCES FOR DAIRY ALTERNATIVES: A CROSS-CULTURAL COMPARISON AMONG FOUR EUROPEAN COUNTRIES**

Kirsten Pronk[1], Bruno Etter [1], Fabienne Michel [1], Michael Siegrist [1]

[1]*ETH Zurich*, *Zurich*, *Switzerland*

The substitution of dairy products with plant-based alternatives can be beneficial from an environmental and from an animal welfare perspective. Despite the rapid expansion of the market for dairy alternatives in recent years, consumption rates remain relatively low. To increase the acceptance of dairy alternatives, it is essential to gain a better understanding of consumer preferences. Therefore, we conducted an online survey with the aim of identifying the most promising protein sources for milk and cheese alternatives in four European countries (N = 2036): Finland, Germany, Italy, and Serbia. The participants evaluated a wide

range of protein sources for the use in dairy alternatives, based on their expectations regarding taste, healthiness, and environmental friendliness. Furthermore, we investigated the influence of the consumption context and other factors on consumers' willingness to substitute dairy products with plant-based alternatives. The results showed that across the four countries, nuts—including almond, hazelnut, and cashew—were the most accepted protein sources for dairy alternatives. In addition, country-specific preferences were observed, such as for oats in Finland. It was also found that participants were significantly more willing to substitute milk than cheese and that they were particularly open to substituting milk in coffee. Overall, the results of this study provide valuable insights for optimizing the development of dairy alternatives, thereby increasing their potential for greater acceptance and market success.

Keywords: alternative proteins, milk alternatives, cheese alternatives, consumer acceptance, willingness to substitute

PSII-038

**ID-447: CHOOSING PLANT-BASED OVER MEAT? EFFECTIVENESS OF NUTRITIONAL AND QUALITY CLAIMS ON PLANT-BASED MEAT ALTERNATIVES**

Bruno Etter[1], Kirsten Pronk [1], Fabienne Michel [1], Michael Siegrist [1]

[1]*ETH Zurich*, *Zurich*, *Switzerland*

The creation of a more sustainable food system requires a dietary shift toward more plant-based proteins. Companies all over the world are developing plant-based meat alternatives that build on consumers' eating habits to ease such a transition. But the market share of these products remains small. Besides low taste expectations, consumers mention concerns about the nutritional value, but also low quality of the products due to their high degree of processing. Using discrete choice experiments this study explored how product design, including front-of-package claims and pricing, can best address these concerns. A sample of 521 consumers from the German-speaking part of Switzerland completed an online experiment by choosing between products with plant- or animal-based origin, varying nutritional claims, quality claims, and price levels. To capture variations based on the type of products, participants were randomly assigned to a version of the experiment using either steaks or burger patties. The plant- or animal-based origin was the strongest driver of product choice for both steaks and burger patties. Quality claims regarding domestic production could increase the choices for meat alternatives the most. Although less impactful than quality claims, nutritional claims about protein, iron, and vitamin B12 content could also somewhat increase the choices for meat alternatives. Different effects for product types and consumer segments are discussed. The study results help food manufacturers and marketers to offer the most appealing meat alternatives to consumers and show how to best address different consumer segments.

Keywords: meat alternatives, product claims, consumer preferences, discrete choice experiment, food cultures

PSII-039

**ID-868: DO THEY REALLY KNOW? EVALUATION OF CONSUMER LEVEL OF KNOWLEDGE REGARDING THE IMPACT OF ANIMAL PROTEIN CONSUMPTION ON THE ENVIRONMENT, HUMAN HEALTH AND ANIMAL WELFARE.**

Fatma Jaafer[1], Karine Charry [1], Nathalie Demoulin [2]

*[1]Université catholique de Louvain, Louvain-La-Neuve, Belgium, [2]IÉSEG School of Management, LILLE, France*

Despite major challenges with respect to the environment, health, and animal welfare (Salter, 2017), meat production and consumption are still increasing (FAO, 2023). Furthermore, people's awareness of the consequences of meat consumption, crucial to consumption reduction, is not yet clear (Lee et al., 2015; Espinosa and Stoop,2021). This research aims first to fill this gap, evaluating consumers' levels of knowledge, and especially, identifying whether incentivizing consumers activates knowledge (Espinosa and Stoop,2021). The study will use an experiment method, employing a Guttman scale (Guttman, 1944) to assess knowledge levels among approximately 200 French and Belgian participants.The survey will include statements considering basic, medium, and advanced knowledge levels regarding environmental, health and animal welfare, validated by experts and pilot testing. Participants will be assigned either to the incentivized or the non-incentivized condition, to examine the effect of incentives on knowledge accuracy. Our results will then be nuanced using moderators such as age, gender and education but also consumers' concerns about the environment, health, and animal welfare. The expected contributions consist, first, in assessing the current level of knowledge. Second, they will help determine whether incentives activate genuine consumer knowledge and whether this effect is moderated by consumers' concerns about the environment, health, and animal welfare. Finally, the results will clarify whether the persisting consumption of animal-protein is driven by a lack of knowledge or other underlying factors such as neutralization strategies.

Keywords: meat consumption, incentivized knowledge

PSII-041

**ID-591: ECO-MINDFUL-NET: CONNECTING NATURE, MINDFULNESS, ECO-ANXIETY AND SUSTAINABLE EATING BEHAVIORS THROUGH NETWORK MODELS**

Cristina Mori[1], Valentina Gardini [1], Elena Tomba [1]

*[1]University of Bologna, Department of Psychology "Renzo Canestrari", Bologna, Italy*

**Introduction**: Clinical psychological research highlights the significant role of mindfulness and nature connectedness (NC) in managing eco-emotions and promoting pro-environmental behaviors. However, the mediating factors and relationships between these constructs remain largely unexplored. Additionally, few studies have specifically examined sustainable eating behaviors, despite their role as well-established factors capable of mitigating climate change at the individual level. **Goals & objective**: To deepen the understanding of the relationship between psychological well-being, eco-anxiety, mindfulness, NC and sustainable eating behaviors **Materials & Methods**: Around 300 adults from general population will complete a 20-minute online self-reported assessment, including an ad-hoc socio-demographic and six psychometric questionnaires regarding psychological wellbeing, eco-anxiety,

mindfulness, NC, nature exposure, sustainable and healthy dietary behaviors. A Network Analysis will then be applied to further understand the relationships between all constructs. **Results**: We expect that Network Analysis will return network in which NC and mindfulness are positively correlated each other and with sustainable eating behaviors, while negative correlated with eco-anxiety. Eco-anxiety, at a moderate level, may positively correlates with sustainable eating behaviors. **Discussion**: these results could sustain the effectiveness of psychological interventions based on the "eco-centric" perspective – consistent with the One Health Approach - in enhancing sustainable eating behaviors. This perspective, together with our expected results, implies that by nurturing mindfulness and NC, we can improve both individual psychophysical well-being and planetary sustainability. *Acknowledgments: This project was funded under the National Recovery and Resilience Plan,"ON Foods - Research and innovation network on food and nutrition Sustainability, Safety and Security*"

Keywords: sustainable eating, mindfulness, nature connectedness, eco-anxiety, network analysis

PSII-042

**ID-153: EXPLORING THE ROLE OF DIGITAL INFLUENCES AND ENVIRONMENTAL PSYCHOLOGY IN SHAPING CONSUMER SENTIMENT TOWARDS PLANT-BASED INGREDIENTS**

Maria Ahmad[1], Susanne Pedersen [1], Lina Jacobsen [1], Jessica Aschemann-Witzel [1]

[1]*Aarhus University*, *Aarhus*, *Denmark*

**Introduction**: Consumer acceptance towards plant-based ingredients and alternative proteins is a crucial driver for societal preferences and sustainable food consumption which has potential to impact market growth. **Goals & Objectives**: This study aims to analyze citizen-consumer associations, societal acceptance, and sentiments towards plant-based ingredients using social media influencers' (SMIs) data. This study will also evaluate how SMIs affect consumer emotions associated with plant-based ingredients through their social media content. **Materials & Methods**: This study will obtain publicly available datasets from ten selected micro SMIs (followers 10k to 100k) and macro-SMIs (followers 100k to 1 million) and consumer comments to their posts from Instagram Graph API from 31 December 2023 to 31 December 2024 from Denmark, Spain, United Kingdom (UK) and Italy. Major criteria include those influencers who promote plant-based ingredients through cooking recipes and lifestyle content. The sentimental analysis is conducted using a Lexicon-based approach and Python and PyCharm for coding and analyses. Final estimate of posts and comments can only be finalized after the screening process. **Results**: This study will provide a more in-depth understanding of consumer attitude and sentiment towards plant-based ingredients and sustainable food consumption and will assess the market potential for plant-based foods in selected countries, focusing on SMI and their impact on buying decisions. **Conclusions**: The research will underscore the significant growth of digital ecosystems in re-shaping consumer behavior. Further, it will offer strong insights about promoting more eco-conscious consumption patterns and advancement in sustainable food transitions through social media influencer engagement globally.

Keywords: plant-based ingredients, social media influencers, sentiment analysis, sustainable food consumption, consumer attitude

PSII-043

**ID-921: THE CANTEEN OF THE FUTURE: SUSTAINABLE FOOD CONSUMPTION IN A CULINARY LIVING LAB – AN PSYCHOLOGICAL EVALUATION.**

Cathérine Hartmann[1], Swen Kühne [1], Francesco Bortoluzzi [2], Claudia Müller [2]

*[1]ZHAW Zurich University of Applied Sciences - School of Applied Psychology, Zurich, Switzerland, [2]ZHAW Zürcher Hochschule für Angewandte Wissenschaften, Wädenswil, Switzerland*

Food services such as those offered in canteens can play an important role in the transition towards more sustainable eating behavior. Based on lessons learned of a previous behavior change intervention "Culinary Living Lab" a follow-up project was launched with the aim of finding and evaluating solutions for a "canteen of the future" in spring 2025 by developing suitable behavior change intervention options that guarantee the economic feasibility of the caterer, resulting in an ecological and tasteful improvement of the menus and food services and thereby increase acceptance and satisfaction by the customers. In the current preliminary study, a collection of interventions like pricing, communication techniques, involvement of guests in menu design, interactive feedback mechanisms, smart fridges and food trucks are pre-tested together with the caterer and customers in workshops and focus groups. First findings will be integrated into the catering concept and prepared for the field test in spring for implementation period of 3 month in a Swiss university campus canteen. The interdisciplinary research consortia will control for $CO_2$-emissions of the menus, nutrition data, food waste and most important for the final food choices and satisfaction of the customers. In a pre-post evaluation customers (expected N=400) will be surveyed on their experience with and perception of different interventions, food choices and satisfaction in general. Comparing and predicting analysis of the self-report will allow for predictions and recommendations of the continuation of the innovative "canteen of the future" concept. Results will be available at the latest in June 2025.

Keywords: sustainable food consumption, behavioral change interventions, evaluation, living lab, university canteen

PSII-044

**ID-653: THE INFLUENCE OF HABIT IN DRIVING CIGARETTE BUTT LITTERING BEHAVIOUR**

Natalie S Smith[1; 2], Gypsie Berry [2], Matthew Cole [1], Penelope K Lindeque [1], Kayleigh J Wyles [2]

*[1]Plymouth Marine Laboratory, Plymouth, United Kingdom, [2]School of Psychology, University of Plymouth, Plymouth, United Kingdom*

**Introduction**: Cigarette butts are one of the most prevalent anthropogenic litter items found globally. Cigarette butt disposal has previously been referred to by smokers as a habit. There are multiple metrics

to investigate habit, whereby frequency of the behaviour, automaticity, and context stability are important factors in the consideration of a habit. **Objectives**: This study aims to investigate cigarette butt littering as a habit, by applying two measures of habit, The Frequency Stability Measure and the Self-Reported Habit Index. **Materials and Methods**: Surveys (n=202) were conducted across two sites, a City Centre and Beach in Devon, UK. The survey included questions on cigarette butt littering frequency, Context Stability and the Self-Reported Habit Index. Demographic information was also collected. **Results**: Of the 202 participants 42% (n=85) admitted to littering their cigarette butts, with 96.5% (n=82) of participants, who had admitted to littering, showing some influence of habit. Habit strength was shown to significantly differ between sites. The Self-Reported Habit Index and Frequency Stability Measure was shown to predict the number of cigarettes smoked per day (12.2% and 7.6% respectively). Furthermore, the Self-Reported Habit Index was also shown to predict littering frequency (14.2%). **Conclusion**: This study validated the use of the Self-Reported Habit Index on cigarette butt littering. We provided evidence towards the influence of habit on cigarette butt littering behaviour within and between different contexts. The results from this study highlight that whilst habit does drive an element of cigarette butt littering, there are further unidentified variables influencing this behaviour.

Keywords: habit strength, smoking related litter, behaviour, context stability

PSII-045

**ID-382: NUDGING SUSTAINABLE WASTE MANAGEMENT OF URBAN AND HAZARDOUS WASTE IN ICU SETTINGS: A BEHAVIOURAL INTERVENTION STUDY AT MERANO HOSPITAL**

Martina Vacondio[1], Giulia Roveri [2], Simon Rauch [2]

*[1]Department of Psychology and Cognitive Science, Trento, Italy, [2]Institute of mountain emergency medicine di Eurac Research, Bolzano, Italy*

Recycling in intensive care units (ICUs) is essential for reducing environmental impact, but it faces challenges due to infection control and hazardous waste. Despite up to 60% of ICU waste being recyclable, implementation remains low (McGain et al., 2023). Behavioural nudges such as social norms, and feedback have been effective in encouraging recycling (Seitz et al., 2021), however, psychological determinants such as attitudes, efficacy, and organization climate remain relatively unexplored. This study investigates behavioural nudges for recycling urban and hazardous waste at the ICU of Merano Hospital, focusing on psychological and organizational factors, including perceived efficacy, norms, and pro-environmental organizational climate. Two interventions have been implemented: waste bin placement, and training to improve accessibility and knowledge. Psychological assessment and weights of waste bins have been measured before and after every intervention. Preliminary results (W1: N=76; W2: N=54) show that a higher pro-environmental organizational climate is associated with greater personal and collective efficacy for both waste types. Moreover, while Wave 2 behavioural intentions showed no association with psychological factors, post-intervention results suggest that enhanced norms and efficacy improved intentions, likely through increased behaviour visibility. In a purely longitudinal subsample (N=27; Age: M=39.2, SD=7.31; F 55.2%), health workers reported increased descriptive norms for both waste types, higher injunctive norms for urban waste, and improved urban waste recycling after the first intervention.

Full results, including Wave 3, will be presented, highlighting the importance of integrating behavioural and psychological insights for sustainable ICU waste management.

Keywords: sustainable waste management, behavioral nudges, recycling in ICUs, psychological determinants, pro-environmental organizational climate

PSII-047

**ID-774: MOTIVATORS FOR FREECYCLING: A QUALITATIVE THEMATIC ANALYSIS**

Algae Kit Yee AU[1], Eddie Yuen [1], Sylvia Xiaohua Chen [1]

*[1]The Hong Kong Polytechnic University, Hong Kong, Hong Kong*

**Introduction:** Freecycling is a grassroots movement aimed at reducing waste through the free exchange of items between strangers within local communities, often facilitated by social media platforms like Facebook groups. Despite its growing popularity, little is known about the motivators driving individual participation in this non-monetary and non-reciprocal practice of giving and receiving. **Objective:** This qualitative study aimed to examine the motivators behind freecycling among undergraduate students. **Materials & Methods:** A total of 115 undergraduate freecyclers aged 18-28 (*Mean age* = 20.44, *SD* = 1.90), including 69 females (60.0%), 45 males (39.1%), and 1 non-binary individual (0.9%), were recruited through mass email. Among them, 27 reported giving items, 9 reported receiving items, and 79 reported engaging in both activities in the last six months. Data were collected through open-ended questions in an online survey. **Results:** The thematic analysis revealed that giving items was primarily motivated by environmental responsibility, decluttering, altruism, and emotional connections, whereas receiving items was driven by practicality, financial savings, environmental consciousness, personal desires, and a sense of community. **Conclusions:** This study provides valuable insights into the factors influencing participation in freecycling, highlighting its role in fostering sustainable practices and strengthening community connections. Understanding these motivators can inform future initiatives aimed at promoting freecycling and other sustainability efforts.

Keywords: freecycling, sharing economy, qualitative, thematic analysis

PSII-048

**ID-1022: ANTECEDENTS OF WASTE-RELATED BEHAVIORS AND PERCEIVED EFFECTIVENESS OF INTERVENTIONS IN NATURAL PROTECTED AREAS**

Marta Stragà[1], Giovanni Bacaro [1], Barbara Sladonja [2], Dalka Zanki [3], Dora Čukušić [3], Ana Ljubić [4], Katarina Perković [4], Irene Florean [1], Edi Facini [1], Fabio Del Missier [1]

*[1]Department of Life Sciences, University of Trieste, Trieste, Italy, [2]Institute of Agriculture and Tourism, Poreč, Croatia, [3]Association for Nature, Environment and Sustainable Development Sunce, Split, Croatia, [4]Natura Histrica, Pula, Croatia*

**Introduction:** Reducing waste and improving its disposal are especially important in natural protected areas, but studies often focused on urban environments. We conducted two studies examining antecedents of waste-related behaviors in natural protected areas and perceptions of the effectiveness of interventions to improve waste disposal and handling. **Goals & Objectives:** We examined (1) the predictive role of a range of potential antecedents of intentions to perform six waste-related pro-environmental behaviors (reusing containers, binning, recycling, taking personal litter away, picking up others' litter, signaling litter); (2) the relationships between these intentions and three actual waste-related behaviors; (3) the perceived effectiveness of informative/educational and structural interventions to improve waste disposal and handling in natural protected areas. **Materials & Methods:** Participants completed an online survey measuring psychological variables related to the previous-mentioned behaviors and collecting evaluations on waste-related issues. The survey referred to natural protected areas in general in Study 1 (N = 248) and to two specific Croatian natural protected areas in Study 2 (N = 199). **Results and Conclusions:** Perceived behavioral control and past behavior were the most important predictors of the intentions to perform the six waste-related behaviors and intentions were positively associated with actual waste-related behaviors. Participants were less willing to pick up others' litter and to signal litter, and they perceived structural interventions as generally more effective than informative/educational ones. Moreover, increasing the bins' numbers and improving their placement were judged to be particularly effective. Theoretical and applied implications of these findings will be discussed.

Keywords: litter, pro-environmental behavior, natural areas, protected areas, recycling

PSII-049

**ID-474: BIODIVERSITY ON THE DOORSTEP: THE INTERPLAY OF NATURE CONNECTEDNESS, PLACE ATTACHMENT, AND PARTICIPATION IN RESIDENTIAL CONSERVATION ACTIVITIES**

Svea Hoerberg[1], Ann-Kathrin Koessler [1]

[1]*Leibniz University Hannover, Institute for Environmental Planning, Hannover, Germany*

The biodiversity crisis threatens humans globally and locally, with human behaviour as a major driver. Addressing this crisis requires integrating social science into conservation efforts to develop the foundation for effective interventions and policies. This poster presents the research design and methodological approach focused on the psychosocial mechanisms behind residential-specific conservation activities (RSCAs), encompassing community and urban gardening, balcony greening, nesting site maintenance, and participation in decision-making processes regarding communal outdoor spaces. While the impact of individual RSCAs may appear limited, collectively these activities bolster biodiversity resilience and connectivity. Notably, RSCAs can potentially mitigate the "extinction of experience" with nature (Soga & Gaston, 2016), impacting nature connectedness and pro-environmental behaviour. Our research examines the interaction between RSCAs, nature connectedness (NC) and place attachment (PA) to ascertain how these factors influence pro-nature conservation behaviours (PNCB), forming a dynamic feedback loop. Important covariates assessed include aesthetic preferences, self-transcendence and self-enhancement values, social and personal norms, anticipated emotions, biodiversity visibility, perceived behavioural control, as well as perceived costs. The investigation will be

grounded in an adapted Comprehensive Action Determination Model (CADM; Klöckner & Blöbaum, 2010) and employs a mixed-methods approach incorporating case studies, surveys, and field and online experiments. Focusing on co-creation and bottom-up engagement, this research actively involves residents in biodiversity initiatives to drive meaningful behaviour change. Ultimately, this work aims to derive insights for policymakers and planners on how to promote residential biodiversity.

Keywords: residential conservation activities, nature connectedness, place attachment, biodiversity, conservation behaviour

PSII-050

**ID-570: PREDICTING HOMEOWNERS' INTENTION TO REGREEN PRIVATE OUTDOOR SPACES: INSIGHTS FROM FLANDERS USING AN EXTENDED THEORY OF PLANNED BEHAVIOUR**

Emma Martens[1], Sofie Naeyaert [1], Peter Conradie [1], Koen Ponnet [2]

*[1]Imec - mict - Ugent, Gent, Belgium, [2]Ghent University, Gent, Belgium*

With rising global temperatures, green space can play a pivotal role in mitigating extreme weather like heat waves or flooding, increasing both quality of life and biodiversity. While research on urban regreening often focuses on public spaces, little attention has been paid to private spaces. Nonetheless, in Flanders, 15% of surface is paved, and with 12% of the Flemish landscape being private gardens, there is untapped potential to increase Flanders' green space. This research explores the factors predicting homeowners' intention to regreen their personal outdoor space (i.e. terrace or paved surface). We conducted a survey among 420 homeowners in Flanders, applying an extended Theory of Planned Behaviour model, because of its robustness in sustainability research as well as its flexibility in adding other relevant variables. Subsequently, we applied structural equation modelling. Our results indicate that attitude, social norms and perceived behavioural control are significantly positively associated with intention to regreen one's personal outdoor space. Additionally, facilitating conditions such as financial or logistic support are also positively associated with intention. Lastly, subjective knowledge, i.e. thinking you know a lot about regreening, is negatively associated with perceived behavioural control. Community, moral obligation and practical knowledge have no significant effects in our model. These results highlight the importance of increasing homeowners' sense of ability, through for example offering financial or logistic support. Additionally, providing understandable and objective knowledge might decrease the negative effect of subjective knowledge.

Keywords: urban regreening, theory of planned behaviour, sustainable behaviour change, intention to regreen

PSII-051

**ID-222: VALUE THROUGH EFFORT: EVIDENCE FROM THE WORK FOR ENVIRONMENTAL PROTECTION TASK**

Sarah Kusch[1], Florian Lange [2], Ruth Krebs [1]

[1]*Department of Experimental Psychology, Ghent University*, *Ghent*, *Belgium*, [2]*Behavioral Economics and Engineering Research Centre, KU Leuven*, *Leuven*, *Belgium*

Addressing the climate crisis requires urgent transitions in all sectors of society. Psychological research can help enable these transitions by investigating barriers and facilitators of pro-environmental behaviour. Cognitive effort is a characteristic but understudied feature of many pro-environmental behaviours, and traditionally, it is mostly discussed as a barrier that keeps people from behaving pro-environmentally. In contrast, contemporary frameworks of cognitive effort show that effort can also be beneficial, for example, by increasing the subjective value of an outcome from an effortful action. From this new perspective, we reanalysed data from an existing online study featuring the Work for Environmental Protection Task (WEPT), which allows participants to exert real effort in exchange for donations to a pre-selected pro-environmental organization. We found that after performing the WEPT, participants were more likely to donate additional bonus money to their assigned organization compared to an alternative organization (odds ratio = 2.019), suggesting a higher subjective value of the former. To assess the robustness of this finding, we conducted a high-powered, preregistered replication study (n=801). We found that the effect replicated with a larger effect size (odds ratio = 4.312) and was also in line with a more explicit value measure we had additionally administered. These findings indicate that doing an effortful behavioural task, such as the WEPT, to the benefit of a pro-environmental organization can increase the value assigned to that organization. This resonates with the idea that effort is more than just a barrier and can have a positive effect on pro-environmental behaviour.

Keywords: pro-environmental behaviour, cognitive effort, value, replication, experimental paradigm

PSII-052

**ID-530: EXPLORING UNDERLYING FACTORS SHAPING BELIEFS ABOUT ORGANIC AGRICULTURE IN THE UNITED STATES**

Jennifer Jaime Lee[1], Naoko Kaida [1]

[1]*University of Tsukuba*, *Tsukuba*, *Japan*

**Introduction**: Currently, the area of land designated as organic farmland is increasing around the world, with over 100 countries participating in organic agriculture. Consumers of organic products often cite improved health, environmental, and ethical outcomes as reasons for their support. However, whether organic agriculture is significantly more sustainable and healthier than conventional agriculture remains a topic of debate. It is thus worthwhile to explore how consumers obtain certain beliefs regarding organic agriculture. **Objectives**: We aim to examine the types of beliefs held by US consumers regarding topics related to organic agriculture and investigate the underlying factors and influences behind those beliefs, focusing on the roles of knowledge, attitudes, and trust. **Materials & Methods**: This study draws on several core cognitive psychology concepts, such as theories of motivated belief formation and the relationship between attitudes and beliefs, to explain consumers' beliefs regarding organic agriculture. Additionally, a clear distinction is made between the effects of objective and subjective knowledge. For this study, an online questionnaire survey was conducted with a 450-respondent sample of the US general population in October 2024. Correlation analysis and structural equation modeling will be performed to

identify interactions among variables. **Expected Results and Discussion**: Both positive and negative influences on beliefs are expected to be identified, with the strongest positive correlation predicted to be between pro-organic beliefs and pro-organic attitude. The results of this research are intended to contribute to the literature on belief formation as well as general discussion on organic agriculture and consumer behavior.

Keywords: organic agriculture, objective knowledge, pro-organic beliefs, trust, food preference

PSII-053

**ID-743: FOSTERING CLIMATE CHANGE MITIGATION IN AGRICULTURE: EXPLORING BEHAVIOURAL FACTORS AMONG LARGE-SCALE FARMERS**

Bronislav Farkač[1], Zuzana V. Harmáčková [1], Aneta Stoker [1], Lenka Suchá [1]

[1]*Global Change Research Institute Czech Globe, Czech Academy of Sciences*, *Brno*, *Czech Republic*

**Introduction**: Agriculture, encompassing the management of substantial amounts of land, has significant impacts on the climate and the environment. Numerous publicly funded policies have been implemented globally to alleviate negative impacts of agriculture or promote its contributions to climate change mitigation, such as carbon sequestration on agricultural lands. However, the design and implementation of such policies often rely predominantly on financial incentives and frequently encounter resistance from farmers. Existing studies often focus on a limited range of behavioural factors and tend to overrepresent small-scale farmers, whose environmental impact is relatively lower and declining in many countries compared to that of large-scale farmers. Expanding the scope to include large-scale farmers and exploring of more behavioural (social and cognitive) factors can foster adoption of farming practices that mitigate climate change. **Goals & Objectives**: Our study aims to identify key behavioural factors influencing the adoption of climate change mitigation practices in agriculture among large-scale farmers. **Materials & Methods:** We conducted semi-structured interviews with representatives of large-scale farms and farming cooperatives in Czech Republic, complemented by interviews with local agricultural interest groups. The interview data were analysed using thematic analysis. **Results**: We identified several factors affecting the adoption of climate friendly practices, including alignment of practices with farmers' perceptions of 'good' farming or efforts to maintain control over own farming decisions, which was perceived to be constrained by regulatory requirements. **Conclusions**: Implications into policy making include increasing flexibility to address local conditions and enhancing farmer autonomy by emphasizing results-based approaches.

Keywords: large-scale farmers, qualitative analysis, climate change mitigation, land management, agriculture

PSII-054

**ID-985: WHAT MOTIVATES FARMERS TO IMPLEMENT BIODIVERSITY-FRIENDLY PRACTICES? A SLOVENIAN PERSPECTIVE**

Živa Alif[1], Katja Konc [1], Tanja Šumrada [1]

[1]*Biotechnical faculty, University of Ljubljana*, *Ljubljana*, *Slovenia*

**Introduction**: Voluntary agri-environmental measures are frequently used to encourage farmers' pro-environmental behaviour, where farmers are financially compensated for implementing specific practices. While studies in other settings have shown that such a focus on financial incentives may crowd out other motivations for pro-environmental behaviour, little is known about what motivates farmers for environmentally-friendly farming. **Objectives**: We used Self-Determination Theory to determine to what extent farmers' motivations for biodiversity-friendly farming are internalised and how different types of motivation regulation affect their biodiversity-friendly behaviour. We also examined how knowledge, attitudes and nature connectedness interact with internalised motivation. **Materials and methods**: We conducted a survey with 463 farms from Slovenia in spring 2024 and examined farmers' knowledge, attitudes and motivations regarding conservation measures, as well as measured their nature connectedness. We used a structural equation model to analyse a proposed theoretical model that examines the effects of knowledge, attitudes and nature connectedness on intrinsic motivation, and the effects of differently internalised motivation on biodiversity-friendly behaviour. **Results**: We find that only the most internalised motivation types predict biodiversity-friendly behaviour, while externally regulated motivation is negatively, albeit statistically insignificantly, related to biodiversity-friendly behaviour. Nature connectedness positively affects intrinsic motivation, which is partially mediated through attitudes towards species. **Conclusions**: Our results show that increasing farmers' externally regulated motivation, for example through financial incentives, may have limited impacts on farmers' biodiversity-friendly behaviour for simpler conservation measures. Instead, interventions that internalise farmers' motivations by increasing nature connectedness, may be more effective for promoting biodiversity-friendly behaviour.

Keywords: self-determination theory, motivation, agriculture, biodiversity conservation

PSII-055

**ID-791: CLICKS FOR CONSERVATION: A CITIZEN SCIENCE TASK FOR STUDYING PRO-ENVIRONMENTAL BEHAVIOR IN ONLINE AND LAB SETTINGS WITH REAL-WORD ECOLOGICAL BENEFITS**

Marilisa Herchet[1], Mathias Hofmann[1]

[1]*Dresden University of Technology*, *Dresden*, *Germany*

As the urgency for sustainable practices intensifies, understanding and quantifying pro-environmental behavior (PEB) is paramount. In many psychological experiments however, this is limited to self-report questionnaires or non-consequential tasks which neither affect the respondents nor the environment to a substantial degree. Other paradigms require financial efforts from the experimenters or come with potential ceiling effects. Hence, we would like to suggest a task which combines a quantification approach of PEB with real-world ecological benefits. Inspired by web-based citizen science approaches, participants are given the opportunity to support conservation efforts by analysing pictures of a wildlife photo trap run by a nature conservation organization. While the analysis questions are lay-person friendly, results will inform conservationists about the behavior of endangered species, enabling protective measures. Importantly, after a practice trial, participants can choose freely how many pictures they want to complete,

i.e. in how much PEB they engage. To gain insights on the qualities of this alternative approach, it is necessary to study its psychometric qualities, including task validity and scope sensitivity. Results will be presented from a pilot study involving a sample of university students to address general task feasibility, typical outcome ranges, and perceived difficulty of singular images. Correlations with personal values and related measures of PEB are used as proxies for validity. Matters of reproducibility, open data strategies and construct validity are discussed. After further development, the task aims to provide a valid, open, internationally feasible and cheap solution to quantify PEB in online procedures.

Keywords: pro-environmental behavior, ecological behaviour, online studies, methods, experiments

PSII-056

**ID-170: A QUANTITATIVE CONTENT ANALYSIS OF THE BEHAVIOUR CHANGE MESSAGING USED BY CITIZEN SCIENCE BIODIVERSITY RECORDING APPS IN THE UK**

Emma Squire[1], Lewis Elliott [1], Rebecca Lovell [1], Kevin Gaston [2]

*[1]University of Exeter, European Centre for Environment and Human Health, Penryn, United Kingdom, [2]University of Exeter, Environment and Sustainability Institute, Penryn, United Kingdom*

Citizen science significantly contributes to conservation planning in the UK, but limitations exist in the quantity and biases of data collected, particularly when and where it is collected, and what types of species are recorded. A popular way of generating these citizen science data is through biodiversity recording apps, but little is known about how the content of these apps might best persuade people to undertake recording. Consequently, this study aims to analyse the communication approaches used by biodiversity recording apps through a quantitative content analysis of 24 apps and their related website and download pages. A coding scheme of 25 categories which incorporate the key determinants of behaviour change in a variety of evidence based psychological and communication framing theories was developed. The coding scheme was subsequently piloted across two applications, yielding a reliability score of AC1 = 0.933 between two coders. Descriptive statistics will be used to explore app characteristics, and the prevalence of behaviour change techniques. Preliminary findings show that techniques such as promoting intentions, increasing self-efficacy, emphasising social norms, and hopeful environmental outcomes are commonly used. However, apps often overlook highlighting user benefits like improved health, wellbeing, and opportunities to connect with nature. Further analysis will explore differences in techniques across app characteristics, for example type (i.e. multi-taxa, species group or survey specific), downloads, or developer. The findings are expected to inform further experimental studies to test directed messaging designed to improve participation in biodiversity recording apps, ultimately improving biodiversity data for future policy and planning.

Keywords: biodiversity, behavioural pyschology, citizen science, communication, connection to nature

PSII-058

**ID-395: BUILDING BRIDGES FOR A SUSTAINABLE BLUE ECONOMY: A FRAMEWORK FOR PARTICIPATORY STAKEHOLDER ENGAGEMENT**

Gijs Couvreur[1], Coco Koedooder [1], Inne Withouck [1], Verolien Cauberghe [2], Sara Vandamme [3], Lisa I Devriese [1]

*[1]Flanders Marine Institute (VLIZ), Ostend, Belgium, [2]Ghent University, Gent, Belgium, [3]Blue Growth Research Lab, Ghent University, Ghent, Belgium*

In today's research and innovation landscape, implementing stakeholder engagement is vital for building societal support. This aligns with EU recommendations (e.g., (EU) 2023/2836) that advocate for participation as a standard practice in fostering sustainability transitions. These policies emphasize the need for structured and systematic participatory approaches. This study introduces a universal engagement blueprint shaped by Flanders' innovation landscape for a sustainable blue economy. Data triangulation was achieved using a mixed-method approach that combines a narrative review of literature with semi-structured interviews (n=16) with experts active in the Blue Economy. The analyses identified barriers and best practices for successful stakeholder participation trajectories. This resulted in a robust, yet adaptable engagement framework (the blueprint) structured around seven key stepping stones. Based on the results, the engagement blueprint entails three phases: (1) **Preparation**, which involves setting objectives and assessing stakeholder landscapes; (2) **Stakeholder Assessment**, focusing on stakeholder identification and mapping, and creating custom engagement plans; and (3) **Implementation**, emphasizing flexible execution and iterative feedback through monitoring and evaluation. Grounded in expert-derived barriers and solutions, this blueprint offers a dynamic, needs-driven approach adaptable to complex societal contexts. Its practical design ensures broad applicability and relevance, particularly for innovation landscapes and research communities. By emphasizing stakeholder engagement and participation, it supports sustainability transitions within the Blue Economy.

Keywords: stakeholder engagement, stakeholder participation, sustainability transitions, blue economy

PSII-059

**ID-34: A PARTICIPATORY LEARNING MODEL OF INDIGENOUS KNOWLEDGE OF KAREN IN THAILAND**

Sudarat Tuntivivat[1]

*[1]Behavioral Science Research Institute, Srinakharinwirot University, Bangkok, Thailand*

The Karen is one of the largest hilltribe in Thailand and South East Asia. This study aims to develop a participatory learning model of indigenous knowledge of Karen in Thailand. The research draws on social constructivism to provide a comprehensive framework for understanding the dynamics of Indigenous knowledge and its role in building an environmentally friendly community. The qualitative study utilized participatory action research to allow Karen people to participate in this study. The finding found that a participatory learning model of Indigenous knowledge requires knowledge integration and a holistic

learning process. This research offers policy implications on environmental psychology related to indigenous people.

Keywords: participatory learning, indigenous psychology, environmental education, environmental sustainability

PSII-060

**ID-421: DOES PARTICIPATION IN THE PERSUASION GAME CHANGE THE PERCEPTION OF OTHERS' INTERESTS IN ENVIRONMENTAL ISSUES AND ONE'S OWN INTENTION TO CONVERSE? A COMPARISON AMONG GERMANY, HONG KONG, AND JAPAN**

Kaori Ando[1], Junkichi Sugiura [2], Gundula Hübner [3], Kim-Pong Tam [4], Ayumi Kambara [5], Akiko Yasuhara [6], Haruka Tsujimoto [6], Susumu Ohnuma [7]

*[1]Faculty of Human Life and Environment, Nara Women's University, Nara, Japan, [2]Keio University, Tokyo, Japan, [3]Martin-Luther-University Halle-Wittenberg, Halle, Germany, [4]Hong Kong University of Science and Technology, Hong Kong, China, [5]Kyoto University of Advanced Science, Kyoto, Japan, [6]Doshisha University, Kyoto, Japan, [7]Hokkaido University, Sapporo, Japan*

**Background**: This study investigated the notion that communication in a game can change the perception of others' interests in environmental issues and the intention to converse in related discussions. Since the lack of conversation about environmental issues may stem from pluralistic ignorance—that others are not interested in such issues (Geiger & Swim, 2016)—we examined whether communication in the game would reduce this pluralistic ignorance. **Method**: The persuasion game was conducted in universities in Germany (105 participants), Hong Kong (84 participants), and Japan (153 participants). In this game, participants try to persuade other participants to implement energy-saving ideas they have developed. The perceived interest of others in energy saving and participants' own intention to converse about energy saving were measured pre- and post-game. **Results**: The results showed that participants perceived that other participants in the game exhibited a higher interest in energy saving and reported a higher intention to converse with others about energy saving compared to pre-game levels in Hong Kong and Japan. Conversely, in Germany, participants displayed no significant changes. Partial correlation analysis revealed that the intention to converse about energy saving was related to the perceived interest of other participants. **Discussion**: The findings showed that participation in the persuasion game can change the underestimation of others' interests in environmental issues, ultimately leading to a greater intention to converse with others. Furthermore, the results indicated that the effects may be more pronounced in countries with limited opportunities for conversations related to environmental issues.

Keywords: environmental communication, gaming, plural ignorance, environmental behaviours, cross-cultural comparison

PSII-061

**ID-579: NATURE AS CO-TEACHER IN EARLY CHILDHOOD LANGUAGE EDUCATION**

Jannette Hendrika Prins[1], Lisa Gaikhorst [2], Dieuwke Hovinga [3]

*[1]Thomas More University of Applied Sciences*, *Rotterdam*, *Netherlands*, *[2]University of Amsterdam*, *Amsterdam*, *Netherlands*, *[3]University of Applied Sciences Leiden*, *Leiden*, *Netherlands*

Playing in nature-based places supports early childhood development. In previous years, studies have shown the benefits of nature play for healthy child development, including language development. For early childhood teachers it is insightful to learn together how to develop language education in nature that is supportive of their student's language development. The aim of this study is to investigate how early childhood education (ECE) teachers make nature-based places function as language learning environments in EC language education The study took a collaborative action-based research approach and worked in communities of practice (CoP). In these communities, fifty-five teachers across five schools gathered six times. Based on the analysis of the shared conversations we defined the supportive aspects of nature-based places and related them to the expected outcomes of early childhood language education. We also described the professional changes the teachers made to be able to teach language in nature. These changes were summarized in a model that informs early childhood educators how to include the pedagogical and linguistic function of nature-based places to work towards the outcomes of EC language education.

Keywords: early childhood education, language development, nature-based environment, learning environment, teacher development

PSII-062

**ID-366: "THE TOAD JUMPS BECAUSE HE THINKS I AM LOVELY": CHILDREN'S RELATEDNESS WITH LOCAL ANIMALS AND OPPORTUNITIES FOR ANIMAL INTERACTION ON THE SCHOOL YARD**

Elise Peters[1]

*[1]Windesheim University of Applied Science*, *Almere*, *Netherlands*

Connecting children with nature is a priority on the international policy agenda, yet fostering children's connection with native animals is challenging for schools. The current project was aimed to support teachers to understand the relations that primary school children have with animals and help recognize how schoolyards can be used to help grow these relationships. The study characterizes the relationships that children (ages 5-12) have with local animals and identifies the opportunities for lived animal interactions on the school yard. We used interviews with dutch children (n=111) about their favorite local animal and observations of their strategies to find animals in the schoolyard. Thematic analysis showed that children's connections with animals can be characterized as being 'wowed by superpowers', reflecting fascination by an animal's unique abilities; 'friendship', reflecting an emotional bond between the child and the animal; and 'interdependence', characterized by child-animal mutual recognition and response. Analysis further showed that children encountered difficulties finding animals in the schoolyard, despite

their accurate search strategies. The study provides recommendations to how teachers can support the connections that children naturally develop with local animals, and how to strengthen and use the opportunities available for children to encounter local animals at school.

Keywords: animal interactions, children, primary school, schoolyards, education

PSII-063

**ID-631: THE ROLE OF OUTDOOR EDUCATION IN PROMOTING BIOSPHERIC VALUES, ENVIRONMENTAL LITERACY AND PERSONAL WELL-BEING AMONG SECONDARY SCHOOL STUDENTS: A LONGITUDINAL STUDY**

Marino Bonaiuto[1; 2], Valeria Chiozza [1; 2], Paola Perucchini [2; 3], Mei Xie [1], Susana Alves [1], Simona Grilli [4]

*[1]Department of Psychology of Developmental and Socialization Processes, Sapienza, Rome, Italy, [2] CIRPA–Interuniversity Research Centre in Environmental Psychology, Sapienza Uni, Rome, Italy, [3]Department of Education, Roma Tre University, Rome, Italy, [4]Department of Human and Social Sciences, Universitas Mercatorum, Italy, Rome, Italy*

**Introduction**: Outdoor Education (OE) is increasingly recognised as a vital component of sustainable development, fostering biospheric values, connection with nature, and environmental empathy. It also supports well-being while shaping sustainability-oriented attitudes and behaviours. **Goals & Objectives**: The study aims to investigate how OE supports socio-psychological functioning and environmental literacy among secondary school students, focusing on its influence on biospheric values. **Materials & Methods**; The study employs a quasi-experimental field design, with data collected before and after each intervention from both an experimental group and a control group. A comprehensive questionnaire was used to capture dependent variables and socio-demographic information, exploring individual characteristics (e.g., biospheric values and identity), contextual factors (e.g., family environmental socialisation), and eco-well-being (e.g., life satisfaction and eco-anxiety). **Results**: Initial findings from a preliminary sample of 165 students suggest that OE programmes are associated with higher mean scores in key dependent variables—including environmental attitudes, stewardship, identity, civic engagement, and life satisfaction—after the interventions in the experimental group compared to the control group. However, preliminary results regarding biospheric values do not yet show significant differences, possibly due to the deeply personal nature of these values, which may require more time to change. Further analyses are ongoing to deepen the values role. **Conclusions**: Findings highlight the transformative potential of OE in promoting students' well-being. They emphasize the importance of integrating nature-based learning into educational practices to support holistic development. Future analyses on long-term effects, can offer insights for educational strategies fostering resilient, well-rounded learners with strong connection to the environment.

Keywords: outdoor education, biospheric values, environmental literacy, well-being

PSII-064

**ID-88: ASSESSING CLIMATE HOPE, AGENCY, WORRY, AND INTEREST IN CLIMATE CHANGE EDUCATION**

Justus Oliver Jacob Schöller[1], Anna Beniermann [2], Annette Upmeier zu Belzen [1]

*[1]Humboldt-Universität zu Berlin, Berlin, Germany, [2]Universität Bremen, Bremen, Germany*

Climate change education (CCE) emphasizes equipping young learners with the skills, emotional balance, and motivation needed for climate action. Constructs such as Climate Hope (CH), Climate Agency (CA), Climate Worry (CW), and Interest in Climate Change (CI) are critical for fostering engagement without leading to resignation. This study evaluates the validity of instruments measuring CH, CA, CW, and CI among students in grades 5 to 8. We investigate whether these instruments produce data that can be validly interpreted in alignment with the constructs' theory according to the *Standards for Educational & Psychological Testing*. We also explore shared and construct-specific difficulties in students' responses. Using think-aloud interviews, we collect verbal data from students as they complete items from each instrument. Qualitative analyses examine the response processes to identify potential misunderstandings, misalignments, and linguistic challenges. Preliminary findings revealed comprehension difficulties in grade 5, often due to general reading challenges or for non-native speakers. Students who understood the items responded in a construct-valid manner. To ensure valid assessment in grade 5, items are adapted to minimize comprehension issues. Linguistic difficulties were evident through skipped questions. Else, alignment between constructs and student responses was recognized. The German translation of the CA-scale should be simplified for young students with low reading competence. Validated instruments will be essential for assessing and enhancing CCE interventions. These tools will help evaluating CCE strategies that inspire hope, support agency, and sustain interest in climate change action among young students.

Keywords: climate change education, validity evidence, climate hope, climate agency, climate worry

PSII-065

**ID-630: TALK TO EACH OTHER! THE IMPORTANCE OF SOCIAL INTERACTION AMONG MEMBERS OF ENERGY COMMUNITIES FOR ENERGY CITIZENSHIP**

Katja Corcoran[1], Charlotte Löhr [1], Fleur Goedkoop [2]

*[1]University of Graz, Graz, Austria, [2]University of Groningen, Groningen, Netherlands*

The energy transition towards sustainable energy sources can make a significant contribution to reducing global warming. This is accompanied by a change in the energy market in which citizens are taking on a much more active role. This aspect manifests itself in the construct of energy citizenship, which we understand as the exercise of the right to and responsibility for a sustainable and just energy transition (Hamann et al., 2023). At the same time, new players are emerging in this new energy market, such as energy communities. Citizens are coming together in these communities to jointly generate, distribute and consume energy or to campaign for the energy transition. Energy communities can therefore be an ideal environment to promote and strengthen energy citizenship. We were interested in whether social interaction among the members of such communities is important. As part of the H2020 project "Energy Citizenship and Energy Communities for a Clean Energy Transition", 466 members of energy communities

in different European countries were contacted and their social interaction and energy citizenship were surveyed. Furthermore, their identification with the community and the perceived collective agency were recorded. As expected (preregistration: osf.io/9fqcg), there is a positive correlation between social interaction and energy citizenship and this correlation is mediated by both identification and agency. Based on these findings, we recommend that energy communities and other initiatives take care to enable and promote social interaction between members when designing their community and thus strengthen their energy citizenship.

Keywords: energy citizenship, energy communities, social interaction, collective agency, social identity

PSII-066

**ID-515: AUSTRALIAN PERCEPTIONS OF THE ENERGY TRANSITION**

Hannah Velure Uren[1], Emma D'Antione [1], Bishal Bharadwaj [1], Peta Ashworth [1]

[1]*Curtin University*, *Perth*, *Australia*

How citizens perceive the energy transition is likely to influence their everyday behaviour and acceptance of changes that come along with the transition. Whilst Australia is rich in sun, wind and vast open space, it lags much of the developed world in decarbonising its energy systems. This study explores Australian perceptions of the challenges and opportunities of energy transition, through a content analysis of 600 participants (323 Men) short answer survey responses asking for the top 3 challenges and opportunities of the global and domestic energy transition. Key findings suggest that the transition is widely viewed as more challenging than opportunistic, with affordability, ability to minimise greenhouse gas emissions, infrastructure readiness, and policy misalignment identified as critical concerns. It appears public resistance stems from a lack of trust, insufficient awareness, and widespread misinformation, perpetuated by mainstream media and vested interests in the fossil fuel industry. Participants highlighted the need for accessible, transparent communication and inclusive community engagement to foster acceptance and social license to operate. Conversely, the transition is also seen as a chance to improve well-being, reduce environmental harm, and create a more equitable energy system. Participants emphasised the importance of social cohesion, procedural fairness, and public empowerment in supporting sustainable behaviour change. Our findings suggest that speeding up the energy transition in Australia involves increasing community engagement and debunking misinformation. This research highlights the critical role of environmental psychology in bridging technical solutions with public acceptance, ensuring a just and resilient energy future for Australia.

Keywords: energy transition, community, perceptions, Australia

PSII-067

**ID-980: THE IMPACT OF SOCIAL MEDIA POSTS ON MEMORY AND ACCEPTANCE OF FOSSIL FUELS: THE ROLE OF ATTITUDES, EDUCATION AND "LIKING"**

Martina Hardmeier[1], Anne Berthold [1], Michael Siegrist [1]

[1]*ETH Zurich*, *Zurich*, *Switzerland*

While the detrimental environmental and health impacts of fossil fuels are well recognized, encouraging public adoption of sustainable alternatives remains a considerable challenge. Understanding how people process and remember information about fossil fuels—particularly as disseminated through social media—is crucial for driving meaningful change. Through two studies, we investigated participants' reactions to pro- and contra-fossil fuel social media posts (measured via liking behavior) and their ability to recall these posts (immediate vs. delayed recall). Our findings revealed that participants generally held negative attitudes toward fossil fuels, which influenced their evaluation of the posts: contra-fossil fuel posts were liked and recalled more frequently than pro-fossil fuel posts. Additionally, liking behavior was closely aligned with participants' pre-existing attitudes, demonstrating motivated reasoning, as participants showed greater engagement with content that resonated with their views. Memory retention was stronger for immediate recall compared to delayed recall, although recall timing did not influence the preferential retention of contra posts. Furthermore, participants with higher levels of education exhibited more negative attitudes toward fossil fuels and greater recall accuracy for related content. These findings underscore the influential role of social media in shaping attitudes through selective engagement and indicate that liking behavior can serve as a predictor of fossil fuel acceptance. The insights gained from this study contribute to the development of balanced communication strategies aimed at promoting critical thinking and informed decision-making in the transition to renewable energy.

PSII-070

**ID-105: EXPLAINING THE TEMPORAL DYNAMICS OF DIGITAL ENERGY CONSERVATION INTERVENTIONS: THE ROLE OF INTERVENTION DESIGN AND USER ENGAGEMENT**

Pfeiffer Lisa[1], Laura Marie Edinger-Schons [1]

[1]*University of Hamburg*, *Hamburg*, *Germany*

Scholars and practitioners increasingly use digital technologies for pro-environmental behavioral interventions, leveraging these technologies' capacity for personalized and adaptable feedback. However, long-term effects of digital pro-environmental interventions are inconsistent, highlighting the need to further understand their underlying mechanisms. Building on prior research, we argue that the effectiveness of digital interventions varies over time and is influenced by both intervention design and individual user engagement with the digital technology in which the intervention is embedded. To test these propositions, we conducted a longitudinal field experiment with 105 citizens of a medium-sized German city, assessing the effect of different types of real-time, web-based temperature data provision on citizen heating energy conservation behavior. Therefore, citizens received an indoor climate sensor, measuring their indoor temperatures every hour throughout the whole intervention period. Moreover, all citizens received access to their temperature information via personal online-dashboards. Thereby, citizens were randomly assigned to one of three types of dashboard designs encouraging heating energy conservation behavior. Using latent growth modeling, we examined how citizens indoor temperatures changed throughout the intervention period depending on dashboard design and user engagement, with temperature reductions indicating greater conservation behavior. Our findings confirmed that intervention effectiveness varied by intervention day, dashboard design, and user engagement,

suggesting that intervention design and individual user engagement impact the stability of digital behavioral intervention effects. Future research designated to understanding the interrelations of intervention design and engagement over time is promising to better understand and subsequently design effective digital behavioral interventions.

Keywords: real-time behavioral interventions, digital nudging, energy conservation behavior, intervention engagement, longitudinal field-experiment

PSII-071

**ID-587: THE CARBON PERCEPTION GAP: COMPARING ACTUAL AND IDEAL CARBON FOOTPRINTS ACROSS WEALTH GROUPS**

Johanna Köchling[1], Julia Elisa Koller [1], Jana Straßheim [1], Yannic Rehm [2], Lucas Chancel [2; 3; 4], Claudia Rehm [1], Harald Thomas Schupp [1], Britta Renner [1]

*[1]University of Konstanz, Konstanz, Germany, [2]Paris School of Economics, Paris, France, [3]Harvard Kennedy School, Cambridge, United States, [4]Sciences Po, Paris, France*

**Introduction**: "Carbon inequality" – the unequal distribution of individual greenhouse gas emissions, with wealthier individuals contributing a disproportionately higher share of emissions – is gaining prominence in public discussions surrounding equitable climate policies. However, little is known about how this inequality is perceived. **Goals & Objectives**: This study explores people's perceptions of actual carbon footprint distributions across wealth groups as well as what they would desire as the ideal distribution. **Methods & Results**: Survey data from Germany shows pronounced gaps between perceptions of actual and ideal carbon inequality. Respondents demonstrated awareness of carbon inequality, recognizing that wealthy individuals emit disproportionately more than the rest of the population. Furthermore, respondents consistently envisioned ideal distributions as nearly the inverse of their perceived actual distribution, revealing a surprising consensus: all groups, including the wealthy, desired an ideal distribution where the wealthy have disproportionately lower carbon footprints. Finally, respondents rated their own carbon footprint as far better than those of others in society and within their own wealth group. **Conclusions**: This finding suggests a carbon perception gap, particularly among the wealthiest individuals: collectively, people acknowledge the presence of carbon inequality and aspire for a more equitable world, yet often perceive themselves as already contributing more than others.

Keywords: perceptions, carbon footprint, carbon inequality, greenhouse gas emissions, wealth

PSII-072

**ID-78: BEYOND TRADITIONAL TDM: ORGANISATIONS OF ALL SIZES CAN HELP LOCAL AUTHORITIES REACH TDM TARGETS, BUT ROLES MAY DIFFER**

Jesse Wise[1]

*[1]Department of Psychology, University of Bath, Bath, United Kingdom*

**Objectives**: Rapid adoption of Transport Demand Management (TDM) is needed to achieve the UK's Net Zero commitments. Employers are recognised as mediators of transport policy, but their precise opportunities are unclear. This study measures their role, and supports Local Transport Authorities (LTAs) to effectively assist organisations in mediating TDM. **Methods**: This study analysed responses (n=20,017) to the 2024 Travel to Work survey by South Gloucester Council. Drivers reported which changes to their choice environments would facilitate walking, cycling, public transport, or car-sharing to work. These 'enablers' were categorized by those that could be implemented by organizations (e.g., flexible working hours) versus those requiring LTA action (e.g., cycle lanes). **Results**: In West England, the majority of employees drive single-occupancy ICEs. Results suggest infrastructure changes are by far the most important 'enablers' of modal shift. Organisations may be able to support between 8 to 17% of employees to choose active travel with enablers they themselves are able to implement. Employees at SMEs were more likely to be enabled to cycle by showering facilities, changing rooms, and e-bike charging. **Conclusions**: Authorities will need to lead infrastructure change, but organisations can play a smaller but significant role in changing midstream infrastructure to enable their employees to make more sustainable commutes. SMEs are resource-constrained and are unlikely to change the choice environment as required. Evidence suggests grants for showering facilities and e-bike charging points are warranted by LTAs, particularly given the benefits to society, individuals, and businesses associated with modal shift.

Keywords: commute zero, travel demand management (TDM), urban governance, small and medium sized enterprise (SME), choice architecture

PSII-073

**ID-987: TRANSPORT ENVIRONMENT DISRUPTIONS AS 'MOMENTS OF CHANGE' FOR SUSTAINABLE TRAVEL**

Tara McGuicken[1]

[1]*Department of Psychology, University of Bath*, *Bath*, *United Kingdom*

Addressing climate change requires profound transformations to the way people travel yet travel behaviours (in particular car use) are among the most difficult to change, largely because of their strongly habitual nature. However, 'moments of change' – whereby contextual disruptions destabilise the habits associated with certain behaviours – present potential opportunities for transport policymakers. While existing research on moments of change predominantly focuses on life transitions, few studies have extended the concept to external events, particularly those in the transport environment. This research addresses this gap by investigating the efficacy of *transport infrastructure* disruptions (e.g., road closures) to reduce car use based on both the severity of the disruption (e.g., restrictiveness for car use, the duration of the disruption, and whether the disruption was pre-planned) and the extent of additional support (e.g., whether behavioural measures are delivered alongside the disruption). An online study (n=420) was conducted to investigate how varying dimensions of transport environment disruptions influence car use reduction. Participants were presented with randomised disruption vignettes varying in restrictiveness, duration, plannedness, and intervention support, and were asked to rank their likelihood of engaging in different behavioural responses, such as mode change, journey time or route alteration, journey cancellation, or business as usual. Through employing diverse methods, the present research contributes

novel information about the potential interplay between the built environment and habits, and in particular advances the conceptual understanding of the notion of 'moments of change'.

Keywords: moments of change, behaviour change, travel habits, policymaking, interventions

PSII-074

**ID-468: UNDERSTANDING BIOLNG ACCEPTANCE IN HEAVY TRANSPORT AMONG OPERATORS AND THE GENERAL PUBLIC**

Johanna Held[1], Katja Corcoran[1]

[1]*University of Graz*, *Graz*, *Austria*

In order to limit $CO_2$ emissions from heavy transport, alternative fuel technologies like bioLNG must be implemented. However, the implementation of these new fuel technologies often hinges on public acceptance. Using a mixed method design, we therefore explored the acceptance of bioLNG among operators and the general Austrian population. First, 10 heavy transport operators were interviewed on their bioLNG acceptance using a semi-structured interview approach. The operators expressed an interest in adopting and trying out bioLNG, despite pointing out challenges such as accessibility, infrastructure, pricing, and environmental impact. They stressed the need for more information to fully shape their opinions. Next, the general population was surveyed on their bioLNG acceptance via an online survey (*N* = 2005). Results from regression analyses indicated that attitude, safety, trust, usability, and usefulness all predict bioLNG acceptance with trust in involved agents and perceived usefulness being the strongest predictors. The results from both studies suggest that operators and the general population base their acceptance of bioLNG on slightly different factors. Therefore, tailoring information seems to be important for successful implementation: operators require details on pricing, environmental impact, and accessibility, while the general public needs trust in involved agents and awareness of bioLNG's (environmental) benefits.

PSII-075

**ID-863: EXPLORING THE ACCEPTANCE OF SEMI-AUTONOMOUS TRANSPORTATION SOLUTIONS IN ACTIVE MOBILITY: AN EXTENDED UTAUT2 APPROACH**

Viktoria Schett[1]

[1]*Department of Environmental Systems Sciences, University of Graz*, *Graz*, *Austria*

Integrating (semi-)autonomous technologies into transportation solutions that leverage active mobility offers significant potential to improve sustainability, increase transport capacity, enhance inclusivity, and support public health. This study explores the acceptance of such transportation technologies, focusing on user perceptions, barriers, and motivations concerning their adoption in active mobility contexts like walking or cycling. Focus group discussions were conducted with two distinct groups: three groups of

citizens (n=22) and two groups of business owners (n=10) who provided expertise on transporting customer goods. These discussions focused on the usability, safety, and practicality of a semi-autonomous transportation trolley with a follow-me function designed to transport larger loads while users engage in active mobility. Prior to the focus groups, a brief survey was conducted to collect data on participants' mobility behaviors and demographics, providing a better understanding of potential differences in acceptance. The data from these discussions were analyzed using deductive and inductive coding methods. Deductive coding relied on the UTAUT2 framework, while inductive coding extended this model to deepen the understanding of factors influencing the acceptance of semi-autonomous transportation solutions in active mobility. The study's practical implications include an improved understanding of how factors such as performance expectancy, effort expectancy, social influence, and hedonic motivation impact acceptance, along with identifying new factors like service availability, perceived reliability, or perceived risk. This study aims to provide valuable insights for developers and policymakers, helping to inform the design and implementation of future transportation technologies.

Keywords : semi-autonomous technologies, active mobility, acceptance, UTAUT2, focus groups

PSII-076

**ID-783: PSYCHOLOGICAL VARIABLES ASSOCIATED WITH ACTIVE MOBILITY: A SCOPING REVIEW**

Andrea Manunza[1], Oriana Mosca [1], Emanuel Muroni [2], Ferdinando Fornara [1]

*[1]Department of Education, Psychology, Philosophy, University of Cagliari, Cagliari, Italy, [2]Department of Civil, Environmental and Architectural Engineering, Cagliari, Italy*

Active mobility, encompassing walking and cycling, is gaining attention for its role in promoting sustainable urban transport and enhancing human health and well-being. Existing literature highlights that psychological variables, such as self-efficacy, resilience, and habits, significantly influence active mobility behaviors. For instance, higher self-efficacy in walking or cycling correlates with increased adoption of active commuting. Additionally, psychological factors interact with environmental conditions; supportive urban environments enhance individuals' perceived behavioral control and willingness to engage in active mobility. This study aims to conduct a systematic scoping review to further investigate these psychological variables and their interactions with active mobility behaviors in urban contexts. Following the PRISMA Extension for Scoping Reviews (PRISMA-ScR) framework, the review systematically identifies and examines empirical studies addressing psychological factors linked to active mobility. Article selection is underway, with initial screening completed. The study addresses three key research questions: (1) What are the bibliometric characteristics of the selected studies, including publication trends and geographical distribution? (2) What methodological approaches are employed in the included research, such as research designs? (3) Which psychological variables are associated with active mobility behaviors, and what is their impact? By synthesizing the existing literature, this study aims to provide a comprehensive understanding of the psychological dimensions of active mobility. The findings will support the development of evidence-based interventions to promote sustainable and health-enhancing transportation behaviors.

Keywords: scoping review, walking, cycling, psychological variables, urban transport

PSII-078

**ID-821: CARGO BIKES AND A CAR FREE LIVING? A REVIEW OF THE LITERATURE**

Sigrid Elisabeth Glomdal[1], Daniel Paitkowski [1]

[1]*OsloMET*, *Oslo*, *Norway*

Cargo bikes have traditionally been seen as a niche product at the intersection of cycling and environmentalism, but with the recent and widespread adoption of electric-assist motors to all forms of bicycles, the cargo with e-assist bike has become a more accessible product for a range of potential users, potentially facilitating a car-free lifestyle, especially for families with children. There is limited research on bikes and their use – either theoretical or practical. What is available comes from engineering and urban planning, focusing on technical considerations like infrastructure requirements and road geometry. What is missing is a user perspective; a psychological perspective. That is, what factors are associated with cargo bike uptake and use? Further, what is the potential for cargo bicycles to support mobility transitions away from car-dependence? To address this gap, we conduct a systematic literature review. Our goals are to (1) investigate existing and potential factors driving cargo bike adaptation as a car replacement from a psychological perspective, (2) create a framework for understanding the behavior, and (3) apply the framework to guide future research. We find that cargo bikes have the potential to replace cars, especially for shorter trips, and among those who already cycle. But cities are plagued by inequities and our findings support a justice-centered approach to ensure cargo bikes can become part of the solution to an inequitable status quo. Specifically, context matters: progressive land use and transport policies are prerequisites to addressing transport inequities and unlocking the potential of cargo bicycles.

Keywords: cargo bikes, shared mobility, car-free living, sustainable transportation

PSII-079

**ID-648: GLOBAL PERSPECTIVES ON NATURE: EXPLORING OUTDOOR ACTIVITIES, MOTIVATORS, AND BARRIERS ACROSS DIVERSE GEOGRAPHICAL AND CULTURAL CONTEXTS**

Amelia Rice[1]

[1]*University Of Bath - Psychology Department*, *Bath*, *United Kingdom*

The relationship between the environment and wellbeing has been studied extensively in Europe and North America, with green spaces linked to reduced stress, improved mood, and enhanced cognition. However, little is known about the mental health impacts of environments lacking greenery, such as deserts or open plains. This study addresses this gap by exploring how people interact with a diverse range of environments across a variety of cultural and geographic contexts. Data were collected through a survey targeting participants from South Africa, Saudi Arabia, Argentina, India, and the UK, countries chosen for their cultural and climatic diversity, as well as limited prior research (except the UK). The survey, available in Hindi, Arabic and Spanish, captured beliefs, behaviours, motivators, and barriers related to outdoor spaces. To ensure cultural relevance, individuals from each country were consulted during

development of the survey. The survey included quantitative data on outdoor activity frequency and time spent outside, alongside open-ended questions about favourite outdoor spaces and motivators/barriers to spending outdoors. Ethical approval was granted by the University of Bath Social Sciences Research Ethics Committee. A total of 102 responses were collected across the five countries. Preliminary analysis of the data suggests variation in outdoor activity preferences and perceived motivators and barriers between countries. This project aims to provide a more nuanced understanding of how cultural and environmental factors influence nature engagement, challenging the one-size-fits all approach to nature prescriptions. It highlights the need for culturally tailored definitions of positive environments to promote wellbeing effectively.

Keywords: nature engagement, cross cultural, qualitative survey data, motivations and barriers, environmental psychology

PSII-080

**ID-186: THE AMSTERDAM MODEL OF LEARNING ENVIRONMENTS (AMOLE): A THEORETICAL FRAMEWORK**

Michelle Laux[1], Kai Schuster [2], Maik Beege [1]

*[1]University of Education Freiburg*, *Freiburg*, *Germany*, *[2]University of Applied Sciences Darmstadt*, *Darmstadt*, *Germany*

Although the topic of learning environments is receiving increasing attention, there is as yet no theoretical model that reflects current architectural, pedagogical, and social requirements for educational buildings and their surroundings. To address this issue, the Amsterdam Model of Learning Environments (AMOLE) that draws on existing models for spatial (learning) environments was developed. Explaining which features contribute to a successful learning environment, it describes theoretical (e.g. Evans & McCoy, 1998) and empirical research (e.g. Rance et al., 2023) from environmental psychology, educational science, and related disciplines. In this context, a mixed picture emerges: while data on aspects such as color, for example, are limited, the study situation on light and acoustics is profound. The overall view of all facets is also crucial, with some of the aspects even potentially conflicting with each other (e.g. openness and acoustics). AMOLE could be used to test derivable hypotheses and thus examine individual aspects in depth. In addition, it provides the basis for a Post-Occupancy Evaluation (POE) instrument to reveal design weaknesses and thus initiate targeted change processes. Evans, G. W. & McCoy, J. M. (1998). When Buildings don't work. The role of architecture in human health. *Journal of Environmental Psychology, 18*(1), 85–94. Rance, G., Dowell, R. C. & Tomlin, D. (2023). The effect of classroom environment on literacy development. *npj Science of Learning, 8*(9), 1–10. https://doi.org/10.1038/s41539-023-00157-y

Keywords: school architecture, theoretical model, spatial learning environments, environmental psychology, post-occupancy evaluation (POE)

**17-06-2025 | 14:00 - 15:15**

**S-037**: **Toward Sustainable Fashion Consumption: Integrating Personal Values, Communication, and Environmental Impact**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Life Cycle Assessment and sustainable consumption)

*Valley Room*

Chair: Barbara Behre, Ghent University, Communication Sciences, Ghent, Belgium.

### ID-1116: DEVELOPMENT OF A MEASUREMENT INSTRUMENT FOR ENVIRONMENTALLY RELEVANT VALUES

Désirée F. Schmid[1; 2], Tobias Brosch [2], Nadja Contzen [1; 3]

*[1]Eawag: Swiss Federal Institute of Aquatic Science and Technology*, *Dübendorf*, *Switzerland*, *[2]University of Geneva*, *Geneva*, *Switzerland*, *[3]University of Groningen*, *Groningen*, *Netherlands*

Personal values are a key antecedent of people's environmental judgments and behaviors. However, widely used value typologies in environmental psychology are limited in scope, addressing only a narrow range of value orientations. This restricts their relevance for emerging research topics, such as the acceptance of novel sustainable technologies or the adaptation to climate change. In a previous study, we addressed these shortcomings by developing a refined typology of environmentally relevant values comprising 131 values, grouped into 38 value orientations and 12 higher-order value orientations. Our findings highlight both well-established values - such as care for nature, personal wealth, and self-gratification - and values that have so far received less attention in environmental psychology, such as care for future generations, personal health, and living a frugal life. In the current study, we developed and validated an instrument to measure the values of the refined value typology. The process involved cognitive interviews to check the items' comprehensibility, a quantitative pre-study to explore the factor structure and item performance, and a main study to confirm the factor structure and assess the psychometric properties. The resulting instrument offers significant potential for advancing value research and interventions across a wide range of environmental judgments and behaviors. This presentation will particularly highlight the new value orientations that can provide novel insights into promoting sustainable consumption, including in the fashion industry. By incorporating both traditional and emerging values, this comprehensive approach could enable the development of more targeted strategies to encourage sustainable consumption.

Keywords: personal values, environmental values, value orientations, psychometric validation, measurement instrument

### ID-1117: ENVIRONMENTAL MITIGATION POTENTIAL OF SUSTAINABLE CLOTHING BEHAVIOUR

Julia Koch[1; 2], Harry Wilting [2], Kees Vringer [2], Linda Steg [1], Ellen Van der Werff [1]

[1]*University of Groningen, Groningen, Netherlands,* [2]*PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands*

**Introduction***:* The production and consumption of clothes contributes to climate change and biodiversity loss. Consumers can play a critical role in the reduction of these negative effects, as they determine the quantity and quality of sold clothes and how long clothes are used. To reduce environmental problems caused by clothing, it is essential to identify which behavioural changes are most effective in mitigating environmental pressures. **Objectives***:* The aim of our study is to assess the mitigation potential of different clothing behaviours that consumers can adopt by not only considering the theoretical environmental reduction potential a change in behaviour can bring about, but also the share of consumers that would be willing to engage in the behaviour (behavioural plasticity). **Materials & method***:* Starting from circular economy principles, we identified 14 clothing behaviours and assessed their mitigation potential in terms of greenhouse gas emissions and land use based on the technical reduction potential and the behavioural plasticity. We used an interdisciplinary approach, combining environmental analysis to calculate the theoretical reduction potential, and a survey among Dutch consumers to assess behavioural plasticity (Koch et al., 2024). **Results & conclusions***:* We found that a more circular clothing consumption in the Netherlands could mitigate about 8-16% of greenhouse gas emissions and about 0-26% of land use related to clothing. Buying less new clothes and choosing garments of more durable quality and made from more environmentally friendly and recycled materials are the four clothing behaviours that have the highest reduction potential when behavioural plasticity is included.

Keywords: apparel, sustainable consumption, circular economy, environmental impact

## ID-1118: PERCEIVED WARMTH AND GREENWASHING: THE INFLUENCE OF BENEFIT FRAMING AND VALUE ORIENTATIONS ON SUSTAINABLE FASHION CONSUMPTION

Barbara Behre[1], Verolien Cauberghe [1], Dieneke Van de Sompel [1]

[1]*Ghent University, Department of Communication Science, Ghent, Belgium*

Despite the increase of sustainable fashion alternatives, its consumption remains limited[1]. Sustainability framing can help bridge this gap, but often evokes greenwashing perceptions[2]. To overcome this, past research has examined how consumer-oriented benefits, more specifically strengthening feelings of perceived warmth, can increase effectiveness[3]. However, there is a paucity of research that combines the impact of sustainability and self-benefits of fashion on their greenwashing and warmth perceptions[4]. Applying a dual processing framework, this study aims to investigate how framing self- and other-benefits affects sustainable fashion consumption intentions. In a 3-factorial (self vs. other vs. self and other-benefit (dual) frame) between-subject experiment, we test if benefit framing reduces greenwashing perceptions and enhances perceived warmth, thereby strengthening sustainable consumption intentions. In addition, the moderating role of value orientations is examined. The results indicate that a dual (vs. self or other) frame doesn't enhance sustainable consumption intention. The self (vs. other) benefit, however, increases greenwashing perceptions, especially for high transcendence value consumers, who interestingly perceive dual framing less as greenwashing than other-benefits. Thus other-benefit framing works especially for low transcendence value consumers, reducing greenwashing perceptions, thereby increasing sustainable consumption intentions. This research offers novel insights into the role of value orientations in cognitive

evaluations of benefit framing for sustainable fashion. [1] Ali et al., 2022; Hwang et al., 2020 [2] Venhoven et al., 2020; Hartmann et al., 2017 [3] Grazzini et al., 2021; Septianto et al., 2021; Gong et al., 2020 [4] Hoffman et al., 2024; Boobalaan et al., 2021; Choi & Lee, 2020

Keywords: sustainable fashion, benefit framing, value orientations, perceived greenwashing, sustainable consumption intentions

## ID-1119: SHIFTING CLIMATE POLICY COMMUNICATION: CAN REBATES AND VALUE-BASED FRAMING INCREASE SUPPORT FOR A NEW CLOTHING TAX AND SUSTAINABLE CONSUMPTION?

Luise F. Schlindwein[1; 2], Anika Batenburg [1], Elliot Sharpe [2], Thijs Bouman [2]

*[1]TNO, Energy & Materials Transition, Amsterdam, Netherlands, [2]University of Groningen, Groningen, Netherlands*

The clothing industry contributes significantly to global CO2 emissions. Consumers can play an important role in mitigating these negative impacts through their purchasing habits and usage of clothing. However, encouraging sustainable behaviors and policy support remains challenging, often due to perceived lifestyle restrictions or costs. Research highlights that public support for climate policies depends on perceptions of fairness, effectiveness, and minimal disruption to daily life. Additionally, differences in support across groups may stem from varying values: left-leaning individuals and those with self-transcendent values respond to environmental and social benefits, while right-leaning individuals and those with self-enhancement values are more persuaded by personal and economic gains. Current media narratives, however, often underemphasize the benefits, focusing instead on the costs of such policies. This study investigates whether presenting a policy package, including rebates and other additions covering fairness, effectiveness, and daily-life impact, alongside value-based framing, can enhance public support for a clothing tax and encourage sustainable consumption behaviors. An online experiment with 3,006 Dutch participants tested various framing strategies tailored to individual values and political orientations. Findings reveal that (1) there is support for a tax on fast-fashion, suggesting public support for such measures is not inherently low, especially when policy packages including rebates are communicated; (2) pre-testing communication materials with target audiences is valuable; (3) individuals' values significantly relate to acceptance of policies, highlighting the importance of understanding audience values; and (4) tailoring communication to align with recipients' values appears effective in some cases, though its impact is not universally consistent.

Keywords: climate policy communication, public support, value-based framing, sustainable consumption intentions

## ID-584: EMPATHETIC FORECASTING ERRORS: BARRIERS TO SUSTAINABLE LIFESTYLE SHIFTS

Kate Laffan[1], Emma Howard Howard [2]

*[1]London School of Economics, London, United Kingdom, [2]TUDublin Economics, Dublin, Ireland*

In many areas of life, people systematically mispredict the emotional responses of others. In this paper, we investigate whether these so-called 'empathetic forecasting errors' arise in relation to observing and discussing counter-normative pro-environmental behaviours (PEBs) and their implications for people's willingness to engage in and talk about pro-environemntal action. In study 1, we use vegetarian meal requests as a case study and then extend our investigation to look at 10 impactful pro-environmental actions. In our first study, we use an experimental vignette approach to investigate the phenomenon in a representative sample of UK meat eaters (n=1164) and a booster sample of vegetarians and meat reducers (n=444). Our results indicate that vegetarians and meat restrictors forecast that their vegetarian meal requests across a range of social settings (a pub, a dinner party, a BBQ and a restaurant) will elicit less positive and more negative emotions than meat eaters themselves predict they would feel. In our second study, in a representative sample of the UK's population (n=1,000), we then investigate whether these errors occur in relation to 10 impactful PEBs and where they do their links to people's willingness to engage in and talk about PEB, finding mixed evidence. Taken together, the findings identify areas where empathetic errors crop up in sustainable lifestyle shifts and highlight the need for behavioural interventions to update people's forecasts.

Keywords: empathetic forecasting errors, pro-environmental behaviours, social barriers

**17-06-2025 | 14:00 - 15:15**

**S-034**: **What (de)motivates sustainable regional food production and consumption? – Perspectives of consumers, farmers, mayors and other political actors**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Land management, farming and resource conservation)

*Flora Room*

Chair: Katharina Beyerl, Technische Universität Berlin, Berlin, Germany.

## ID-1178: FARMERS' AND MAYORS' PERSPECTIVES ON THE ROLE OF COMMUNITY-SUPPORTED AGRICULTURE IN SUSTAINABLE REGIONAL DEVELOPMENT

Katharina Beyerl[1]

[1]*Technische Universität Berlin*, *Berlin*, *Germany*

Community-supported agriculture (CSA) initiatives basically address all levels of enhancing collective action towards more sustainability. They provide opportunities to come together and engage in sustainable practices to support organic food production, as well as a learning ground for processing and appreciating fresh and regional produce. Moreover, CSA initiatives are spaces for conversations about different aspects of sustainability. Thereby, they combine enabling sustainable practices with offering

spaces for reflection on sustainable production and consumption - i.e. sustainable lifestyles. Especially in rural communities, such spaces and initiatives are still rare. Therefore, I investigated the perspectives of CSA farmers and their mayors on the role of CSA in sustainable regional development. Based on two two-day workshops with focus group discussions as well as additional individual interviews with mayors of 15 municipalities and 15 CSA farmers, I explored i) what challenges they experience in rural regions in Eastern Germany, ii) what they understand by sustainable regional development, and iii) what potential for sustainable regional development they ascribe to CSA initiatives. I embed the results in an overarching model of perceptions of change, coping strategies and social processes that affect behavior. The model itself builds on established psychological theories, such as Ajzen's theory of planned behavior, Schwartz's norm activation model, Lazarus' transactional model of stress and coping, Rogers' protection motivation theory, and Grothmann's model of private proactive adaptation to climate change.

Keywords: community-supported agriculture, perceptions, sustainable regional development, rural regions

**ID-1179: CONSUMERS? ENVIRONMENTALISTS? ACTIVISTS? – EXPLORING MEMBERS' MOTIVATIONS FOR COMMUNITY-SUPPORTED AGRICULTURE IN EASTERN GERMANY**

Armin-Laszlo Halbach[1], Kristina Steinmar [2], Katharina Beyerl [2]

*[1]Research Institute for Sustainability – Helmholtz Centre Potsdam (RIFS), Potsdam, Germany, [2]Technische Universität Berlin, Berlin, Germany*

In community-supported agriculture (CSA), members and farmers build a community that shares the financial costs, the responsibilities, and the crops of a food production initiative. CSA promises its members regional supply with healthy food produced under fair, transparent, and sustainable conditions while providing opportunities for participation, learning, and social exchange. In the light of potential co-benefits for the environment, the CSA community, and the participating individual, CSA membership can be considered not only a form of food choice, but also a form of private- and public-sphere environmentalism as well as a fulfillment of psychological needs. Accordingly, CSA membership motivations have been shown to be manifold. In this presentation, I will provide insights into an explorative correlational study on the range of membership motivations for CSA members in Eastern Germany. Based on focus group discussions with $n$ = 36 CSA members, we designed an online survey and collected quantitative data from $n$ = 338 members of 15 CSA initiatives in rural Eastern Germany. An exploratory factor analysis of membership motivations revealed eight intercorrelated, but distinguishable factors. In a subsequent cluster analysis, four motivational clusters of CSA members could be identified. Results highlight the multifactorial motivational basis of CSA membership at the nexus of nutritional behavior, pro-environmental behavior, collective action, and self-determination. They provide a promising foundation to address specific target groups of sustainable, regional food production within and beyond Eastern Germany.

Keywords: community-supported agriculture, membership, motivations, Eastern Germany

## ID-1180: MOTIVES AND BARRIERS FOR THE CONVERSION OF GERMAN FARMERS TO COMMUNITY-SUPPORTED AGRICULTURE

Jana Schmidt[1], Lukas Egli [2], Mirco Zech [1], Marius Rommel [1], Paech Niko [1]

*[1]University of Siegen / Plural Economics, Siegen, Germany, [2]Helmholtz-Centre for Environmental Research – UFZ, Leipzig, Germany*

Given the multiple crises that food systems are facing, a transformation towards sustainable and resilient food systems is urgently needed. Community-supported agriculture (CSA) – a social and organizational innovation, where farmers and consumers (members) are linked through long-term partnerships - can provide a viable alternative for a sustainable and resilient agricultural production at a smaller scale. However, with less than 500 CSA farms in Germany (approx. 0.2%), CSA can still be considered a niche. Moreover, only about a quarter of these farms originated from a conversion of existing farms to CSA. In an ongoing project we (i) identify barriers and motives of farmers to convert to CSA, (ii) investigate farmers' willingness to convert to CSA and (iii) establish networks between relevant actors in four regions of Germany to create innovation systems. To this end, a qualitative interview study ($n$ = 11) based on i.e. Lindenberg and Steg's Goal Framing Theory and a quantitative online survey ($n$ = 288) based on i.e. an extension of Ajzen's Theory of Planned Behavior were conducted. While 82% of the 288 respondents to our survey at least partly agree that CSA is a good concept, only 32% consider it as a reasonable option for themselves. Farmers face environmental, social, organizational and individual barriers that first need to be overcome. Finally, we discuss the potential of innovation systems, defined as regional hubs with heterogeneous actors from various sectors, to address these barriers and facilitate the diffusion of CSA.

Keywords: community-supported agriculture, diffusion, innovation, transformation, motives and barriers

## ID-1181: ENVISIONING CLIMATE-NEUTRAL FOOD SYSTEMS: PARTICIPATORY STAKEHOLDER PROCESSES TO INCREASE COMMITMENT

Stephanie Moser[1], Felix Poelsma [2], Susanne Wymann von Dach [3]

*[1]University of Bern / Centre for Development and Environment CDE, Bern, Switzerland, [2]University of Bern / Centre for Development and Environment, Bern, Switzerland, [3]University of Bern, Centre for Development and Environment CDE, Bern, Switzerland*

The current food production and consumption systems are relevant emitters of greenhouse gases and thus driving climate change. A societal transition towards climate-neutral food systems is, however, a major challenge, as it requires the support of regional producers, consumers, and other political actors. Participatory reflexive governance processes, such as transition management, are promising approaches to involve regional key stakeholders in such a transition. In this contribution, we present the results of a participatory regional planning process in Switzerland, in which a vision and transition pathways towards a climate-neutral regional food system were co-developed with selected stakeholders, as a basis for starting activities in the region. We also present the results of a standardised online survey (N= 390) in which the residents of the region evaluated the developed vision. Our results show that a positive perception of the stakeholder process, together with high concerns about climate change, explained

support of the developed vision, and increased efficacy beliefs. Support of the vision, and high efficacy beliefs in turn predicted pro-environmental behaviour intentions and policy support. Based on our insights, and our experiences with the societal outcomes of the process, we will discuss the potentials and limitations of participatory visioning and planning as a strategy to gain people's commitment to a transition towards more sustainable food systems.

Keywords: climate-neutral food systems, climate change concerns, efficacy beliefs, visioning, societal transition

**17-06-2025 | 14:00 - 15:15**

**S-036**: **Reimagining restorative environments: theory, perception, and context (IAPS REN Part I)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Earth Hall Plenary*

Chair: Lewis Elliott, University of Exeter, Penryn, Cornwall, United Kingdom.
Co-Chair: Anna Bornioli, ISGlobal, Barcelona, Spain.

**ID-1054: RESTORATION THEORIES: PATH TO INSIGHT OR ROAD TO NOWHERE?**

Yannick Joye[1], Andreas De Block [2]

[1]*Center for Economic Expertise, Vilnius University*, *Vilnius*, *Lithuania*, [2]*Institute of Philosophy, KULeuven*, *Leuven*, *Belgium*

For more than four decades, research on restorative environments has been guided by two influential frameworks: Attention Restoration Theory (ART) and Stress Recovery Theory (SRT). While these theories have been instrumental in shaping the field, they have also faced criticism. Although it might appear that the limitations of both theories could be resolved through minor adjustments and further research, we adopt a meta-theoretical perspective to argue that their challenges are more fundamental and cannot be easily addressed. Specifically, we contend that both ART and SRT fail to meet the criteria for robust scientific theories. This critique is grounded in three key issues: (a) demarcation problems with critical constructs (e.g., “soft fascination”), (b) theoretical incoherence, and (c) a lack of explanatory depth, driven by circular reasoning and reliance on metaphorical explanations. Furthermore, we challenge the assumption that the psychologically beneficial effects of nature are in some way “special”, deserving of a nature-specific theory. Instead, we propose that such beneficial effects are better understood as manifestations of broader psychological processes, which need to be integrated into comprehensive theories of human behavior.

Keywords: restoration, ART, SRT, critique, meta-theory

## ID-1055: EXAMINING THE INFLUENCE OF THE PHYSICAL CHARACTERISTICS OF RESTORATIVE ENVIRONMENTS ON PLACE ATTACHMENT - AN INTERNATIONAL COMPARISON

Tamala Anderson[1], Eleanor Ratcliffe [1], Birgitta Gatersleben [1], Clara Weber [2], Mikel Subiza-Pérez [3], Anna Bornioli [1]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [2]School of Life Sciences and Facility Management, University of Applied Sciences, Zurich, Switzerland, [3]University of the Basque Country, Bilbao, Spain*

**Introduction:** Research on the physical characteristics of restorative environments can be helpful for the study of favourite places (also often restorative places) and place attachment, as relationships between physical characteristics of the environment and place attachment are poorly understood. **Objectives:** To quantitively test whether perceived physical characteristics of restorative environments predict place attachment to favourite outdoor urban places across different countries. **Materials & Methods:** A secondary analysis of survey data from five countries (Finland, Netherlands, UK, Spain, Australia; total N =945) examining restorative environments was conducted. **Results:** Hierarchical linear regression, controlling for age, gender, and nature/urban orientedness, explained a statistically significant 16% of the variance in place attachment for the international dataset. Statistically significant positive associations were found between place attachment and calmness, beautiful views, and the presence of people, while presence of water showed a negative association and associations with greenery and traffic were not statistically significant. Country-specific analyses showed varying results, with beautiful views being significant in all countries except Spain, and calmness and presence of water only significant in Finland. **Conclusions:** These findings demonstrate how knowledge from restorative environments research might be applied to related fields and highlight the importance of physical characteristics of the environment like calmness, views, and presence of people which can influence place attachment. The variability in these relationships across different countries, however, demonstrates the complex and nuanced nature of people-place relationship and underscores the need to consider cultural, geographical, and social factors in these investigations.

Keywords: place attachment, favourite places, physical characteristics, restorative environment characteristics,

## ID-1056: A SURPRISING EFFECT: NATURAL SOUND IS MORE RESTORATIVE WHEN DESCRIBED AS "ARTIFICIALLY SYNTHESIZED" THAN AS "LIVE-STREAMED FROM A NATIONAL PARK"

Yasushi Suko[1]

*[1]Faculty of Social Sciences/Psychology, Tampere University, Tampere, Finland*

**Introduction**: Many studies highlight the self-reported restorative effects of listening to recordings of natural sounds indoors. However, little research has explored whether these effects arise from the intrinsic properties of the sounds as such or subjective attributions assigned to them. **Objectives**: This study investigated whether the self-reported restorative effects of natural sound are influenced by varying sound-source attributions. **Methods**: In an online experiment, 151 participants were randomly divided

into three groups, each listening to the same 10-minute recording of a running river, but with different source descriptions: 1) no source information (control), 2) described as live-streamed from a national park, or 3) described as artificially synthesized. **Results**: Contrary to expectations, analyses using linear mixed-effects models revealed that the "synthesized" condition was perceived as the most restorative, followed by the "live-streamed" and control conditions, which were similarly restorative. This outcome suggests an expectation disconfirmation effect, where the initially low expectations associated with the "synthesized" label may have led to unexpectedly positive evaluations. Further, post-hoc multiple linear regression indicated that these source-attribution effects were independent of the influence of sound pleasantness on restorative experience. Additionally, both the synthesized and live-streamed attributions prompted associations with (favorite) natural places or childhood memories, suggesting that source attributions given by experimenters may reduce cognitive effort otherwise spent identifying the origin of the sound. **Conclusions**: These findings enhance the understanding of the top-down (cognitive-driven) restorative effects of natural sounds and could inform future applied studies on restorative indoor environments.

Keywords: natural sounds, restorative effect, top-down processing, expectation disconfirmation, attention allocation

## ID-1057: NATURALNESS IN THE EDUCATIONAL SETTING: THE RESTORATIVE EFFECT OF A WALK THROUGH NATURALNESS VERSUS A WALK THROUGH BUILDINGS DURING BREAKTIME

Robert Van Dongen[1], Manon Da Ponte [1]

[1]*Eindhoven University of Technology*, *Eindhoven*, *Netherlands*

**Introduction:** University students need to focus their attention during classes. In education, it is common practice to split classes into successive lecture hours (e.g. each 45 minutes), with breaks (of e.g. 15 minutes) in between, to allow students to restore their attention capacities. **Objectives**: In this study, we research attention restorative effects of taking a break walking indoors, or taking a break walking outdoors in a natural environment. **Methods**: The research uses the usual break in a lecture to split the student group into two groups. Half of the group goes for a 12 minute walk through several university buildings linked by indoor walking bridges, and the other half walks straight outside and then 12 minutes in a nature environment. The experiment is performed in 5 classes, all in the same educational building, allowing the walking break to be consistent across classes. At the start of the break, students fill in a selective attention test (Stroop Test), after which they have their (guided) walk. Upon returning to the same classroom, a repeat measure of the attention test is filled in. **Results**: Through measuring attention capacity in a mentally fatigued state before and a potentially restored state after the break, analysis can show potential differences in attention restorative effect in education settings between a walking break outside through green, or inside through buildings. Data collection is performed from September through December 2024, therefore, final number of participants is not known yet and results will be presented at the conference.

Keywords: attention restoration, education, lecture break, outdoor vs indoor restoration, green exercise

**ID-1058: EXPERIMENTAL TESTS OF ATTENTION RESTORATION THEORY: THE NEED FOR FOCUS ON MATTERS OF PROCESS**

Rose Macaulay[1], Emily-Hilleen Auerbach [2], Freddie Lymeus [2], Katherine Johnson [1], Katherine J. H. Williams [1]

[1]*University of Melbourne*, *Melbourne*, *Australia*, [2]*Uppsala University*, *Uppsala*, *Sweden*

Attention restoration theory (ART; Kaplan & Kaplan, 1989) has inspired many studies of the restorative benefits of nature experience. Many of them had an experimental design, often pitting a natural setting or imagery against an urban setting or imagery. Such experiments typically focused on outcomes, addressing the expectation that time spent in the natural setting or viewing the natural scenery would engender more restoration of a capacity to direct attention than would the urban or other comparison condition. Systematic reviews have deepened understanding of the validity of knowledge claims purportedly grounded in ART by attending to the many outcomes measured in these experiments with diverse tests of cognitive capabilities. In the present study, we build upon the two most exacting of these reviews (Ohly et al, 2016; Stevenson et al, 2018) by considering how the experiments they reviewed addressed matters of the restorative process as described in ART. Through our own coding procedures and correspondence with the authors of the reviewed experiments, we could establish that most of those experiments did not directly address matters of process; they did not measure participant experiences of being away, fascination, extent, and/or compatibility and/or did not test them as potential mediators of the outcomes measured. Rather, they represented those experiential components implicitly, assuming that the selected comparison conditions represented them to different degrees. We discuss the implications of these findings for assessing the evidence base for restorative benefits of nature experience and for the design of future experiments.

Keywords: attention restoration theory, mediation analysis, nature experience, restorative environments, systematic reviews

**17-06-2025 | 14:00 - 15:15**

**S-035**: **The inclusiveness and exclusiveness of pro-environmental initiatives**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Lise Jans, University of Groningen, Environmental Psychology, Groningen, Netherlands.
Co-Chair: Birte Siem, Leuphana University Lueneburg, Lueneburg, Germany.

**ID-1216: HOW TO SCALE BEYOND THE NICHE? FITTING VERSUS TRANSFORMING STRATEGIES OF GRASSROOT INNOVATIONS AND THEIR IMPACT ON SUSTAINABILITY TRANSITIONS**

Paula Maria Bögel[1], Anna Theis [2], Adelheid Böckmann [2], Paul Upham [3], Neneh Braum [2], Anne Möller[4]

[1]*University of Vechta*, *Vechta*, *Germany*, [2]*Universität Vechta*, *Vechta*, *Germany*, [3]*University of Groningen*, *Groningen*, *Netherlands*, [4]*University of Flensburg*, *Flensburg*, *Germany*

Energy cooperatives are considered as a means to accelerate the energy transition through the establishment of local energy infrastructures in the hands of citizens. So far, it often remains unclear to what extent different identities of energy cooperatives, also in terms of their inclusiveness-exclusiveness, can fulfil these expectations regarding their transformative impact. Our multi-method study deals with the relationship of this impact to different types of identities involved at individual, meso and organisational levels. It applies an embedded agency model of socio-spatial transitions impact to 11 energy cooperatives in North West Germany, to propose a five-fold, identity-focused organisational typology. We used open-ended interviews to encourage reflection on the histories of the organisations and also analysed various documentary sources. Analysis was content-focused, supporting illustrative narrative descriptions of the organisations' developmental paths, and corresponding inference of the typology. We define the latter types as: Classic Grassroot Initiative (GI), Intermediary, Pragmatic, Tech driver, and Economic-social. Our results illustrate how these types affect the inclusiveness-exclusiveness of the cooperatives' activities. For example, while the classic GI has a strong transformative impact, they have difficulties recruiting members beyond "the green bubble". Instead, those energy cooperatives who have limited transformative impact but a strong local identity succeed in recruiting members from different socioeconomic backgrounds and therefore foster inclusivity in energy transitions. With these insights we contribute to the understanding of how the identities of energy cooperatives relate to their impact, which implies a need for nuance when thinking about scaling pathways.

Keywords: niche, scaling, impact, identity, energy transition

## ID-1217: THE INCLUSIVENESS-EXCLUSIVENESS OF ECO-VILLAGES: UNDERSTANDING THE INFLUENCE OF MORALLY-MOTIVATED PRACTICE MINORITIES

Lise Jans[1], Fleur Goedkoop [1], Birte Siem [2], Goda Perlaviciute [1], Karen Hamann [3]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*, [2]*Leuphana University Lüneburg*, *Lüneburg*, *Germany*, [3]*University of Leipzig*, *Leipzig*, *Germany*

Minorities with morally-motivated practices have been argued to slow down the sustainable transition they envision by creating exclusive identities. The present study examines how ecovillages influence those living around them, depending on their displayed moral motivations and displayed identification with the local region. We expect higher displayed (compared to moderate, or mixed) moral motivation of the ecovillage to reduce local residents' affective, cognitive, and behavioural acceptance of the ecovillage, due to lower experienced shared identity. As such, we expect that a stronger displayed local region (compared to eco-village) identification by the eco-village, can counter the negative effects of displayed moral motivation. We tested these hypotheses with two experiments (*Ntotal)* = 1554, and aim to externally validate these findings with a correlational field study. Although results varied between experiments, we generally find, in line with our predictions, that higher displayed moral motivation (compared to moderate or mixed) negatively affected eco-village acceptance (and perceived shared identity in Study 1). Furthermore, higher displayed identification with the local region increased shared identity (and eco-village acceptance in Study 2), and countered some of the negative effects of displayed moral motivation.

Together, these findings show the risks of overly moral argumentation and the benefits of displaying shared identity to increase the ability of environmental minorities to instigate broader social change.

Keywords: do-gooder derogation, ecovillages, minority influence, common ingroup, morality threat

**ID-1218: THE ROLE OF ENERGY COMMUNITY SETUPS IN BRIDGING THE GENDER GAP IN ACCEPTABILITY AND WILLINGNESS TO JOIN**

Fleur Goedkoop[1], Lise Jans [1], Goda Perlaviciute [1], Karen Hamann [2]

*[1]University of Groningen - Department of Psychology, Groningen, Netherlands, [2]University of Leipzig, Leipzig, Germany*

The energy sector is largely male-dominated, with women significantly underrepresented within the industry. Community energy initiatives (CEIs) have the potential to foster a fair and sustainable energy transition, promoting more equitable and democratic energy systems. However, women's inclusion in energy communities remains limited. Initial evidence shows that women are less aware, less willing to join, and less likely to be a member of an energy community. This may be due to women feeling less represented by its members and less efficacious to join, partially because of certain gender stereotypes about people involved in energy communities. Additionally, we find preliminary correlational evidence (*N* =217), that women's involvement might be enhanced by the perceived representativeness of a CEI. We therefore propose that the set-up of CEIs might help to foster the inclusion of women. More specifically, in two experimental studies (*N*total = 2379), this paper examines whether the group composition of the board of a CEI, in terms of the representation of women and the board's openness to people from diverse backgrounds, and the focus of the initiative (environmental vs. energy), can change these perceptions and enhance women's acceptance of and willingness to join such initiatives. First results suggest that these set-ups do not significantly decrease the gender gap in acceptance nor willingness to join (Study 1). We discuss how our findings can assist energy communities and policymakers in creating effective strategies to involve different groups of people in energy initiatives, contributing to a transition that is both sustainable and inclusive.

Keywords: gender, community energy initiatives, representation, efficacy beliefs, stereotypes

**ID-1219: MARGINALIZED MINORITIES' PSYCHOLOGICAL BARRIERS TO JOINING PRO-ENVIRONMENTAL INITIATIVES: CAN PERCEIVED INITIATIVE INCLUSIVENESS HELP OVERCOME THEM?**

Birte Siem[1], Lise Jans [2]

*[1]Leuphana University Lüneburg, Lüneburg, Germany, [2]University of Groningen - Department of Psychology, Groningen, Netherlands*

Marginalized minorities such as ethnic minorities or low-income groups are still underrepresented in pro-environmental initiatives in the Global North. This underrepresentation is particularly concerning given that these groups are disproportionately affected by the consequences of climate change, globally, but

also within the Global North. The present research examines psychological barriers that may discourage members of an ethnic minority – individuals with a Turkish migration background in Germany —from participating in mainstream pro-environmental initiatives. We predicted that, compared to autochthonous individuals (i.e. those without a migration background), Turkish individuals perceive mainstream initiatives as less identity-safe, and view their ethnic ingroup as less concerned about the environment. Furthermore, we predicted that presenting an initiative as ethnically inclusive could mitigate these perceptions. In an experiment (*N* = 537), we manipulated the perceived inclusiveness of a fictitious pro-environmental initiative (low, high) and included participants' ethnic backgrounds (autochthonous, Turkish) as a quasi-experimental factor. Results partially supported our predictions: Turkish participants indeed perceived their ethnic ingroup's environmental concern as lower than autochthonous participants, but this perception was not affected by the inclusiveness manipulation. A potential explanation of this unexpected finding is that the inclusiveness manipulation addressed only the numeric representation of Turkish individuals in the initiative, but not how well the initiative meets the needs and interests of this target group. This explanation will be tested in a follow-up experiment. We discuss how our findings can inform inclusiveness strategies of pro-environmental initiatives.

Keywords: ethnic minority, inclusiveness, environmental concern, identity safety

**ID-1220: THE WHO AND THE WHERE OF RESPONSIBILITY FOR GLOBAL (ENVIRONMENTAL) JUSTICE: ATTRIBUTIONS FOR GLOBAL INEQUALITY AND SUPPORT FOR STRUCTURAL CHANGE**

Nadja Peter[1], Helen Landmann [2], Anette Rohmann [1]

[1]*Fernuniversität Hagen*, *Hagen*, *Germany*, [2]*Universität Klagenfurt*, *Klagenfurt*, *Austria*

People provide different explanations when asked about the reasons for inequalities between the Global South and the Global North. These causal attributions constitute a potentially powerful resource in motivating individuals to act collectively in favor of more global equality in a genuinely inclusive way. In two studies, we validate a new scale on attributions for global inequality (AGIS) in Germany and examine the relationships of attributions with collective action intentions and support for structural-level change policies. The items for the scale were developed based on previous qualitative studies conducted in Germany and Argentina. In Study 1 (N = 344), we found support for our hypothesized 6-factor-structure using confirmatory factor analysis. Regression results showed that the factors Structural North, Population North, Politics South, Situation South, Population South and Nature were associated with related constructs, as expected. In Study 2 (N = 351), we replicated the results with a more representative sample and focused more specifically on structural change. We found that attributions to structural causes located in the Global North are associated with 1) collective action intentions in the context of global injustice, forced migration and environmental protection and 2) support for structural- as well as individual-level change policies in these three domains. The results contribute to understanding collective action in global contexts and lay important groundwork for potential interventions in the realm of global inequality attributions. We discuss their relevance for inclusion and exclusion processes with a focus on global environmental (in)justice.

Keywords: attributions, global inequality, collective action, environmental protection, forced migration

**17-06-2025 | 14:00 - 15:15**

**S-056**: **Talking about a CoEvolution: innovative technologies and methods for participatory research and interventions in environmental psychology**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Nature-based solutions)

*Cove Room*

Chair: Oriana Mosca, University of Cagliari, Cagliari, Italy.
Chair: Nicola Rainisio, Università degli Studi di Milano Department of Cultural Heritage and Environment, Milan, Italy.

**ID-1244: EXPERIENCING THE CHANGING SPACE WITH WALKLETS: THE TERSICORE PROJECT**

Oriana Mosca[1] , Ferdinando Fornara[1], Silvana Mula[1], Alessandro Mura[1], Andrea Manunza[1], Emanuel Muroni[2], Giulia Giliberto[2], Ivan Blecic[2]

*[1]Department of Education, Psychology, Philosophy, University of Cagliari*, *Cagliari*, *Italy*, *[2]Department of Civil, Environmental and Architectural Engineering*, *Cagliari*, *Italy*

The TERSICORE project aims to design models and protocols to assess the psycho-social dimensions of urban regeneration spaces. A key innovation is Walklets, a web-app for collecting user data on interactions with regenerated spaces. This tool supports the intervention design both in the pre-action phase—by identifying users' relationships with the space, their needs, desires, intentions, and potential social practices—and in the post-action phase, evaluating satisfaction, changes in perceptions, and use of transformed spaces. It also assesses architectural, urbanistic, and environmental quality and shifts in how users care for these areas. We developed a methodology for cultural urban planners and digital designers to create digital tools that enhance urban regeneration. This approach highlights effective psycho-environmental variables, such as place attachment, memory, restorativeness, and emotional engagement, in fostering positive relationships with urban spaces. To validate this methodology, we are conducting urban walks with small groups (approximately 60 participants, data collection ongoing). Participants will complete pre- and post-walk questionnaires to examine their relationship with physical spaces and evaluate digital engagement through variables like serendipity and interaction quality. Pre-post change scores will be analyzed. The findings aim to inspire innovative methods for co-creating walkable, engaging, and connected urban spaces, promoting collaborative and user-centered urban regeneration practices.

Keywords: urban regeneration, Walklets, survey, urban walkability, space appropriation

**ID-1245: EXPLORING THE IMPACT OF URBAN FORM ON RESTORATIVE EXPERIENCES: INSIGHTS FROM 3 UK CITIES**

Nicola Rainisio[5] , Alessandro Venerandi[1], Barbara Piga[2], Gabriele Stancato[2], Hal Mellen[3], Ombretta Romice[1], Sergio Porta[4], Marco Boffi[5],

*[1]Department of Architecture, University of Strathclyd, Glasgow, United Kingdom, [2]Politecnico di Milano, Department of Architecture and Urban Studies (DAStU), Milan, Italy, [3]PLACE LOGIC, ADAM Architecture, Winchester and London, United Kingdom, [4]Department of Architecture, University of Strathclyde, Glasgow, United Kingdom, [5]Department of Cultural Heritage and Environment, Milan, Italy,*

Research has shown that restorative environments support recovery from mental fatigue, improve cognitive clarity, and foster emotional well-being. In urban settings, where stress and mental overload are common, the restorative potential of spaces is crucial for enhancing residents' well-being. Factors like visual order, spatial coherence, and aesthetic appeal have been identified as key contributors to urban restorative experiences (Nasar, 1994; Seresinhe et al., 2015). However, little is known about how specific physical characteristics of urban forms, such as street patterns or building layouts, contribute to these experiences. We address this gap by investigating the relationship between these physical characteristics and the perceived restoration of urban spaces, to understand how the urban structure affects psychological responses. More specifically, first, the Urban Morphometric approach (UMM) (Fleischmann et al., 2022) was used to comprehensively describe the urban form of 3 UK cities, through a set of 74 morphological descriptors. Second, these descriptors were analysed in relation to psychological measurements derived from the exp-EIA method (Rainisio et al., 2024), including restoration. A total of 201 survey points, consisting of panoramic street views, representative of the different urban fabrics of the 3 cities were selected. Preliminary results, from 2,206 evaluations by 182 participants, show that fine-grained, dense urban fabrics characterised by low street canyons with varying widths and buildings with several, large courtyards tend to be positively associated with restoration scores. The implications for urban policies will be discussed.

Keywords: restoration, morphology, urban design, urban morphometrics, well-being

**ID-1246: BEHAVIOURAL APPROACH TO NATURE-BASED GOVERNANCE: THE POTENTIAL OF ECOPOLY**

Tatiana Kluvankova[4] , Simo Sarkki[1], Martin Spacek[2], Jiri Louda[2], Oriana Mosca[3], Dominik Horvath[4], Tomas Szabo[4], Ferdinando Fornara[3], Silvana Mula[3], Juha Hiedanpää[5],

*[1]University of Oulu, Finland; University of Erfurt, Germany, Oulu, Erfurt, Finland, [2]CETIP Network and University of J. E. Purkyne, Usti nad Labem, Czech Republic, Bratislava, Slovakia, [3]Department of Education, Psychology, Philosophy, University of Cagliari, Cagliari, Italy, [4]SlovakGlobe, Slovak Academy of Sciences and CETIP network Bratislava, Bratislava, Slovakia, [5]Natural Resources Institute Finland (Luke), Helsinki, Finland*

Nature Based Governances emerging concept embodied in co-creation of Nature Based Solutions perceive holistic perception that acknowledges the intrinsic and relational values of nature, aiming to align human activities with ecological systems for sustainable development and long-term well-being. It concerns action arena including sentient beings, institutions, and biophysical environments. While actors play crucial parts in co-producing ecosystem services vital for human well-being, the perspective of natural non-human actors has been sufficiently recognized. Institutional reconfigurations must depart from the anthropocentric vision of society towards the recognition of the contingent eco-social nature of multispecies society adressing transformative change. In this study, we demonstrate the use of a behavioural approach to reconfigure nature-based governance. Following the development of agent-based modeling and common pool resource games, Ecopoly is a semi-digital decision model with nature-

based governance arena and multispecies agencies that are to interact to coevolve human and non-human behaviour leading potentially to social learning in collective gaming situations. The game is being applied to the context of 7 experimental cases (Living Labs), played by 12 human actors in each case to simulate different governance situations which include the co-evolution of values, beliefs, interests of people, environment, and natural non-humans as governance agencies. Analysis of game trends, reconfiguration outcomes, and a post-survey measuring motivations are presented from Cagliari (Italy), Beskydy (Cz-Sk), and Turku (Finland) Living Labs. These indicate the importance of habits, biophysical dynamics, self-governance, and multispecies democracy as variables of reconfiguration towards transformative change to sustainable and just nature-based solutions.

Keywords: nature-based governance, nature-based solutions, ecopoly, agent-based modeling, behavioral approach

**ID-1247: MIXED METHOD APPROACH TO UNDERSTAND NON-HUMAN PERSPECTIVES AND LIVED EXPERIENCE FOR NBS CO-CREATION**

Himansu Mishra[6] , Timo Maran[1], Lona Päll[1], Misa Tuomala[2], Kia Andell[2], Carsten Herrmann-Pillath[3], Simo Sarkki[4], Tatiana Kluvankova[5], Juha Hiedanpää[6]

*[1]University of Tartu, Tartu, Estonia, [2]University of Turku, Turku, Finland, [3]University of Erfurt, Erfurt, Germany, [4]University of Oulu, Finland; University of Erfurt, Germany, Oulu, Erfurt, Finland, [5]SlovakGlobe, Slovak Academy of Sciences and CETIP network Bratislava, Bratislava, Slovakia, [6]Natural Resources Institute Finland (Luke), Helsinki, Finland*

In the COEVOLVERS project, living labs are used as real-world environments to co-design and implement nature-based solutions (NBS) through a co-evolutionary, actor-driven approach. This method addresses interconnected socio-ecological and political challenges by integrating human-designed artefacts with biospheric processes. Termed co-creative niche construction (Herrmann-Pillath et al., 2023), this approach highlights the need to understand the daily experiences of human and non-human actors, applying tools and methods to generate local knowledge and lived insights. In Pansio-Perno, Turku, Finland, a post-industrial urban landscape facing green space loss due to urban densification, the living lab reimagines NBS as principles for social and ecological relief. It focuses on repurposing green spaces and urban biodiversity recovery to benefit the social, cultural, and experiential needs of current and future human and non-human residents. By including non-human perspectives, this approach promotes multispecies practices, challenging traditional decision-making to foster greater inclusivity. The research applies a novel digital citizen science app and arts-based storytelling methods, and an expert umwelt walk to explore intertwined human and non-human perspectives, alongside systematic behaviour observation and mapping to understand the social use of green and blue spaces and what we call coevolutionary potential. This multi-method approach captures the interconnectedness of species and space, informing the co-creation of NBS tailored to local contexts. The findings will guide visioning and development in the co-creation process, with targeted socio-ecological and governance impacts expected to enhance human and non-human flourishing, reinforcing the potential for truly inclusive and sustainable urban environments.

Keywords: nature-based solutions, non-humans, co-creation, mixed methods, umwelt

**17-06-2025 | 14:00 - 15:15**

**S-072**: **Panel Discussion: Beyond Business-as-Usual: What is the role of environmental psychology in the face of the climate crisis?**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Forest Room*

Discussant: Maien Sachisthal, University of Amsterdam, Amsterdam, Netherlands.
Discussant: Disa Sauter, University of Amsterdam, Amsterdam, Netherlands.
Discussant: Laura Stalenhoef, Institute of Psychology, Hildesheim, Germany.
Panelist: Lorraine Whitmarsh, Department of Psychology, University of Bath, Bath, United Kingdom.
Panelist: Anandita Sabherwal, Princeton University, Andlinger Center for Energy and the Environment, Princeton, United States.
Panelist: Anna Castiglione, Department of Psychology and Cognitive Science, Trento, Italy.

**17-06-2025 | 14:00 - 15:15**

**S-073**: **Neuro & physiological responses to restorative environments**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Dawn Room*

Chair (IS): Sonja Sudimac, Max Planck Institute for Human Development, Berlin, Germany.

**ID-747: A WALKING ELECTROENCEPHALOGRAPHY STUDY OF ATTENTION RESTORATION IN URBAN AND NATURAL CITY ENVIRONMENTS**

Jason S Chan[1], Joy Hurley [1], Franziska Friemel [2], Annalisa Setti [1]

[1]*University College Cork, School of Applied Psychology*, *Cork*, *Ireland*, [2]*Friedrich-Alexander University, Psychology*, *Erlangen*, *Germany*

Exposure to natural environments can enhance mood, cognition and confer overall psychological benefits, as well as physical benefits. Between cognitively demanding tasks, such as the Attentional Network Task (Fan et a. 2002), exposure to natural environments 'restored' cognition and improved participant performance (Berto, 2005; c.f. Cassarino et al. 2019). This is contrary to when participants were exposed to urban environments. There has been very little research into the neural mechanisms associated with walking in natural or urban environments. In this study, participants performed the Attentional Network Task before and after walking in either a green or urban environment. Throughout the study, participants' brain activity was monitored using an Emotiv 32-channel Flex EEG system. After conducting a series of time-frequency analyses, we found that there was higher theta and alpha power during the green walk compared to the urban walk. These frequency bands have been associated with cognitive restoration (Bollimunta et al 2011). Conversely, there was increased gamma-band activity while

participants walked in the urban environment. We also found increased theta activity during the ANT, after the green walk. Conversely, we found decreased beta-band activity during the ANT after the urban walk. These data provide neurological evidence of mechanisms for which natural environments can improve cognitive performance.

Keywords: mobile EEG, walking, attention, restoration

**ID-635: FORESTS BUT NOT THEIR DIVERSITY MODULATE SHORT-TERM MENTAL WELL-BEING - A COMBINED QUESTIONNAIRE, BEHAVIOURAL AND EEG STUDY.**

Kevin Rozario[1; 2; 3], Dagmar Mueller [4], Paul Steinfath [5], Erich Schröger [4], Simone Grassini [6], Urte Roeber [4], Melissa Marselle [7], Rachel Oh [2], Kris Verheyen [8], Bogdan Jaroszewicz [9]

*[1]Friedrich-Schiller-University , Jena, Germany, [2]Helmholtz Centre for Environmental Research UFZ, Leipzig, Germany, [3]German Centre for integrative Biodiversity Research, Leipzig, Germany, [4]University of Leipzig, Leipzig, Germany, [5]Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, [6]Bergen University, Bergen, Norway, [7]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [8]Ghent University, Gent, Belgium, [9]University of Warsaw, Warsaw, Poland*

Studies highlight the positive effects of forest visits for mental wellbeing, yet little is known about the role of forest diversity. Further, more insights are needed regarding the dose of forest exposure that is required to benefit wellbeing and what dose applies for indirect forest exposure via photographs. We therefore tested 52 participants between 18 and 35 years of age in a laboratory setting. Participants underwent four experimental conditions whereby 10-minute presentations of photographs showing low vs. high forest diversity were compared to presentations of control photographs showing phase-scrambled versions of the original photosets (low-scrambled and a high-scrambled condition). Subjective questionnaires were applied before and after each condition to test changes in mental wellbeing, perceived stress and perceived attention. After each condition, a 3-tone auditory oddball paradigm was employed to obtain a behavioural measure of attention. Continuous EEG recordings allowed for measuring neurophysiological correlates of stress (alpha, theta) and attention (ERPs). At the end of the experiment, we further asked participants to rate the photos according to perceived diversity. While no diversity effects were found looking at forests opposed to the phase scrambled control photos resulted in better mental wellbeing, perceived stress and perceived attention. We also found a significant increase in the theta frequency band that is associated with meditation like states. No effects were found for ERPs and behavioural attention. Forests serve as important public health measure even if only accessible indirectly, via photographs. We therefore recommend to foster indirect forest exposure in times of increased rural-urban migrations.

**ID-677: COMPARING PSYCHOLOGICAL AND PHYSIOLOGICAL RESPONSES TO RESTORATIVE ENVIRONMENTS: ACTIVE AND PASSIVE EXPOSURE**

Luca Laezza[1; 2], Martina Vacondio [1], Alessandro Fornasiero [3; 4], Barbara Pellegrini [3; 4], Stefano De Dominicis [2], Margherita Pasini [1], Margherita Brondino [1]

[1]*Department of Human Sciences, University of Verona, Verona, Italy,* [2]*Department of Nutrition, Exercise and Sports, University of Copenhagen, Copenhagen, Denmark,* [3]*Department of Engineering for Innovative Medicine, University of Verona, Verona, Italy,* [4]*Sport, Mountains and Health Research Centre (Ce.Ri.S.M.), Rovereto, Italy*

Urbanization has limited access to restorative environments (RE), highlighting the need to understand their effects on well-being. This study compares psychological and physiological responses to environments assessed for their perceived restorativeness (PRS) during active engagement (green exercise, GE) and passive exposure (natural and urban scenes). In the first study, 25 healthy males (M = 26.3, SD = 4.3) completed 1-hour light-to-moderate walking sessions in natural, urban, and indoor settings (randomised crossover). Psychological outcomes included restoration (ROS), emotions, enjoyment, and perceived exertion, while physiological markers (HR, HRV, salivary cortisol) were measured pre- and post-exercise. Natural environments yielded higher restoration, positive emotions (PE), lower anxiety, higher relaxation and enjoyment of the activity, with physiological data indicating better recovery. In the second study, 23 participants (M = 25.4, SD = 3.7) rested under normoxia or hypoxia while viewing natural or urban scenes for 10 minutes. Emotional states were assessed before and after exposure, with continuous monitoring of physiological responses. Hypoxia increased anxiety and reduced PE, but natural imagery improved PE. PRS significantly predicted lower anxiety and enhanced PE across conditions. These findings emphasize the complementary benefits of active and passive RE exposure. Active engagement in RE (GE) provides robust psychological and physiological advantages compared to other environments, while passive exposure to natural scenes reduces stress and enhances PE compared to urban scenes, even under challenging conditions. Together, these results underscore the versatility of REs as resources for mental health and recovery.

Keywords: green exercise, psychological restoration, physiological recovery, perceived restorativeness, crossover study

**ID-697: THE BRAIN IN NATURE: EFFECTS OF WALKING IN A FOREST, GRASSLAND, AND BY A LAKE**

Sonja Sudimac[1], Simone Kühn[1]

[1]*Max Planck Institute for Human Development, Berlin, Germany*

It is well established that exposure to nature enhances mental health, reduces stress, and decreases stress-related brain activity. Additionally, previous studies suggest that blue nature (coasts, lakes) may be more effective in enhancing mental health than green nature (forests, grasslands). However, no study to date has explored the causal effects of different types of natural environments on stress and associated brain activity. To address this gap, we conducted an fMRI intervention study to examine changes in stress, mood, and underlying neural activity following a one-hour walk in three distinct natural settings. In this study, 99 participants were randomly assigned to take a one-hour walk to one of three natural environments in Berlin: a forest (enclosed green space), grassland (open green space), or a lake (blue space). Stress-related brain activity and self-reported stress and mood were measured before and after the walk. While analyses of brain activity are still underway, our preliminary results revealed significant decreases in self-reported stress and arousal, as well as improvements in mood valence after walking in all three natural environments. However, there were no differences between the three environments on any of these measures. These findings suggest that a one-hour walk in nature, regardless of the specific

type of nature, can benefit mood and reduce stress, highlighting the potential of accessible natural environments as valuable resources for supporting mental health.

Keywords: brain, nature, green spaces, blue spaces, stress

**17-06-2025 | 14:00 - 15:15**

**S-095**: **Environmental issues & mental health**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Sun Room*

Chair (IS): Christian Palacios Haugestad, University Of Oslo / Department of Psychology, Oslo, Norway

### ID-517: PLACE ATTACHMENT, ECO ANXIETY, AND PSYCHOLOGICAL WELL-BEING AS PREDICTORS OF PRO-ENVIRONMENTAL BEHAVIOUR AMONG INDIAN YOUNG ADULTS

Shefali Mishra[1], Khushi Agarwal [2], Rakib Hussain [1], Oindri Mukhopadhaya [1], Keyur Sharma [1], Naisha Verma [1]

*[1]Department of Psychology, CHRIST (Deemed to be University), Delhi NCR, India, [2]Psychology, Delhi NCR, India*

The increase in urbanisation and industrialisation has led to an escalating environmental crisis. These pressing concerns have created a need to understand the psychological and emotional factors that drive pro-environmental behaviours, which are crucial for promoting sustainability and preventing further environmental degradation. The current study wants to investigate the relationship between place attachment, eco-anxiety, psychological well-being and pro-environmental behaviour among young adults. Additionally, the study also seeks to examine the extent to which place attachment, eco-anxiety, and psychological well-being predict pro-environmental behaviour. The sample will consist of 200 young adults aged 18 to 25 years, from Delhi NCR Region (India) using purposive sampling. The following scales will be employed by the study for data collection: Hoggs Eco-Anxiety Scale, Place Attachment Inventory, Pro-Environmental Behavior Scale and Mental Health Inventory-38. Pearson product-moment correlation and Multiple regression will be used to elucidate the collected data. Results will be presented and discussed in the conference in light of eminent research as this is an ongoing study. This study's aim is to make a pivotal contribution to existing literature and aid in the development of targeted interventions and support systems that cater to the present environmental concerns, ultimately promoting pro-environmental behaviour among young adults.

Keywords: place attachment, eco-anxiety, psychological wellbeing

### ID-618: LONGITUDINAL RELATIONSHIPS BETWEEN ECO-EMOTIONS AND PRO-ENVIRONMENTAL BEHAVIORS AMONG YOUNG PEOPLE

Zoé Davreux[1], Benoît Galand [1]

[1]*Université catholique de Louvain*, *Louvain-La-Neuve*, *Belgium*

One goal of Environmental Education (EE) is to promote pro-environmental behaviors (PEBs), which helps mitigate climate change (Stevenson, 2007). However, few studies investigate its impacts on PEBs and existing results suggests small effects (Van De Wetering et al., 2022). Eco-emotions could be a lever (Lundholm, 2019) but it's understanding is limited. First, actual literature lacks studies measuring joint effects of several emotions on different PEBs. Second, most studies are cross-sectional. Therefore, it is unkown whether eco-emotions influence PEBs, PEBs impacts eco-emotions or if they have reciprocal effects. This research investigates specificity and directions of the relations between several eco-emotions and dimensions of PEBs of young people. Graduated students from different study fields were invited to participate to an online survey during one of their courses. Eco-emotions are measured with 19 items (ex.: angry, sad, optimistic…) and dimensions of PEBs through 35 items on a large variety of behaviors from private and public sphere (mobility, food, activism, social behaviors…). This survey includes three measurement points separated by intervals of several months. The first phase was completed by 1,333 participants in September-October 2024. 565 participants that agreed to be recontacted by email will be invited to participate to the second phase in February 2025. The third phase will occur in May. Analyses based on cross-lagged panel models with random intercept will be performed to test the longitudinal relationships between eco-emotions and PEBs.

Keywords: environmental education, youth, pro-environmental behaviors, eco-emotions, climate change

## ID-532: PERCEPTION OF POLITICAL ACTORS, CLIMATE EMOTIONS, AND PRO-ENVIRONMENTAL BEHAVIORS: THEMATIC AND LEXICOMETRIC EXPLORATION AMONG YOUNG ADULTS IN FRANCE

Arnaud Sapin[1], Valisoa Bujard [1], Susan Clayton [2], Anais Ameline [1], Ghozlane Fleury-Bahi [1]

[1]*Nantes Université - Laboratoire de Psychologie des Pays de la Loire*, *Nantes*, *France*, [2]*College of Wooster - Whitmore-Williams Chair of Psychology*, *Wooster*, *United States*

**Introduction**: Recent studies have highlighted the intense emotional experiences related to climate change, notably in terms of climate anxiety. While the literature on the determinants of pro-environmental behaviors is very dense, the relationship between climate emotions and pro-environmental behaviors remains unclear: are they obstacles or drivers? **Goals & Objectives**: This study aims to qualitatively explore young adults' perspectives on climate change and to identify how climate emotions drive (or do not drive) pro-environmental actions. It also seeks to better understand the perceptions that provoke different climate emotions, focusing specifically on young people's views of various political and economic actors (public institutions, private actors, NGO, media). **Materials & Methods**: This research is a qualitative study conducted through semi-structured interviews. Thirty young French adults aged 18 to 29 were interviewed between February and April 2024. The interview corpus was analyzed using Reflexive Thematic Analysis (Braun & Clarke, 2020) and Lexicometric Analysis (Ratinaud & Pélissier, 2017). **Results**: Diverse emotions were associated with different political actors, with substantial differences between actors. Anger is thus essentially directed at institutions and "other people", whereas hope is associated with NGOs and anxiety to the media. The study also found that emotions drive action for two-thirds of participants, with positive emotions (hope, joy) predominating over negative emotions (anxiety, anger). **Conclusions**: This study highlights how the perception of different political actors helps to better

understand individuals' climate emotions. It also shows that positive emotions are a more significant driver of action than negative emotions among this sample.

Keywords: climate emotions, pro-environmental behaviors, climate activism, political attitude, qualitative study

**ID-780: POLITICIZATION OF CLIMATE ANXIETY IN MEDIA DISCOURSES IN NORWAY**

Christian Andres Palacios Haugestad[1], Erik Carlquist [1], Ole Jacob Madsen [2], Kimberly Nicholas [3]

*[1]University Of Oslo / Department of Psychology*, *Oslo*, *Norway*, *[2]Univeristy of Oslo / Department of Psychology*, *Oslo*, *Norway*, *[3]Lund University / Lund University Center for Sustainability Studies*, *Lund*, *Sweden*

**Introduction:** Climate anxiety has become a widely discussed topic amidst the global ecological crisis. **Goals & Objectives:** This study examines how media portrayals of climate anxiety in Norway contribute to the politicization of environmental issues and may shape people's understanding of their possibilities for agency. **Materials & Methods:** We analyze how Norwegian news media and social media comments construct climate anxiety to understand the implications of these discourses for societal engagement. Using critical discourse analysis, we investigated 131 articles from Norwegian news outlets and related social media comments from 2017 to 2024. The analysis emphasizes how emotions related to climate change are discursively constructed and discusses their political implications. **Results:** Findings indicate that media portrayals of climate anxiety often alternate between normalization and pathologization, offering different ways for people to make meaning of these emotions. Key subject positions, such as 'anxious youths', 'rational scientists', and 'concerned adults' are constructed, highlighting generational and professional differences in interpreting and responding to climate worries. While some discourses criticize sensationalist portrayals for instilling fear in 'vulnerable children', others leverage youths' emotional reactions to advocate for political action. **Conclusions:** Drawing on the notion of ideological dilemmas, we discuss how these varied constructions can lead to division and inaction, and the extent to which balanced reporting might foster awareness and collective engagement. The framing of climate anxiety in media discourses constructs various subject positions and ideological dilemmas, reinforcing power dynamics which reify divides between 'rational' and 'irrational' responses, thereby reproducing discourses of delay shaping public (dis)engagement.

Keywords: climate anxiety, media discourses, politicization, discourses of delay, critical discourse analysis

**17-06-2025 | 15:15 - 15:30**

**Relocation Break**

*Campus Courtyard*

**17-06-2025 | 15:30 - 16:45**

**S-039**: **Collective action for systemic change: Pathways, dynamics, and impacts**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Lilla Gurtner, University of Bern, Centre for Development and Environment, Bern, Switzerland.

## ID-1221: COMMONS AS COLLECTIVE ACTION: EXPLAINING COOPERATION IN COMMONS THROUGH A SOCIAL PSYCHOLOGICAL PERSPECTIVE

Sabina Pedrazzini[1], Vincent Aggrey [1], Lilla M Gurtner [1], Stephanie Moser [1]

[1]*Centre for Development and Environment, University of Bern*, *Bern*, *Switzerland*

Today, humanity faces multiple social and environmental crises that have arguably been caused by mainstream modes of economic organization. Against this background, commons represent a promising, viable alternative that enables people to self-organize to satisfy their needs in a more sustainable way. However, for commons to be successful, their members must cooperate. In this paper, we consider cooperation in commons to be a specific form of collective action. Our main goal is to test if the predictors of the Dual Chamber Model of Collective Action (Agostini & Van Zomeren, 2021) – namely social identity, morality, perceived injustice and collective efficacy – successfully predict cooperation in commons. To this aim, we designed an online survey, and we sent it to the residents of several housing cooperatives (i.e. commons) in Switzerland. In this survey, we measured the four predictors of the Dual Chamber Model of Collective Action, as well as residents' level of cooperation with their neighbours. Participants also had to indicate to what extend they thought that housing cooperatives could have an impact on Swiss society. The analyses of the collected data will allow us to determine if cooperation in commons can be explained with the classical predictors of collective action. Our results will have important implications because they could show that collective actions can also be performed in a more private context such as a commons.

Keywords: collective action, cooperation, sustainable resource management

## ID-1222: CIRCULAR CITIZENSHIP BEHAVIOURS TO PROMOTE SYSTEMIC CHANGE: INFLUENCES OF VALUES, BELIEFS, AND NORMS

Isabel M Pacheco[1], Ellen Van der Werff [1], Linda Steg [1]

[1]*Faculty of Behavioural and Social Sciences, University of Groningen*, *Groningen*, *Netherlands*

Environmental problems arise from human behaviour and could be alleviated if people engaged more consistently in circular behaviour. Yet, current systems oftentimes inhibit sustainable behaviours. Thus, systemic changes are needed too. Citizens, too, can engage in behaviours promoting systemic change. In the presented study we utilised the Systemic Change through Citizen Action (SCCA) framework that introduces circular citizenship behaviours. Circular citizenship behaviours reflect actions that citizens can take to influence other citizens, governments, and businesses to support a circular economy. A key question was how widely people already engage in these actions and which factors explain the likelihood

that people engage in these behaviours aimed at promoting systemic change. Specifically, we investigated to what extent values, beliefs, norms, and personal agency are related to engagement in circular citizenship behaviours. We conducted a questionnaire study among nationally representative samples in five European countries. The results indicate that values, beliefs, norms, and personal agency explain engagement in circular citizenship behaviours well. Our research provides novel insights into circular citizenship behaviours and on factors influencing these behaviours, enriching theory as well as delivering practical implications for interventions to increase circular citizenship behaviours.

Keywords: value belief norm theory, systemic change, citizen action, citizenship behaviors, circular economy

**ID-1223: THE ROLE OF EFFICACY BELIEFS AND SOCIAL OBLIGATION IN REAL-WORLD COLLECTIVE ACTION ON THE CLIMATE CRISIS**

Pauline Brouër[1], Maxwell Lyons[1], Julianne Luong[2], Ava Gabrenya[3], Tiffany Nguyen[2], Tal Waltzer[2], Adam R Aron[2]

*[1]University of California, San Diego, San Diego, United States, [2]University of California, San Diego; Department of Psychology, San Diego, United States, [3]University of California, Santa Cruz; Department of Psychology, Santa Cruz, United States*

Collective climate action is more critical now than ever, but we lack empirical knowledge on how people decide to engage in real contexts and few people feel they have the skills to do so. To address these gaps, we developed a 7-week longitudinal intervention study (*N* = 34) and refined and replicated it in a second study (*N* = 45) in which participants learned and applied the skills of collective organizing. Across both studies, we found that a) participants' self- and collective efficacy significantly increased over time, b) the training bolstered engagement in real-world collective action, and c) even 6 months after the training ended, several participants' engagement remained high or increased. Surprisingly, changes in self- and collective efficacy did not relate to the level of real-world action, but social obligation (e.g., feeling that others depend on you) did relate to the actions participants took across both studies. Our results provide insight into why people do and do not join real-world collective action and demonstrate the effectiveness of a new training method in generating objectively verified collective action.

Keywords: collective action, efficacy beliefs, social norms, intervention

**ID-1224: BECOMING CLIMATE ACTIVISTS: A QUALITATIVE EXPLORATION OF MOVEMENT PARTICIPATION**

Anna Sach[1], Disa Sauter [1], Nils Jostmann [1], Cameron Brick [1]

*[1]Social Psychology, University of Amsterdam, Amsterdam, Amsterdam, Netherlands*

Achieving radical transformations towards a liveable planet requires collective action. Worldwide, activists are mobilising to address the climate crisis and environmental destruction. Climate marches attracted large numbers of newcomers in the past years, but climate organisers report difficulties to retain and

integrate new motivated individuals. Little research has focused on the phase when new individuals reach out to climate movements, and what emotions and social dynamics define this initial experience. In co-creation with activist organisers we aimed to explore the social and emotional processes of individuals joining a climate movement. We conducted 23 in-depth interviews about the experience of joining Extinction Rebellion (XR) United Kingdom, XR Netherlands and the International Climate Student Movement with a follow up after five months. Using an inductive codebook thematic analysis, we identified three stages with their respective processes, socialization tactics, and barriers on the individual, social, and organisational level. The first phase is getting in contact with the movement, often building on individuals previous experience and a strong motivation to contribute. The integration phase in the group consists of two interwoven processes of becoming active and becoming socially integrated. Eventually in the final phase, feeling efficacy and positive within the movement, and accommodating difference keep activists engaged. We discuss these findings synthesising environmental psychology on motivators of collective climate action, organizational psychology on group socialization, and social movement literature on participation trajectories. Based on our identified phases, we suggest practical recommendations on how to build broad, welcoming, and persistent movements.

Keywords: qualitative interviews, climate movements, socialization, newcomers, collective climate action

**ID-1225: ARE COMMONERS HAPPIER? ANALYSIS OF THE IMPACT OF COLLECTIVE SUSTAINABLE PRACTICES ON INDIVIDUAL WELLBEING**

Vincent Aggrey[1], Sabina Pedrazzini [1], Lilla Gurtner [1], Stephanie Moser [1]

[1]*Centre for Development and Environment, University of Bern*, *Bern*, *Switzerland*

The over-exploitation of natural resources and environmental pollution drive the call for sustainable, and specifically sufficiency-oriented living practices and provisioning of needs, promoting voluntary simplicity and collective organization of sustainable consumption. These debates are often framed as relinquishment that might negatively impact well-being. Existing literature presents mixed findings, with evidence suggesting that simplifying behaviours enhances happiness, while activism may even negatively affect psychological well-being. In addition, the overwhelming majority of related studies are conducted in the Global North, while global calls for “voluntary simplicity” and “sufficiency-oriented consumption” might take on a distinct meaning in countries of the Global South. Our study examines how commoning, i.e. collective self-organization around a resource, impacts individual well-being in the Global South. We investigate whether commoning in Ghana can foster subjective well-being. We conducted a face-to-face survey using validated scales on Subjective well-being, psychological well-being Health, and Physical Health together with questions about collective engagement derived from the SIMCA model of collective action. We gathered responses from 1317 commoners and non-commoners across various cities in Ghana between April and May 2024. Our analyses show the relationship between commoning, i.e. collective engagement around a local resource, and individual well-being. The study results contribute to understanding collective organization as a pathway to societal progress and individual well-being.

Keywords: collective action, quality of life, collective engagement, sufficiency, provisioning of needs

**17-06-2025 | 15:30 - 16:45**

**S-041**: **Cultures of (car-centered-) mobility: Drivers and barriers for sustainable mobility behaviors and policy acceptance**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Transportation, mobility and travel behaviour)

*Valley Room*

Chair: Josephine Tröger, Fraunhofer Institute for Systems and Innovation Research ISI, Karlsruhe, Germany.

**ID-1258: TRANSPORT POLICY SUPPORT AND WILLINGNESS TO CHANGE MOBILITY BEHAVIOURS**

Cecilia Bergstad[1]

[1]*University of Gothenburg, Göteborg, Sweden*

In light of the global need to reduce $CO_2$ emissions from transport the objective was to describe levels and differences among citizens regarding policy support, willingness and intentions to change transport related behaviours. A web survey administered by CAST which was distributed to random selected Swedish, UK, Chinese and Brazilian citizens in 2020, 2021, 2022 and 2023. About 1000 responses were obtained for each year and group (in total about 16000 respondents). The results showed a lower policy support among the citizens in Sweden and the UK, while it is higher in China and highest in Brazil (on average about 65 %). The support have declined slightly over the years (2020-2023). In Sweden, the 2023 data show that the age group 35-44 years had the most supporters (47%) and 65+ the fewest (39%). More women (47%) supported the policies than men (40%). The support was lower in rural areas (38%) compared to urban areas (45%). Low income groups supported slightly less (44%) compared to high income groups (46%). Comparing political orientation there were larger differences "the left" had the strongest support (57%), "the centre" 42% and "the right" the weakest (36%). Finally those who worry more about climate change also supported the policies more (57% very worried vs 22% not worried). Regarding behaviour change, the percetage stated they are fairly or very willing to buy an electric car were 31%, to reduce car travel, 32%, to reduce air-travel, 34% and walk, cycle or use public transport more, 56%.

Keywords: transport policy support, behaviour intentions, sustainable mobility, willingness to change

**ID-1259: SUPPORT OF SUFFICIENCY POLICIES: WHAT PREDICTS SUPPORT FOR A PUBLIC TRANSPORT SUBSIDY IN INDIAN MEGACITIES?**

Sabine Preuß[1], Hannah Janßen [1], Elisabeth Dütschke [1]

[1]*Fraunhofer Institute for Systems and Innovations Research ISI, Karlsruhe, Germany*

The carbon footprint based on transportation differs between countries, between the global north and the global south, between urban and rural areas and between various social groups. The same may apply for the support of sustainable transportation policies. To reduce carbon emissions and simultaneously contribute to societal wellbeing, sufficiency policies and their support are key. Especially in areas with high

carbon footprints regarding transportation, a shift to sustainable transport is necessary and may be enhanced by related policies. To identify avenues for sustainable change, we aim to look into predictors of transportation policy support in India. Based on survey data from 1000 participants from Delhi and Mumbai, we analyze the antecedents of support for a sufficiency policy, namely the support of a public transport subsidy, in Indian megacities. We performed regression analyses with socio-demographic, carbon footprint, energy poverty and transportation variables as predictors for policy support of reduced prices for public transport. Results show differences between the cities. Gender effects and comparisons with the support of other sufficiency policies (like a carbon tax on food) may be discussed.

Keywords: global south, public transport, sufficiency policy, megacity, carbon footprint

**ID-1260: SOCIAL ACCEPTANCE FACTORS FOR MOBILITY-RELATED POLICY PACKAGES**

Marvin Helferich[1; 2], Josephine Tröger [1]

*[1]Fraunhofer Institute for Systems and Innovation Research ISI*, *Karlsruhe*, *Germany*, *[2]RPTU University of Kaiserslautern-Landau*, *Landau*, *Germany*

The transport sector accounts for 22% of German greenhouse gas (GHG) emissions and struggles to reduce these emissions. Therefore, it is important that policies be designed to promote climate neutrality. Incentivizing measures, like financial bonus programs, are well accepted but have limited potential for long-term behavior change. Restrictive measures, such as carbon taxing, tend to be more effective at reducing GHG emissions but face lower public acceptance. Research suggests combining incentive and restrictive measures in policy packages to enhance acceptance. This study aimed to understand the key factors influencing social acceptance of various policy packages. We developed three different mobility-related policy packages and tested the (indirect) effects of package properties, political and ideological views, structural and socio-demographic variables on package acceptance using path models. Additionally, we examined whether a social norm framing message could increase acceptance of a package combining incentive and restrictive measures. We surveyed 2,275 Germans between November 2023 and January 2024. The patterns of association between independent and dependent variables varied across the four policy packages. Perceived efficiency was most important for the incentive package, while perceived fairness was crucial for the restrictive package. For the combined package, perceived consistency was key, and environmental concern was significant for the combined package with the framing message. However, the framing message alone did not influence acceptance of the combined package. We discuss the implications of these results for the design and communication of mobility-related policy packages.

Keywords: mobility policy, mobility transition, path analysis, framing

**ID-1261: UNDERSTANDING POLITICAL PARTICIPATION THROUGH THE CIVIC VOLUNTARISM MODEL AND EXTENDED THEORY OF PLANNED BEHAVIOR**

Katharina Götting[1]

[1]*Technische Universität Berlin*, *Berlin*, *Germany*

Citizens can express their views on environmental policies, such as the redesign of urban streets, in a number of ways. These include participating in deliberative forums, signing petitions and voicing opinions on social media. However, intentions to participate in political actions result from the interaction of multiple socio-demographic, psychological, and contextual factors. Drawing on the Civic Voluntarism Model (CVM; Verba et al., 1995) and the extended Theory of Planned Behaviour (eTPB; Ajzen, 1991), this study explores these dynamics by integrating concepts from political science and psychology to explain political participation intentions. Using structural equation modelling on a large sample size of 2,532, we examined how the variables from both models interacted. We found strong links between CVM and eTPB constructs. Specifically, eTPB variables — social norms, perceived behavioral control, and attitudes towards political participation — were directly influenced participation intentions. CVM variables provided background context. For instance, involvement in local networks (e.g. sports clubs) was associated with stronger social norms. Resources such as education, income, and male socialization were linked to internal political efficacy, which in turn influenced perceived behavioral control. Political interest had a strong effect on attitudes, internal political efficacy and recruitment networks. Trust in the local government was related to positive and negative emotional responses to the policy. However, only negative affect was directly associate with intentions to participate in politics; positive affect had no significant effect. This study provides empirical and theoretical insights into how integrated frameworks can empower citizens during urban environmental transitions.

Keywords: transformation, street reallocation, theory of social representations, polarization

**ID-1262: FROM CARS TO SHARED CARGO BIKES? EXPLORING PSYCHOLOGICAL AND SOCIO-CULTURAL DRIVERS IN FOUR EUROPEAN CITIES**

Josephine Tröger[1], Marvin Helferich [1; 2]

[1]*Fraunhofer Institute for Systems and Innovation Research ISI*, *Karlsruhe*, *Germany*, [2]*RPTU University of Kaiserslautern-Landau*, *Landau*, *Germany*

Cargo-bike sharing represents a mobility innovation that offers a sustainable alternative to urban transport, gaining increasing relevance in the context of the 15-minute city concept. Cities across Europe are integrating cargo-bike sharing systems into their strategies to reduce emissions, improve air quality, and enhance urban well-being, aligning with both global and local sustainability goals. However, knowledge remains limited regarding the potential adopter groups and the factors that drive or inhibit the use of cargo-bike sharing systems. This study aims to identify key drivers of adoption across different societal groups and explore socio-cultural factors influencing acceptance in cities with diverse infrastructural characteristics. To achieve this, we conducted a cross-national survey focusing primarily on non-users in cities participating in the Car-goNE-City project: Karlsruhe (Germany), Gothenburg (Sweden), Oslo (Norway), and Budapest (Hungary). Recruitment was managed by market research institutes, resulting in a balanced sample of 2,300 participants with respect to gender, income, and age. Preliminary results indicate higher general intentions to adopt cargo-bike sharing and lower perceived barriers in Karlsruhe (Germany), despite participants expressing stronger transport identities as car-drivers compared to respondents in the other cities. Our findings emphasize the importance of perceived

compatibility, attitudes (e.g., sufficiency orientation), social norms, and infrastructural factors (e.g., availability) in shaping adoption intentions for shared cargo bikes. Based on these results, we discuss practical implications for promoting cargo-bike sharing systems in urban areas, considering cultural and infrastructural variations across European cities.

Keywords: mobility, sufficiency orientation, sharing, behavioral intentions

**17-06-2025 | 15:30 - 16:45**

**S-040**: **Nature and well-being: Measurement, mechanisms, and modern contexts (IAPS REN Part II)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Lewis Elliott, University of Exeter, Penryn, Cornwall, United Kingdom.
Co-Chair: Anna Bornioli, ISGlobal, Barcelona, Spain.

**ID-1080: THE IMPACT OF A DOSE OF NATURE ON MENTAL HEALTH**

Kate Laffan[1], Christian Krekel [1]

[1]*London School of Economics*, *London*, *United Kingdom*

Dose of Nature is a charitable organisation that delivers an evidence-based green social prescribing programme in London. Participants are referred to the programme via GP services having been identified as having poor mental health. The programme involves two meetings with a clinical psychologist and weekly one-on-one nature visits with a volunteer nature guide over the course of the 8 weeks. In partnership with the charity, we present a robust programme evaluation based on a randomised waitlist design focusing on the primary outcomes relating to wellbeing and mental health as well as secondary outcomes assessing nature connection and pro- environmental attitudes and behaviours.

Keywords: green social prescribing, mental health, pro-environmental behaviour, nature connection

**ID-1081: EXPLORING HOW SOCIAL MEDIA CONTEXT IMPACTS THE PSYCHOLOGICAL BENEFITS OF NATURE EXPOSURE**

Dovilė Barauskaitė[1], Jan Willem Bolderdijk[4], Aivaras Vijaikis [2], Florian Lange [3], Yannick Joye [1]

[1]*Center for Economic Expertise, Vilnius University*, *Vilnius*, *Lithuania*, [2]*Mykolas Romeris University*, *Vilnius*, *Lithuania*, [3]*Behavioral Economics and Engineering Research Centre, KU Leuven*, *Leuven*, *Belgium*, [4]*University of Amsterdam*, *Amsterdam*, *Netherlands*

People often post and view nature-related content on social media platforms. For example, the nature hashtag is consistently one of the most used, ranking in the Top 10 among the most used hashtags in 2024 (Top 100 Instagram Hashtags Today, 2024). Literature on environmental psychology, media studies,

and health and well-being research has shown that watching nature-related imagery or videos leads to positive affect and increases well-being (Menzel & Reese, 2022; Pritchard et al., 2020). However, it remains unclear whether these benefits translate to nature content viewed in a social media context, such as Instagram. Prior research on social media use suggests mixed findings with some studies indicating that social media undermines well-being and others suggesting the opposite (Kross et al., 2021; Valkenburg, 2022). In this presentation we will present the results of a study where we experimentally tested how exposure to beautiful (vs. mundane) nature images presented in a social media format (Instagram) versus a neutral format affects enjoyment and life satisfaction. We expect that while participants may enjoy beautiful nature images presented in an Instagram format, they may also experience lower subjective life satisfaction compared to viewing similar content outside of a social media context.

Keywords: nature exposure, social media, subjective life satisfaction

**ID-1082: RESIDENTIAL GREEN SPACE AND AIR POLLUTION IN RELATION TO EMOTIONAL AND METABOLIC HEALTH DURING YOUTH**

Nathalie Michels[1]

[1]*Ghent University*, *Ghent*, *Belgium*

**Background:** Exposure to green environments has gained recognition as a significant factor in promoting both physical and mental well-being. Given the importance of early prevention, further research is needed to understand these effects in children and even during prenatal development. While mental health has been extensively studied in this context, there is limited knowledge about the impact of green environments on metabolic health like appetite and biological aging. Additionally, it is important to disentangle the potential mechanisms of nature's benefits, distinguishing between risk mitigation (e.g., reduced air pollution) and restorative effects (e.g., stress recovery). **Method:** Using data from a Belgian youth cohort (n=534), the European adolescent I.Family study (n=5450), and a Belgian birth cohort (n=341), residential exposure to green (and blue) spaces, as well as air pollution, was calculated based on residential addresses. Health outcomes were assessed through questionnaires and blood analyses (appetite hormones and telomere length). **Results:** Residential green and blue spaces were associated with lower psychosocial stress, independent of air pollution. Additionally, residential green space, but not air pollution, was linked to reduced biological aging in youth, as measured by telomere attrition. Both residential green space and air pollution were associated with appetite hormone levels in youth, while prenatal air pollution exposure—but not green space—was related to appetite hormones in cord blood. As a next step, we will examine the association with dietary intake

Keywords: residential nature, stress, appetite hormone, telomere, children

**ID-1083: TYPES OF NATURE EXPERIENCES AND THEIR IMPACT ON NATURE CONNECTEDNESS**

Seiji Shibata[1]

[1]*Department of Human Psychology, Sagami Women's University*, *Kanagawa*, *Japan*

This study examined the relationships among different types of nature experiences, perceptions of nature, connectedness to nature, and psychological wellbeing among Japanese adults. A web-based survey was conducted with 1,165 participants aged 20-69 years, recruited from a monitor pool of a web-research company. The survey included four main measures: a 22-item nature experience scale, a 20-item scale assessing perceptions of nature using environmental adjectives, and a two-item measure of nature connectedness (rated 0-10) and the World Health Organization-Five Well-Being Index (WHO-5). Canonical correlation analyses revealed significant relationships between nature experiences and nature perceptions. Specifically, sensory experiences and simple nature encounters were positively associated with more positive perceptions of nature, particularly in terms of joy, connectedness, and familiarity. Multiple regression analyses further showed that sensory experiences significantly predicted stronger nature connectedness. In addition, nature-based sports activities were associated with higher levels of well-being. These findings highlight the importance of sensory experiences in nature for both nature connectedness and positive perceptions of nature, and suggest potential ways to promote human-nature relationships through targeted nature-based activities.

Keywords: nature experience, nature connectedness, environmental perception, wellbeing, sensory experience

**ID-1084: DO DIFFERENT WAYS OF MEASURING TIME IN NATURE AFFECT ASSOCIATIONS WITH MENTAL HEALTH?**

Sarena Sabine[1]

[1]*University of Washington, Department of Psychology*, *Seattle*, *United States*

**Introduction:** While a commonly used predictor of mental health, self-reported time spent in nature is measured inconsistently. **Objectives:** Does time in nature's association with mental health change depending on how time in nature is measured? We examine if participant reporting varies by how time in nature questions are asked via a randomized experiment. Note, this experiment is not designed to change participants' actual time in nature. **Materials** & **Methods**: College students in a coastal U.S city with relatively abundant nature (N = 1,968 including partial responses) reported their time in nature in the past week and year. Experimental factors included: seeing a definition of nature or not, writing about recent nature experiences before or after answering the time in nature questions, using one of three different response formats (i.e., Likert, Slider, or Open-ended), and seeing different response bounds for the Likert and Slider scales (e.g., 7 or 20 hour a week maximum). Participants also answered the Depression, Anxiety and Stress Scale. **Results:** Overall, weekly time in nature was negatively associated with depression, but coefficients varied across the combinations of conditions (rs from 0.105 to -0.271). Groups with near-zero and positive associations with depression also exhibited attenuated results with anxiety and stress. **Conclusions:** Time in nature's associations with mental health varied depending on how time in nature was measured. This work begins the process of identifying optimal survey and item characteristics to improve the quality of our science.

Keywords: nature and mental health, time in nature, measurement, experimental design

**17-06-2025 | 15:30 - 16:45**

**S-038**: **Societal perspectives of energy and environmental technology R&D from a social scientific perspective**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Flora Room*

Chair: Christopher Jones, University of Portsmouth, School of Psychology, Sport and Health Sciences, Portsmouth, United Kingdom.

## ID-1085: ATTITUDES TOWARDS NOVEL HYDROGEN ENERGY TECHNOLOGIES IN THE UNITED KINGDOM

Louisa Wood[1], Christopher Jones [1], Mitchell Scovell [2]

[1]*University of Portsmouth*, *Portsmouth*, *United Kingdom*, [2]*CSIRO*, *Brisbane*, *Australia*

**Introduction:** Hydrogen is expected to play an important role in the energy transition, offering a clean alternative to fossil fuels for energy storage. However, without broad societal backing, hydrogen projects may face significant hurdles. Existing research has predominantly concentrated on a limited range of hydrogen energy technologies (HETs); neglecting critical components of the supply chain such as large-scale storage and transport solutions. There has been limited research investigating how (a) people interpret and develop beliefs about HET after being presented with technical information, (b) the extent to which prevailing narratives and discourse shape public perceptions and (c) how information provision and exposure to narratives shape different aspects of risk perception. **Objectives and Methods:** This paper presents the findings from an online information-choice style questionnaire exploring public attitudes towards two less-studied but increasingly relevant HETs: underground hydrogen storage and the use of hydrogen in aviation. The survey was disseminated to a representative sample of the UK lay-public using the online participant panel provider, Prolific. **Results:** Results show that public perceptions of HETs vary depending on the type of technology being considered (e.g. in terms of perceived risks and benefits), with these perceptions affecting levels of support. The study also indicates that the effect of social narratives on attitudes towards HETs is currently limited. **Conclusions:** The findings of this study aim to contribute to a more nuanced understanding of the psychosocial factors underpinning the acceptance of new energy technologies, which can be used to tailor effective communications about an emerging hydrogen industry.

Keywords: public perceptions, technology acceptance, hydrogen, framing

## ID-1086: FEELING THE HEAT: UNDERSTANDING THE SOCIAL ACCEPTANCE OF RESIDENTIAL-SECTOR HEATING DECARBONISATION OPTIONS IN THE UNITED KINGDOM

Valentine Seymour[1], Bruno Cardenas [2], Andrew J Urquhart [3], Daniel L Pottie [3], Joseph K Day [4], Maury Martins De Oliveira Junior [4], Edward Barbour [4], Seamus Garvey [2], Christopher Jones [1]

[1]*University of Portsmouth*, *Portsmouth*, *United Kingdom*, [2]*University of Nottingham*, *Nottingham*, *United Kingdom*, [3]*Loughborough University*, *Loughborough*, *United Kingdom*, [4]*University of Birmingham*, *Birmingham*, *United Kingdom*

**Introduction:** The reliance on natural gas for residential sector heating in the United Kingdom (UK) accounts for a fifth of national greenhouse gas emissions. Phasing out this reliance is important for the UK's 'Net Zero' ambitions. Alternatives to natural gas include the use of hydrogen boilers and electrification using heat pump technologies. The acceptance of these technologies among different societal actors (including publics) will play a significant role in whether and how they are backed, deployed, and used. **Objective & Method:** Interviews were held with 12 stakeholders from the UK's residential heating sector. Questioning focused on the physical and social determinants of the acceptability of hydrogen and heat pumps and compressed air energy storage. The potential to repurpose the gas pipeline network to support the introduction of these options was also considered. **Results:** Interviewees principally considered the relative strengths and drawbacks of hydrogen versus 'standard' heat pumps. The relative acceptability of these options was tied to: (a) the consistency of policy signals from government; (b) the affordability of the technology; and (c) the physical and social make-up of the local development context. The concept of repurposing the gas pipeline network was considered a good idea in principle, but there were concerns over the practicality of doing so. **Conclusion:** The findings of this study can be used to help support evidence-led decision-making about the potential routes to sector decarbonisation and the role that innovative repurposing could play in making this transition more affordable and fairer.

Keywords: social acceptance, residential heating, hydrogen, heat pumps, qualitative

**ID-1087: SOCIAL ACCEPTANCE OF CCS: A CASE STUDY IN THE SPANISH EBRO BASIN**

Christian Oltra[1], Lila Gonçalves [1], Elisabeth Dütschke [2], Ana Delicado [3], Jussara Rowland [3], Ana Prades[1]

[1]*CIEMAT*, *Barcelona*, *Spain*, [2]*Fraunhofer - ISI*, *Karlsruhe*, *Germany*, [3]*Universidade de Lisboa*, *Lisbon*, *Portugal*

**Introduction:** Achieving genuine community co-ownership, beyond mere public approval, is crucial for the successful implementation of carbon capture and storage (CCS) projects. This requires dynamic partnerships between developers and local stakeholders, fostering mutual benefit. **Objectives and Methods:** This study investigates social acceptance and community engagement in CCS implementation within the Spanish Ebro Basin, using the PilotSTRATEGY project as a case study. Employing a mixed-methods approach encompassing stakeholder interviews, resident surveys, and participatory activities, we examined the relationship between technological deployment and community integration. **Results:** Survey data indicated moderate acceptance (47%, CI=38-58%), while qualitative analysis emphasized the importance of transparent communication and tangible community benefits. Six key perceived local benefits, including job creation and regional climate leadership, were identified, alongside diverse risk perceptions varying in perceived controllability and importance. **Conclusion:** This research contributes to responsible approaches to research and innovation by exploring how early community engagement can lead to more socially robust technological implementations and provides practical insights for future commercial-scale CCS projects facing similar social acceptance challenges.

Keywords: community co-ownership, social acceptance, community engagement, carbon capture and storage, mixed methods

**ID-1088: PUBLIC ATTITUDES TOWARDS GASIFICATION TECHNOLOGIES IN THE UK, GERMANY AND CHINA AND THEIR SUSCEPTIBILITY TO THE NASTY EFFECT**

Christopher Jones[1], Roh Pin Lee [2], Daphne Kaklamanou [1]

*[1]University of Portsmouth, Portsmouth, United Kingdom, [2]Brandenburg University of Technology: Cottbus-Senftenberg, Cottbus, Germany*

**Introduction:** There is growing interest in the use of gasification as an alternative to oil and natural gas in large-scale chemical production in many industrialised nations. Gasification technologies could stand to reduce the carbon intensity and improve supply-chain security of the sector. However, in spite of the importance that public acceptance can have for the 'real world' success of industrial technologies, studies into public perceptions of gasification technologies are still relatively lacking. **Objectives:** To address this, we investigated public attitudes and risk perceptions of two forms of gasification (i.e. coal and waste gasification). We aimed to: (1) gain insight into public attitudes towards the use of gasification technologies in three countries; (2) assess differences in public attitudes stemming from the use of different carbon sources; and (3) identify the potential impact that the 'Nasty Effect' (i.e. negative social discourse) would have upon technological and environmental risk perceptions. **Materials and Methods:** Data was collected from demographically representative samples of the public living in the UK, Germany and China, using an online questionnaire-based survey. **Results and Conclusion:** Results showed that attitudes towards gasification were generally positive in all three countries, and particularly so in China. The anticipated preference for waste gasification was observed in the UK and Germany but not in China. While there was some evidence of the Nasty Effect, the effect was very inconsistent and mostly constrained to the UK. The results hold potential implications for the development of future outreach and communication activities relating to the technology.

Keywords: gasification, technology acceptance, public attitudes, risk perceptions, nasty effect

**17-06-2025 | 15:30 - 16:45**

**S-076**: **Youth, children & family**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Forest Room*

Chair (IS): Dr. Katri Savolainen, Department of Psychology, University of Jyväskylä, Jyväskylä, Finland

**ID-50: YOUNG CHILDREN'S CLIMATE CHANGE SALIENCE AND COMPREHENSION: THE EFFECT OF PARENTAL PERCEPTION AND COMMUNICATION**

Marta Carballo-Losada[1; 2], Silvia Collado [3], Rocío Rodríguez-Rey [1; 2], Gary W. Evans [4; 5], Abigail Brown [4]

[1]*UNINPSI*, *Madrid*, *Spain*, [2]*Department of Psychology, Universidad Pontificia Comillas*, *Madrid*, *Spain*, [3]*Department of Psychology and Sociology, Universidad de Zaragoza*, *Zaragoza*, *Spain*, [4]*Department of Human Centered Design, Cornell University*, *Ithaca, NY*, *United States*, [5]*Department of Psychology, Cornell University*, *Ithaca, NY*, *United States*

**Introduction**: The negative consequences of climate change (CC) on humans' physical and mental health have been highlighted in scientific literature, with children being notably vulnerable. However, research on young children's comprehension of CC is limited. **Objectives**: We assessed five-to-eight-year-olds' comprehension of CC and how salient this problem is to them. We also examined variables that could be associated with these outcomes. We hypothesized that children's comprehension and salience of CC increase with age. Given that parents are young children's primary socialization agents, we also predicted that young children's comprehension and salience of CC are related to parental perception, and that this relationship would be mediated by parental communication about CC. **Materials & Methods**: Data were collected from 312 five- to eight-year-olds and one of their parents. Parents answered self-report questionnaires and children's data were collected through interviews. Analysis included binary logistic regressions and a mediation model. **Results**: Children's age predicted their comprehension and salience of CC. By age 7, most children understood CC, and it was more salient for 7- and 8-year-olds. The parental perception that CC was more of a present problem (i.e., temporally close) was associated with more frequent parental communication about CC to their children. This, in turn, predicted children's comprehension and salience of CC. **Conclusions**: Given our results, environmental education programs about CC need to i. be cognizant that children below 7 on average cannot comprehend CC; ii. target parental knowledge about CC; and iii. focus on parental communication with their young children about CC.

Keywords: climate change, children, intergenerational transmission, understanding, communication

## ID-759: DIGITAL MEDIA USE IS ASSOCIATED WITH A WEAKER NATURE CONNECTEDNESS IN CHILDREN

Katri Savolainen[1]

[1]*Department of Psychology, University of Jyväskylä*, *Jyväskylä*, *Finland*

**Introduction**: A strong connection to nature promotes psychological well-being and enhances pro-environmental attitudes and behaviors. Nature connectedness begins to develop in childhood. However, there is limited understanding of how digital media use influences children's nature connectedness. **Methods**: A total of 150 children, aged 6 years, participated in the study. Nature connectedness was self-reported by the children, while parents provided information about their children's temperament, free time activities, and digital media use habits. **Results**: 24% (N=27) of children used digital media devices for at least two hours a day after preschool days and 47% (N=72) of children used digital media devices for at least two hours a day during the days off from preschool. The more hours children spent on digital media in their free time, the weaker their connection to nature was (p=0.001). The association remained significant when time spent in nature during pre-school and leisure time, gender, parental restrictions on

digital media use and parents' level of education was taken into account. Moderating effects of temperament and gender were explored. **Conclusions**: More time spent on digital media is associated with weaker connection to nature in children.

Keywords: digital media use, nature connectedness, children

### ID-302: SHIFTING FRAMES OR PARTICIPATION? HOW YOUNG PEOPLE'S UNDERSTANDINGS OF SUSTAINABILITY INTERACT WITH THEIR AGENCY

Iikka Oinonen[1; 2], Iida-Maria Koskela [3], Maija Faehnle [1]

*[1]Finnish Environment Institute*, *Helsinki*, *Finland*, *[2]University of Eastern Finland*, *Joensuu*, *Finland*, *[3]City of Espoo*, *Espoo*, *Finland*

A core idea of sustainability education is to support young people's agency, the will and capacity to participate in society and take meaningful action for sustainability. However, sustainability can be understood in different ways which affects how young people's agency might emerge. Relatively few studies have considered how young people understand and relate sustainability to their everyday lives, competencies, and agency. Moreover, we don't know what happens when young people try to fit their sustainability views beyond schoolwork into a participatory process. In this study, we co-created a sustainability-themed, multidisciplinary course at two schools in Finland, in which 13-18-year-olds (n = 40) participated in urban and regional planning. The data consists of the recordings of student workshops (n = 10) and group interviews (n = 10). By applying the concept of "frames" we asked what kind of understandings or frames of sustainability young people construct, what kind of agency the frames are associated with, and how the frame-agency relationships play out in a local/regional context. We identified four frames of sustainability: i) Sustainability as responsibility and commitment, ii) Sustainability as an issue of the Global South, iii) Strong social sustainability, and iv) Sustainability of the everyday environments. We demonstrate how participating in the planning cases makes these frames visible and may either reinforce or rewrite them. Our results highlight the need to recognize the diversity of sustainability views amongst the youth. We argue that adult-created participation structures do not necessarily align with young people's perceptions of sustainability and agency.

Keywords: sustainability agency, frames, urban and regional planning, sustainability education

### ID-862: LATE ADOLESCENTS´ SENSE OF MORAL RESPONSIBILITY FOR CLIMATE CHANGE: THE ROLES OF NATURE CONNECTEDNESS, PARENTAL NORMS, CLIMATE-CHANGE WORRY, DISTANCING, AND GENDER

Amanda Rikner Martinsson[1], Terese Glatz [1], Maria OJala [1; 2]

*[1]Örebro University, School of Behavioral, Social and Legal Sciences, SWEDEN*, *Örebro*, *Sweden*, *[2]University of Oulu / Faculty of Education and Psychology*, *Oulu*, *Finland*

Addressing climate change requires people in the Global North to avoid high-impact behaviors like car use and air travel. Late adolescents, whose engagement in such behaviors may be restricted by age and

parental decision-making, are in a crucial stage for developing a sense of moral responsibility for climate change. Understanding why some adolescents cultivate this responsibility is vital, as responsibility relates to both climate engagement and well-being. Therefore, this study aims to identify factors associated with late adolescents' sense of moral responsibility. Nature connectedness, parental social norms, and climate-change worry have been positively linked to pro-environmental behavior in previous research, but their role in relation to moral responsibility for climate change remains less clear. Similarly, the relationship between distancing coping and moral responsibility is yet to be fully understood. In this study we explore ways that these factors are associated with late adolescents´ moral responsibility and examine whether these relationships differ between girls and boys. In 2023, we surveyed 619 Swedish high school students (ages 16-19) and used structural equation modeling to answer our research questions. Connection to nature, parents' norms, climate-change worry, and distancing coping positively influenced responsibility, with parents' norms having a stronger effect on boys. Climate-change worry partially mediated how parents' norms and nature connectedness influenced responsibility, with a stronger mediation effect for girls in the latter relationship. Distancing coping did not moderate the relationship between worry and responsibility. Limitations are discussed, and we propose fostering moral responsibility through nature experiences, role modeling, and constructive worry management.

Keywords: climate change, moral responsibility, adolescents, climate-change worry, nature connectedness

**ID-634: THE POSITIVE EFFECT OF PRO-ENVIRONMENTAL BEHAVIORS ON EUDAIMONIC WELL-BEING IN ADOLESCENTS: A DAILY DIARY STUDY**

Silvia Caldaroni[1], Maria Gerbino [2], Elisabetta Beolchini [2], Alessia Teresa Virzì [1], Virginia Isabel Barrero Toncel [1], Fulvio Gregori [1], Valentina Paz Quilodrán [3], Bernadette Paula Luengo Kanacri [4], David Lundie [5], Ólafur Páll Jónsson [6], Diana Camps [7], Kristian Guttesen [6], Concetta Pastorelli [2], Antonio Zuffianò [2]

*[1]1Department of Psychology, Sapienza University of Rome, Rome, Italy, [2]Department of Psychology, Sapienza University of Rome, Rome, Italy, [3]School of Psychology, Pontificia Universidad Católica de Chile, Santiago, Chile, [4]School of Psychology, Pontificia Universidad Católica de ChileSc, Santiago, Chile, [5]School of Social and Environmental Sustainability, University of Glasgow, Glasgow, United Kingdom, [6]School of Education, University of Iceland, Reykjavík, Iceland, [7]School of Social & Environmental Sustainability, University of Glasgow, Glasgow, United Kingdom*

Research shows that engaging in Pro-Environmental Behaviors (PEBs)—actions intended to benefit the environment—can enhance individuals' Eudaimonic Well-Being (EWB), including meaning in life and connectedness to others. Despite the potential role of adolescents in shaping sustainable societies and their vulnerability to the adverse effects of environmental issues, existing literature does not adequately address this age group. Furthermore, most studies, being cross-sectional, focus on between-person differences and fail to capture within-person changes occurring in everyday life. To address these gaps, this study aimed to explore the impact of daily PEB on the daily EWB of adolescents. Specifically, whether variations in individuals' habitual levels of PEBs positively affected variations in their habitual levels of EWB. The study involved 78 Italian adolescents (ages 14–16; 29% female) selected from a larger cross-cultural research project. Participants participated in a daily diary study, reporting their PEB and EWB once

a day over 28 days. Using Dynamic Structural Equation Modeling, results revealed a significant positive spillover effect from PEB to EWB (B = .185, 95% CI [.044, .318]). Specifically, individuals who reported higher-than-usual levels of PEB also reported higher-than-usual levels of EWB on subsequent days. These findings provide insights into the immediate, beneficial effects of PEB on adolescents' EWB in their daily lives, contributing to knowledge on the role of PEB in promoting youths' well-being. Moreover, since the day-to-day spillover reflects a predictive relationship between PEB and EWB, these results are promising since they represent potential causal mechanisms that future research could investigate.

Keywords: pro-environmental behavior, eudaimonic wellbeing, adolescents, daily diary, dynamic structural equation modeling

**17-06-2025 | 15:30 - 16:45**

**S-075**: **Sustainable futures**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Dawn Room*

Chair (IS): Ana María Gonzalez Martin, Atlántico Medio University, PALMAS DE GRAN CANARIA (LAS), Spain.

**ID-1007: MEMORIES OF THE FUTURE. RAISING AWARENESS OF CLIMATE CHANGE THROUGH VIRTUAL REALITY**

Ana María Gonzalez Martin[1], Rachid Berd Gómez [1], Antonio Bernal Suarez [1]

[1]*Atlántico Medio University*, *PALMAS DE GRAN CANARIA (LAS)*, *Spain*

Climate change poses a significant threat to communities worldwide, demanding urgent action. Universities play a pivotal role in raising awareness about global warming because they are centers of learning, innovation, and community influence. Nonetheless, creating real understanding of climate change is difficult because its impacts often feel distant or abstract, making it harder for people to relate to or prioritize. Virtual Reality (VR) offers an innovative tool to raise awareness by immersing users in interactive first-person experiences that evoke a stronger emotional connection. This sense of presence makes the impact of climate change feel more immediate and personal, driving deeper engagement and urgency to act. In our study, we designed a VR experience in which university students lived the effects of climate change in their close environment. Specifically, the city of participants (Las Palmas in Spain) was recreated using the Unreal Engine. Then, using PIMA ADAPTA, a tool that provides scientific estimations of the effect of climate change on different regions, the city was adapted to its state in 2088. Subjects could walk on their streets, seeing the effects of global warming in their city and making decisions to change the future. To measure the impact of the VR experience, 70 participants took a pre- and post-test on awareness of climate change, and their results were compared to another group that received a talk and watched a video on the effects of global warming. Results show that VR is significantly a more adequate tool for raising awareness of climate change.

Keywords: virtual reality, climate change, future cities, awareness, university students

**ID-857: ACROSS DYSTOPIA AND UTOPIA: THE IMAGINATION OF OUR COLLECTIVE FUTURE SCALE.**

Heiko Mikolajczak[1], Julia Krasko [2], Stephan Heinzel [3], Wilhelm Hofmann [1]

*[1]Ruhr-University / Social and Environmental Psychology, Bochum, Germany, [2]Ruhr-University / Psychological Methods, Bochum, Germany, [3]TU Dortmund / Clinical and Biological Psychology, Dortmund, Germany*

Societal crises are catalysts for both dystopian and utopian storytelling, enabling societal change to resolve societal crises. While dystopian storytelling elicits discourse about ill-adapted societal developments, being frustrated with status quo and aiming to avoid an undesirable possible future, utopian storytelling understands crises as windows of opportunity and draws discourse towards alternatives to the status quo. We develop and validate a psychometric scale to measure four strategies responding to societal crises perceptions: avoidant imagination (avoiding thoughts of societal future & crises), blinded optimism (belief in status quo), dystopian thinking, and utopian thinking. We explore a range of political topics, their interactions with sustainability, and how these relate to societal change and voting intentions. In four cross-sectional studies, we developed construct definitions for the subscales and created items, explored their structure with EFA and network analysis (Study 1), confirmed the factorial structure using CFA (Study 2), and assess construct and criterion validity (Study 3 & 4). While Study 1 suggested a five-factor structure (avoidant imagination, blinded optimism, utopian thinking, and two dystopian factors), Study 2 indicated a four-factorial structure (one dystopian factor). Perceived need for system change correlated negatively with avoidant imagination and blinded optimism, and positively with dystopian and utopian thinking. Voting intentions showed distinct factor profiles and differential worries for political topics. The Imagination of Our Collective Future scale allows researching how we differ in coping with societal crises and how this relates to societal stability and societal change. It opens studying multiplicity and intersections of societal crises.

Keywords: societal crises, utopian thinking, dystopian thinking, societal change, multiplicity of crises

**ID-325: FROM ENVISIONING TO AN ENVIRONMENTALLY FRIENDLY REALITY: ENHANCING POLICY SUPPORT AND CITIZEN PARTICIPATION THROUGH EPISODIC FUTURE THINKING**

Jana Sophie Kesenheimer[1], Tobias Greitemeyer [1], Francesca Talamini [1], Lena Schwärzler [1]

*[1]University of Innsbruck, Innsbruck, Austria*

This experimental study investigates how episodic future thinking (EFT) influences pro-environmental policy support and citizen participation, with a focus on the vividness of mental imagery. Participants aged 14–55 engage in one of three guided auditory scenarios—positive, negative, or neutral regarding climate-change mitigation—depicting a futuristic city and park in the year 2045. Key outcome measures include vividness ratings, emotional responses, proposed ideas for citizen action, and approach-avoidance motives. As part of the intervention, participants create an AI-generated visual representation of their "journey to the future" to enhance and personalize their imagination of the scenario. A follow-up memory

test conducted one week later assesses the persistence of EFT-induced effects on policy support, election behavior, and citizen action. The findings could have significant implications for developing targeted interventions that promote sustainable behaviors across diverse populations, leveraging imagination to bridge the gap between awareness and action. The study is pre-registered (https://aspredicted.org/7nsw-j5t7.pdf) and data will be collected from January to March 2025, with a target sample of 300 participants. I would like to present the results at the ICEP conference.

Keywords: episodic future thinking, imagination, policy support, AI, approach and avoidance

**ID-893: FUTURE IMAGINATION AS A WAY OF COPING WITH CLIMATE FUTURES**

Swetlana Fork[1]

[1]*University of Bayreuth*, *Bayreuth*, *Germany*

In the course of a qualitative study on the imagination of collective futures in the German environmental movement, it was found that future imagination can be reconstructed as a way of coping with the climate crisis, particularly in regard to climate futures. In the existing research, approaches to eco-coping are typically informed by Lazarus' and Folkman's transactional model of stress and coping. Building on this theory, this study presents an alternative, empirically-based framework that goes beyond the separation of problem- and emotion-focused coping strategies. The necessity for reformulation arose from the distinctive characteristics of the complex, enduring coping object. Embedded in this general framework, the facet of imaginative coping was examined in-depth. The research data, collected between 2019 and 2023, includes 12 group discussions, 12 qualitative interviews, two futures-writing workshops, and documents from climate movements. The qualitative analysis was conducted following a Grounded Theory approach. In total, the research sample comprises 57 climate movement activists, primarily adolescents and young adults with an average age of 22 years. The participants articulated three distinct forms of imaginative coping: "opening," "closing," and "separating" climate futures. They expressed a desire and norm to engage in utopian, hopeful, problem-solving, as opposed to anticipative thinking, while at the same time striving to distance themselves from climate futures. This study offers a novel discussion of eco-coping in the context of activism, in particular the relationship between future imagination and eco-coping, which has been under-explored in the scientific literature.

Keywords: eco-coping, imagination of climate futures, qualitative study

**ID-283: INSTORATIVE EFFECTS OF A SINGLE SCHOOL LESSON IN NATURE ON CONCEPTUAL LEARNING?**

Lucia Mason[1], Libera Ylenia Mastromatteo [1], Cecilia Rocchi [2], Sara Scrimin [3]

[1]*Department of Developmental Psychology and Socialization, University of Padua*, *Padua*, *Italy*, [2]*Fenice Green Energy Park*, *Padua*, *Italy*, [3]*Department of Developmental Psychology, University of Padua*, *Padua*, *Italy*

In educational psychology the role of the school physical environment has received limited attention. Even more recent is the interest in green areas surrounding schools. Yet, based on Attention Restoration

Theory (Kaplan, 1995), environmental research has widely documented the benefits of passive exposure to nature on cognitive functioning (e.g., Norwood, 2021). *Restorative* effects of nature are associated with green breaks after depleting attentional resources (Mason et al., 2022). Interestingly, exposure to nature also generates *instorative* effects. They occur when individuals have not been previously fatigued and their attention does not need restoration. However, contact with nature strengthens or amplifies their cognitive resources above usual functioning (Moll et al., 2022; Nguyen & Walters, 2024). As part of a larger national project, our investigation sought to advance current research by examining the effects of one single lesson in a green area surrounding the school and a similar lesson in the classroom. Students were tested on conceptual learning from the taught lesson that required their attention and memory. Data were collected in a pre-post within-subjects study with children in primary school (N=91) and a study with early adolescents in middle school (N=55). Results showed the instorative effect of nature on primary-school children as their learning about complex scientific concepts was higher after the lesson in the greenness. Children also perceived the green environment as more instorative than the classroom. However, early adolescents performed better in the classroom, although they also perceived the natural environment as more instorative. Theoretical and practical implications are discussed.

Keywords: school lessons in green areas, instorative effects of nature, learning indoor and outdoor, cognitive functioning, perception of green environments

**17-06-2025 | 15:30 - 16:45**

**S-096**: **Collective action**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Sun Room*

Chair (IS): Thea Gregersen, NORCE Norwegian Research Centre, Bergen, Norway.

## ID-690: HOW DISRUPTIVE CLIMATE PROTESTS SHAPED OPINIONS ON MODERATE ACTIVIST GROUPS IN GERMAN NEWS ARTICLES AND USER COMMENTS

Lukas Mayrhofer[1], Markus Foramitti [2], Simon Fassnacht [3], Jana Katharina Köhler [4], Boryana Todorova[1], Mauricio Martins [1], Claus Lamm [1]

*[1]University of Vienna, Social, Cognitive and Affective Neuroscience Unit, Vienna, Austria, [2]University of Vienna / Faculty of Psychology, Vienna, Austria, [3]Max Planck Institute for Biological Cybernetics, Tübingen, Germany, [4]University of Vienna, Urban and Environmental Psychology Group, Vienna, Austria*

The radical flank effect (RFE) describes how radical factions of a social movement influence public opinion on more moderate factions within the same group. Prior studies found a positive RFE for climate activism where radical protests increased support for moderate movements. However, these studies were limited to laboratory settings or short time frames. To address this, we investigate the RFE in climate activism by analyzing German news content using Natural Language Processing. We selected eight online news

outlets (four left- and four right-wing) and scraped articles and user comments about the groups The Last Generation (LG) - employing radical tactics (e.g. blocking streets) - and Fridays For Future (FFF) - employing more moderate tactics (e.g. announced demonstrations). Stances towards FFF were computed using GPT-4 and its performance was validated on a subset of texts annotated by humans. Analyzing 2,376 news articles and 72,634 user comments, preliminary results suggest that stances towards FFF increased over time for right-wing (not left-wing) news articles after the onset of LG protests (OR = 1.10, p = .03) but decreased in user comments for both political orientations (OR = 0.84, p < .001). Furthermore, user comment stances towards FFF became more positive when news articles' anger in the preceding month was higher both for left- and right-wing outlets (OR = 1.20, p < .001). These findings pose a valuable addition to the radical flank literature by demonstrating the effects' dynamic in real-world settings and highlight the usefulness of computational methods in field research.

Keywords: radical flank effect, climate activism, climate change, stance detection, natural language processing

**ID-659: ANARCHY IN THE MUSEUM - THE TYPOLOGY OF RADICAL COLLECTIVE PRO-ENVIRONMENTAL BEHAVIOURS**

Dominika Jurgiel[1], Adrian Dominik Wójcik[1]

[1]*Nicolaus Copernicus University*, *Toruń*, *Poland*

The study aimed to explore perceptions of collective pro-environmental actions and to identify their key subtypes. Initially, a comprehensive list of over 90 collective actions undertaken by pro-environmental activists was compiled, which was then reviewed by climate change and activism experts. The final list comprised 97 behaviours, along with their definitions. In a study involving a representative sample (N=530), participants were randomly presented with definitions of 20 actions and asked to evaluate them across six dimensions: general affect, non-normativity, use of violence, effectiveness, perceived legality, and willingness to engage. Activists' behaviour was, on average, rated by respondents as moderate in terms of five dimensions: affect, non-normativeness, violence, effectiveness, and perceived legality. The dimension that was rated the lowest was the willingness to engage. Correlations between the dimensions were strong: activities evoking positive affect were simultaneously considered normative, non-violent, effective, and non-punitive, and the respondents declared a greater willingness to engage in them. Cluster analysis revealed four types of collective climate actions: positively assessed (e.g., publishing literature, gathering petition signatures), moderately assessed (e.g., political mourning, advocating legal rights for nature), negatively assessed (e.g., setting up protest camps, organizing demonstrations), and very negatively assessed (e.g., vandalizing artworks, committing arson). The study showed that public opinion perceives collective climate actions in a similar way in terms of six distinguished dimensions and does not differentiate them on the basis of normativity or effectiveness, but their perception is rather based on the overall impression created by each form of activity.

Keywords: radical collective action, pro-environmental collective action, protest tactics, pro-environmental behaviour

## ID-770: FROM SOCIAL MEDIA TO VIOLENT ENVIRONMENTAL COLLECTIVE ACTION: THE ROLE OF PSYCHOLOGICAL DISTANCE

Fernando Ruiz-Dodobara[1], Karla Anamaría Uribe-Bravo [1], Luis Miguel Escurra Mayaute [1]

[1]*Universidad de Lima / Faculty of Psychology*, *Lima*, *Peru*

People perceive climate change as distant in time and space, which affects their participation in environmental actions. On the other hand, several studies have shown that social media promotes normative environmental collective action. However, due to the ecological emergency, violent actions are becoming more frequent. This research aims to analyze the chain-mediated effect of psychological distance and the variables of the Social Identity Model of Collective Action (SIMCA) on the relationship between the use of social media and violent environmental collective action. The study sample consisted of 650 university students (*M* = 20.8, *SD* = 2.74) aged 18–35 years from Lima. Analyses were carried out by structural equation modeling (SEM) using the AMOS SPSS software, where a statistical model was performed for each type of psychological distance (social, temporal, spatial, and probability). The results revealed two statistically significant pathways from social media to violent environmental collective action, mediated first by the different types of psychological distances and then by social identity and negative emotions (anger and fear). The path from social media to violent environmental collective action was also found to be mediated first by three types of distances (probabilistic, spatial, and temporal) and second by participative efficacy. In conclusion, it is necessary to address that psychological distance, alone (except for probability distance), does not mediate the relationship between social media and violent collective action. Therefore, it is important to consider social identity, emotions, and participative efficacy to understand this pathway and analyze environmental initiatives in social media.

Keywords: social media, psychological distance, SIMCA variables, violent environmental collective action, Peru

## ID-347: PROTEST SUPPORT AND PARTICIPATION: THE ROLE OF CLIMATE ANGER

Thea Gregersen[1; 2], Samantha K. Stanley [3], Gisle Andersen [1; 2]

[1]*NORCE Norwegian Research Centre*, *Bergen*, *Norway*, [2]*Centre for Climate and Energy Transformation (CET)*, *Bergen*, *Norway*, [3]*UNSW Institute for Climate Risk & Response, University of New South Wales*, *Sydney*, *Australia*

What does it mean to be angry about climate change, and what is the role of climate anger in protest support and participation? This talk discusses preliminary findings from a survey (*N* = 3003) measuring climate anger across Norway and Australia. The results show that the intensity of climate anger predicted participation in, but not support for, climate protests. Notably, our findings suggest that activism intention and support depend on both *why* people are angry, and the type of protest in question. Across both countries, people were most angry about the negative impacts of climate change on nature, and that industry and large companies don't act to reduce their climate impacts. However, the self-reported likelihood of participating in and supporting (non-violent) climate protests was most consistently predicted by anger directed at political inaction. We further investigated the relationship between various anger reasons and support for more specific types of protests, while controlling for sociodemographics,

general anger, and metacognitive anger beliefs. Anger directed at political inaction predicted support for school strikes, non-violent marches, disrupting events, blocking roads, and violent protests, but not support for throwing food or paint at art. On the other hand, anger directed at unfair climate change solutions was unrelated to support for any type of climate protest. Non-violent marches were the only form of protest supported by a majority. Our findings contribute to a better understanding of the causes and consequences of climate anger, while illustrating the importance of categorizing and conceptualizing its many forms.

Keywords: climate emotions, anger, activism, protest support

**17-06-2025 | 16:45 - 17:15**

**CB**: **Coffee Break**

*Campus Courtyard*

**17-06-2025 | 17:15 - 18:30**

**S-043**: **Showcasing Qualitative Methods in People-Environment Studies**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Earth Hall Plenary*

Chair: Rose Macaulay, University of Melbourne, Melbourne, Australia.

Co-Chair: PhD student Christian Palacios Haugestad (University Of Oslo / Department of Psychology, Oslo, Norway)

**ID-1226: THE NATURAL WORLD AROUND ME; A QUALITATIVE EXPLORATION OF YOUNG PEOPLE'S RELATIONSHIP TO NATURE AND HOW IT RELATES TO THEIR WELL-BEING AND SENTIMENT OF PRO-ENVIRONMENTAL BEHAVIOUR**

Topaz Shrestha[1], Zelda Di Blasi [1], Sarah Foley [1], Marica Cassarino [1]

[1]*University College Cork*, *Cork*, *Ireland*

**Introduction**: Worldwide, young people are experiencing unprecedented levels of substandard mental health and a diversity of climate-related emotions. The deficit of methodologically, culturally diverse and cross-sectoral research limits our ability to develop evidence-based interventions to support well-being, promote pro-environmental behaviour and foster coping mechanisms against the global crises we face. This emphasises the need for interdisciplinary qualitative research to understand young people's relationship to nature. **Objectives**: Drawing on youth work methodology and ecopsychology theory, this interdisciplinary study employed an exploratory qualitative approach to understand how young people's relationship with nature influences their well-being and sentiment of pro-environmental behaviour.

**Materials/Methods:** A reflexive thematic analysis was used to qualitatively explore young people's relationship to nature. This approach offered in-depth, multi-dimensional insight into the complexity of human nature connection. **Results**: Three focus groups were conducted with 21 young people aged 12-26 from varied cultural backgrounds. The analysis resulted in four dominant themes: 1) the foundations of our relationship to nature, 2) pathways to well-being, 3) barriers to nature connection and 4) nature connection in the face of climate and ecological crisis. **Conclusion**: This study spotlights the significance of nature connectedness in supporting youth mental health and laying the foundation for environmental stewardship. Findings extend previous theoretical perspectives suggesting a unique relationship between young people and nature with distinctive ecocentric roots. Understanding this relationship has the potential to unite activity from health services to environmental policy and beyond, ultimately benefiting both human and ecological wellbeing.

**ID-1227: INSIGHTS FROM A QUALITATIVE STUDY ON UK ETHNIC MINORITY GROUPS' EXPERIENCES OF GREENSPACES: RECOGNISING THE NEED FOR METHODOLOGICAL FLEXIBILITY AND REFLEXIVITY.**

Andrew K Palmer[1]

[1]*University of Liverpool*, *Liverpool*, *United Kingdom*

**Introduction**: This study reflects on the experiences of an early career researcher conducting qualitative research on inclusivity, the environment, and human health, with a specific focus on UK minority groups' perceptions of greenspaces. **Objectives**: This paper aims to illuminate the challenges and opportunities inherent in qualitative research in this domain, emphasising key considerations for researchers engaging with diverse communities and the broader context of people-environment studies. **Materials & Methods**: A variety of place-based and remote recruitment strategies were employed, including through social media, snowball sampling, and door knocking. Data collection involved in-depth interviews and diary methodologies, allowing participants to articulate their experiences through a choice of participation mode. **Results**: This paper reflects on several key complexities: the issues surrounding census categories, the processes of minoritisation, and the tendency towards homogenising perspectives. Additionally, we consider the implications of participant choice (and burden) in data collection. The necessity for persistence in recruitment to effectively engage diverse communities is highlighted, along with the challenge of balancing breadth and specificity while remaining aligned with the research objectives, the researcher's positionality, and ethical considerations. **Conclusions**: Reflections on this project emphasise the need for reflexivity and epistemological awareness, particularly in adapting approaches to meet the specific needs of diverse communities. By highlighting these considerations, this research informs best practices for future studies in inclusivity within people-environment studies, contributing to more equitable access and engagement in these environments.

Keywords: greenspace, recruitment, reflexivity, ethnicity, positionality

**ID-1229: UNDERSTANDING OLDER ADULTS' RESTORATIVE EXPERIENCES: A COMPARISON OF THREE QUALITATIVE METHODS**

Anne Grave[1], Robert P Van Dongen [1], Masi Mohammadi [1]

[1]*Eindhoven University of Technology*, *Eindhoven*, *Netherlands*

Current theories of psychological restoration predominantly rely on quantitative studies involving university students, raising concerns about their applicability to other groups, such as older adults. Older adults are more susceptible to environmental stressors and attention fatigue, which can negatively impact their mental health. Quantitative methods, like heart rate measurements or attention tasks, are often less effective for this group. Therefore, it is valuable to explore the use of qualitative methods as they have the potential to deepen our understanding of the restorative experiences of this underrepresented group, enabling the identification of new interconnections and broadening the conventional theoretical narrative. To study which qualitative methods are best suited to understanding older adults' restorative experiences, we conducted three studies using different qualitative methods: a) building their favourite restorative environment with Lego (N=27), b) evaluating VR environments (N=15), and c) choosing and discussing their favourite restorative environment using Google Street View (N=40). The Lego task was challenging for many participants due to limited motor skills, yielding limited results. However, the two other methods successfully provided valuable insights into the relationship between restorative environments' spatial characteristics and older adults' emotions, memories and experiences. Remarkably, the presence of others positively influenced older adults' restorative experiences, a finding contrary to existing literature on younger adults. In conclusion, two of the three qualitative methods proved valuable for studying restorative experiences. Results expanded beyond conventional theoretical narratives, offering a broader understanding of the restorative experiences of older adults and highlighting the importance of qualitative approaches in this field.

Keywords: restorative experiences, older adults, qualitative research methods, neighbourhood open spaces

**ID-1230: BENEFITS AND CHALLENGES OF QUALITATIVE AND CO-DESIGN METHODOLOGIES FOR UNDERSTANDING THE ROLE OF CONTEMPLATIVE NATURE ENGAGEMENT IN ADDRESSING ECOLOGICAL DISTRESS.**

Kathryn Williams[1], Rose Macaulay [1], Katherine Johnson [1], Cullan Joyce [1], Dianne Vella-Brodrick [1], Iain Walker [1]

[1] *University of Melbourne*, *Melbourne*, *Australia*

**Introduction:** We targeted a gap in understanding of strategies for addressing eco-distress, specifically the processes through which contemplation and nature engagement supports individual wellbeing, social connection and environmental care. We conducted qualitative research to support theory development and applied guidance regarding these processes. **Objective:** In this presentation, we reflect on the benefits and challenges of using qualitative methods to explore the role of contemplative nature engagement in addressing ecological distress. **Materials and Methods:** Interviews and co-design workshops were conducted with Australian teachers of contemplative nature engagement practices from First Nation, Buddhist, Christian spirituality, secular mindfulness, and eco-feminist traditions. The work was guided by a project reference group made up of researchers and teachers of contemplative nature engagement practices. **Results:** Thematic analysis and co-design processes enabled both theoretical and practice contributions, including co-authored guidelines for designing contemplative nature engagement to address ecological distress. Here we consider: (1) how the co-design process shaped the language and

assumptions of the research, supported participation of people from diverse backgrounds, and facilitated applied outputs; (2) the value of qualitative methods in exploring worldviews and human-nature relationships in relation to ecological distress; and (3) ethical principles and practices established for this co-design project; and associated benefits and challenges of these research practices. **Conclusion:** Qualitative methods play a key role in theory development and are essential to the interdisciplinary foundations and ambitions of environmental psychology. Reflective research practice is key to ensuring ethical and rigorous qualitative research in our field.

Keywords: qualitative methods, co-design, thematic analysis, contemplative nature engagement, eco-anxiety

**17-06-2025 | 17:15 - 18:30**

**S-044**: **Putting Acceptance first – Designing a neighborship with renewable energy technologies**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Valley Room*

Chair: Gundula Hübner, Martin-Luther-University Halle-Wittenberg, Halle, Germany.

**ID-1251: MAKING LOCAL IDENTITY AND SOCIAL NORMS SALIENT – INFLUENCE OF CITIZEN PARTICIPATION ON RENEWABLE ENERGY PLANNING AND ACCEPTANCE**

Valentin Leschinger[1; 2], Gundula Hübner [1; 2]

*[1]MSH Medical School Hamburg, Hamburg, Germany, [2]Martin-Luther-University Halle-Wittenberg, Halle, Germany*

One central pillar to limit global warming is the transformation of our energy system to renewable energy technologies. While a majority supports the transition on a national as well as local level, the acceptance is often underestimated, often due to a strong presence of opponents in the media. Furthermore, local projects come with changes to the local landscape and profoundly influence communities' perceptions of place – whether changes are interpreted positively and correspond to the regional identity of residents plays a major role in acceptance. In a field project in Lusatia in East Germany, we worked with a group of citizens, who developed a distribution of renewables for their region by actively contributing positive ideas corresponding to their local identity. In a pre-survey, residents from Lusatia were questioned by telephone (N = 343). Results show on average positive attitudes towards renewables and we could confirm our hypothesis that perceived acceptance is underestimated. Furthermore, opponents show strong negative emotions and are disproportionally more active. Next, we conducted an intervention by communicating actual acceptance levels and about the work of the citizen group. We expected an increase in the acceptance norm. Furthermore, based on experiences from previous projects, we expected the citizen plan to be closer connected with the local identity and to be preferred to an alternative external expert plan. The project „PartEEnschaften - Transformative Partizipation für Erneuerbare-Energie-Landschaften

– Wertschöpfung, Beteiligung, Akzeptanz“ is funded by the German Federal Ministry of Economic Affairs and Climate Action (FKZ 03EI5256A).

Keywords: social acceptance, participation, regional identity, renewable energy, social norms

**ID-1252: EFFECTS OF AN INTERACTIVE AND GAMIFIED PLANNING PROCESSES ON SELF-EFFICACY AND MOTIVATION**

Gundula Hübner[1; 2], Valentin Leschinger [1; 2]

*[1]Martin-Luther-University Halle-Wittenberg, Halle, Germany, [2]MSH Medical School Hamburg, Hamburg, Germany*

To facilitate a sustainable transition to renewable energy technologies, the perception of the planning process and who is involved in decision making are crucial for acceptance. While on one hand opportunities for a participative impact are greatest in early planning stages, relevance and motivation to participate is often low, while on the other hand, when projects are near realization or are already getting built, relevance for residents is highest but opportunities for changes lowest. Furthermore, in participation formats citizens frequently can only take the role of objectors and common formats are less likely to reach younger people. In the interdisciplinary project GrowFlowFly, we developed an innovative interactive planning tool. The tool enables citizens to design their own energy landscape for their region in a virtual 3D world. Participants can place renewable energy technologies and get direct feedback on energy yield, reduction of $CO_2$ emissions and possible financial income for the community. Developed based on the Self-Determination- and Self-Efficacy-Theory, we expect the tool to foster competence, autonomy and relatedness in the context of renewable energy planning. Further, conducting a survey prior to and after using the tool, we expected that the experience will lead to a higher feeling of (collective) self-efficacy, thereby strengthening the motivation to participate in the energy transition. The project „GrowFlowFly – Akzeptanzpotenzial für flächenextensive Erneuerbare Energien – APV, FPV, AWE im Vergleich mit etablierten Erneuerbaren Energie-Technologien” is funded by the German Federal Ministry of Economic Affairs and Climate Action (FKZ 03EI5245B).

Keywords: social acceptance, gamification, renewable energy, participation

**ID-1253: THE ROLE OF THE PLANNING PROCESS FOR WIND TURBINE NOISE ANNOYANCE – RESULTS FROM MULTIPLE CROSS-SECTIONAL AND LONGITUDINAL FIELD STUDIES**

Florian Müller[1], Gundula Hübner [1; 2]

*[1]MSH Medical School Hamburg, Hamburg, Germany, [2]Martin-Luther-University Halle-Wittenberg, Halle, Germany*

The expansion of renewable energy technologies leads to an increasing number of people living in the vicinity of wind turbines (WT). Therefore, acceptance of these residents is of central interest. One major acceptance factor are worries about WT emissions, like sounds (Hübner et al., 2023). In a series of studies in the USA (2016, n = 1407) as well as Central Europe (northern Germany, 2012, n = 212, to 2018, n = 130, and southern Germany, 2020, n = 149, to 2023, n = 80) residents of wind farms were surveyed. While the

USA survey was cross-sectional, both European studies had a longitudinal design. In the three studies, objective data (e.g., distance to WTs, number of visible turbines) were compared to subjective data (e.g., attitude towards the energy transition). Subjective factors were observed to better predict annoyance than objective factors. The strongest relations with WT noise annoyance were linked to the planning process. The results show that the basis is laid for annoyance often even before the WTs are in operation. They emphasize the importance of participation and considering the perspective of residents early on. These studies were founded by Wind Energy Technologies Office of the DOE's Office of Energy Efficiency and Renewable Energy, under Contract No. DE-AC02-05CH11231, by Deutsche Bundesstiftung Umwelt (German Federal Environmental Foundation, support code 28754-24/01,/02) and by the Federal Ministry for Economic Affairs and Climate Action on the basis of a decision by the German Bundestag (grants 0325839F and 03EE2023A).

Keywords: social acceptance, noise annoyance, wind energy, stress reactions, well-being

**17-06-2025 | 17:15 - 18:30**

**S-042**: **Exploration of Environmental Identity Development Among Youth (Reception: wine & snacks)**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Environmental education)

*Fauna Room*

Chair: Goda Kaniušonytė, Mykolas Romeris University, Institute of Psychology, Vilnius, Lithuania.
Chair: Audra Balundė, Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania.
Discussant: Brett Laursen, Florida Atlantic University, Boca Raton, Florida, United States.

**ID-1254: ADOLESCENTS' ENVIRONMENTAL SELF-IDENTITY AND PRO-ENVIRONMENTAL BEHAVIOR: A LONGITUDINAL STUDY**

Goda Kaniušonytė[1], Audra Balundė[1]

[1]*Mykolas Romeris University, Environmental Psychology Research Centre*, *Vilnius*, *Lithuania*

Adolescence is a key time for shaping identity, as young people start to define who they are, which can have implications for their future pro-environmental behaviors. Environmental self-identity – the extent to which one sees oneself as someone who conserves the environment – has been shown across age groups to be related to multiple pro-environmental behaviors. However, there is still little evidence on how this connection develops during the teenage years. To address this gap, we explore the development of environmental self-identity and its relationship to pro-environmental behaviors. We conducted a longitudinal study among adolescents from one administrative region in Eastern Lithuania. A total of 211 adolescents attending 8th grade (at the onset) participated in the study across middle and high schools in one medium-sized town. Data collection commenced in February 2022 and is currently ongoing, with the 9th wave scheduled for collection in May 2025. The students are being assessed three times during each school year, approximately 16 weeks apart. A preliminary Growth Curve Model analysis with latent

variables using seven currently available data waves suggests that environmental self-identity slightly decreases. A preliminary Latent Class Growth Analysis indicates three growth trajectories: 17% - low stable, 17% - high increasing, and 66% - medium stable. Pro-environmental behavior (waste recycling) significantly differed across all three trajectories, being highest in the “high increasing” group and lowest in the “low stable” group. These results will be discussed in the context of peer relationships.

Keywords: environmental self-identity, pro-environmental behavior, adolescents, peer relationships, longitudinal

**ID-1255: LONGITUDINAL EXPLORATION OF ADOLESCENTS' ENVIRONMENTAL SELF-IDENTITY IN THE CONTEXT OF AN ENVIRONMENTAL EDUCATION**

Mykolas Simas Poškus[1], Aivaras Vijaikis[1], Audra Balundė[1]

[1]*Mykolas Romeris University, Environmental Psychology Research Centre*, *Vilnius*, *Lithuania*

Formal environmental education plays a role in fostering adolescents’ engagement in pro-environmental actions. Given the relationship between multiple pro-environmental behaviors and environmental self-identity (i.e. the extent to which one sees oneself as someone who acts pro-environmentally), environmental education could also potentially influence environmental self-identity. We designed an educational intervention to stimulate general discussion on four topics: the people-nature relationship, waste management, energy production and consumption, and water pollution – highlighting people’s contributions to environmental issues. The intervention was conducted in four high schools across three administrative regions in Lithuania from October to December 2022, involving 245 adolescents (63.3% female; M = 14.89, SD = 0.88). It included a pre-test, four weekly classes held during regular school hours, a post-test, and a follow-up measurement. Analysis using repeated measures ANOVA showed no significant main effect of waves, $F(2, 486) = 0.411$, $p = 0.663$, $\eta^2p = 0.002$, indicating that environmental self-identity did not significantly change after the intervention. However, a marginally significant interaction between waves and gender was observed, $F(2, 486) = 2.893$, $p = 0.056$, $\eta^2p = 0.012$, suggesting a potential difference in changes over time between boys and girls. Post hoc comparisons revealed that boys and girls did not significantly differ in Waves 1 and 2, but they significantly differed in Wave 3, with girls scoring higher than boys. The implications of these findings will be discussed.

Keywords: environmental self-identity, environmental education, intervention, adolescents, formal education

**ID-1256: IT'S NOT EASY BEING GREEN: ASSOCIATIONS BETWEEN ADOLESCENTS’ ECO-SELF IDENTITY AND CLIMATE CHANGE-RELATED MENTAL HEALTH INDICATORS AND COPING**

Andrik I. Becht[1]

[1]*Youth and Family Research Center, Utrecht University*, *Utrecht*, *Netherlands*

Establishing a clear identity is a crucial developmental task of adolescence, coinciding with growing climate concerns among youth. While some studies indicate a decline in commitment to environmentally friendly

lifestyles, it remains unclear if this trend applies to all adolescents or if distinct subgroups exist that identify with eco-self-identity. Eco-self-identity encompasses three dimensions: Environmental Self-Identity Exploration, focusing on exploring one's eco-identity; Eco-Self Centrality, emphasizing the importance of environmental concerns to define their personal identity; and Climate Action Social Identity, which relates to their identity expressed by climate actions. This study aims to identify eco-self-identity subgroups in early adolescence, determine proportions, and examine associations with climate-related mental health indicators and coping strategies. A multi-sample study was conducted with (Study 1) 281 Dutch adolescents (47% girls, Mage = 15.99 years). We used a newly developed eco-self-identity measure. Study 1 revealed three identity subgroups: "Barely Green" (72%), "Embracing Being Green" (20%), and "Being Green" (8%). The "Being Green" group scored highest on eco-self-dimensions. Notable differences were found in eco-anxiety and eco-depression symptoms across groups, linking stronger eco-identities to higher distress but also greater environmental efficacy and meaning-focused coping. The "Being Green" group uniquely reported changes in life goals due to climate change. Preliminary findings indicate significant heterogeneity in adolescents' eco-self-identity, highlighting that up to 28% of adolescents show their strong eco-identity affects their daily lives. Fostering eco-self-identity alongside effective coping may enhance resilience against climate-related stressors for these youth. Confirmatory findings from Study 2 (N ~ 1500) will be presented at the conference.

Keywords: eco-self-identity, adolescent, climate anxiety, eco-depression, coping strategies

**ID-1257: HOW ADOLESCENT IDENTITIES DIFFER ACROSS GROUPS WITH VARIED EXPECTATIONS OF GLOBAL WARMING AND CLIMATE FUTURES**

Wiebe Bor[1], Andrik I. Becht[2], Tim Favier[1], Tine Beneker [1]

*[1]Geography and Education, Utrecht University, Utrecht, Netherlands, [2]Youth and Family Research Center, Utrecht University, Utrecht, Netherlands*

Youth relate to future climate change in different ways. While research has examined various aspects of their beliefs about climate change, the expectations they hold for the future remain largely underexplored. This study investigates how adolescents' expectations of future global warming vary across groups and how these differences relate to their environmental identity, attitudes and behavior toward climate change. In a survey of Dutch adolescents (N = 294, ages 13–20), participants provided responses to measure these variables. Latent Profile Analysis identified three distinct groups with differing beliefs and identity profiles. The Alarmed (15%) expect severe global warming but also believe a low warming outcome is possible. They are highly engaged, with a strong environmental identity, experiencing both anxiety and hope. They believe in their efficacy and report stronger intentions for pro-environmental behavior. The Moderates (59%) expect moderate warming but hold this belief less strongly and do not rule out extreme or limited outcomes. They are somewhat engaged, with an average environmental identity, lower concern and anxiety than the Alarmed, but similar levels of hope and actual environmental behavior. The Downplayers (17%) reject the possibility of severe global warming, viewing climate change as a minor issue. Despite moderate biospheric values, they show little engagement, a low environmental identity, and experience weak social norms for environmental behavior from their social environment. These findings provide a nuanced view of adolescents' expectations about future global

warming, revealing distinct identity profiles and differences in attitudes, which can inform climate communication and education strategies.

Keywords: adolescents, climate change expectations, environmental identity, pro-environmental behavior, latent profile analysis

**17-06-2025 | 17:15 - 18:30**

**S-074**: **Carbon footprint**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Flora Room*

Chair (IS): Dr. Kristin Hurst, Southern Illinois University, Carbondale, United States

**ID-445: NO EFFICACY BOOST FROM DELIBERATION: EXPERIENCES FROM UNIVERSITY MINI-PUBLICS ON CARBON NEUTRALITY**

Clara Elisa Simon[1], Karen Kastner [1], Silke Rühmland [1], Hannah Wallis [1], Ellen Matthies [1]

[1]*Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*

**Introduction:** Participation processes like deliberative mini-publics (DMPs) are often considered ideal for involving people in challenging and controversial transformation processes in the context of climate change and resolving conflicts of interest. **Goals & Objectives:** Despite the growing use of DMPs, little is known about their psychological impact on participants, particularly concerning efficacy beliefs and second-order normative beliefs. Our study addresses this research gap. **Materials & Methods:** We established and researched four parallel DMPs at German universities addressing the transformation to carbon-neutral universities. Students, professors, and scientific and non-scientific staff participated in the DMP. Our study included 60 DMP participants, along with two control groups: individuals interested in but not selected for DMP participation (CG1, N = 55) and individuals who opted not to participate (CG2, N = 54). We measured participative and collective efficacy beliefs as well as second order normative beliefs before and after the DMP, alongside a set of process-evaluation items in the DMP group. **Results:** Contrary to expectations, no significant time*group interaction effects were observed for most variables. Notably, collective efficacy beliefs slightly declined over time in the DMP group, deviating from our expectation of an increase. Exploratory analyses suggest that this might be related to pessimistic views on the implementation of DMP results. **Conclusions:** Our findings indicate that DMPs may not necessarily strengthen efficacy beliefs. However, more research on larger-scale DMP processes is needed to learn more about their psychological effects.

Keywords: participation, deliberation, efficacy beliefs, organizational transformation, university

**ID-658: SELF-SILENCING PREDICTS BEHAVIORAL CONFORMITY IN SUSTAINABILITY CONTEXTS**

Kristin Hurst[1], Nicole Sintov [2], Logan Hobbs [3], Grant Donnelly [2]

[1]*Southern Illinois University, Carbondale*, *United States*, [2]*The Ohio State University*, *Columbus, United States*, [3]*Michigan State University*, *East Lansing*, *United States*

Prior research has examined how self-silencing among people who hold the minority viewpoint influences public opinion on a range of social and environmental issues. However, less attention has been given to understanding the potential behavioral consequences of self-silencing, such as whether a person who holds the minority viewpoint is more or less likely to behave in support of their own views following a conversation in which they refrained from expressing their opinion. In a pre-registered mixed-methods experiment, N = 248 university student participants were randomly assigned to have a short video recorded conversation with a confederate (posing as another student) who gave arguments either in support of or in opposition to a campus sustainability policy. We examined how participants engaged in the conversation and behaved following the conversation, and whether this varied as a function of whether their pre-conversation viewpoint was in the majority vs. minority. Relative to participants holding the majority viewpoint going into the conversation, those who held the minority viewpoint were overall, more likely to self-silence (i.e., avoid expressing their own opinion), particularly when they were paired with a partner who expressed the majority viewpoint. Self-silencing, in turn, was associated with lower cognitive elaboration. However, neither self-silencing nor lower cognitive elaboration predicted lower post-conversation behavior in support of the policy, suggesting behavioral conformity to the majority viewpoint. Not only are minority views less likely to be expressed and acted upon, but such silencing may come at the cost of learning and mutual understanding.

Keywords: spiral of silence, peer-to-peer conversation, pro-environmental behavior, policy support

**ID-782: THE IMPLICATIONS OF NUDGING TO ENCOURAGE PRO-ENVIRONMENTAL BEHAVIOUR: MODERATING EFFECTS OF BIOSPHERIC VALUES AND CARBON FOOTPRINTS**

Jack Drummond[1; 2]

[1]*Te Herenga Waka - Victoria University of Wellington*, *Wellington*, *New Zealand*, [2]*GNS Science*, *Wellington*, *New Zealand*

Behaviour change is a crucial tool for mitigating climate change, but it should be applied ethically and equitably. This study investigated the effectiveness of a default-framing nudge in promoting pro-environmental behaviour and explored how biospheric values and carbon footprints influence a nudge's effectiveness. Using principles from dual-process theory, value theory, and nudge theory, data was collected through an online survey hosted on Qualtrics (n=358). The survey included a charity selection question as a proxy measure for pro-environmental behaviour. Participants were randomly assigned to either a control group (neutral framing) or a treatment group (default-framing nudge with a pro-environmental charity as the default). Binomial logistic regression was conducted to analyze the moderating effects of biospheric values and carbon footprints on the relationship between the nudge and pro-environmental behaviour. Analysis revealed that the nudge significantly increased pro-environmental choices (95% in the treatment group vs. 58% in the control). In the control group, both biospheric values and carbon footprints correlated with pro-environmental choices. However, in the treatment group, only carbon footprints correlated with pro-environmental choices, suggesting that higher carbon footprints moderated the nudge's effectiveness (Exp(B) = 0.861, p = 0.027). Findings confirm that nudges can

promote pro-environmental behaviour but also highlight ethical risks, including inequitable outcomes and reduced decision-making consciousness. Future research should incorporate measures like carbon footprints to ensure more equitable and holistic behaviour change interventions.

Keywords: default-framing nudge, pro-environmental behaviour change, biospheric values, carbon footprint, climate justice

**ID-1015: #MANYDESIGNSCARBON**

Rene Schwaiger[1]

[1]*University of Innsbruck*, *Innsbruck*, *Austria*

This project pioneers a novel approach to researching support for climate policies by applying a "many-designs" crowd-science methodology (see e.g., Huber et al., 2023) to examine the capacity of behavioral interventions to enhance support for carbon pricing in the U.S. The primary scientific contribution lies in reporting the meta-effect of these interventions, as tested through 56 independently crafted designs by international research teams, on real-world observed support for carbon pricing. Additionally, the study evaluates their impact on a range of stated support measures. By standardizing the implementation of these interventions, the project ensures comparability of results, offering robust and generalizable insights into the effectiveness of behavioral approaches in promoting climate policy acceptance. Beyond estimating the meta-effect within a general U.S. population sample, the project pursues a meta-scientific goal: exploring the heterogeneity in proposed interventions and policy support measures across teams, thereby showcasing the methodological diversity within the field. Guided by the research question, *"What is the impact of behavioral interventions on real-world support for a carbon price?"*, participating teams designed and programmed their experiments, hosting the software on their servers. The project coordinators ensured uniform implementation of all experiments using Prolific. The overarching objective is to address challenges related to introducing or significantly increasing carbon prices, advancing socially supported carbon pricing mechanisms.

Keywords: ManyDesigns, carbon tax, support, metascience

**17-06-2025 | 17:15 - 18:30**

**S-077**: **Coping**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Forest Room*

Chair (IS): Annabel Levesque, Université de Saint-Boniface, Winnipeg, Canada

**ID-301: CLIMATE WORRY AND MENTAL HEALTH: THE ROLE OF PRO-ENVIRONMENTAL BEHAVIOR AND EFFICACY-BASED HOPE AS COPING**

Veera Nieminen[1; 2], Timo Partonen [3], Jaana I. Halonen [1], Katriina Hyvönen [4], Timo Lanki [1; 5], Auriba Raza [6], Marianna Virtanen [2]

[1]*Finnish Institute for Health and Welfare*, *Kuopio*, *Finland*, [2]*University of Eastern Finland*, *Joensuu*, *Finland*, [3]*Finnish Institute for Health and Welfare*, *Helsinki*, *Finland*, [4]*Jamk University of Applied Sciences*, *Jyväskylä*, *Finland*, [5]*University of Eastern Finland*, *Kuopio*, *Finland*, [6]*Stockholm University*, *Stockholm*, *Sweden*

We examined whether climate worry, efficacy-based climate hope and pro-environmental behavior (PEB) are related to depressive and anxiety symptoms. We also studied whether efficacy-based climate hope (as a meaning-focused coping strategy) or PEB (as a problem-focused coping strategy) moderate the association between climate worry and these symptoms. Furthermore, we investigated whether PEB, when supported by efficacy-based climate hope is a protective factor for mental health. We analyzed these associations among Finnish adults (n=5701). High climate worry was associated with depressive (OR, 1.39, 95%, CI, 1.13–1.69) and anxiety symptoms (OR 1.91, 95% CI 1.52–2.40). Efficacy-based climate hope or PEB did not moderate these associations. However, efficacy-based climate hope moderated the association of PEB with both mental health outcomes. Among those who had high levels of PEB engagement and high levels of hope had lower odds of depressive and anxiety symptoms compared with those who had high PEB engagement and low levels of hope. Although climate worry was related to mental health symptoms in our study, based on our findings on the buffering effect of hope, we suggest that the focus of psychological adaptation to climate crisis should not be on eliminating distress, but on finding a way to channel it. It is possible that a coping strategy combining behavioral engagement with climate hope might provide the best outcome from a planetary health perspective, that is, where the mental health related consequences of climate change are restrained, individuals' agency enhanced, and the necessary commitment to climate change mitigation promoted.

Keywords: climate worry, pro-environmental behavior, climate hope, problem-focused coping, meaning-focused coping

## ID-643: INTEGRATING EMOTION COPING STRATEGIES IN CLIMATE EDUCATION AND EXPLORING A NEW CLIMATE EMOTION SCALE FOR YOUTH: A PILOT STUDY

Annabel Levesque[1], Rhéa Rocque [1]

[1]*Université de Saint-Boniface*, *Winnipeg*, *Canada*

**Introduction**: Learning about climate change in school is crucial, but it often evokes a range of emotions among learners. Effectively addressing climate change requires not only raising awareness but also equipping youth with tools to navigate the emotions associated with this global crisis. **Goals & Objectives**: This pilot study aimed to (a) develop and evaluate a new teaching framework integrating climate education with emotion coping strategies and (b) explore a new Climate Emotion Scale for Youth. **Materials & Methods**: The study was conducted in partnership with a Canadian school located in an urban setting. In phase 1 (pre-intervention), 146 students, aged 11 to 14, completed the Climate Change Hope Scale and the new Climate Emotion Scale for Youth. In phase 2 (post-intervention), 93 students repeated the measures after implementing classroom-based intervention strategies. **Results**: Three categories of climate emotions emerged: positive emotions, negative emotions, and emotional detachment. Positive and negative emotions were positively correlated and linked to both personal and collective willpower and waypower, while emotional detachment correlated with lack of willpower and waypower. Emotional detachment significantly increased post-intervention (with a small effect size), with no significant changes

observed in positive or negative emotions. **Conclusions**: The findings underscore the nuanced emotional responses of youth to climate change and their emotional needs. Increasing efforts to foster a balanced emotional response—where learners grasp both the urgency of climate issues and the hope for positive change—may enhance their resilience and engagement in tackling environmental challenges.

Keywords: environmental education, environment and wellbeing, climate emotions, emotion coping strategies, youth

**ID-692: ECOLOGICAL DISTRESS AND COPING IN CLIMATE ACTIVISTS AND NON-ACTIVISTS**

Sinead Sheehan[1], Vera Anton [2], Molly Kilkenny [2]

*[1]School of Psychology, Galway, Ireland, [2]School of Psychology, University of Galway, Galway, Ireland*

Recent evidence demonstrates that young people and adults are worried about climate change and the IPCC has outlined current and predicted mental health impacts of climate change. There are mixed findings on the relationship between eco-distress and mental health problems which may be explained by qualitatively different types of coping, such as emotion-focused, meaning-focused on problem-focused. The aims of this qualitative study were to provide a) a preliminary understanding of whether the transactional model of stress could be applied to understanding ecological distress and coping and b) a qualitative understanding of coping with climate change in activists and non-activists. Fourteen self-defined activists and eleven non-activists aged 18-70 years took part in individual semi-structured interviews. The data was analysed using deductive and inductive thematic analysis resulting in two themes: eco-distress and coping. Eco-distress theme: Activists and non-activists expressed similar risk perceptions about climate change, but non-activists expressed a more pessimistic outlook and feelings of lack of control over climate change, whereas activists expressed a belief in their own ability to respond to the climate crisis. Coping theme: Non-activists primarly used emotion-focused coping strategies, such as avoidance and distraction to deal with challenging eco-emotions, whereas participation in climate activism appeared create a sense of meaning as well as a support network in relation to coping with the psychological impacts of climate change. Climate activists and non-activists appeared to use qualitatively different strategies in coping with ecological distress, and this may have implications for understanding the relationship between eco-distress and mental health.

Keywords: eco-anxiety, climate activism, eco-distress, coping, mental health

**ID-1004: UNDERLYING ROLE OF ADVERSE CHILDHOOD EXPERIENCES AND COPING MECHANISMS IN THE ASSOCIATION BETWEEN ECO-ANXIETY AND ENVIRONMENTALLY FRIENDLY CONSUMPTION**

Aistė Bakaitytė-Bagdonė[1], Audra Balundė [1], Dovilė Šorytė [1], Rita Žukauskienė [1]

*[1]Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania*

In the face of an ecological crisis, young people are especially prone to experience distress associated with it (Hickman et al., 2021). Moreover, adverse childhood experiences (ACE) might also play a role in young people's emotional response to ecological crisis, as these experiences increase the risk of psychological health problems in later life (Bacouni et al., 2022). The climate crisis can activate or intensify the feeling of

insecurity of people who experienced violence in childhood, which can provoke eco-anxiety. For some, eco-anxiety may serve as a catalyst for action, motivating sustainable consumption. However, for individuals with ACEs, eco-anxiety might exacerbate feelings of hopelessness, potentially leading to disengagement from sustainable practices. Therefore, the current study will aim to explore the relationship between eco-anxiety and sustainable consumption considering the history of ACEs, and coping mechanisms. To address this aim, we will conduct a convenience sample study of young Lithuanian adults (18-35 years old) between January and April 2025 (N=600). Items from the Climate Change Anxiety Scale (Clayton & Karazsia, 2020), and the Coping Strategies instrument (Ojala, 2012; Ojala & Bengtsson, 2019) will be used, together with the questions about environmentally friendly consumption, developed specifically for the study. Path analysis using structural equation modeling will be applied for data analysis. We hypothesize that ACEs will be positively associated with eco-anxiety, and the relationship between eco-anxiety and environmentally friendly consumption will be moderated by coping mechanisms. We will explore the practical implications of our findings and discuss future directions.

Keywords: eco-anxiety, environmentally friendly consumption, adverse childhood experiences, coping mechanisms, young adults

**ID-534: HOPE ON CLIMATE CHANGE INSPIRES CREATIVITY**

Alexa Spence[1]

[1]*School of Psychology, University of Nottingham*, *Nottingham*, *United Kingdom*

Individual behaviour change is needed for a sustainable future to mitigate climate change however extensive barriers to action are documented. Whilst emotional responses to climate change have been a repeated focus in the literature, there has been far greater attention on negative rather than positive emotions. The Broaden and Build model (Fredrickson,2004) suggests that positive emotions can increase creativity and improve decision making. We suggest that the predominant use of behavioural intention scales in environmental psychology literature may have resulted in more nuanced impacts of positive emotions on decision-making being ignored. We will present three studies that examine this notion. Study 1 uses a video communication in a between participants experimental design that inspires either hope or fear on climate change, finding a subsequent increase in divergent thinking, an indicator of creativity, in the hope condition. Study 2 develops a new measure of environmental creativity and establishes convergent validity. Study 3 again uses a between participants experimental design, inspiring either hope or fear with the same video communication as used in study 1. Data from study 2 finds an increase in environmental creativity, although here no increase in general divergent thinking, in the hope condition. Findings provide some initial support for the idea that feelings of hope can inspire creativity in sustainable behaviour, with potential implications for overcoming barriers to action. We suggest our new measure of environmental creativity may be useful to others examining impacts of communications or environmental experiences on subsequent behaviour.

Keywords: climate change perceptions, hope, positive emotion, creativity, decision making

**17-06-2025 | 17:15 - 18:30**

**S-078**: **Soundscapes**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Dawn Room*

Chair (IS): Prof. Cecilia Stenfors (Department of Psychology, Stockholm University, Stockholm, Sweden)

### ID-479: IMPACT OF SOUNDSCAPES ON CREATIVITY, EMOTIONAL STATES, AND PERCEIVED RESTORATIVENESS

Simone Grassini[1], Maria Ulvang [1], Markus Malkenes Sørt [1], Enrico Cipriani [2], Eleanor Ratcliffe [3]

*[1]University of Bergen, Bergen, Norway, [2]University of Pisa, Pisa, Italy, [3]University of Surrey, Guildford, United Kingdom*

The study investigates the effects of nature, urban, and ambiguous soundscapes on creativity performance, affect, perceived restorativeness, and physiological responses. Using a between-subjects experimental design, the participants were randomly assigned to one of three soundscapes: nature (birdsong), urban (metro sounds), or ambiguous (pink and white noise). Pre- and post-exposure measures assessed affective state, stress, arousal, and relaxation. Participants completed two creativity tasks: the Alternate Uses Task (AUT) and the Figural Interpretation Quest (FIQ), evaluating divergent thinking across creativity, originality, flexibility, and fluency. Hypotheses included higher creativity performance and perceived restorativeness in the nature soundscape condition, with urban soundscapes hypothesized to increase stress and arousal. Moderating effects of closeness to nature, familiarity, and perceived naturalness were also explored. Preliminary findings regarding the differences in creative performance and emotional responses across soundscape conditions will be presented. These results will be important in the context of the use of environmental soundscapes for promoting well-being and cognitive performance, offering implications for urban design, workplace environments, and therapeutic interventions.

Keywords: restorative environments, soundscapes, experimental design

### ID-907: PATHWAYS TO RESTORATIVE NATURAL SOUNDSCAPES

Konrad Uebel[1], Eleanor Ratcliffe [1], Claire Buchan [2], Simon J. Butler [3], Nicholas Hanley [4], Anthony Higney [4], Melissa Marselle [1]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [2]University of East Anglia, Norwich, United Kingdom, [3]School of Biological Sciences, University of East Anglia, Norwich, United Kingdom, [4]School of Biodiversity, One Health, and Veterinary Medicine, University of Glas, Glasgow, United Kingdom*

Soundscapes from natural areas are an important cultural ecosystem service that can promote greater mental health and well-being. However, the mechanistic and mediating pathways by which this occurs are not yet fully understood, limiting their integration into ecosystem service frameworks. We addressed this gap by examining a range of mediating pathways, including perceived restorativeness, perceived stress and awe, between subjective and objective measures of natural soundscapes and well-being. To achieve this we conducted online surveys in which a representative UK sample (N=1529) of participants listened to soundscape samples that differed in levels of three acoustic properties (complexity, amplitude, intensity) and responded to measures of subjective well-being and perceived restorative outcomes. Perceptions of bird diversity within soundscapes and a range of socio-demographic covariates were also assessed. Results indicated the relationship between perceived bird diversity and well-being was mediated by greater perceived restorative qualities of the soundscape, reduced perceived stress and a greater sense of awe. Soundscapes with moderate levels of acoustic complexity and higher amplitude displayed an indirect effect on well-being via a double mediation pathway: first through greater perceptions of bird diversity and then either greater perceived restorativeness, reduced perceived stress or increase awe. These results highlight the importance of person-environment transactions in nature experiences through auditory stimuli and can inform the management and valuation of soundscapes in natural areas.

Keywords: natural soundscapes, perceived restorativeness, bird calls, mediating pathways, acoustic complexity

**ID-311: THE POWER OF AWE IN NATURAL ENVIRONMENTS: EXPLORING PSYCHOLOGICAL MECHANISMS LINKING NATURE EXPOSURE AND WELL-BEING**

Meihui Zhou[1], Lucia Bosone [1], Franck Zenasni [2], Ronghua Zhang [3]

*[1]Université Gustave Eiffel, Université Paris Cité, LaPEA*, *Versailles*, *France*, *[2]Université Paris Cité and Université Gustave Eiffel, LaPEA*, *Boulogne-Billancourt*, *France*, *[3]Wuhan University, Institute of Developmental and Educational Psychology*, *Wuhan*, *China*

Previous research has demonstrated that nature exposure is positively correlated with subjective well-being. However, the specific mechanisms underlying this relationship have remained unclear. Gaining clarity on these mechanisms is crucial, as it would enable the formulation of more targeted strategies and the selection of optimal natural environments to effectively enhance subjective well-being. To address this gap, we conducted a correlational study (N=301) whereby participants answered to a questionnaire including measures of (1) Nature Exposure (time and frequency spent in nature), (2) Connectedness to Nature, (3) Inclusion of Nature in Self, (4) Awe (subscale of the Dispositional Positive Emotion Scale), and (5) Subjective Well-Being (SWB). The results revealed that connectedness to nature and experiences of awe were positively correlated with both nature exposure and subjective well-being. Importantly, our mediation analysis supported our hypothesized mediation model, demonstrating that connectedness to nature and awe fully mediated the relationship between nature exposure and subjective well-being. This suggests that feeling a sense of awe plays a vital role in how individuals derive benefits from their interactions with nature. These results highlight the importance of awe as a key psychological mechanism through which nature exposure can enhance overall well-being. The study highlights the critical roles of

awe and connectedness to nature in enhancing subjective well-being through nature exposure. It is suggested to intentionally choose awe-eliciting natural environments to induce a sense of connectedness to nature with designed strategies. The following studies will discuss nature experience's effects on future prospection and pro-environmental behaviors.

Keywords: nature exposure, awe, connectedness to nature, well-being

**ID-590: FLOW IN NATURE: HOW DOES NATURE ENGAGEMENT CULTIVATE OPTIMAL EXPERIENCE?**

Megan Cumming[1], Birgitta Gatersleben [2], Jason Davies [1], Amy Isham [1]

*[1]School of Psychology, Swansea University, Swansea, United Kingdom, [2]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom*

**Introduction**: Contact with, and connection to, nature is widely reported to support human mental health and ecological wellbeing. Psychological flow is a form of optimal experience arising from immersion in an intrinsically motivated activity. It has been shown to support wellbeing and increasingly, pro-environmental values. However, little is known about how flow experiences may be facilitated by natural environments. **Objectives**: This research seeks to understand how and why contact with nature impacts flow. It forms part of the final stages of a PhD project exploring the relationship between flow experiences and environments (natural and built). **Materials & Methods**: Study 1 used qualitative interviews with 15 adults attending a six-week nature-based course in South Wales, UK. Thematic analysis of transcripts documented participants experiences of flow during the course and how this was tied to the natural environment. Study 2 employed an online survey (n = 763) with mediation analysis to assess whether fulfilment of basic psychological needs could account for why time spent in natural spaces is associated with flow experiences and subsequent wellbeing. **Results**: Both studies show that flow occurs in nature-based activities such as walking, woodland crafts, birdwatching and orienteering. Analysis of the survey findings highlights which of the three basic psychological needs account for flow during visits to natural environments. **Conclusions**: These findings have practical implications for the design of nature-based interventions and provision of accessible natural spaces to support optimal experiences of flow.

Keywords: flow experience, natural environments, activity immersion, wellbeing, self-determination theory

**17-06-2025 | 17:15 - 18:30**

**S-097**: **Collective action**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Sun Room*

Chair (IS): Samuel Finnerty, Lancaster University, Department of Psychology, Lancaster, United Kingdom.

## ID-781: EXPLORING THE MOTIVATIONAL INFLUENCES ON PRO-ENVIRONMENTAL IDENTITY CONSTRUCTION: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS AMONG ENVIRONMENTALISTS

Stephanie Szeto[1], Algae Kit Yee Au [2]

[1]*Saint Francis University*, *Hong Kong*, *Hong Kong*, [2]*The Hong Kong Polytechnic University*, *Hong Kong, Hong Kong*

The construction of a pro-environmental identity is found associated with the enactment of pro-environmental behaviours (PEB). While previous studies have employed frameworks such as the theory of planned behaviour, norm-activation theory, and habit formation to understand PEB, these approaches largely focus on explaining behaviour, often overlooking the motives for constructing a pro-environmental identity. The present research draws on motivated identity construction theory to investigate how six identity motives - self-esteem (maintaining a positive self-concept), efficacy (feeling competent and in control), continuity (preserving a consistent identity over time), distinctiveness (establishing a unique identity), meaning (finding purpose in one's existence), and belonging (achieving social acceptance) – influence pro-environmental identity and PEB. Adopting a qualitative approach, in-depth interviews will be conducted with 20 self-identified environmentalists recruited from environmental organizations. Data will be analysed using interpretative phenomenological analysis (IPA), which serves the purpose of making sense of participants' phenomenological worlds. IPA's shared experiences approach involves identifying general themes applicable across participants, followed by an examination of each theme to ensure individual narratives are fully represented rather than being solely averaged or generalised. Preliminary findings, expected in April 2025, aim to reveal the centrality of pro-environmental aspect within identity, assess how environmentalists perceive the satisfaction of identity motives through the enactment of PEB, and explore additional motives that may contribute to the construction of a pro-environmental identity. This research seeks to advance the understanding of identity-driven PEB.

Keywords: pro-environmental identity, pro-environmental behaviour, identity motive, identity enactment, interpretative phenomenological analysis

## ID-59: BEYOND RESEARCH: IDENTITY AND ETHICAL TENSIONS AMONG ENVIRONMENTALLY ENGAGED SCIENTISTS IN CLIMATE ADVOCACY

Samuel Finnerty[1], Mark Levine [1], Jared Piazza [1]

[1]*Lancaster University, Department of Psychology*, *Lancaster*, *United Kingdom*

This presentation examines how environmentally engaged scientists negotiate their identities and ethical commitments in response to the climate crisis, drawing on survey and interview data from environmentally concerned scientists globally. As the crisis escalates, some scientists move beyond traditional roles to take visible action, contributing to an emerging "scientist-activist" identity. However, this shift raises challenges, particularly around balancing scientific objectivity and impartiality with advocacy. Using a mixed-methods approach, we conducted surveys (N = 329) and interviews (N = 27) with scientists from diverse fields, gathering data on beliefs on scientific duty, advocacy, and identity. Statistical analysis identified key predictors of engagement, while qualitative analysis provided insight into the

motivations, ethical considerations, and identity negotiation strategies shaping scientists' advocacy. Quantitative findings revealed that managing the inter-identity fit between science and activism significantly impacted levels of environmental engagement. Additionally, scientists who perceived a conflict between their scientific identity and activism more frequently endorsed techno-solutionism as an alternative. Qualitative analysis further highlighted that some scientists aligned advocacy with their scientific identity, viewing it as a moral duty and using values of objectivity to argue for scientist-activism. However, others expressed concerns that visible advocacy could compromise objectivity, potentially undermining public trust in science. These findings underscore how values, identity, and ethical considerations shape scientists' roles in climate advocacy, offering a nuanced understanding of pro-environmental behaviour. Given the scale of the challenges posed by the climate crisis and scientists' potential to drive change, understanding this diverse group's motivations and ethical perspectives is vital.

Keywords: environmental advocacy, scientist identity, scientific values, climate activism, social identity

**ID-941: A CLIMATE ACTION INTERVENTION BOOSTS 10 PSYCHOLOGICAL TRIGGERS ENCOURAGING CLIMATE EDUCATION AND ADVOCACY BEHAVIORS**

Anna Castiglione[1], Cameron Brick [2], Andrea Bizzego [1], Gianluca Esposito [1]

*[1]Department of Psychology and Cognitive Science, Trento, Italy, [2]5Department of Psychology, Faculty of Social and Behavioural Sciences, University, Amsterdam, Netherlands*

In this study, we tested whether a longitudinal intervention aiming to increase key psychological correlates of pro-environmental behavior, motivated Italian university students to take climate action. For six weeks we exposed participants to in-person interactive lessons and activities that were developed from existing psychological theories and interventions. The goal was to increase pro-climate behavior by leveraging 12 psychological correlates such as beliefs, attitudes and affect. Before and after the intervention, participants completed surveys measuring the psychological correlates, and also reported individual and collective pro-climate behaviors via Ecological Momentary Assessment (EMA). The study included a control group. The results revealed that 10 of the 12 factors were successfully increased, and 6 remained high after a three month period. After an unexpected initial increase in collective action due to motivational bias, collective action engagement remained high in the participants attending our intervention (especially education and advocacy). Also collective action planning stayed high until after the intervention, but dropped after three months. The participants' ability to turn their plans into action (plan-action alignment) increased in the long run. The behavioral effects were predicted by different combinations of the psychological correlates, among which emotional engagement, self efficacy, collective efficacy, theory of change, collective identity and cognitive alternatives.

Keywords: climate change, climate action, climate activism, pro-environmental behavior, climate education

**ID-954: FROM GREEN HYPOCRISY TO PUBLIC ACTION: NATIONAL IDENTIFICATION MODERATES THE INDIRECT EFFECT OF GOVERNMENTAL HYPOCRISY ON COLLECTIVE ACTION INTENTIONS**

Luca Fehér[1], Olivier Klein [1], Judit Kende [2], Christoph Klebl [3]

*[1]Université Libre de Bruxelles, ULB*, *Bruxelles*, *Belgium*, *[2]Tilburg University*, *Tilburg*, *Netherlands*, *[3]The University of Queensland*, *Brisbane*, *Australia*

Governmental hypocrisy in environmental protection has become increasingly visible, raising concerns about its political and social consequences. While much attention has been given to its impact on public trust and individual behavior, less is known about how such hypocrisy influences collective action. Drawing on Self-Categorization Theory, we propose that emotional discomfort can arise when people perceive their group, including political entities like governments, as hypocritical. Therefore this study explores the role of emotional discomfort, national identification, and ecological dominance orientation in shaping responses to perceived governmental hypocrisy in environmental protection. Using data from a Belgian sample (N = 2178) collected via an online questionnaire distributed by local newspapers, we conducted a mediation analysis. The results showed that perceived governmental hypocrisy significantly predicted intentions for collective action through emotional discomfort. This mediation was influenced by national identification but not by ecological dominance orientation. These findings emphasize the political nature of hypocrisy perceptions and demonstrate how national identification can relate to individuals' sensitivity to governmental failings, motivating collective responses. Our study underscores the importance of the interplay between social identity, political systems, and environmental activism, broadening the understanding of how perceived hypocrisy can mobilize collective efforts for systemic change.

Keywords: perceived hypocrisy, collective action, national identification, environmental activism, emotional discomfort

**ID-620: SUSTAINABLE LIFESTYLES**

Debora Frei[1], Bernadette Sütterlin [1]

*[1]Zurich University of Applied Sciences*, *Winterthur*, *Switzerland*

Lifestyles are increasingly recognized as an efficient tool for understanding and driving behaviour change. This is because they enable a tailored approach that outperforms traditional one-size-fits-all strategies by addressing individual differences. Previous lifestyles segmentations have typically focused on only one behavioural domain, such as mobility or nutrition, thereby providing only a partial view of lifestyles and how they are reflected in behaviour. However, the development of effective, targeted measures requires a comprehensive understanding of the environmentally-relevant behaviour of different lifestyle groups and whether their behaviour is consistent or differs across various domains and settings. To address these gaps, we adopted a comprehensive approach, assessing a range of environmentally-relevant behaviours that vary by type (e.g., sufficiency, efficiency), domain (e.g., housing, mobility, food), and context (e.g., private life, work, leisure, public sphere). We also considered overarching lifestyle preferences (e.g., voluntary simplicity, hedonism, openness) and different psychosocial behavioural drivers. Using cluster analysis on a representative Swiss sample of 1,533 individuals, we identified six distinct lifestyles types: the humble environmentalist, the budget-conscious pleasure-seeker, the indifferent hedonist, the socially connected techie, the frugal traditionalist, and the sustainable lifestyle optimizer. Each type demonstrates

unique patterns of environmentally-relevant behaviour, driven by specific lifestyle preferences and psychosocial factors. These findings highlight the heterogeneity of environmental-related lifestyles and the importance of a comprehensive approach and they provide valuable insights into diverse entry points for targeted interventions. By leveraging this understanding, policymakers and practitioners can design more effective environmental strategies and maximize their impact on promoting sustainable living.

Keywords: sustainability behaviour, behaviour change, segmentation

**17-06-2025 | 20:00 - 23:00**

**Conference Dinner**

*Smoke Factory (outside of conference venue)*

## 18 June 2025 | Wednesday

**18-06-2025 | 08:00 - 19:00**

**Registration**

*Registration Desk*

**18-06-2025 | 08:30 - 09:30**

**Keynote Lecture by Maria Lewicka (Poland)**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Place identity and place attachment)

*Earth Hall Plenary*

Chair: Prof. Mykolas Simas Poškus (Mykolas Romeris University, Environmental Psychology Research Centre, Vilnius, Lithuania)

**ID-1273: PLACE ATTACHMENT IN MOBILE, DIVERSE, AND URBANIZED SOCIETIES**

Maria Lewicka[1]

[1]*Nicolaus Copernicus University*, *Toruń*, *Poland*

Place attachment is an emotional bond that connects people to places and contributes to social engagement and personal well-being. The concept of place attachment draws from two theoretical

traditions: phenomenological (sense of place) and community psychology (community attachment), giving rise to different ways in which place attachment has been understood and to different methods of measurement. Original studies on place attachment were greatly influenced by the essentialist concept of place, in which an ideal relation between people and places was that of rootedness. Contemporary approaches, by contrast, take into account that modern places are not bounded entities with stable identities inhabited by traditional and homogeneous communities, but that they are open, socially diverse, and changing. This raises some questions concerning the complex relationships between mobility and social diversity, and place attachment, and it also affects the contents of measurement instruments. In my presentation, I will (1) show the evolution of the changing meaning of place and the way it affects the concept of place attachment; (2) show that place attachment can take different forms (traditional versus active), leading either to positive or to negative relations with mobility and attitudes towards diversity and change; (3) present measures that allow differentiation between different styles of place attachment; and (4) review survey results that show that certain essentialist meanings of place such as historical continuity are associated with active forms of place attachment and with positive attitudes towards change.

Keywords: place attachment, mobility, rootedness, essentialist vs. progressive meaning of place, stability vs. continuity

**18-06-2025 | 09:30 - 09:45**

**Relocation Break**

*Campus Courtyard*

**18-06-2025 | 09:45 - 11:00**

**S-046**: **Psychological Determinants of Pro-Environmental Policy Acceptance**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Fauna Room*

Chair: Dorothea Metzen, TU Dortmund University, Institute of Psychology, Dortmund, Germany.

**ID-1125: WHEN AND WHY DO PEOPLE ACCEPT CLIMATE POLICIES? TESTING THE INTEGRATIVE PUBLIC POLICY ACCEPTANCE (IPAC) FRAMEWORK**

Sonja Grelle[1], Wilhelm Hofmann [2]

*[1]Ruhr-Unversity Bochum, Social Psychology, Bochum, Germany, [2]Ruhr-University Bochum, Social Psychology, Bochum, Germany*

Individual sustainable behavior is shaped by a broader socio-political context that either constrains or facilitates available options. Understanding when and why people support climate policies designed to

promote systemic sustainability is crucial for effective climate change mitigation. The Integrative Public Policy Acceptance (IPAC) Framework synthesizes key psychological determinants of public policy acceptance into a unified model, highlighting the central role of individuals' Desire for Governmental Intervention (DGI) (Grelle & Hofmann, 2024). The IPAC proposes that problem awareness predicts policy acceptance, with this relationship mediated by DGI. Furthermore, support-seeking characteristics, such as trust in government, control/responsibility attributions, and perceived changeability are predicted to shape DGI, possibly in interaction with problem awareness. Policy qualities, such as effectiveness, fairness, and regulatory depth, in turn, are expected to shape policy acceptance, possibly in interaction with DGI. To test these predictions, we conducted a large online study (n = 1,000, $n_{obs}$ = 25,080) across diverse environmental domains, including transportation, meat consumption, housing, food waste, and fast fashion. Multilevel regression analyses provided strong empirical support for many of the IPAC's proposed main links affecting DGI and acceptance, as well as the mediation of the effect of problem awareness on acceptance via DGI. Subsequent moderator analyses yielded more mixed results. Together, these findings underline the importance of addressing psychological and contextual factors in designing climate policies. The IPAC offers valuable insights for fostering public support for sustainability policies, contributing to climate change mitigation.

Keywords: IPAC framework, desire for governmental intervention, sustainable transformation, policy acceptance

**ID-1126: DISCOURSES OF CLIMATE DELAY AND THEIR ASSOCIATION WITH PRO-ENVIRONMENTAL POLICY ACCEPTANCE**

Dorothea Metzen[1], Paula Blumenschein [1], Stephan Heinzel [1]

[1]*TU Dortmund University, Institute of Psychology, Department of Educational Scien*, *Dortmund*, *Germany*

**Background & Objectives**: The progressing climate and biodiversity crises present a threat to human health and well-being worldwide. While urgent political mitigation measures are needed, the public discourse about the climate crisis does not reflect this urgency. Lamb et al. 2020 presented a framework to explain and categorize common excuses against committing to mitigation measures. The framework consists of four broader discourses: redirect responsibility, surrender, emphasize the downsides and push for non-transformative actions. **Method:** We developed a 12-item questionnaire for the discourses of climate delay and applied it in a representative German sample (n = 966). Furthermore, we assessed pro-environmental policy acceptance with a 24-item questionnaire. For statistical analysis, we used confirmatory factor analysis and linear regression analysis. **Results:** We could not confirm the four-factor structure suggested by Lamb et al. (2020) (TLI = 0.93, RMSEA = 0.057). Thus, we conducted an exploratory factor analysis, revealing two distinct factors: change aversion and neoliberal hope (TLI = 0.97, RMSEA = 0.05). However, change aversion ($\beta = -0.18$, $p < 0.001$) and neoliberal hope ($\beta = -0.12$, $p < 0.001$) explained variance in policy acceptance beyond predictors of pro-environmental behavior as described by the Social Identity Model of pro-environmental action (SIMPEA, social identity, collective efficacy, social norms, risk perception, eco-anxiety). **Conclusion:** While the two-factor structure needs to be confirmed, our results suggest that discourses of climate delay have a substantial influence on pro-environmental policy acceptance and may present candidates for future intervention studies.

Keywords: policy acceptance, discourses of climate delay, climate crisis

## ID-1127: BUT WHAT ABOUT THE (GRAND)CHILDREN? EXPLORING THE EFFECTS OF FUTURE VISIONS ON CLIMATE ACTION AND POLICY ACCEPTANCE

Lena Lehrer[1; 2], Cornelia Betsch [2; 3]

*[1]Bernhard Nocht Institute for Tropical Medicine, Implementation Research, Health*, *Hamburg*, *Germany*, *[2]University of Erfurt, Institute for Planetary Health Behaviour, Health Communica*, *Erfurt*, *Germany*, *[3]Bernhard Nocht Institute for Tropical Medicine, Implementation Research, Health*, *Hamburg*, *Germany*

**Background & Objectives**: The ongoing climate crisis challenges humanity's ability to mitigate and adapt effectively. Prior research suggests that instructed future envisioning, whether positive or negative, may be linked to engagement in collective climate action. Drawing on query theory and future visioning tasks, this study investigated how different approaches to future thinking affect one's own future vision, intention to engage in climate action, and acceptance of climate policies. **Methods**: In an online experiment, a quota-representative German sample (N = 1,057) was randomized to one of four conditions: participants listed future-related thoughts in natural order or listed negative or positive thoughts first. A control group did not list any thoughts. Dependent variables were future vision (i.e., expectations of future generations' well-being), climate action, and policy acceptance. **Results**: Contrary to hypotheses, future vision scores were similarly low across groups, with 61% of participants predicting future generations would fare worse. The natural-order group showed lower scores than the control group. Interestingly, this group also demonstrated higher intentions for climate action and higher policy acceptance compared to the control. For policy acceptance, both the natural-order and positive-first groups showed higher values than the control. Exploratory analyses revealed that more than 56% of the thoughts listed were climate-related, similar across conditions. **Conclusions**: Results will be discussed in light of query theory. In sum, future thinking can affect readiness to act against climate change, and it may be possible to increase this readiness without increasing negative visions of the future.

Keywords: query theory, future visioning, thought listing, policy acceptance, climate action

## ID-1128: EXPLORING THE RELATIONSHIP BETWEEN CLIMATE EMOTIONS, COLLECTIVE CLIMATE ACTION AND PRO-ENVIRONMENTAL POLICY ACCEPTANCE

Paula Blumenschein[1], Dorothea Metzen [1], Stephan Heinzel [1]

*[1]TU Dortmund University, Institute of Psychology, Department of Educational Scien*, *Dortmund*, *Germany*

**Background & Objectives**: The climate crisis is progressing at an alarming rate with serious implications for planetary and mental health. Faced with these prospects, individuals respond to the climate crisis with affective responses known as climate emotions. Despite accumulating research on climate emotions, their relationship with pro-environmental behaviors and attitudes remains somewhat unclear. As structural changes are necessary for socio-ecological change, the current study aimed to explore the relationship between climate emotions and collective climate action as well as pro-environmental policy acceptance.

**Method**: We conducted an online survey (N = 966) with a German sample representative in terms of age, gender, and federal state. Eight distinctive climate emotions were measured using the Inventory of Climate Emotions (ICE; Marczak et al., 2023): anger, anxiety, enthusiasm, powerlessness, contempt, guilt, sorrow, isolation. **Results**: Regression analysis revealed climate isolation, guilt, enthusiasm, anxiety, and surprisingly contempt as significant positive predictors for collective climate action while powerlessness was a significant negative predictor. Subsequent moderation analyses showed climate enthusiasm moderating the relationship between climate contempt and collective climate action. Pro-environmental policy acceptance was significantly positively predicted by climate anger, enthusiasm, and guilt and negatively by climate contempt. **Conclusions**: The results show mainly positive relationships between different climate emotions and collective climate action as well as policy acceptance and point to a differential role of climate emotions for different pro-environmental behaviors and attitudes, while causality remains unclear.

Keywords: climate emotions, collective climate action, policy acceptance, pro-environmental behavior

**ID-1129: TRANSFORMATION THROUGH CONFLICT: NEGOTIATING OVER IMMEDIATE AND DELAYED BENEFITS AND BURDENS**

Laura Stalenhoef[1], Hong Zhang [2], Andreas Mojzisch [1], Roman Trötschel [2], Johann Majer [1]

*[1]University of Hildesheim, Hildesheim, Germany, [2]Leuphana University, Lüneburg, Germany*

A just sustainability transition will not be achieved by individuals taking “right decisions”, but by negotiation processes to allocate immediate, as well as delayed benefits and burdens from many individuals. To transform these conflict-rich negotiations into integrative and sustainable solutions it is important to study collective decision-making processes, taking place in personal, professional, and political realms of our realities. Transformation processes inherently have a temporal dimension and thus include trade-offs over time. In the current research we investigate the temporal dimension of benefits and burdens allocation in experimental negotiation context. We use trade-offs as a behavioural measure to compare social mechanisms, such as loss aversion, versus intrapersonal decision-making mechanisms, such as exploration asymmetry. Our findings suggest that negotiators achieve more efficient outcomes when negotiating over burdens than benefits. We do not find support for the interaction effect between time delay and resource valence, i.e., the hypothesis that participants find more efficient solutions when negotiating over immediate versus delayed benefits, as well as more efficient solutions when negotiating over delayed versus immediate burdens. This implies that focusing on the negotiation of burdens in general could lead to more integrative and sustainable solutions.

Keywords: policy acceptance, climate delay, future interests, conflict

**18-06-2025 | 09:45 - 11:00**

**S-048**: **TWO POSSIBLE ROLES OF ENVIRONMENTAL KNOWLEDGE: DETERMINANT OF ENVIRONMENTAL CONSEQUENCES OR CONSEQUENCE OF ENVIRONMENTAL ATTITUDE?**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Environmental education)

*Valley Room*

Chair: Marie Brüggemann, Otto-von-Guericke University Magdeburg, Personality and Social Psychology, Magdeburg, Germany.
Co-Chair: Martin Merten

**ID-1207: HOW CAN ECOLOGICAL HANDPRINT BEHAVIORS BE FOSTERED BY PROVIDING DIFFERENT TYPES OF ENVIRONMENTAL KNOWLEDGE?**

Benedikt T. Seger[1], Amelie Müller [1], Helen Landmann [2]

*[1]Julius-Maximilians-Universität Würzburg, Würzburg, Germany, [2]Alpe-Adria-Universität Klagenfurth, Klagenfurth, Austria*

**Introduction:** Deep structural transformations are necessary to tackle the multiple ecological crisis. Environmental psychologists have been recognizing this by asking how individuals can contribute to these. Stemming from environmental education in India, the ecological handprint is a concept that aims at motivating individuals to initiate collective action toward such transformations. **Objectives:** The present research follows three goals. First, we construct a scale for handprint behaviors and intentions. Second, we examine the role of knowledge in forming these, using an online experiment with soil as the area of interest. Third, we run a workshop study (waiting-group design) that provides information on the ecological handprint and enables participants to set and follow their own handprint goals. **Materials and Methods:** A prototypical ecological handprint scale (EHS) was constructed applying a qualitative content analysis to a Germany-based "handprint calculator" website (handabdruck.eu). The EHS comprises 12 different handprint behaviors (e.g., finding allies, talking to authorities, organizing actions). For each study, the EHS will be tailored to behavioral preconditions (e.g., goal intentions) and areas of interest (soil protection). **Results:** For the online experiment, we expect that system- and action-related information on soil degradation and protection increases handprint behavior via handprint intention, care for soil, and soil knowledge. For the workshop study, we assume that an increase in conceptual knowledge about the ecological handprint predicts handprint-related goal intention and follow-up goal achievement. **Conclusions:** Our expected conclusion is that individual behaviors to initiate collective action require area-specific information and benefit from conceptual knowledge on the ecological handprint.

Keywords: action knowledge, ecological handprint, intentions, pro-environmental behavior, soil stewardship

**ID-1208: CAN FEEDBACK ON CO2 EMISSIONS MOTIVATE PRO-ENVIRONMENTAL INTENTIONS? AN ONLINE INTERVENTION**

Lea Barbett[1], Anette Rohmann [1], Caan Hollenbach [1], Helen Landmann [2]

*[1]FernUniversität Hagen, Hagen, Germany, [2]Alpe-Adria-Universität Klagenfurth, Klagenfurth, Austria*

The role of knowledge in the motivation to act pro-environmentally is controversial. The key to leveraging knowledge for pro-environmental behaviors may lie in the type of knowledge that is conveyed and the novelty of the knowledge for the audience. The general public shows especially low knowledge in regards to effectiveness knowledge, the knowledge about how effective a pro-environmental behaviour is, for example at reducing one's carbon footprint. We conducted an online intervention study (*N* = 208) to test this. In a within-participants pre-post measurement design, we assessed the effect of information about the carbon footprint of low-carbon pro-environmental behaviours and their high-carbon non-sustainable alternatives, such as taking the car compared to taking public transport. In the study, we accounted for previous knowledge. The results of a multi-level analysis revealed that the intervention had a positive effect on intentions for those behaviors, where participants gravely underestimated the impact of switching to the pro-environmental behavior: Heating and consumption of goods and services. Further, analyses for heating showed an effect of previous knowledge about the behavior's carbon footprint on the intervention success. The results suggest that knowledge-based interventions focussing on effectiveness knowledge can work, but depend on the previous knowledge of the audience.

Keywords: pro-environmental behavior, environmental knowledge, carbon footprint, effectiveness knowledge, knowledge-based intervention

## ID-1209: AN EXPERIMENTAL STUDY ON KNOWLEDGE AND MISPERCEPTIONS ABOUT THE CLIMATE IMPACTS OF DIFFERENT LIFESTYLES AND THEIR INFLUENCE ON POLICY SUPPORT

Martin Julian Merten[1], Ellen Matthies [1]

[1]*Otto-von-Guericke University Magdeburg, Magdeburg, Germany*

**Introduction:** To address climate change, we urgently need impactful policies to reduce greenhouse gas emissions. Implementation of these policies depends on public support. One important factor influencing support for climate policies is the public perception of their effectiveness. However, recent studies have shown that people are often inaccurate in estimating greenhouse gas emissions of different lifestyles. We assume this also leads to misestimating policy effectiveness. **Objectives:** Our main objective is to investigate whether general misperceptions about climate impacts of lifestyle choices influence support for and perceived effectiveness of climate policies. **Materials & Methods:** Our preregistered online study consists of a 30-trial choice task on carbon emissions from lifestyles and a questionnaire on related climate policies. Three of the four experimental groups received varying levels of detail about the relative importance of behavioral choices in five lifestyle domains (heating, electricity, food consumption, air-travel, and everyday mobility). Sample 1 is a German convenience sample ($N \approx 100$), Sample 2 ($N \approx 600$, representative for German adult population) will be sampled by a panel provider in Q1 2025. **Results:** We expect an effect of the experimental variation on the ability to choose the more climate-friendly lifestyle. Furthermore, a corresponding effect on perceived effectiveness and support of policies. We will also control for differences in environmental attitude and examine mediations/moderations between aforementioned constructs. **Conclusions:** We expect to conclude that climate communication should emphasize the differences in relative importance of behavioral choices and respective policies. Otherwise, even environmentally motivated individuals may support less effective policies.

Keywords: effectiveness knowledge, climate impact, policy support, carbon footprint, misperceptions

**ID-1210: ENVIRONMENTAL ATTITUDE'S ROLE IN LEARNING: BEHAVIORAL CONSEQUENCES AND NUMBER OF ACTIVITIES AS SUBOPTIMAL INDICATORS OF "INTENSITY"**

Marie Brüggemann[1], Annalisa Pacini [2], Maren Flottmann [2], Kirsten Schlüter [2], Florian G. Kaiser [1]

[1]*Otto-von-Guericke University Magdeburg*, *Magdeburg*, *Germany*, [2]*University of Cologne*, *Cologne*, *Germany*

Educators should pay heed to environmental attitude's role in learning: that is, to the *intensity* with which people engage in learning about environmental issues and about protecting the environment. In two experimental trials, we conceptually replicated the presumed relationship between students' environmental attitudes and knowledge gains, and we additionally sought support for the notion that environmental attitude represents a measure of behavioral intensity. The specific activities were observed during a façade-greening project day for students aged 10 to 17 using a treatment-only pre-post-follow-up design ($N_1$ = 60, $N_2$ = 71). Environmental attitude and knowledge were assessed one week before, immediately after, and four weeks after the intervention, along with plant- and flyer-related activities. In both studies, knowledge about façade greening improved significantly ($\omega^2_1$ = .37, $\omega^2_2$ = .57), whereas environmental attitude remained unaltered ($\omega^2_1$ = .00, $\omega^2_2$ = .01). Importantly, preexisting environmental attitude predicted knowledge four weeks after the intervention, beyond prior knowledge ($\Delta R^2_1$ = .09, $\Delta R^2_2$ = .17). The employed Campbellian measure of environmental attitude was also associated with an increased number of plant- and flyer-related activities. Our results not only replicate prior research in a new domain, they also confirm environmental attitude's role in how intensely students engage in learning—which shows in the knowledge gains of students—and in plant- and flyer-related activities.

Keywords: environmental attitude, attitude measurement, environmental education, learning, educational attainment level

**18-06-2025 | 09:45 - 11:00**

**S-047**: **Nature-based experiences and planetary wellbeing (Part I)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Eleanor Ratcliffe, University of Surrey, Guildford, United Kingdom.
Chair: Katriina Hyvönen, Jamk University of Applied Sciences, Jyväskylä, Finland.

**ID-1067: BENATURE: TOWARDS ECOCENTRIC, JUST, AND SUSTAINABLE LEARNING**

Matteo Giusti[1]

[1]*Centre for Environmental Sustainability, University of Surrey*, *Guildford*, *United Kingdom*

Sustainable human progress and planetary wellbeing relies on repositioning human narratives within our ecological reality. In Western literature, the relationship between people and nature has often been

framed in reductionist and decontextualised terms, focusing on simplistic connections between attitudes and behaviours that fail to capture the depth and complexity of such relationship. It follows that sustainable education based on such reductionistic approach has focused on promoting knowledge, attitudes, or a form of connection with an abstract form of nature that is isolated from the ecological context of the learner. This paper answers the call for sustainability-aligned values and learning that prioritize relational, embodied, and contextualized approaches to human behaviour and environmental interactions. The BeNature framework is the result of a transdisciplinary synthesis of different knowledge systems. Rather than focusing on the inculcation of knowledge or promotion of values, BeNature emphasizes the cultivation of ecocentric competencies - skills and dispositions that enable individuals to embody and develop over time complex relationships with their surrounding natural world. By exploring contextualized learning experiences, the framework also promotes a series of attributes that identify meaningful nature experiences. The progression of competences identified in the BeNature aim to facilitate the shift from anthropocentric ("living from nature") to ecocentric and pluricentric worldviews ("living as nature"). In essence, BeNature is a practical and relational answer to the promotion of ecocentric, just, and sustainable learning, offering guidance to foster the cultural and behavioral transformations necessary for a just and sustainable future.

Keywords: BeNature, ecocentric learning, sustainable education, nature-based education

**ID-1068: NATURE-BASED INTERVENTIONS FOR PRO-ENVIRONMENTAL BEHAVIOUR AND WELLBEING: A SCOPING REVIEW**

Julija Chichaeva[1], Bethany Harries [2], Eleanor Ratcliffe [2], Kalevi Korpela [3], Kirsi Salonen [3], Jane-Veera Paakkolanvaara [1], Katriina Hyvönen [1], Sampsa Puttonen [3]

*[1]Institute of Rehabilitation, Jamk University of Applied Sciences, Jyväskylä, Finland, [2]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [3]Faculty of Social Sciences/Psychology, Tampere University, Tampere, Finland*

Nature-based interventions have the potential to enhance pro-environmental behaviour (PEB) and wellbeing. As global attention to sustainability grows, it is crucial to understand how these interventions affect behaviour and health. This review systematically maps existing literature on nature-based interventions that promote both PEB and wellbeing/health. Objectives include: 1) examining types of nature-based interventions supporting both PEB and wellbeing/health, 2) describe and synthesise their outcomes, measures, and results, and 3) identify the behaviour change mechanisms underlying successful interventions. The methods followed the JBI Manual for Evidence Synthesis and the PRISMA Extension for Scoping Reviews checklist. The protocol was registered and published in OSF Registries (https://doi.org/10.17605/OSF.IO/JAENX). Eligible studies included those involving general populations, working-age adults, or students, with interventions ranging from natural environments to nature simulations, such as virtual reality. The nature-based interventions had to support both pro-environmental behaviour and wellbeing/health. This review synthesises both qualitative and quantitative evidence, including experimental and observational research, systematic reviews, and grey literature, published within the last decade. A search was conducted in August 2023 across six databases: Medline (Ebsco), CINAHL (Ebsco), APA PsycInfo (Ebsco), APA PsycArticles (Ebsco), and Web of Science. Screening

was performed independently by two researchers and data extraction by one researcher. Data analysis included descriptive qualitative content analysis and basic data coding. This process enabled the classification of interventions, strategies, and behaviours, which were then aligned with relevant behaviour change models or theories, resulting in a summarised overview of the findings. The presentation will showcase the preliminary findings of the review.

Keywords: nature-based interventions, pro-environmental behaviour, planetary wellbeing

**ID-1069: ACT WITH NATURE: A NATURE-BASED METHOD FOR PLANETARY WELLBEING**

Kirsi Salonen[1], Hazel Williams [2]

*[1]Faculty of Social Sciences/Psychology, Tampere University*, *Tampere*, *Finland*, *[2]School of Psychology, University of Surrey*, *Guildford*, *United Kingdom*

Environmental crises are faced by humanity and the planet. Addressing these will require transformative change also of individuals (e.g., Steg & Vlek, 2009). From a psychology perspective, planetary wellbeing is associated with human wellbeing and pro-environmental behavior (PEB) the latter of which enables non-human wellbeing (Salonen et al., 2022). Evidence-based interventions are urgently required for planetary wellbeing. Based on this, we developed a nature-based intervention program (Act with Nature; AWN). The development of the intervention is part of a larger consortium research project (Korpela et al., 2023; Finnish Academy project 350964) that aims to support wellbeing and pro-environmental behaviour among working-age adults. The project is conducted in Finland and the United Kingdom. The intervention under development has been influenced by previously studied nature-based methods. These are especially nature mindfulness (Djernis et al., 2019) and Flow With Nature (FWN; Salonen et al., 2022). In addition to this, AWN is influenced by psychological methods, which have been studied indoors (e.g. Hayes, 2004). The logic model was designed to communicate the multiple mechanisms being explored in this project. The mechanisms are related to support of especially nature connectedness, coping (esp. environmental self-regulation; Korpela et al., 2018) and psychological processing. Raising awareness is central to all AWN exercises in the intervention. For example, the exercises help the participant become more aware of how one's nature connectedness is strengthened, and what kind of favourite place eases one's negative environmental-related emotions. This presentation focuses on the theoretical model of the Act with Nature intervention.

Keywords: nature-based intervention, Act With Nature method, planetary wellbeing, nature connectedness, environmental self-regulation

**ID-1070: NATURE-BASED PROGRAMME TO PROMOTE PLANETARY WELLBEING – A MULTI-CENTRE, RANDOMISED CONTROLLED TRIAL**

Jane-Veera Paakkolanvaara[1], Julija Chichaeva [1], Bethany Harries [2], Katriina Hyvönen [1], Kalevi Korpela [3], Sampsa Puttonen [3], Eleanor Ratcliffe [2], Kirsi Salonen [3]

*[1]Institute of Rehabilitation, Jamk University of Applied Sciences*, *Jyväskylä*, *Finland*, *[2]Environmental Psychology Research Group, University of Surrey*, *Guildford*, *United Kingdom*, *[3]Faculty of Social Sciences/Psychology, Tampere University*, *Tampere*, *Finland*

**Introduction.** We live in an era of environmental crises, driven by human influences. There is an urgent need for us to find effective ways to support planetary wellbeing in the sustainability transition. As humans, we are an inseparable part of nature. In order to strengthen nature connectedness and sense of planetary community, we developed an intervention programme, Act with Nature (AWN). Act with Nature (AWN) is a nature-based 12-week programme to promote planetary wellbeing, that is, the wellbeing of human and non-human nature. **Goals & Objectives.** The primary goal of this study was to evaluate the effectiveness of a nature-based program (AWN) in promoting planetary wellbeing. **Materials & Methods.** We conducted a multi-centre, randomised controlled trial to assess the effectiveness of a nature-based program (AWN) in improving planetary wellbeing. A total of 192 working-age participants were randomly assigned to control and experimental groups. **Results.** The gathering of data is ongoing and will be finished by the end of March 2025. The main analysis will be conducted by linear mixed-effects modelling. Models will be constructed with PEB, wellbeing and connectedness to nature as dependent variables, with group type (intervention, control), time (pre, post, follow-up), and significant background variables as predictors. **Conclusions.** The results are expected to shed new light on the existing findings about how nature-connectedness might affect pro-environmental behaviour. The development of the AWN will provide a practical method for interventions to promote PEB as well as the wellbeing of working-age adults.

Keywords: planetary wellbeing, pro-environmental behaviour, nature-based intervention, nature connectedness

**18-06-2025 | 09:45 - 11:00**

**S-098**: **Food & diet**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair (IS): Aline Stämpfli, Agroscope, Research Group Human Nutrition, Sensory Analysis and Flavor, Bern, Switzerland.

## ID-323: CONSUMERS PREFER MEAT AND DAIRY SUBSTITUTES THEY PERCEIVE AS SUSTAINABLE BUT STRUGGLE TO CORRECTLY EVALUATE THE ENVIRONMENTAL IMPACT OF THE SUBSTITUTES

Aline Stämpfli[1], Geraldine Holenweger [2], Anna Morf [2], Bettina Höchli [2], Eric Mehner [3], Mélanie Douziech [3], Claude Messner [2]

*[1]Agroscope, Research Group Human Nutrition, Sensory Analysis and Flavor, Bern, Switzerland, [2]University of Bern, Department Consumer Behavior, Bern, Switzerland, [3]Agroscope, Research Group Life Cycle Assessment, Zürich, Switzerland*

**Introduction:** Sustainability is a marketing argument for meat and dairy substitutes. Is it also a reason for consumers to choose them? Furthermore, how well can consumers evaluate substitutes'

sustainability? **Objective:** This research examined (1) whether consumers are more willing to consume substitutes they perceive as sustainable and (2) whether consumers can correctly evaluate the environmental impact of substitutes. **Materials and Methods:** An online survey collected participants' ratings of the environmental impacts of 15 meat and dairy substitutes, which were made from different raw materials and with different processing methods (slider from 0 "not sustainable" to 100 "sustainable"). In addition, the participants' willingness to consume the substitutes (from 0 "not consume" to 100 "consume") was collected. The final sample consisted of 880 participants. As a proxy for the substitutes' impact on the environment, global warming potential was calculated (kg $CO_2$ equivalents per kg product). **Results:** (1) A regression analysis revealed that the more sustainable consumers rated the substitutes, the higher were the odds that consumers would choose them (OR = 2.76, 95% CI [2.75–2.77]). (2) Consumers' sustainability ratings showed a weak negative correlation ($r_z$ = -0.16, 95% CI [-0.19, -0.12]) with actual global warming potential: higher environmental impact was linked to lower sustainability ratings. **Conclusions:** Consumers prefer meat and dairy substitutes they perceive as sustainable. However, the weak correlation between consumers' sustainability ratings and the actual global warming potential indicates that consumers have difficulty correctly evaluating the sustainability of meat and dairy substitutes. Education and nutritional recommendations could address consumers' evaluations.

Keywords: sustainability, perceptions, meat and dairy alternatives

**ID-110: ACCEPTANCE OF INSECT-BASED FOOD WASTE RECYCLING FACILITIES: A CASE STUDY IN SINGAPORE**

Niraly Mangal[1; 2], Bianca Wassmann [1; 2], Michael Wicki [1], Michael Siegrist [1], Christoph Hölscher [1], Stephen Cairns [1; 3]

*[1]ETH Zurich*, *Zurich*, *Switzerland*, *[2]Singapore-ETH Centre*, *Singapore*, *Singapore*, *[3]Monash University*, *Jakarta*, *Indonesia*

Food waste recycling is a critical component of sustainable urban food systems, addressing issues of nutrient recycling, landfill waste reduction, and resource efficiency. While Bioconversion Food Waste Recycling facilities (BioCycling)—which use insects to recycle food waste into feed for fish and poultry and organic fertilizer—offer a promising solution, their success depends on public acceptance. Despite their potential, little is known about residents perception of these facilities, especially in dense urban settings with unique spatial constraints and social dynamics. This study investigates the acceptance of BioCycling facilities among residents in public housing neighbourhoods in Singapore. Using a representative online panel survey (N=600), we explore how factors such as place attachment, prior experiences with food waste recycling, and perceived risks and benefits shape acceptance. The analysis also considers environmental, social, and spatial dimensions, including the role of attitudes like environmental identity and barriers such as disgust sensitivity and visibility of insects. Furthermore, the study examines the interplay between general acceptance of BioCycling and the willingness to support facilities located within respondents' neighbourhoods, considering factors like neighbourhood morphology, building density, and land use mix. Our findings highlight the importance of fostering positive attitudes, mitigating barriers, and addressing the contextual nuances of urban living when planning for BioCycling integration. By illuminating the key drivers of acceptance, this research provides insights for urban planners and policymakers, advancing the

integration of nature-based solutions in urban environments and contributing to the development of circular neighbourhoods.

Keywords: urban food systems, participatory planning, insects, food waste recycling, acceptance

**ID-629: ENVIRONMENTAL CRISIS RELATED PROBLEM SOLVING: HOW ADULTS, ADOLESCENTS AND CHILDREN STRUGGLE TO FIND CREATIVE SOLUTIONS TO REDUCE FOOD WASTE**

Aynaday Barbara Ozkalp[1], Anaëlle Camarda [2], Elsa Berthet [3], Emilie Salvia [1], Mathieu Cassotti [1]

*[1]LaPsyDÉ, Université Paris Cité, Paris, France, [2]Institut Supérieur Maria Montessori & LaPEA (Université Paris Cité), Paris, France, [3]USC Résilience, Centre d'Etudes Biologiques de Chizé (INRAE), Chizé, France*

Environmental psychology research identifies biases that impede pro-environmental action; however, the impact of cognitive biases, such as the fixation effect—which constrains the generation of solutions—on addressing environmental crises is not well understood. This study examines the fixation effect in environmental problems to elucidate how alternative solutions are explored. Two experiments were conducted: one involving adults (N = 154) and another involving children, young adolescents, and middle adolescents (N = 86, N = 77, N = 90, respectively), utilizing a task asking to generate solutions for reducing food waste. A tool to measure the fixation effect confirms its presence in Experiment 1, with adults predominantly generating individual-level solutions, such as reducing meal portions, consuming preferred foods, and donating or recycling leftovers. It also indicates that most solutions, particularly those at a more collective level, remain unexplored by adults. Experiment 2 reveals a similar fixation effect in children and adolescents, with ideas akin to those of adults being overgenerated. This suggests that from an early age, individuals tend to propose common, non-creative solutions when confronted with environmental crises, leaving numerous potential solutions unexplored. The second experiment also identifies a correlation between knowledge and fixation, suggesting that educational content for children could be restructured to mitigate the fixation effect. More broadly, future educational interventions could be considered in terms of how overcoming fixation biases might facilitate the transition from intention to action, enabling individuals to explore a wider range of alternative solutions and implement diverse strategies to address the environmental crisis.

Keywords: cognitive biases, pro-environmental action, developmental psychology, food waste reduction, educational interventions

**ID-903: USING THE CAMPBELL PARADIGM TO UNDERSTAND PEOPLE'S ATTITUDE TO SOIL PROTECTION**

Jan Urban[1], Marketa Braun Kohlová [1], Jan Frouz [1], Ewa Duda [1]

*[1]Environment Center, Charles University, Prague, Czech Republic*

**Introduction:** Soil health is critical for carbon sequestration, ecosystem services, and food security. Currently, we are witnessing a fast degradation of soil globally. Yet, soil degradation is perceived as relatively unimportant. Moreover, the attitude of ordinary people toward soil protection has been rarely

studied, even though individuals have an indirect effect on soil protection. **Objectives:** This study aimed to develop and partially validate a measure of attitude towards soil protection, grounded in the attitude theory of the Campbell paradigm. We also examined the dimensionality of this attitude and its relationship with environmentally friendly consumer intentions and climate change beliefs. **Materials & Methods:** A 36-item scale was developed to assess affective, cognitive, and behavioral dimensions of attitude towards soil protection. This scale was piloted and then tested on a representative sample of the Czech population (N = 821). Additional measures included green consumption intentions, beliefs in natural soil restoration processes, and climate change beliefs. **Results:** The results indicate that attitude towards soil protection is a multidimensional construct, with cognitive and affective dimensions being highly correlated. The behavioral dimension, while correlated with the other two dimensions, is distinct. As expected, attitude towards soil protection was strongly associated with beliefs in natural soil restoration and climate change. However, it showed little relationship with green consumption intentions. **Conclusions:** This study demonstrates that ordinary people have a coherent attitude towards soil protection, encompassing affective, cognitive, and behavioral components. This attitude is linked to broader environmental concerns but does not directly translate into specific consumer behaviors.

Keywords: soil protection, soil degradation, attitude, the Capmpbell paradigm, green intention

**18-06-2025 | 09:45 - 11:00**

**S-088**: **Transportation**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Transportation, mobility and travel behaviour)

*Forest Room*

Chair (IS): Nicole Sintov, The Ohio State University, Columbus, United States.

**ID-994: UNDERSTANDING WHY WE MOVE HOW WE MOVE - THE MOBILITY MOTIVATION SURVEY**

Magdalena Huber[1; 2], Britta Renner [1; 2], Christoph Hupfer [2; 3], Jochen Eckart [2; 3]

*[1]University of Konstanz, Konstanz, Germany, [2]Baden-Württemberg Institute of sustainable Mobility (BWIM), Karlsruhe, Germany, [3]Hochschule Karlsruhe, Karlsruhe, Germany*

**Introduction**: While environmental concerns and policy shifts drive the push for sustainable transport, the importance of psychological factors influencing travel choices is often overlooked. Understanding these motives is key to promoting sustainable modes of travel. This paper explores the diverse motivations behind modal choice, providing insights for designing interventions to encourage sustainable behaviors. **Goals & Objectives**: This study aimed to develop a psychometric questionnaire to measure diverse motives for modal choice and to analyze how these mobility motives vary with parameters such

as gender and age. **Material & Methods**: A comprehensive set of 53 items reflecting motives for modal choice was derived from literature reviews and expert interviews. An online survey was conducted with a representative German sample (N = 1,089) to finalize the questionnaire and assess the relevance of these items for modal choice. Principal axis factor analysis and 10-fold cross-validation were employed. **Results**: The analysis identified a stable factor structure of 43 items grouped into ten factors (RMSEA .042, 90% CI .040-.045): convenience, sustainability, time, cost, enjoyment, productivity, sociability, information, maintenance, and habit. Convenience (M = 5.21, SD = 0.78) and time (M = 5.11, SD = 0.81) emerged as the most relevant motives. Significant differences in motive importance were observed across demographic groups. **Conclusions**: Transport planning typically focuses on time and cost. However, this study highlights the multidimensional nature of modal choice. Effective interventions for sustainable mobility should address various motives and target specific groups to promote wider adoption of sustainable transport.

Keywords: mobility, psychometric questionnaire, motives, modal choice, sustainable transport

**ID-844: CORRELATES FROM THE SOCIO-ECOLOGIC ENVIRONMENT FOR ACTIVE MOBILITY BEHAVIORS IN RURAL ADULTS AGED 75+**

Karsten Valerius[1], Jan Keller [1], Sandra Mümken [2], Christine Haeger [2], Max Brauer [2], Robert Spang [3], Siiri Tunn [1], Noemi Lorbeer [1], Paul Gellert [2]

*[1]Freie Universität Berlin*, *Berlin*, *Germany*, *[2]Charité - Universitätsmedizin Berlin*, *Berlin*, *Germany*, *[3]Technische Universität Berlin*, *Berlin*, *Germany*

**Introduction:** Older adults' active mobility behaviors, such as walking and cycling, are important for various daily activities and benefit both health and the environment. Next to individual determinants, factors from the social, built and natural context (e.g., social support, infrastructure and weather) can influence active mobility behaviors. **Goals & Objectives:** This study aims to investigate associations of such factors with active mobility in a sample of older adults. **Materials & Methods:** Data from the baseline week of a randomized controlled trial is used for secondary analyses. The sample includes older adults aged 75+ (*N* = 209) living in a rural area in Germany. Day-by-day mobility behaviors (walking/cycling, public transport, car use) used for daily activities were reported in an end-of-day diary across 7 days. Predictor variables for the social and built environment, including perceived social support, social network, sidewalk quality, green ratio, points of interest, and intersection density, were measured using questionnaires and researcher reports, with GIS data providing spatial information. Day-by-day weather data (e.g., air temperature and sunshine duration) from the German Weather Service was matched to the participants' region. Multilevel models will be used to predict day-by-day mobility behaviors. **Results:** Participants showed a mean of 0.88 (*SD* = 0.74) walking/cycling trips per day. Multilevel models are currently under statistical analysis. **Conclusions:** This study will contribute to understanding barriers and facilitators of active mobility behaviors performed by older adults. Future research could investigate how municipalities address the mobility needs of older adults and identify strategies that enable active mobility.

Keywords: active mobility, older adults, socio-ecologic environment, rural area

**ID-660: THE ROLES OF GENDER AND PARENTHOOD IN ELECTRIC VEHICLE ADOPTION**

Nicole Sintov[1], Jessica NeJame [1]

[1]*The Ohio State University*, *Columbus*, *United States*

In the United States, women own roughly half of all vehicles, but only 28% of electric vehicles (EVs). This study investigates why women, who tend to exhibit more pro-environmental behaviors than men, are less likely to adopt EVs. In four studies (total N = 13,435), we ask whether people are discouraging women from adopting EVs more so than men. Study 1, a survey of California EV owners, shows that women rely more on people, whereas men rely more on digital content, as information sources when deciding whether to adopt an EV. However, we did not observe gender differences in discouragement by car salespeople. Study 2 replicates and extends these results to other social connections (e.g., spouses, friends). It also finds that EV owners with (vs. without) children are more likely to experience discouragement, including from salespeople. Using an online experiment, Study 3 demonstrates that generally, people are equally willing to recommend EVs to men and women but less willing to recommend EVs to people with children. Further, women (but not men) participants were less willing to recommend EVs to mothers than fathers. This relationship was mediated by perceptions of EV safety and practicality. Finally, in Study 4, a survey of prospective EV buyers, the relationship between gender and EV purchase intent was also mediated by perceptions of EV safety and practicality such that women perceived EVs as less safe and practical, which was associated with lower purchase intent. Marketing and policy implications are discussed.

Keywords: gender, electric vehicles, technology adoption, energy justice

**18-06-2025 | 09:45 - 11:00**

**S-079**: **Nature & stress**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Dawn Room*

Chair (IS): Michael Norwood, The Hopkins Centre, Griffith University, Brisbane, Australia.

**ID-832: VIRTUAL NATURE AND STRESS RESILIENCE: INVESTIGATING THE EFFECTS OF EXPOSURE TO VIRTUAL NATURE ON RESPONSE AND RECOVERY RESILIENCE DURING ACUTE PSYCHOSOCIAL STRESS**

Maximilian O. Steininger[1], Jonas P Nitschke [1], Mathew P White [2; 3; 4], Claus Lamm [1; 2; 4]

[1]*Department of Cognition, Emotion, and Methods in Psychology*, *Vienna*, *Austria*, [2]*Cognitive Science Hub, University of Vienna*, *Vienna*, *Austria*, [3]*European Centre for Environment and Human Health, University of Exeter*, *Exeter*, *United Kingdom*, [4]*Environment and Climate Research Hub, University of Vienna.*, *Vienna*, *Austria*

Extensive research demonstrates that nature exposure influences stress. The recently proposed Nature-based Biopsychosocial Resilience Theory suggests that nature promotes both more adaptive initial

reactions to stress ("response resilience") and better recovery from stress ("recovery resilience"). However, research has primarily focused on recovery resilience, with limited attention to nature's role in fostering response resilience. Consequently, the evidence on how nature affects different phases of the stress response remains limited. We will present findings from a preregistered experiment examining how nature impacts both response and recovery resilience. Participants (N = 164) were exposed to well-validated virtual nature or indoor control conditions either before or after undergoing an acute stress task. Subjective (stress and anxiety), hormonal (cortisol), and autonomic responses (heart rate variability), were measured throughout the experiment, along with self-reported appraisal and rumination related to the stressor at the outset or end of the task. Data analysis is ongoing and will be complete by June. We will present results of Conditional Piecewise Growth Curve Models, used to examine nature's potential to reduce initial stress reactivity and enhance subsequent recovery across multiple levels of the stress response. Investigating changes in appraisal and rumination will furthermore provide insights into participants' underlying cognitive reactions as they prepare for, and subsequently process, the stressful event. By manipulating the timing of nature exposure relative to acute stress, we aim to provide insights into how nature operates on the stress response-recovery cycle. These findings may inform theoretical models and practical nature-based strategies to enhance human health and well-being.

Keywords: nature exposure, resilience, acute stress, restorative environments, virtual nature

**ID-651: VIRTUAL NATURE: LOCAL NATURAL ENVIRONMENTS TO REDUCE THE PSYCHOLOGICAL DISTRESS OF NEUROREHABILITATION PATIENTS**

Michael Francis Norwood[1], Jayke Bennett [1], Chelsea Hannah Marsh [1], Susan Jones [2], Leslie Gan [3], Izak Holins [1], Ali Lakhani [4], Olivia McAnirlin [5], Matthew H. E. M. Browning [5], Louise Gustafsson [1]

*[1]The Hopkins Centre, Griffith University, Brisbane, Australia, [2]Neurosciences Rehabilitation Unit, Gold Coast University Hospital, Southport, Australia, [3]Rehabilitation Unit, Logan Hospital, Meadowbrook, Australia, [4]School of Psychology and Public Health, La Trobe University, Melbourne, Australia, [5]Virtual Reality and Nature Lab, Clemson University, Clemson, United States*

**Introduction**: Psychological distress, including depression, anxiety, and stress, is common following Acquired Brain Injury (ABI). Hospital settings can exacerbate these challenges, emphasising the need for alternative rehabilitation approaches. Nature has demonstrated restorative benefits, but access is often restricted during hospital-based rehabilitation. Virtual reality (VR) offers a potential solution by providing immersive nature experiences in clinical environments. **Objectives**: This study assessed the feasibility of showing locally sourced natural environments in VR to ABI patients in hospital rehabilitation. It also explored the potential benefit of using the virtual nature to reduce psychological distress. **Materials**: The VR intervention featured videos of natural scenes from three local geographic areas, designed to foster a sense of familiarity and connection, potentially enhancing psychological benefits as compared to less-familiar locations. **Methods**: A single-centre, non-blinded, crossover feasibility trial was conducted. Patients took part in two weeks of intervention and two weeks of control, with measures including participant enjoyment of the VR nature, simulator sickness, and psychological distress outcomes. **Results**: VR exposure to local natural environments was feasible, with minimal simulator sickness and high enjoyment levels reported. Findings suggested a reduction in psychological distress. The inclusion of

familiar, local settings contributed to the intervention's impact. **Conclusions**: This study supports VR as a feasible and promising tool to integrate nature into ABI rehabilitation, reducing psychological distress, and improving patient experience. Recommendations for optimising the intervention for future trials are provided, highlighting the potential of VR to transform clinical care with restorative virtual experiences.

Keywords: environmental neuroscience, rehabilitation, brain injury, psychological distress, virtual reality

**ID-739: CAN NATURE BUFFER THE EFFECTS OF STRESS ON SLEEP? EVIDENCE FROM TWO LONGITUDINAL STUDIES.**

Leanne Martin[1], James Grellier [1], Benedict Wheeler [1], Feifei Bu [2], Anne Corbett [3]

*[1]University of Exeter / European Centre for Environment & Human Health*, *Falmouth*, *United Kingdom*, *[2]Department of Behavioural Science and Health, Institute of Epidemiology & Health*, *London*, *United Kingdom*, *[3]University of Exeter Medical School, University of Exeter*, *Exeter*, *United Kingdom*

Research linking nature contact to reduced stress (Berto, 2014), better well-being (Martin et al., 2020), and healthier sleep outcomes (Martin et al., 2024) indicates potential for greater contact with the natural world to attenuate adverse sleep trajectories during times of stress. Yet, with prior research tending to be cross-sectional, little is known about the links between nature, well-being and sleep over time amongst individuals experiencing chronic societal stressors (e.g. Covid-19). Using Nature-Based Biopsychosocial Resilience Theory (White et al., 2023) as a conceptual framework, we will present secondary data from two UK longitudinal studies: the UCL Covid-19 Social Study (N = 12,900) and the dementia risk PROTECT study that has been collecting data from 2015 (N~ 20,000). We will present Latent Growth Curve Models examining whether nature contact attenuated adverse sleep trajectories during the COVID-19 lockdown, and if so whether nature-sleep associations were mediated by better psychological resilience, suggesting nature could help build adaptive coping resources Our results have important implications for both environmental conservation and public health policies.

Keywords: nature, stress, sleep, greenspace, blue space

**ID-441: ENVIRONMENTAL STRESSORS AND PSYCHOTIC EXPERIENCES: EVIDENCE FROM TWIN DATA**

Anja Stanojlovic[1], Moana Beyer [1], Simone Kühn [1; 2]

*[1]Max Planck Institute for Human Development*, *Berlin*, *Germany*, *[2]University Medical Center Hamburg-Eppendorf*, *Hamburg*, *Germany*

**Introduction**: Urban environments have been consistently linked to elevated risk for mental health issues. In particular, environmental factors such as air pollution, noise, and reduced green space have been associated with higher rates of psychotic experiences in the general population. However, findings from traditional observational studies may be confounded by genetic, familial, or demographic factors shared within families. As global urbanisation accelerates, it is critical to clarify the independent

contribution of urban exposures on mental health outcomes. **Objective**: This study aimed to evaluate whether exposure to environmental stressors is associated with psychotic experiences after accounting for genetic and shared familial confounders. **Methods**: A total of 847 twins ($M_{age}$ = 33.3 years, *SD* = 14.5) from the German Twin Registry completed an online survey assessing psychotic experiences. High-resolution estimates of environmental exposures were derived using Geographic Information System (GIS) data based on participants' residential addresses. Exposure-outcome associations were examined using co-twin control models, in which each twin serves as their own control, thereby naturally adjusting for unmeasured shared confounders. **Results**: Within-pair analyses revealed a significant association between higher exposure to fine particulate matter ($PM_{2.5}$) and increased reports of psychotic experiences. Because twins share genetic and familial factors, these findings suggest a possible independent effect of $PM_{2.5}$ exposure on psychotic experiences. **Conclusions:** In this study, individuals exposed to higher levels of air pollution were more likely to report psychotic experiences. Promoting cleaner energy, electric vehicles, and improved public transportation may help reduce mental health risks in urban populations.

Keywords: urbanicity, air pollution, psychotic experiences, twin research, co-twin control

**ID-370: PSYCHOPHYSIOLOGICAL RESPONSES TO REAL-WORLD ENVIRONMENTS: A PILOT STUDY USING WEARABLE SENSORS**

Gunnar Cerwén[1]

[1]*Swedish University of Agricultural Sciences*, *ALNARP*, *Sweden*

Recent advancements in wearable physiological sensors offer exciting possibilities for in-situ measurements, potentially improving ecological validity in people-environment research, such as in environmental psychology. This could have positive implications for future research and theoretical developments. By understanding how people perceive, react and behave in outdoor environments, this knowledge could inform and support planning and design practices of outdoor spaces that promote health and well-being. However, limitations in data quality and confounding variables remain challenges. This pilot study explores the feasibility of in-situ psychophysiology research, aiming to contribute with methodological development. Eight participants wore physiological sensors (measuring: electrocardiogram, photoplethysmogram, electrodermal activity and respiration) while navigating through different environmental settings (including a forest garden, artificial noise zone, campus road and nature pond) with controlled and less-controlled sections. A mixed-method approach was employed, combining within-subject data collection of eight dependent variables (including walking pace, electrodermal activity, heart rate, and heart rate variability) with video elicitation interviews. Reference data of the environments was collected via GPS and video recordings with spy-glasses or action camera. The methodological approach informed the contextual understanding and aided data interpretation. The study highlighted a number of methodological and procedural considerations. The analysis revealed statistically significant differences in participants' responses between environmental stimuli of different kinds. In particular, there was a clear difference between the campus road and the nature pond condition. Taken together, the findings support the feasibility and potential for future in-situ investigations of human-environment interactions.

Keywords: psychophysiology, wearable sensors, nature-urban dichotomy, wellbeing, ecological validity

**18-06-2025 | 09:45 - 11:00**

**S-0102**: **Communication**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Sun Room*

Chair (IS): Chao Qin, University of Groningen - Department of Psychology, Groningen, Netherlands.

### ID-248: COMMUNICATING CLIMATE CHANGE: DO WORDS INFLUENCE PERCEPTION AND EMOTIONS?

Petra Dickel[1]

[1]*Kiel University of Applied Sciences*, *Kiel*, *Germany*

This research examines how climate change terminology influences individuals' perception and emotional responses. Despite the increasingly recognised role of emotions in climate change communication we know little about whether wording triggers positive emotions (e.g. hope) or negative emotions (e.g. fear) and thus can shape the impact of communication. Building on framing theory this study analyses the effect of different terms ('climate change', 'climate crisis', 'climate catastrophe') on visual attention, emotional responses, reactance and social media engagement. A between-subjects lab experiment based on a combination of survey and physiological measures, i.e. eye tracking and electrodermal activity, was conducted to test the hypotheses. Data from 129 participants in Germany show that 'climate catastrophe' attracts the most attention and is associated with fear. However, the term 'climate crisis' (and not 'climate catastrophe') increases reactance which leads to lower social media engagement. 'Climate crisis' also evokes the least positive emotions in terms of hope and happiness. More positive emotions are associated with higher social media engagement. This effect is particularly pronounced for hope and also supported by a significant electrodermal effect on social media engagement. The study highlights that climate change terminology influences individuals' reactions. In particular, it shows that gloomy words are associated with different perceptions, emotions, and outcomes as illustrated by the different effects of 'climate crisis' and 'climate catastrophe'. Contrary to expectations, 'climate crisis' leads to the strongest negative associations and can therefore backfire when used in climate change communication.

Keywords: climate communication, terminology, emotion, eye tracking, electrodermal activity

### ID-644: COMMUNICATING CLIMATE CHANGE: THE EMOTIONAL EFFECTS AND SOCIAL IMPLICATIONS OF MESSAGE CONTENT

Lara Ditrich[1], Sarah Gina Febriana [1]

[1]*Leibniz-Institut für Wissensmedien*, *Tübingen*, *Germany*

Communication on climate change is ubiquitous across the media landscape. It is often considered essential to inspiring collective efforts at mitigating this crisis due, in part, to its potential for inducing specific emotions. Against this backdrop, we propose that whether and what we communicate about climate change matters – for the emotions individuals experience and their action tendencies. In addressing this proposition, we focus on fear, an emotion whose capability to foster pro-environmental collective efforts continues to be debated. We will report on five experiments (total N=1047). Two demonstrate that messages making climate change salient (vs. not salient) increase fear. Two further studies demonstrate that the increase in fear is larger when making the climate crisis's consequences (vs. its causes) salient, even when controlling for anger. Fear, in turn, consistently correlated with stronger pro-environmental collective action intentions in all studies. Finally, our results suggest that communicating about climate change also has behavioural consequences: Participants for whom climate change had been made salient (vs. not salient) were (marginally) more interested in receiving information about mitigation initiatives and those for whom consequences (vs. causes) had been made salient invested more effort on behalf of a pro-environmental organization. In sum, these studies point to an activating role of fear in fostering pro-environmental action and suggest that whether and what we communicate about the climate crisis can have emotional and societal implications. We will discuss these against the backdrop of debates on the role of affect as a driver of climate change action.

Keywords: climate change communication, emotions, fear, collective action

**ID-529: REACTANCE AS A PERSUASIVE STRATEGY: HOW COMMUNICATION CAN HARNESS ANGER TO LEVERAGE BEHAVIOR CHANGE**

Philipp Sprengholz[1]

[1]*University of Bamberg*, *Bamberg*, *Germany*

According to psychological reactance theory, individuals who perceive a threat to or loss of valued behavior will experience reactance—an amalgam of anger and negative cognitions that motivates an effort to regain behavioral freedom. The limited effects of health and environmental communication interventions have often been attributed to psychological reactance, and previous research has tended to focus on how to design messages that mitigate this phenomenon. However, the motivational nature of reactance suggests that it might also be used to promote health and environmental behavior. When people learn that external influences circumvent a positive behavior, this information may elicit reactance, motivating them to exhibit that behavior. This idea found support in the results of a preregistered experiment ($N$ = 358), showing that participants were more willing to reduce meat consumption when they experienced reactance after reading about how the food industry undermines self-determined dietary decisions. The findings indicate that harnessing reactance to leverage behavior change may offer a promising alternative to established communication strategies.

Keywords: psychological reactance, anger, behavior change, meat consumption

## ID-552: COMMUNICATING THE BENEFIT OF DEMAND SIDE STRATEGIES TO COMBAT CLIMATE CHANGE: THE ROLE OF PERCEIVED IMPACT ON QUALITY OF LIFE

Chao Qin[1], Anne M. Van Valkengoed [1], Linda Steg [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

To effectively combat climate change, in addition to technological innovations that reduce CO2 emission on the supply side, it is equally important to promote lifestyle changes to reduce energy usage (demand side). People in the Netherlands and other countries might consider demand side strategies having a negative impact on quality of life which in turn reduces the acceptability. However, this is not necessarily the case. Quality of life might improve in certain areas, like saving money from reduced energy expenditure. This study aims to communicate quality of life information to people in the Netherlands and examine study the link between perceived quality of life impact and acceptability. Online participants in the Netherlands participated in an experiment where they saw six strategies: Supply and demand side strategies from heating, consumer goods, and transport domains. They rated the acceptability and perceived quality of life impact. Participants reported high acceptability and positive quality of life impact in all strategies. They found the demand side strategy more acceptable than the supply side in the heating and transport but not in the consumer goods domain. They found supply side strategies having a more positive quality of life impact than the demand side. Among evaluations of different aspects of the strategies, quality of life impact was the only consistent predictor of acceptability but not always the strongest. This study examined the role of perceived quality of impact in the acceptability of strategies combating climate change and provided valuable insights on improving communication of demand side strategies.

Keywords: demand-side, policy acceptability, lifestyle, energy, sustainable

## ID-1029: POSITIVE MISINFORMATION OR NEGATIVE EXAGGERATION? ENGAGING CONSUMERS IN AIRLINE CLIMATE MESSAGES

Nicole Cocolas[1], Gabby Walters [2], Nadine Itani [1]

[1]*University of Surrey*, *Guildford*, *United Kingdom*, [2]*The University of Queensland*, *Brisbane*, *Australia*

**Introduction**: Both airlines and activist organisations have released messages that attempt to portray aviation's responses to international calls for emissions reduction. These messages, however, can be misleading and potentially contribute to consumers distancing themselves from climate issues rather than engaging further. **Objectives**: This research explores the impact of airline and activist environmental campaigns on consumers' (dis)engagement with their flight emissions. Perceptions of message credibility, consumers' brand trust, and emotional responses to these campaigns, is also evaluated. **Methods**: A 2 x 2 between-groups pre-post experimental design was implemented for this research. Manipulations consisted of two airline environmental adverts and two activist anti-flying adverts from realworld campaigns that each depicted RyanAir (low-cost) or Lufthansa (full service). Two datasets were collected for this study. The first was a pre-post survey questionnaire, and the second was participants' biometric data captured through iMotions to measure their real-time emotional response to the manipulations.

Moral disengagement, airline brand trust and message credibility were measured as the dependent variables, while climate concern was also included as a moderator. **Results**: Data collection is currently underway. The target sample for this study is 160, or 40 respondents per manipulation. Data will be analysed in SPSS and iMotions. **Conclusions**: This research contributes to both theory and practice by examining how competing messaging strategies influence consumers' engagement with their flight emissions. The novel integration of biometric and survey data provides insights into how climate communications in aviation might inadvertently contribute to the attitude-behaviour gap.

Keywords: climate communications, air travel, consumer behaviour, marketing

**18-06-2025 | 11:00 - 11:30**

**Coffee Break**

*Campus Courtyard*

**18-06-2025 | 11:30 - 12:45**

**S-051**: **Institutional signals**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Valley Room*

Chair: Ellen Van der Werff, University of Groningen, Environmental psychology, Groningen, Netherlands.

**ID-1231: POLICY SIGNALING: PUSH VERSUS PULL POLICIES**

Ellen Van der Werff[1], Lise Jans [1], Torsten Masson [2]

*[1]University of Groningen, Groningen, Netherlands, [2]University of Leipzig, Leipzig, Germany*

**Introduction**: Social norm perceptions are key drivers of pro-environmental behaviour. However, it is unclear how such norms develop and change. In the current paper we study if policies can signal social norms. Importantly, we study the impact of policy characteristics on norm signaling. We argue that push policies, which make undesired behaviour less attractive, may send a stronger signal compared to pull policies, which make desired behaviour more attractive. **Objective**: We test if push policies have a stronger signaling function compared to pull policies. We systematically test effects on injunctive, descriptive and dynamic norms. Furthermore, we test whether these norms in turn influence pro-environmental behaviours. **Methods**: We conducted online experiments testing the impact of push versus pull policies compared to a control group on social norm perceptions and pro-environmental behaviour. **Results and conclusions**: Our findings show that policies can indeed signal social norms and thereby contribute to pro-environmental behaviour. Particularly injunctive norms are likely to be strengthened by policies. However, differences in the signaling strength of push versus pull policies are small. Practical and theoretical implications are discussed.

Keywords: policy signaling, social norm perceptions, push pull policies, pro-environmental behaviour

## ID-1233: DIRECT DEMOCRACY AS A COORDINATING SIGNAL: ASSESSING THE EFFECTS OF A FAILED BALLOT INITIATIVE ON PUBLIC ATTITUDES AND SOCIAL NORM PERCEPTIONS

Sara Constantino[1], Holly Caggiano[2]

[1]*Doerr School of Sustainability, Stanford University*, *Stanford*, *United States*, [2]*University of British Colombia*, *Vancouver*, *Canada*

**Introduction**: Direct democracy measures, including referenda and ballot initiatives, may act as coordinating devices by revealing public preferences on relevant issues, thus reducing uncertainty about prevailing norms. These signals may lead publics to update their beliefs about those around them and change their own opinions on an issue. Depending on the success of the measures, these signals could solidify public support or result in backlash. **Objective**: We examine how the failure of a 2023 ballot initiative proposing the transformation of Maine's largest investor-owned utilities into democratically managed public utilities impacted public attitudes and perceptions of support for publicly owned energy infrastructure and renewable energy. **Method**: We conducted a longitudinal study with two waves, one before and one after the initiative (n=390). Participants were asked about their voting behavior, personal attitudes about ownership and renewable energy and perceptions of others' attitudes on these same topics. Participants in wave 2 were additionally assigned to an experiment in which they read different prevalent arguments for renewable energy, one focused on energy independence and one on climate change mitigation. **Results**: We find that the failed ballot initiative led citizens to reduce their perceptions of public support for public ownership of energy infrastructure and renewable energy. However, we also find that they perceive growing momentum around publicly owned energy. A failed initiative may thus reduce perceived public support for related policies, while also increasing the perception that support will grow in the future.

## ID-1234: REBUILDING TRUST: THE IMPACT OF CITIZEN ASSEMBLIES ON CITIZEN-GOVERNMENT RELATIONS

Anne Eichholtzer[1], Lise Jans[1], Namkje Koudenburg[1]

[1]*University of Groningen*, *Groningen*, *Netherlands*

**Introduction:** Amid declining trust in governments, public participation is presented as a means to build trust, engage citizens and enhance policy acceptability. Citizen assemblies are increasingly commissioned across Europe, but research on their signalling function remains limited. **Objective:** We evaluate how informing the public about a prospective citizen assembly affects their perceived relation with their local government and fellow citizens, and the acceptability of future policies. **Methods:** We conducted experiments alongside two Dutch citizen assemblies addressing housing and waste management. Large representative samples were randomly assigned to either receive information about the prospective assembly (intervention) or not (control). Participants completed an online questionnaire measuring trust in and connection to their local government, feelings of being heard by the government, and perceived

polarization - among citizens and between citizens and their government **Results and discussion:** Results from Study 1 on housing indicate that informing participants about the citizen assembly improved their trust and connection with the government but had no impact on their views towards fellow citizens. A pre-registered study on waste aims to replicate and extend these findings by exploring changes in norms, acceptability of future policies and perceived responsibility to act. We discuss what public participation can signal in terms of citizen-government relations and policy legitimacy. We address theoretical and practical implications.

Keywords: public participation, policy acceptability, policy signaling, social norms, polarisation

**ID-619: REDEFINING 'ANTARCTIC AMBASSADORSHIP': A SYSTEMATIC REVIEW AND CONCEPTUAL EXPLORATION**

Silpa Saila Kumar[1], Anne Van Valkengoed [1], Linda Steg [1]

[1]*University of Groningen - Department of Psychology*, *Groningen*, *Netherlands*

**Introduction**: 'Antarctic ambassadorship', commonly associated with polar tourism, suggests that visitors likely become 'ambassadors' that advocates for pro-environmental change. **Goals & Objectives**: The exact meaning and measurement of Antarctic ambassadorship remain unclear, making it difficult to assess whether visiting Antarctica fosters pro-environmental behaviors. This study aims to clarify the concept by exploring its theoretical foundations**. Materials & Methods**: A systematic literature review was conducted to explore existing definitions and measures of this concept. Based on this, first we developed a new framework distinguishing three types of ambassadorship behaviors: (1) sustainable living practices (everyday actions to reduce environmental impact), (2) everyday environmental activism (raising awareness and encouraging pro-environmental behaviors), and (3) political engagement (supporting systemic change through protests, voting, and policy support). Using the Value-Belief-Norm (VBN) theory, key factors promoting these behaviors was identified, including emotional connection, moral obligation, and pro-environmental values. A pilot study was then conducted to test this framework among individuals who have visited or plan to visit the Arctic. **Results**: The literature review demonstrated that 'Antarctic ambassadorship' has been defined and measured inconsistently, with many studies relying on IAATO's mission statement and assessing the concept through attitudes, behaviors, and knowledge. The pilot study results showed significant differences in ambassadorship behaviors between the two groups. Visitors demonstrated higher engagement in both Antarctic-specific and general pro-environmental behaviors compared to those yet to visit. **Conclusion**: This study combines theory and practice to establish a stronger foundation for researching Antarctic ambassadorship, emphasizing the importance of behavioral actions in protecting polar environments.

Keywords: Antarctic ambassadorship, pro-environmental behaviors, polar tourism, sustainable living practices, Polar regions

**18-06-2025 | 11:30 - 12:45**

**S-050**: **Nature-based experiences and planetary wellbeing (Part II)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Eleanor Ratcliffe, University of Surrey, Guildford, United Kingdom.
Chair: Katriina Hyvönen, Jamk University of Applied Sciences, Jyväskylä, Finland.

**ID-1103: A SYSTEMS APPROACH TO THE HUMAN-NATURE CONNECTION: THE LIFE-SUSTENANCE HYPOTHESIS**

Irina Salmi[1]

[1]*Department of Psychology and Speech Pathology, University of Turku*, *Turku*, *Finland*

The life-sustenance hypothesis is an attempt to provide a comprehensive theoretical framework for the human-nature connection and its wide effects. Despite the cumulative increase in research in this domain, the most frequently cited theoretical frameworks such as the biophilia hypothesis trace back to the preceding century. Subsequently, a multifaceted phenomenon has been discovered, demonstrating versatile effects on wellbeing, prosociality, and pro-environmentalism. The life-sustenance hypothesis is based on an ecological, systems-based interpretation of Jean-Jacques Rousseau's views on the nature of living organisms supported by contemporary multidisciplinary research and theoretical underpinnings. It is suggested that the structure of life as nested, interconnected systems within systems leads all forms of life from cellular to ecosystem level to share two fundamental orientations: the individuative, self-sustaining orientation towards autonomy, and the more holistic life-sustaining orientation towards integration. The orientations are species-specifically manifested, tending towards (1) self-preservation and (2) avoiding unnecessary harming—or helping—of other life by means available. The experience of nature connectedness and altruistic impulses are posited to be human manifestations of the life-sustaining orientation. These orientations are suggested to function homeostatically in all life forms via self-preserving stress responses and their alleviation. In our hyper-social species, self-preservative responding has evolved to react not only to life-threatening dangers but also to anticipatory, social-psychological stressors, inducing a prolonged state of homeostatic imbalance that inhibits the life-sustaining and amplifies the self-sustaining orientation. The hypothesis proposes that the challenges caused by this imbalance to pro-environmentality, prosociality, and overall wellbeing could be alleviated by enhancing human-nature connection.

Keywords: human-nature connection, nature connectedness, altruism, life-sustenance hypothesis, biophilia

**ID-1105: THE RELATIONSHIPS BETWEEN ENVIRONMENTAL EMOTIONS, COMPREHENSIVE NATURE EXPERIENCE, AND PRO-ENVIRONMENTAL BEHAVIOUR**

Salla Seppänen[1], Kirsi Salonen [1], Kalevi Korpela [1], Yasushi Suko [1]

[1]*Faculty of Social Sciences/Psychology, Tampere University*, *Tampere*, *Finland*

Previous research indicates that human-nature connectedness is an important predictor of pro-environmental behaviour (PEB). Furthermore, environmental emotions can either encourage or hinder such actions. While earlier studies have examined the link between human-nature connectedness and some negative environmental emotions, there has been limited research on their relationship with PEB within the same sample. This study investigated the relationships between various positive and negative environmental emotions, comprehensive nature experience, and PEB. The comprehensive nature experience model encompasses human-nature connectedness along with some conditions that enable it. First, the study explored which environmental emotions have the strongest connections with PEB. Second, it examined whether those emotions moderate or mediate the relationship between comprehensive nature experience and PEB. The first sample of this study (sample 1, N=667) was collected from Finnish municipalities through random sampling as a part of a larger longitudinal research project called Act with Nature. Participants completed an online survey measuring their comprehensive nature experience (CNE-scale), positive and negative environmental emotions, and PEB. The second sample (sample 2, N=289) consisted of individuals who completed the same survey one year after the first survey. Research questions were analysed with Pearson correlations, multiple linear regression analyses (for sample 1), and mediation analyses (for samples 1 and 2). As preliminary results, the study found that interest and scepticism were the strongest predictors of PEB, and that interest partially mediated the relationship between comprehensive nature experience and PEB. Further details will be discussed at the conference.

Keywords: environmental emotions, human-nature connectedness, comprehensive nature experience, pro-environmental behaviour

**ID-1106: EMOTIONAL EXPERIENCES, CONNECTEDNESS TO NATURE AND PRO-ENVIRONMENTAL BEHAVIOUR IN A NATURE-BASED INTERVENTION**

Emily MacDonald[1], Eleanor Ratcliffe [1]

[1]*Environmental Psychology Research Group, University of Surrey*, *Guildford*, *United Kingdom*

Interventions promoting pro-environmental behaviours (PEB) are necessary to address climate and biodiversity crises. Self-transcendent emotions such as awe can foster greater nature-connectedness and willingness to adopt PEB. The present study explores whether these outcomes could be achieved through activities guiding people to experience awe in everyday nature. *N* = 84 adults spent 10-15 minutes weekly in a natural space, for four weeks. An intervention group followed instructions designed to elicit awe, while a control group were instructed to spend the time however they chose. All participants completed weekly diary entries/photographs and measures of awe, nature-connectedness and willingness to adopt PEBs throughout the study. Awe, nature-connectedness and PEB willingness increased significantly over time in both groups. For awe only, there was a significant time x group interaction: the intervention group experienced gradually increasing awe over four weeks, whereas the control group experienced a peak at week two followed by a drop. Across both groups, awe positively predicted nature-connectedness but not willingness to adopt PEB. Qualitative data from diary entries and photographs will be explored to identify further emotional pathways to connectedness to nature and PEB willingness. Results suggest that weekly time in nature, whether structured or unstructured, supports nature-connectedness and could be a pathway to promoting sustainable lifestyles. Awe can support nature-connectedness, in particular, but

structured activities in nature may be needed to generate sustained levels of awe over time. These results could guide the development of accessible and sustainable interventions that improve human and planetary health outcomes.

Keywords: intervention, nature connectedness, awe, pro-environmental behaviour

**ID-779: A PROPOSED FRAMEWORK LINKING PHYSICAL ACTIVITY, FLOOD DISASTER EXPERIENCES, ECO-ANXIETY, AND YOUTH WELL-BEING**

Nikos Comoutos [1], Aristea Karamitrou [1], Charalambos Krommydas [1], Ioannis D Morres [2], Katerina Violatzi [1], Eleni Dimitriou [1], Mairy Hassandra [1], Athanasios Papaioannou [1], Yannis Theodorakis [1]

*[1]Physical Education and Sport Sciences*, *Trikala*, *Greece*, *[2]Nutrition and Dietetics*, *Trikala*, *Greece*

Climate change presents substantial risks to human health, however, its psychological effects on younger populations remain insufficiently investigated. Conversely, extensive research highlights the beneficial effects of Physical Activity (PA) on young individuals' psychological well-being. Therefore, this study examined whether PA can moderate the moderating effect of experiencing a major flood disaster on the relationship between eco-anxiety and well-being in young individuals. Participants were 1.021 adolescents and children (448 boys, 565 girls, eight missed to provide their gender), aged 9 to 16 years old (*M*age = 12.35 ± 1.38) in central Greece. They completed measures for eco-anxiety, PA frequency, flood disaster experience, and psychological well-being six months after an extreme flood event caused by the Daniel storm in Greece. We performed moderated moderation analysis to test the hypothesized moderated moderation (three-way interaction) model using the PROCESS macro for SPSS.The results showed that PA frequency moderated the moderating effect of the flood disaster experience on the eco-anxiety and well-being relationship. Further examination of the three-way interaction showed that the moderating-exacerbating influence of flood disaster experience on the negative relationship between eco-anxiety and well-being was buffered when PA frequency scores were higher than 6.25 days/week. Overall, our findings indicate that six days of engagement in PA can potentially improve well-being in young individuals, possibly by mitigating the amplifying impact of flood-related experiences on the negative association between eco-anxiety and well-being. *This project is carried out within the framework of the National Recovery and Resilience Plan Greece 2.0, funded by theEuropean Union–NextGenerationEU(Implementation body: HFRI)*

Keywords: physical activity, eco-anxiety, flood disaster experience, well-being, moderated moderation

**18-06-2025 | 11:30 - 12:45**

**S-099**: **Food & diet**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair (IS): Laura Wallnoefer, University of Natural Resources and Life Sciences Vienna, Economics & Social, Vienna, Austria.

### ID-685: DON'T LOOK UP! WATCHING COMMERCIALS TO COPE WITH MEAT-RELATED AMBIVALENCE

Joris Galama[1], Bianca Harms [2], Jan Willem Bolderdijk [1]

*[1]University of Amsterdam*, *Amsterdam*, *Netherlands*, *[2]NHL Stenden University of Applied Sciences*, *Leeuwarden*, *Netherlands*

**Introduction & objectives**: People care about the environment and many are aware of the environmental impact that their flights, fast fashion purchases, and meat consumption cause. Yet, considering the negative impact of these actions does not always lead to a negative self-evaluation – i.e. shame. This study aims to find out why this is the case. We argue that environmentally concerned people can continue to knowingly engage in environmentally harmful practices, in part, because the modern media environment (e.g. social media, commercials) offers ample opportunities for downward comparison standards. This means that people compare oneself to other people who do worse to cope with ambivalent feelings. **Materials, Methods & Results**: In an online experiment (n=442), participants in the experimental condition were prompted to reflect on the downsides of eating meat, whereas participants in the control condition were instructed to reflect on the downsides of visiting a cinema. Reflecting on eating meat resulted in a higher preference to watch a commercial in which people consume meat and a decreased preference to watch a government campaign showing people who consume a plant-based meal. The positive effect on watching a meat commercial was more pronounced for individuals with a medium and high environmental self-identity – those for whom acting pro-environmentally is central to a positive self-evaluation. **Conclusions**: Our findings show that especially individuals with a medium and high environmental self-identity use the current (online) environment to seek out for downward comparisons to cope with meat-related ambivalence.

Keywords: meat-related ambivalence, advertising, moral disengagement, behavioral change, advantageous comparison

### ID-876: CAPTURING SOCIAL TIPPING DYNAMICS OF ADVERTISEMENTS SHAPING AND MIRRORING CLIMATE-RELEVANT NORMS RELATED TO RED MEAT

Laura Maria Wallnoefer[1], Leonore Lendl-Lewisch [2]

*[1]University of Natural Resources and Life Sciences Vienna, Economics & Social*, *Vienna*, *Austria*, *[2]University of Natural Resources and Life Sciences / Economics and Social Science*, *Vienna*, *Austria*

**Introduction & Objectives**: In response to the urgent need for decarbonization, especially in the agri-food sector, this study explores the potential of advertisements as interventions to transform social norms around food consumption. Given the cultural entrenchment of meat consumption and habitual eating behaviors in the EU, social tipping interventions are necessary to accelerate change. Previous

research suggests that the visibility of climate-related media can influence respective behavior, resonating in Cities like Den Haag's banning advertisements promoting fossil fuel products and services. This study examines advertisements for climate-friendly versus climate-damaging products and their role in mirroring and shaping social norms. **Materials & Methods**: A quantitative longitudinal behavioral experiment with 1000 Austrian participants will be conducted, using a 2x2x2 factorial mixed design. The experiment will manipulate the type of advertised product (climate-friendly vs. damaging), the desired action (purchase vs. non-purchase), and the frequency of exposure (frequent vs. seldom). Participants will be randomly assigned to experimental conditions and exposed to advertisements via a web application over six weeks. Personal norms and food choices will be assessed before, after, and six months following the experiment. **Expected Results & Conclusion**: The study expects that the reduced frequency of meat advertisements will lead to shifts in personal norms and consumption behaviors toward sufficiency. Findings aim to provide evidence supporting policies in the realm of the EU's Green Deal and its green claim directive. The results will offer insights into how advertisement policies can effectively accelerate the protein transition by triggering social norms as social tipping elements.

Keywords: social norm, product choice, social tipping point, advertisements, experiment

**ID-262: CONSUMERS' INFORMATION NEEDS FOR SUSTAINABLE FOOD CHOICES**

Giulia Priolo[1], Jan Micheal Bauer [1]

[1]*Copenhagen Business School/Department of Management, Society and Communication*, *Frederiksberg*, *Denmark*

**Introduction:** Food choices are critical to achieving global sustainability goals. Hence, making informed and sustainable food choices is essential. However, consumers' information needs are often overlooked in the literature. **Objectives:** This study aims to investigate the types of sustainability-related food information consumers seek and their preferred modes of receiving it. **Methods:** To achieve this, we developed the *Framework for Information Needs in Dietary Sustainability* (FINDS), which conceptualizes information needs as a state of conscious uncertainty experienced by consumers when attempting to align their food choices with their personal sustainability preferences. The framework distinguishes between two types of information needs: Dispositional, influenced by individual traits such as socio-demographics and values, and Situational, which emerge when consumers experience uncertainty in the store and require additional information to meet their sustainability goals. Enactment strategies, such as habits or heuristics, may reduce the need for deliberate information search, while incidental information (e.g., labels) can either prevent or guide more reflective searches. The framework also incorporates situational and contextual factors influencing consumers' likelihood of engaging in a deliberative search. The FINDS will be applied to review and map existing literature on the topic. Relevant studies will be retrieved from scientific repositories e.g., Web of Science, to assess the existing evidence in the literature and identify gaps. **Conclusions:** By recognizing the interplay between individual values and the shopping environment, FINDS offers valuable insights for developing digital tools and labeling strategies to effectively meet consumers' information needs and promote sustainable food choices.

Keywords: sustainability, food, information need, consumer choices, sustainable consumption

## ID-324: PSYCHOLOGICAL BARRIERS FOR SUSTAINABLE DIETS: UNPACKING THE INTENTION-BEHAVIOR GAP AMONGST SWEDISH CONSUMERS

Noah Linder[1], Therese Lindahl [1], Nanda Wijermans [2]

*[1]Royal Swedish Academy of Sciences, Stockholm, Sweden, [2]Stockholm University, Stockholm, Sweden*

Promoting a shift away from meat consumption towards plant-based proteins can help address environmental challenges and improve public health. Many consumers express a strong interest in adopting more sustainable and healthy diets. However, there is only weak relationship between these intentions and actual dietary changes. To unpack this intention-behavior gap this study explore three research questions:(1) What factors drive intentions to reduce meat consumption? (2) How does meat consumption differ between those with and without reduction intentions? (3) Among participants with meat reduction intention --— what factors drive their continued meat consumption? Using survey data from a nationally representative sample of Swedish consumers (n = 998), we found that attitudes—toward both meat and plant-based proteins—were the strongest predictors of intentions to reduce meat consumption. Factors like environmental self-identity, gender, and perceived cooking convenience also played smaller but meaningful roles. However, no meaningfull differences in meat consumption were observed between individuals with strong intentions to reduce meat intake and those without, underscoring the persistence of the intention-behavior gap. Among those with meat reduction intentions, only two key variables emerged as driving continued meat consumption -— *meat purchasing habits* and a *positive attitude toward meat.* These results underscore the challenges of translating intentions into action and highlight how different variables is important for a) shaping intentions and b) driving actions. While intentions can be a needed prerequisite for voluntary behavior change, they might not be sufficient on their own, especially when the aim is to change behaviors that are governed by habits.

Keywords: sustainable food system, consumers, food choices, protein shift, habits

## ID-870: HEALTH, ENVIRONMENT, AND PALATABILITY APPEALS: MESSAGES PROMOTING THE MEDITERRANEAN DIET MUST FIT RECIPIENTS' VALUES

Giulia Scaglioni[1], Nicoletta Cavazza [1], Valentina Carfora [2], Luciana Carraro [3], Michela Lenzi [3], Margherita Guidetti [1]

*[1]Università degli Studi di Modena e Reggio Emilia, Reggio Emilia, Italy, [2]University of International Studies of Rome, Rome, Italy, [3]Department of Developmental Psychology and Socialization, University of Padua, Padua, Italy*

**Introduction**: Promoting the Mediterranean Diet (MeDiet) is crucial for reducing consumers' environmental footprint. **Goals & Objectives**: Preregistered experiment aimed to examine the effects of messages emphasizing the environmental or health benefits of the MeDiet, as well as its palatability, while accounting for individual differences in security, universalistic, and hedonistic values. **Materials & Methods**: Participants (239 Italian adults) were randomly assigned to one of six conditions in a 3 (health vs. environmental benefits vs. control) x 2 (presence vs. absence of the palatability appeal) factorial design. The dependent variables included intention measures and self-reported eating behaviors after a week.

This study is part of the PRIN PNRR 2022 DEMETRA ↔ ARTEMED project. **Results**: None of the appeals had a significant total effect on MeDiet adherence. Compared to the control condition, the health appeal indirectly increased legume intake (via intention), whereas the environmental appeal reduced fruit and vegetable consumption. Compared to the environmental appeal, the health-focused message had a greater positive effect on MeDiet intention, which in turn boosted actual adherence. Two-way and three-way interaction effects highlighted complex moderating roles of the palatability appeal and personal values, with match and mismatch effects that either strengthened or hindered the impacts of the health and environmental appeals. **Conclusion**: Overall, the environmental appeal seems to generate a sort of resistance. Additionally, messages that matched or mismatched participants' personal values either reduced or increased this resistance to environmental arguments and the effectiveness of the health benefits, also depending on the concurrent exposure to the palatability appeal.

Keywords: pro-environmental behaviors, mediterranean diet, cognitive appeals, taste, personal values

**18-06-2025 | 11:30 - 12:45**

**S-069**: **Education**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Environmental education)

*Fauna Room*

Chair (IS): Ellen Matthies, Otto-von-Guericke Universität Magdeburg, Institute of Environmental Psychology, Magdeburg, Germany.

## ID-623: SECOND ORDER BELIEFS MIGHT HINDER SUPPORT OF TRANSFORMATION POLICIES AT UNIVERSITIES

Ellen Matthies[1], Karen Kastner [1], Clara Simon [1]

[1]*Otto-von-Guericke Universität Magdeburg*, *Magdebug*, *Germany*

Recent research indicates that second order beliefs (SOBs) about others' environmental norms often underestimate the actual prevailing norms. This might hinder people from taking climate action. Against this background, we aimed to investigate the role that second order beliefs play for university members' willingness to support organizational climate protection measures (OCPM) and to participate in collective transformation processes. N = 658 members from four German universities participated in our online survey in spring 2023. We examined the possible drivers for a) support for OCPM, b) willingness to participate in the development and implementation of OCPM as well as c) university members' readiness to actually participate in a specific university-wide deliberative mini-public (DMP) on achieving carbon-neutrality. Results show that a) support is predicted by SOBs about other people's support and that this effect is partly mediated by collective efficacy beliefs, and that b) participation willingness is predicted by SOBs about other people's willingness to participate and that this effect is partly mediated by participative efficacy beliefs. Furthermore, for both criteria, personal norms, perceived fairness, and for b) also openness to change is a predictor. C) The specific DMP participation readiness was only predicted by

personal norms and openness to change. Our study contributes to a body of literature suggesting that false SOBs might hinder climate engagement and how this effect is mediated.

Keywords: policy support, collective action, second order beliefs

## ID-594: A META-ANALYSIS OF THE EFFECTS OF OUTDOOR EDUCATION ON STUDENTS' ENVIRONMENTAL KNOWLEDGE AND ATTITUDES

Mei Xie[1], Alessandro Milani [1; 2], Valeria Chiozza [1; 2], Simona Grilli [3], Paola Perucchini [2; 4], Susana Alves [1], Marino Bonaiuto [1; 2]

*[1]Department of Psychology of Developmental and Socialization Processes, Sapienza, Rome, Italy, [2]CIRPA-Sapienza University of Rome, Rome, Italy, [3]Department of Human and Social Sciences, Universitas Mercatorum, Italy, Rome, Italy, [4]Department of Education, Roma Tre University, Rome, Italy*

**Introduction**: Outdoor educational interventions are vital in environmental education, providing immersive experiences that foster hands-on learning and ecological awareness. Despite their popularity, effectiveness varies, necessitating systematic analysis to evaluate their impact and influencing factors. **Objectives**: This study evaluates the impact of outdoor educational interventions on environmental knowledge and attitudes through meta-analyses. It examines the extent to which these programs enhance cognitive and affective outcomes, explores variability in effectiveness, and investigates whether participant demographics, intervention duration, or educational approaches moderate the results. **Materials andMethods**: The meta-analyses included 30 studies examining environmental knowledge (*n*=5,076) and 19 studies on environmental attitudes (*n*=2,544). A random-effects model was used to calculate standardized mean differences (*SMDs*) and evaluate the overall effect sizes. Moderation analyses were conducted to assess the influence of demographic factors, intervention duration, and educational approaches on the outcomes. Heterogeneity was quantified using statistical measures, and potential sources of variability were examined. **Results**: The findings reveal significant positive effects of outdoor educational interventions on both environmental knowledge (*SMD*=1.10) and attitudes (*SMD*=0.33). Despite these promising results, substantial heterogeneity was observed among included studies, suggesting variability in program effectiveness. Moderation analyses indicated no significant influence of participant demographics, intervention duration, or educational approaches on the outcomes. This highlights the need to consider other unexplored factors, such as cultural relevance and implementation quality. **Conclusions**: Outdoor interventions significantly enhance environmental literacy, but their effectiveness varies. Further research should address contextual factors and optimize strategies to improve program outcomes, providing actionable insights for designing effective, culturally relevant interventions.

Keywords: outdoor education, environmental education, environmental knowledge, environmental attitude, meta-analysis

## ID-235: EFFECTS AND MECHANISMS OF A CLIMATE EDUCATION PROGRAM FOR SCHOOL STUDENTS

Jan Keller[1], Amelie Spliesgart [1], Phillip Gutberlet [2], Stephan Heinzel [3]

[1]*Freie Universität Berlin*, *Berlin*, *Germany*, [2]*Klimabildung e.V.*, *Bochum*, *Germany*, [3]*Technische Universität Dortmund*, *Dortmund*, *Germany*

**Introduction:** Climate change will increasingly affect the lives of young people. In the spirit of education for sustainable development, it is important to educate students about climate change and provide opportunities for action, such as civic engagement for climate protection to increase people's 'ecological handprint'. **Goals & Objectives:** This study examines pre-post effects and potential mechanisms of the Public Climate School, an online school-based project week on environmental and health topics. **Materials & Methods:** We enrolled 360 students from 7 schools in Germany (Age: *M* = 14, *SD* = 1.19, 49% female), who responded to online questionnaires before and after the Public Climate School, which took place between 20–24 November 2023. Over three months, we repeatedly assessed civic engagement for climate protection (e.g., signing a petition for climate protection) as well as theory-based psychological variables at baseline, postintervention, and follow-up. **Results:** Low baseline levels of students' civic engagement for climate protection were reported. Pre-post analyses showed significant increases of civic engagement for climate protection over three months. Civic engagement for climate protection at follow-up was significantly associated with students' intention strength, collective efficacy, and perceived identification with the climate movement. **Conclusions:** This study showed that a school-based project week can foster students' civic engagement for climate protection and identified potential mechanisms. Future research could use experimental designs examining causal relationships. School actors from different levels (e.g., teachers, head of the school) could consider implementing a long-term adaptation of such a program to strengthen education for sustainable development.

Keywords: education for sustainable development, climate change, civic engagement for climate protection, socio-ecological handprint

## ID-646: HOW TO INCREASE CONNECTION TO NATURE? A QUASI-EXPERIMENTAL TEST OF TWO ENVIRONMENTAL EDUCATION PROJECTS.

Benoit Galand[1], Matthieu America [1], Zoé Davreux [1]

[1]*Université catholique de Louvain*, *Louvain-La-Neuve*, *Belgium*

Connection to nature is associated with better health and the adoption of pro-environmental behaviors (Martin et al., 2020). However, most studies on the subject are cross-sectional. We do not know very well how to encourage this connection, and the exact role of contact with nature in the development of this connection remains debated (DeVille et al., 2021). Furthermore, there is a lack of studies showing that an increase in connection to nature has a positive effect on pro-environmental behaviors. Our aim was to assess if environmental education projects promoting time spent in and contact with nature can increase connection to nature and thereby encourage pro-environmental behaviors among 4th, 5th, and 6th graders. Study 1 - Greening the playground: involving pupils in redesigning their school playground to make it more natural (planting, creating a pond, insect hotel, etc.). 683 pupils from schools taking part in the project and 335 pupils from other schools completed a questionnaire at the beginning and end of the 2022-23 school year. Study 2 - Outdoor school: organizing lessons outdoors, in a natural environment, with pupils and their teachers. 114 pupils from classes participating in the project and 225 pupils from other classes completed a questionnaire at the beginning and end of the 2023-24 school year. The results were similar

in both studies: attending a class taking part in the project had no detectable effect on changes in pupils' connection to nature or their pro-environmental behaviors. The implications of these results will be discussed.

Keywords: children, environmental education, connection to nature, pro-environmental behaviors, intervention

**18-06-2025 | 11:30 - 12:45**

**S-089**: **Acceptance of various energy sources**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Forest Room*

Chair (IS): Sophie Lohmann, IREES - Institute for Resource Efficiency and Energy Strategies, Karlsruhe, Germany.

**ID-1018: SOCIAL ACCEPTANCE OF WIND TURBINES: HOW CITIZENS' SUBJECTIVE ACCEPTANCE AND PERCEIVED PUBLIC ACCEPTANCE ARE RELATED TO BEHAVIOR**

Berend Barkela[1], Lilly Kiesbauer [1], Maria Rueff [1], Laura Loy [1]

[1]*RPTU University of Kaiserslautern-Landau, Department of Psychology*, *Landau*, *Germany*

Understanding public responses to renewable energy technologies is crucial for successful implementation. In this study, we examined the relationship between subjective acceptance (an individual's personal view) and perceived public acceptance (what they believe others think) of wind turbine projects. In particular, we investigated how these behaviors change when the two forms of acceptance are either aligned (congruent) or differ (incongruent). Data were collected through door-step interviews and an online survey (n=302) in three German communities where wind turbine plants were planned. Overall, results indicate high subjective acceptance, while participants estimated other people in their community to be mainly neutral—a phenomenon already identified in previous studies as pluralistic ignorance. Beyond this established finding, response surface analysis revealed that perceived public acceptance showed a stronger positive correlation with information-seeking behavior than subjective acceptance. When subjective and public acceptance were congruent (e.g., both high or both low), information-seeking was minimal, indicating reduced informational needs. However, when the two forms of acceptance differed (e.g., high subjective acceptance but low perceived public acceptance), information-seeking increased, likely reflecting efforts to gather counterarguments and reduce cognitive dissonance. In contrast, oppositional behavior was mainly related to subjective acceptance, suggesting that people who reject wind turbines tend to show oppositional behavior irrespective of perceived public acceptance. These findings provide important insights into the dynamics of social acceptance and related behaviors and highlight the need for tailored communication approaches: addressing discrepancies in acceptance through balanced information may encourage constructive dialogue, while individualized approaches are essential for managing oppositional behavior.

Keywords: energy transition, social acceptance, pluralistic ignorance, information seeking, oppositional behavior

**ID-215: WHAT DETERMINES THE ACCEPTABILITY OF LOCAL GREEN HYDROGEN PROJECTS – INSIGHTS FROM A MULTI-SITE AND MULTI-YEAR SURVEY**

Sophie Lohmann[1]

[1]*IREES - Institute for Resource Efficiency and Energy Strategies*, *Karlsruhe*, *Germany*

**Introduction:** Green hydrogen will be necessary to decarbonize some industry applications and possibly long-distance mobility, but so far it has little direct bearing on most people's lives. In contrast to, e.g., wind power or PV, many people do not have an opinion on green hydrogen yet and attitude formation is currently in progress. **Method:** Our dataset allows us to observe this attitude formation process, as we are longitudinally surveying citizens in three German cities where green hydrogen projects are currently being built. This pre-registered, randomly sampled mixed-mode (online/paper) survey assesses residents' perceptions of what green hydrogen should be used for and the local acceptance of hydrogen infrastructure projects, such as electrolyzers and pipelines. Data from the first wave is already available ($N$ = 166); at the time of the conference, data from the second wave will be complete and allow longitudinal analysis of changes over time. **Results:** We find that local acceptance is formed through the combination of general socio-political acceptance and climate concern with the locally specific influence of social norms, trust, and risk/benefit beliefs. Residents hold nuanced views on what green hydrogen should (not) be used for, despite most people having limited knowledge. Further, we find that local acceptance would increase with more financial or deliberative participation and would decrease with more land use and with non-green forms of hydrogen. **Conclusion:** As more green hydrogen projects are being rolled out, general social acceptance will be translated into local acceptance depending on the specific characteristics of the local projects.

Keywords: acceptance, hydrogen, attitude formation, attitude change, survey

**ID-803: THE ROLE OF CONSPIRACY MENTALITY IN OPPOSITION TO A LOCAL WIND FARM PROJECT**

Laura Henn[1], Kevin Winter [1], Leonie Ströbele [1]

[1]*University of Hohenheim*, *Stuttgart*, *Germany*

Energy transition requires the construction of infrastructure such as wind farms. Lack of public acceptance and opposition can severely hamper the necessary progress in building such infrastructure. Previous research has identified perceived fairness, social norms and individual environmental attitudes as important factors in predicting acceptance of wind farms. In addition, the general propensity to believe conspiracy theories (i.e., conspiracy mentality) has been recently identified as a major determinant of (hypothetical) wind farm opposition and acceptance of (general) misinformation about wind farms. Yet, it remains to be tested, whether conspiracy mentality plays a similar role in opposition to an actual wind farm project. In a field study, we surveyed N = 1018 people from the local population nearby a site where a wind farm is about to be built and where public participation processes have already taken place. Our aims were to test whether conspiracy mentality was associated with lower acceptance of the local wind

farm project and with higher belief in false negative information about the planned wind farm. We further tested whether higher perceived procedural fairness and higher subjective norms moderate the negative effect of conspiracy mentality on wind farm acceptance. The results show a strong negative relationship of conspiracy mentality and acceptance, while subjective norms and procedural fairness counteracted this effect and increased acceptance. This study confirms with data from a real wind farm project that conspiracy mentality hinders acceptance of the wind farm, but also shows potential ways to counteract it.

Keywords: conspiracy mentality, acceptance, wind energy, procedural fairness, subjective norm

**ID-1006: SOCIAL ACCEPTANCE OF ARTIFICIAL AND SUSTAINABLE FUELS**

Philipp Dunker[1], Adam Hearn [1], Iljana Schubert [1], Annika Sohre [1]

[1]*University of Basel, Sustainability Research Group*, *Basel*, *Switzerland*

Sustainable fuels will play an essential role in achieving the 2050 climate goals in the transport and industry sector. Hence, the demand for artificially produced carbon-neutral or carbon-free fuels is expected to rise dramatically in the future. However, when transitioning toward more sustainable systems, public acceptability of those changes is a central point to consider. While the public opinion of and attitudes toward hydrogen and biofuels have been researched, research on the social acceptance of e-fuels has only started to emerge in the last few years. Although several reviews of the acceptance literature regarding hydrogen and biofuels exist, thus far there have been no reviews summarizing the growing literature on e-fuels. In this research, we analyze the existing body of literature on social acceptance of e-fuels by conducting a systematic literature review. In addition, we compare findings regarding social acceptance of all three types of sustainable fuels (hydrogen, biofuels, e-fuels). These insights lay the groundwork for the creation of a theoretical model of sustainable fuel acceptance which is subsequently tested by conducting a survey, as part of the Swiss reFuel.ch project. In this talk, we present insights from the literature review as well as the resulting framework and possible first findings from the survey concerning public preferences for different sustainable fuels.

Keywords: sustainable fuels, social acceptance, energy transition, public perception, e-fuels

**ID-913: GREEN ENERGY, GREENER HABITATS. EXPLORING PUBLIC PERCEPTIONS OF THE BALANCE BETWEEN UTILITY-SCALE PHOTOVOLTAICS AND BIODIVERSITY CONSERVATION**

Robert Gennaro Sposato[1; 2], Rafaela Klič [1], Nina Hampl [1]

[1]*Department of Environmental Systems Sciences, University of Graz*, *Graz*, *Austria*, [2]*University of Klagenfurt*, *Klagenfurt am Wörthersee*, *Austria*

The study presented here addresses two of the most pressing challenges of our time: biodiversity loss and climate change. It does so by investigating social acceptance of utility-scale photovoltaics. Large-scale renewable energy infrastructure, however, can adversely affect local biodiversity, creating a “green-on-green” dilemma where clean energy goals intersect with nature conservation and social acceptance becomes a seesaw battle between local environmental concerns and global climate considerations. Our

research investigates public perceptions of this quandary in three case-study regions (*n* = 3×200), selected for their proximity to distinct biosphere reserves. Building on theoretical contributions such as *place attachment* and *energy justice*, the study design and questionnaire result from an interdisciplinary research effort enriched through collaboration with an advisory stakeholder group comprising representatives from NGOs, policymaking, the energy industry, and environmental organisations. Combining quantitative survey data with a choice experiment, this study explores public priorities and examines the extent to which biodiversity considerations influence support for utility-scale photovoltaics. This approach highlights the trade-offs perceived by the public and offers insights into addressing ecological concerns to enhance social acceptance of solar development. By fostering a balance between renewable energy goals and biodiversity conservation, this research also provides a pathway towards more integrated, ecologically sensitive, and publicly supported solar strategies. The inclusion of stakeholders further underscores the importance of participatory planning for achieving a just transition to a renewable energy future. The findings offer practical guidance for policymakers, planners, and developers in aligning solar projects with societal values and environmental sustainability.

Keywords: social acceptance, biodiversity, photovoltaic, energy justice, renewable energy

**18-06-2025 | 11:30 - 12:45**

**S-080**: **Restorative environments**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Dawn Room*

Chair (IS): Jake Benfield, Penn State Abington, Abington, United States

## ID-894: SELDOM WALKING ALONE: AN EXPERIMENTAL TEST OF PERCEIVED RESTORATIVENESS IN THE PRESENCE OF OTHERS

Jake Benfield[1], James Myers [1]

[1]*Penn State Abington*, *Abington*, *United States*

Restorative Environments research often tests under simulated or ideallyc nature conditions, where the scene is often not only exceptionally high on scenic beauty but also devoid of other humans. While there is scholarship showing that solitude in nature is beneficial (e.g., Korpela & Staats, 2014), there has also been work showing that nature scenes, especially when high on refuge or low on visual prospect, can be viewed as less safe, especially for women (Gatersleben & Andrews, 2013; Gatersleben, 2024). Other work has also shown that group experiences in nature, such as coastal walks with groups, can be restorative when enjoyed collectively (Marselle, Irvine, & Warber, 2013). Similarly, soundscapes research on restoration has shown that under specific conditions, especially marked by potential nature threats, the presence of other people promotes restorative outcomes (Cherian & Benfield, 2018). The current study aimed to provide additional experimental testing of the effect of other people being present in potentially restorative environments. An online experimental study was designed in which participants (N=400)

viewed and rated nature scenes with or without a single other individual approaching on a designated path. The approaching person was additionally randomized based on age (college, middle age, or elderly) and gender expression (male or female). Comparisons are made across conditions (alone/not alone; age; gender) with results discussed in the context of restorativeness generally as well as perceptions related to safety and identity in nature.

Keywords: solitude, nature, restoration

**ID-271: BEING ALONE IN NATURE: WHEN SOLITUDE FOSTERS WELL-BEING AND PRO-ENVIRONMENTALISM — AND WHEN IT DOESN'T**

Evi Petersen[1]

[1]*OsloMET*, *Oslo*, *Norway*

**Introduction**: Guided nature solo practice (spending more than 24 hours alone in nature) provides opportunities for reflection and meaningful interactions with the environment. These experiences can enhance well-being and foster pro-environmental attitudes, though the benefits differ for individuals. **Objectives**: This study investigated how and when solo practice enhances hedonic and eudaimonic well-being and promotes pro-environmental attitudes. It focused on the role of personal and contextual differences in shaping these outcomes. **Materials & Methods**: Data were collected through group interviews with 40 adults from Norway, Germany, and New Zealand and analyzed using a mixed-method approach combining concept-driven and data-driven techniques. Quantitative insights from 153 questionnaires were evaluated using linear mixed models, examining individual factors like prior experiences and expectations, as well as contextual factors such as landscape and weather. **Results**: Solo practice fosters well-being by creating a strong contrast with daily routines and through multi-sensory experiences, such as tactile and olfactory inputs, which evoke memories and emotional responses tied to specific aspects of nature landscapes. These processes seem to facilitate conscious connections with the environment. However, the benefits for well-being and pro-environmental attitudes were influenced by individual factors (expectations) and contextual elements (environmental changes). **Conclusion**: This study highlights the potential of guided solo practice to enhance well-being and pro-environmental attitudes, emphasizing the synergistic effects of contrast, sensory engagement, and human-nature connection processes. It also underscores the importance of individual, socio-cultural, and spatial contexts in shaping these experiences.

Keywords: solo, nature connectedness, emotions, sensory input, well-being

**ID-924: OUT FOR A WALK WHERE THE THOUGHTS TAKE FLIGHT: NATURALISTIC EXPERIENCE SAMPLING OF MIND WANDERING IN AN URBAN BLUE-GREEN SPACE**

Christopher Staudinger[1]

[1]*Swedish University of Agricultural Sciences*, *ALNARP*, *Sweden*

When wandering in nature, the mind often follows the senses. But the mind also drifts elsewhere, traveling great distances or to different time periods. Mounting neuropsychological research indicates that this fleeting mental state, called mind wandering (MW), has implications ranging from creative cognition, mood, and social cognition. Environmental psychologists have theorized that MW might explain creativity benefits of nature contact. Early empirical tests of MW in outdoor nature have connected MW with mood improvement. Yet, MW remains understudied in outdoor contexts. The primary aim of this study was to develop an ecologically valid methodology to measure MW during outdoor nature contact. The secondary aim tested the methodology by describing MW in one urban blue-green space. 13 participants took a walk while wearing eyeglasses with a video camera built into the nose bridge of the frame. Afterwards, a retrospective experience sampling survey was conducted, aided by video elicitation using footage from the participant's walk. Finally, interviews assessed participants' experience of the methodology. Results revealed that the video-based methodology could systemically collect a broad array of mind wandering data. MW reports were mapped; potential clusters were examined; and descriptive statistics for dimensions of thought content were presented. Participants broadly reported that the methodology aided recall of fleeting thoughts from the walk that had subsequently been forgotten. Possible uses of the methodology are discussed, including for rumination, creative cognition, and attention during nature contact. Further study of MW in outdoor spaces could advance understanding of how human thought operates in outdoor spaces.

Keywords: Mind Wandering, methodology, creativity, urban blue-green spaces

**ID-189: THE PSYCHOLOGICAL BENEFITS OF OPEN-WATER (WILD) SWIMMING: EXPLORING A SELF-DETERMINATION APPROACH USING A 19-COUNTRY SAMPLE**

Wencke Groeneveld[1], Morris Krainz [2], Anja Heske [3], Lewis Elliott [4], Bratman Gregory [5; 6; 7], Lora Fleming [4], James Grellier [4], Craig Wallace McDougall [4; 8], Mark Nieuwenhuijsen [9; 10; 11], Ann Ojala [12], Sabine Pahl [3], Anne Roiko [13], Mathilda Van den Bosch [9; 10; 11], Benedict Wheeler [4], Mathew White [1; 3; 4]

*[1]University of Vienna, Vienna Cognitive Science Hub, Vienna, Austria, [2]University of Geneva, Consumer Decision & Sustainable Behaviour Lab, Geneva, Switzerland, [3]University of Vienna, Urban and Environmental Psychology Group, Vienna, Austria, [4]University of Exeter, European Centre for Environment and Human Health, Exeter, United Kingdom, [5]University of Washington, School of Environmental and Forest Sciences, Seattle, United States, [6]University of Washington, Department of Psychology, Seattle, United States, [7]University of Washington, Department of Environmental & Occupational Health Scie, Seattle, United States, [8]University of Edinburgh, Scottish Collaboration for Public Health Research and P, Edinburgh, United Kingdom, [9]ISGlobal, Barcelona, Spain, [10]Universitat Pompeu Fabra (UPF), Barcelona, Spain, [11]CIBER Epidemiología y Salud Pública (CIBERESP), Barcelona, Spain, [12]Natural Resources Institute Finland (Luke), Helsinki, Finland, [13]Griffith University, School of Pharmacy & Medical Sciences, Brisbane, Australia*

A growing body of qualitative and quantitative research has attempted to explore the reasons behind the increasing popularity of open-water or "wild" swimming, and whether it benefits psychological well-being and mental health. To date, however, most quantitative studies have used small samples in specific locations, limiting generalisability, and thus have not been able to discern potential benefits of nature-based open-water swimming *per se* from other forms of outdoor swimming, such as in human-made

open-air pools and lidos. Using survey data from 1,200 outdoor swimming visits across 19 different countries, we compared self-reported positive and negative well-being outcomes of swims in either open-air pools or open-water (wild) swim locations. Additionally, we explored the degree to which satisfaction of the core motivations identified by self-determination theory (i.e. autonomy, relatedness, and competence) explains any positive outcomes. We found high levels of positive, and low levels of negative, well-being for swimming visits in both locations with significantly higher positive well-being for open-water swims. Mediation analysis indicated that this was mainly explained by feelings of greater autonomy and competence (but not relatedness). Better perceived water quality was a significant predictor of higher levels of positive well-being and lower levels of negative well-being, highlighting the need to maintain bathing water quality for both mental and physical health.

Keywords: wild swimming, blue spaces, blue health, subjective well-being, self-determination theory

**18-06-2025 | 11:30 - 12:45**

**S-0103**: **Communication**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Sun Room*

Chair (IS): Krzysztof Leoniak, Maria Curie-Sklodowska University / Institute of Psychology, Lublin, Poland.

## ID-687: OVERCOMING RESISTANCE: CAN TWO-SIDED COMMUNICATION REDUCE COUNTERARGUING AND PROMOTE WILLINGNESS TO REDUCE CONSUMPTION

Saskia Flachs[1], Oliver Büttner [1], Petra Riefler [2], Charlotte Baar [2]

[1]*Universität Duisburg-Essen*, *Duisburg*, *Germany*, [2]*BOKU University*, *Vienna*, *Austria*

Consumer sufficiency as one potential strategy to mitigate climate change is well documented in the literature, yet one challenging question is how to foster consumer acceptance of such strategies. Calls for individual consumption reduction often evoke counterarguing, thereby posing a barrier to behavior change. In this research we examined the hypothesis that two-sided communication—highlighting both gains and losses of a behavior—can reduce counterarguing and increase willingness to reduce consumption. Across three online experiments ($N_{total}$=1356), participants were randomized to either one-sided communication (focusing on personal gains of consumption reduction) or two-sided communication (presenting both gains and losses). We measured environmental values as the moderator, counterarguing as the mediator and willingness to reduce consumption as the dependent variable. Contrary to findings in other fields such as marketing and health, our results did not demonstrate beneficial effects of two-sided communication. Instead, in two out of three studies, two-sided communication increased counterarguing and decreased willingness to reduce consumption among individuals with low environmental values. Notably, across all studies, counterarguing consistently correlated with a lower willingness to reduce consumption. This research systematically examined the effects of two-sided communication in promoting consumption reduction. Based on our findings, we

recommend against employing two-sided communication in this context. Future research should explore alternative strategies that address counterarguing more effectively, beyond relying solely on communication interventions.

Keywords: consumer sufficiency, willingness to reduce, counterarguing, two-sided communication, experiment

**ID-762: EXPLORING THE IMPACT OF VALENCE AND SELF-RELEVANCE IN ENVIRONMENTAL MESSAGING: A SELECTIVE EXPOSURE APPROACH**

Changyu Jing[1], Disa Sauter [1], Suzanne Oosterwijk [1]

[1]*University of Amsterdam*, *Amsterdam*, *Netherlands*

Environmental threats are frequently highlighted in the media, yet public engagement with these issues remains low. Prior research on environmental communication, often rooted in negative framing, has primarily focused on enhancing public risk perception. However, relatively little attention has been given to positive messaging, which, according to the Broaden-and-Build Theory, may foster a more optimistic assessment of environmental challenges. This study explores the appeal of positive messaging using a selective exposure paradigm to examine whether individuals prefer engaging with positive or negative messages. It also examines how messages with different valences influence individuals' emotional stances (e.g., hope, anxiety) toward environmental issues and their future information-seeking behaviors. Furthermore, drawing on previous communication studies, messages are more impactful and persuasive when they hold personal relevance for the receiver. Thus, we test whether self-relevance moderates how environmental messages influence emotions. We manipulate message features in a 2 (valence: positive vs. negative) × 2 (self-relevance: human vs. animal) × 2 (topic: environmental vs. health) factorial design. During the selective exposure task, participants will view a grid of message headlines and select articles to read within a limited timeframe. Article choices and reading durations will be recorded, while emotional stances toward environmental issues will be assessed both before and after the task. And participants will subsequently report their intentions to seek further information. Preregistration has been completed. Data collection is expected to be completed by January, with analysis finalized by March. We aim for a final sample size of 250 participants.

Keywords: environmental messages, selective exposure, emotional stances, self relevance, environmental communication

**ID-656: THE EFFECT OF PRESCRIPTIVE AND PROSCRIPTIVE PROMPTS ON WASTE-SORTING BEHAVIOR: A FIELD EXPERIMENT**

Krzysztof Jan Leoniak[1], Wojciech Cwalina [1]

[1]*Maria Curie-Sklodowska University / Institute of Psychology*, *Lublin*, *Poland*

**Introduction:** Promotion of waste segregation usually relies on using prompts (e.g. signs on receptacles) that instruct what should (prescriptive injunction) and what should not (proscriptive injunction) be

disposed of in a given container. Although these directives form a complete instruction, using too much information in a prompt may impair recipients' ability to comprehend presented information, thus inhibiting prompt effectiveness in field settings. Using solely prescriptive or proscriptive instruction simplifies prompts but may lead to different behavioral outcomes because it activates distinct cognitive and motivational mechanisms. **Objectives:** We verified whether the type of prompted instruction (prescriptive vs proscriptive vs both) influences waste sorting behavior differently. We hypothesized that prescriptive prompts (compared with other variants) would significantly reduce waste contamination, regardless of waste fraction type. **Method:** During a field experiment, we manipulated the type of prompts on waste receptacles in a large Polish company. We analyzed the contamination rate before (26 days) and after (26 days) the introduction of prompts (656 collected garbage bags, totalling 455 kg 133 g). **Results:** The overall contamination rate decreased due to the intervention, although only the prescriptive prompts significantly reduced it across all waste fractions. The effectiveness of prompts presenting both types of instruction (prescriptive and proscriptive) or solely proscriptive instruction (which occurred as least effective) varied between waste-type fractions. **Conclusions:** The extent to which a particular prompt will be effective in directing recipients' behavior depends not only on its design/vividness and placement/visibility but also on the type of instruction used to clarify its directive.

Keywords: prompts, waste-sorting, waste contamination rate, prescriptive and proscriptive instructions, field experiment

**ID-599: DO PEOPLE LOOK AT THE CONTENTS OF THE TRASH BIN RATHER THAN THE LABEL?**

Kaori Uetake[1], Kaori Ando [1]

[1]*Faculty of Human Life and Environment, Nara Women's University*, *Nara*, *Japan*

Descriptive norms, which indicate 'what most others do', are known to have a significant effect on littering behaviour (Cialdini et al. 1990). In this study, we investigate how the content of the waste already thrown into the bin affects people's waste sorting behaviour. At three waste stations in the dining area of a local government event in Tochigi Prefecture, Japan, the following two types of intervention and control conditions were implemented in rotation according to the time of day. In intervention 1, correctly sorted waste was placed in the bins; in intervention 2, incorrectly sorted waste was placed in the bins; in the control condition, there was no manipulation. The rate of mis-sorting was 2.6% in intervention 1, 11.6% in intervention 2 and 2.6% in the control condition. The rate of mis-sorting in intervention 2 was higher than in the control and intervention 1 at all stations, even when the effect of bin location was removed, indicating that the fact that already mis-sorted waste was being thrown away had an effect on people's behaviour. This suggests that dumped waste in the bins may affect people's sorting behaviour, as a descriptive norm. In terms of waste management, it is important to correct mis-sorting immediately rather than leaving it as it is.

Keywords: waste separation, nudge, descriptive norms, field experiment

**ID-798: THE EFFECT OF ECO-LABELS ON PRODUCER'S SUSTAINABLE DECISION-MAKING IN A NOVEL DEFORESTATION RESOURCE DILEMMA**

Julian Kirschner[1], Jan Engelmann [1], Natalie Lee [1], Jan Hausfeld [1]

[1]*University of Amsterdam*, *Amsterdam*, *Netherlands*

We investigate the impact of eco-labels on sustainable decision-making within a novel deforestation common resource paradigm. Participants decide how many trees to harvest from a common forest in return for payment. Conserving trees not only benefits the commons in the game, but remaining trees are planted in the real world, creating a dynamic environment where environmental as well as individual consequences are incentivized and interventions as well as changes in context can be explored. We tested this paradigm by collecting data from 244 participants in the lab, with each participant playing an interactive (4 players) and a computerized version (computerized group members) of the task. We show that symbolic and monetarily incentivised eco-labels, help groups to coordinate, in course increasing individual as well as group level sustainable behaviour while also leading to economically more efficient outcomes. While most research on labels focused on consumers, we argue that these processes can shift impactful producer behaviour and set norms within industries. We further show that environmental attitudes are only correlated with behaviour in the eco-label conditions (when sustainable norms are salient) and explore the validity of our results through process tracing including eye-tracking. In follow-up projects we further explore the effect of eco-labels on norms and expectations and plan to translate the paradigm into an easily accessible measure for environmental behaviour and validate the use of the paradigm through systematic variation of incentives / external effects (trees planted and payouts), framings (participant roles, trees vs points) and setup (human versus computerized groups).

Keywords: eco-labels, sustainable behaviour, producers, resource dilemma, behavioural paradigm

**18-06-2025 | 12:45 - 14:00**

**Lunch Break**

*Campus Courtyard*

**18-06-2025 | 14:00 - 15:15**

**S-053**: **Climate engagement: Emotional, cognitive, and social pathways**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (People-environment relations under pandemics and crises)

*Valley Room*

Chair: Dr. Sinead Sheehan (School of Psychology, School of Psychology, Galway, Ireland)

**ID-1089: UNDERSTANDING DISCRETE CLIMATE EMOTIONS: AN APPRAISAL-THEORETICAL ANALYSIS**

Gisela Böhm[1; 2], Thea Gregersen [3; 4]

[1]*1. Department of Psychosocial Science, University of Bergen, Bergen, Norway,* [2]*Department of Psychology, University of Inland Norway, Lillehammer, Norway,* [3]*Norwegian Research Centre (NORCE), Bergen, Norway,* [4]*Centre for Climate and Energy Transformation (CET), University of Bergen, Bergen, Norway*

Discrete emotions, such as fear or anger, have been found to predict judgments and behaviors towards climate change. These emotions are typically measured by asking respondents to indicate to which extent they experience them. However, there is increasing dissatisfaction with this kind of measurement. The argument is that knowledge regarding the intensity of an emotion does not suffice to understand people's experience; we also need to know its target. For example, Geiger, Dwyer, & Swim (2023) showed that hope based on the possibility of taking action against climate change was associated with climate engagement whereas hope based on climate change not being a problem was not. Starting from an appraisal-theoretical approach, we aim to analyze the underlying appraisals of six discrete climate emotions: hope, fear, sadness, anger, guilt, and powerlessness, using an online survey. A representative sample of the Norwegian public (N ≈ 2000) will be asked, on a rating scale, to indicate how intensely they experience each emotion. Then, respondents are urged to explain what was going through their minds when responding to one randomly selected emotion (n ≈ 330 for each emotion). Fieldwork is currently ongoing (November-December 2024). We will manually screen the responses for emotion-specific appraisals based on theory (e.g., anticipation of future threats for fear, injustice for anger), and apply automated text analysis, such as topic modeling and AI tools, to identify potential new ones. Our results will give a much-nuanced picture of the relationship between appraisals and climate emotions.

Keywords: climate change, emotions, appraisal theories, Norway

**ID-1091: SCHOOL CLIMATE AND ADOLESCENT MENTAL HEALTH: THE ROLE OF EDUCATIONAL INSTITUTIONS IN PROMOTING YOUNG PEOPLE'S WELL-BEING AND RESILIENCE**

Baiba Martinsone[1]

[1]*University of Latvia, Riga, Latvia*

Nowadays, school climate is increasingly recognized as one of the key variables for monitoring school quality and promoting well-being in educational settings. Using a cross-culturally validated self-report measure—the Georgia School Climate Survey (GSCS)—allows us to assess the school climate from the perspectives of students, educators, and families. This presentation will focus on adolescents' perceptions of the school climate and their self-reported mental health because improving the school environment enhances student outcomes. However, research expanding the view from school to the global environment in relation to students' anxiety, stress and depression has been limited. Such aspects of the school environment, as perceived physical and emotional safety, quality of relationships between peers and adults, teaching and learning (including teacher expectations, a stimulating environment, and teaching and learning materials) will be considered in relation to adolescents' reported stress, anxiety, depression, and other symptoms. The research will address gender and age/grade differences in the school climate and mental health. The sample comprised more than 1000 students of 5-12 grades from schools in different regions of Latvia. The initial results from this quantitative research will be discussed in the wider context of young people's mental health in the situation of multiple global threats and

uncertainty. Based on the research findings, implications for schools as key actors impacting students' mental health and well-being will be offered.

Keywords: school climate, adolescents, physical symptoms, emotional symptoms, global challenges

**ID-1092: EXPLAINING THE INTERRELATIONSHIPS THAT LINK ECO-ANXIETY AND ENVIRONMENTALLY FRIENDLY CONSUMPTION IN YOUNG ADULTS: THE ROLE OF COPING, PERCEIVED CONTROL, KNOWLEDGE, AND HOPE**

Dovile Šorytė[1], Audra Balundė [2], Aistė Bakaitytė-Bagdonė [2], Rita Žukauskienė [2]

*[1]Environmental Psychology Research Centre, Mykolas Romeris University*, *Vilnius*, *Lithuania*, *[2]Mykolas Romeris University*, *Vilnius*, *Lithuania*

Eco-anxiety may pose a risk to people's mental health. It is especially important to consider the younger generations, who are more prone to experiencing the maladaptive effects of ecological distress. On the other hand, eco-anxiety can manifest as a source of motivation to engage in pro-environmental behaviour (PEB). It is not clear whether this connection between eco-anxiety and PEB varies as a function of other factors. The presentation aims to shed more light on the mechanism that links eco-anxiety and environmentally friendly consumption in a sample of young adults by testing the role of coping, perceived behavioural control, knowledge about how to act pro-environmentally, and hope as explanatory factors. A convenience sample of expectedly 600 participants will be collected for the correlational study comprising Lithuanian adults aged 18-35. Items from the Climate Change Anxiety Scale (Clayton & Karazsia, 2020), the Coping Strategies instrument (Ojala, 2012; Ojala & Bengtsson, 2019), and the Hope-index (Sangervo et al., 2022) will be used, together with the questions about environmentally friendly consumption, perceived control, and knowledge, developed specifically for the study. Structural equation modelling will be applied to data analysis. Based on the assumptions from previous studies and the relevant theoretical perspectives (e.g. the transactional theory of stress and coping), we predict the unique mediating roles and the interaction of coping, perceived control, knowledge, and hope in explaining the anxiety-behaviour linkage. Insights about the mechanisms underlying the association between eco-anxiety and PEB are critical for developing effective interventions that promote adaptive responses to environmental crises.

Keywords: eco-anxiety, evnrionmentally friendly consumption, pro-environmental behaviour, young adults, emerging adults

**ID-1093: CLIMATE CHANGE DISTRESS PROFILES IN ADOLESCENCE, PRO-ENVIRONMENTAL BEHAVIOR AND THE ROLE OF CAREGIVERS: A THREE-YEAR, TWO-COHORT LONGITUDINAL STUDY**

Salla Veijonaho[1], K. Salmela-Aro [1]

*[1]Faculty of Educational Sciences, University of Helsinki*, *Helsinki*, *Finland*

Although distress caused by climate change awareness is widespread among adolescents globally, adolescents respond to climate change in different ways, and these responses may change over time. In addition, previous studies have found that while parental norms directly influence adolescents' pro-

environmental behavior, environmentally aware adolescents can also promote sustainable lifestyles at home. However, the relationship between adolescents' and caregivers' climate change distress and how those relate to behavioral habits remains understudied. This study employs a person-oriented approach to examine climate change distress in adolescence across three annual data waves (2020–2022, N = 3716) from two age cohorts (born in 2006 and 2008), complemented by caregiver data from 2023 (N = 515). Associations between profile memberships, pro-environmental behavior, caregivers' climate change distress and efficacy are also examined. Four climate change distress profiles were identified: stable-low (57%), stable-moderate (28%), increasing-high (7%), and decreasing-high (4%). Adolescents in the increasing-high climate change distress group exhibited the highest pro-environmental behavior, while those in the stable-low group showed the least pro-environmental behavior. Caregivers of adolescents in the declining-high group reported the highest climate change distress, whereas caregivers of the stable-low group reported the lowest. Caregivers of the stable-moderate group reported the highest climate change efficacy, while caregivers of the increasing-high group reported the lowest efficacy. In conclusion, the results provide new insights into the patterns of climate change distress of adolescents and the role of caregivers in addressing this distress and fostering constructive responses among adolescents.

Keywords: climate change, adolescence, pro-environmental behavior, longitudinal study, caregivers

**18-06-2025 | 14:00 - 15:15**

**S-045**: **Leveraging Social Cognitive Neuroscience approaches in pro-environmental and climate change research**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Flora Room*

Chair: Claus Lamm, Univ Vienna, Vienna, Austria.
Chair: Kim Doell, Konstanz University, Konstanz, Germany.

**ID-1050: DOES BEING PRO-ECOLOGICAL EQUATE TO BEING PRO-SOCIAL? A FUNDAMENTAL AND DEVELOPMENTAL APPROACH**

Leslie Tricoche[2], Emilie Caspar [1], Damien Brevers [3]

*[1]Moral & Social Brain lab, Dept. Of Experimental Psychology, Ghent University, Ghent, Belgium, [2] Moral & Social Brain lab, Dept. Of Experimental Psychology, Ghent University, Ghent, Belgium, [3]UCLouvain, Psychological Sciences Research Institute, Louvain, Belgium*

Global environmental crisis is a crucial challenge of our century, impacting regions worldwide and threatening human well-being. Yet, collective and individual awareness to address this crisis remains insufficient, with limited adoption of pro-ecological behaviors (PEcoB). Understanding decision-making processes behind PEcoB is thus a key societal challenge. A current framework suggests PEcoB is a form of prosocial behavior (PSocB), involving a conflict between self-interest in non-ecological choices and altruistic pro-ecological choices. This resolution may depend on personal norms, individual and contextual

factors influencing moral judgment, and motivation levels for pro-ecological acts. Based on this framework, our project explores for the first time how individuals choose between PEcoB and PSocB (e.g., donate to a climate-change charity or an organization helping the homeless) based on their moral judgment, influenced by individual (e.g., age) and contextual (e.g., education, cultural and societal specificities) factors. It seeks to understand the extent to which cognitive conflict and motivational processes play a role in this decision-making process, experimentally validating the framework of moral theories. Specifically, we asked adults, adolescents and children to complete a two-forced choice, while recording their brain activity via EEG. Stimuli represented four behavior types: pro-ecological, pro-social, anti-ecological and anti-social ones. We focused on cognitive conflict and motivation markers during the decision-making between pro-ecological and pro-social behaviors, or anti-ecological and anti-social behaviors. Individual factors, age particularly, were investigated as covariates. Testing and analyses are still ongoing.

Keywords: pro-ecological behavior, pro-social behavior, development, cognitive conflict, motivation

**ID-1051: THE NEURAL CORRELATES OF CLIMATE ANXIETY**

Joshua Carlson[1]

[1]*Department of Psychological Science, Northern Michigan University*, *Marquette*, *United States*

Growing awareness and attention to the impacts of climate change coincide with rising levels of climate change anxiety. While moderate levels of anxiety can motivate pro-environmental actions, excessive levels of anxiety can become overwhelming and negatively impact an individual's daily life. Understanding the neural correlates of climate anxiety may provide insight into the underlying cognitive systems and mechanisms contributing to adaptive behavioral engagement and/or functional impairment. Yet, prior research has not directly assessed the neural correlates of climate anxiety. We aimed to identify the structural and functional neural correlates of climate anxiety and how these neural mechanisms may contribute to engagement in pro-environmental action. Forty-two individuals self-reported their level of climate anxiety and engagement in pro-environmental actions. Participants also underwent structural and functional magnetic resonance imaging to obtain measures of regional gray matter volume and functional connectivity. Results: Greater levels of climate anxiety were associated with lower levels of midcingulate cortex gray matter volume and greater functional coupling between the midcingulate and insula cortices. Pro-environmental behavior was correlated with greater climate anxiety and lower midcingulate cortex volume. Conclusions: Structural and functional components of the brain's salience network were linked to climate anxiety. This network is involved in the anticipation and preparation of expected and unexpected threats. In addition, climate anxiety and its neural correlates were related to self-reported pro-environmental action. These findings suggest that the neural systems supporting climate anxiety may (at least in part) motivate climate engagement.

Keywords: climate anxiety, structural MRI, functional MRI, pro-environmental behavior, individual differences

**ID-1052: CLIMATE ACTION FOR THE BRAIN AND THE BRAIN FOR (COLLECTIVE) CLIMATE ACTION!**

Kimberly Doell[1; 2], Boryana Todorova [3], Maximilian O Steininger [4], Claus Lamm [5]

*[1]Centre for the Advanced Study of Collective Behaviour, University of Konstanz, [2]Dept. of Cognition, Emotion, and Methods in Psychology, Faculty of Psychology, Konstanz, Germany, [3]University of Vienna, Vienna, Austria, [4]Dept. of Cognition, Emotion, and Methods in Psychology, University of Vienna, [5]Dept. of Cognition, Emotion, and Methods in Psychology, University of Vienna, Vienna, Austria*

Climate change threatens human well-being, brain health, and socio-cognitive functioning. At the same time, climate-friendly actions can benefit neuro-cognitive health, creating a positive feedback loop that promotes further engagement. In this perspective-styled talk, we will review accumulating evidence on how engaging in different individual and collective climate actions can directly and indirectly support different facets of brain health, and open a discussion about how to leverage such insights to stimulate climate action. For example, adopting active transport methods like walking or cycling not only reduces emissions but also directly benefits brain function by increasing blood flow, promoting neuroplasticity, and enhancing cognitive performance. Indirectly, widespread adoption of active transport reduces air pollution, which is linked to cognitive decline and neurological disorders. At the collective level, participating in community-led environmental projects, such as urban greening initiatives, fosters social connection, reduces feelings of isolation and potentially reduces climate anxiety. Thus, these activities can directly improve mental health and well-being while also creating greener, healthier environments that mitigate pollution and heat, indirectly protecting brain health for entire communities. By understanding the direct and indirect neuro-cognitive benefits of climate-friendly actions, it becomes possible to motivate both individual and collective engagement in ways that protect brain health and support long-term climate resilience. This perspective highlights a powerful synergy: taking action for the planet can benefit the brain, and a healthier brain can help sustain (collective) climate action.

Keywords: brain health, climate action, collective action, neuroscience, interventions

**ID-1053: NEUROCOMPUTATIONAL INSIGHTS INTO SELF-BENEFITTING VS PRO-ENVIRONMENTAL ACTIONS**

Boryana Todorova[1], Ronald Sladky [2], Kimberly C Doell [3], Claus Lamm [2]

*[1]University of Vienna, Vienna, Austria, [2]Dept. of Cognition, Emotion, and Methods in Psychology, University of Vienna, Vienna, Austria, [3]Department of Collective Behaviour, Max-Planck Institute of Animal behaviour, Konstanz, Germany*

The fight against climate change hinges on people's decisions. Everyday choices—such as those related to mobility, energy use, and consumption—play a crucial role in shaping emission trajectories. These decisions are influenced by people's motivation, a process often framed as a cost-benefit evaluation, where individuals weigh the effort required against the potential rewards gained. Here, we developed a lab-based procedure to measure pro-environmental motivation involving real costs and tangible rewards and addressed recent calls to integrate neuroscientific methods into the study of pro-environmental behavior. Participants engaged in an effort-based decision-making task, choosing between smaller

rewards requiring no effort and larger rewards requiring effort (measured via a grip-force device), while undergoing functional magnetic resonance imaging (*n*=72). In half of the trials they could win money for themselves, while in the other half, they could win money which was invested in $CO_2$ emission reductions. We used computational modeling under a hierarchical Bayesian framework to calculate the subjective value of the offered choices for each participant. Participants devalued rewards by effort parabolically for both self-serving and pro-environmental actions, with, surprisingly, no behavioral differences between them. However, neuroimaging revealed higher activity in reward-related areas (i.e. ventromedial prefrontal cortex and right caudate nucleus) during self-serving decisions compared to decisions benefiting the environment ($p < 0.001$, cluster-level corrected). This highlights the added value of neuroimaging, showing that behaviourally identical choices can be explained by different valuation processes. We discuss how perceiving pro-environmental actions as less rewarding does not necessarily prevent people from engaging in them.

Keywords: climate change, neuroimaging, pro-environmental behavior, effort, motivation

**ID-537: THE CLIMATE BRAIN - A NOVEL DATASET FOR INVESTIGATING NEURAL MECHANISMS OF CLIMATE EMOTIONS AND CLIMATE ACTION-TAKING**

Małgorzata Wierzba[2], Dominika Anna Zaremba [1], Bartosz Kossowski [2], Marek Wypych [2], Katarzyna Jednoróg [2], Jarosław Michałowski [3], Christian A Klöckner [4], Artur Marchewka [2]

*[1]Nencki Institute of Experimental Biology, Polish Academy of Sciences*, *Warszawa*, *Poland*, *[2]Nencki Institute of Experimental Biology*, *Warszawa*, *Poland*, *[3]Poznan Laboratory of Affective Neuroscience, SWPS University*, *Warszawa*, *Poland*, *[4]Department of Psychology, Norwegian University of Science and Technology, NTNU*, *Trondheim*, *Norway*

**Introduction:** Climate change is one of the greatest challenges for human society, requiring innovative and collaborative research efforts. Environmental neuroscience is beginning to explore the neural mechanisms behind climate-related emotions and decision-making, but progress has been limited by a lack of validated tools and open-access datasets. **Objectives:** This study introduces the open-access CLIMATE BRAIN dataset, the first comprehensive resource combining questionnaire, behavioural, and neuroimaging data related to climate-related emotions and behaviours. **Materials & Methods:** The dataset includes data from 160 healthy, right-handed participants aged 20–25, with an even gender split and moderate concern about climate change. Participants completed a number of questionnaires, including the self-report Inventory of Climate Emotions (ICE), the Reading and Rating Emotional Stories (RRES) task measuring emotional responses to standardised Emotional Climate Change Stories (ECCS); and the Carbon Emission Task (CET) adapted for functional MRI to assess climate action-taking. Neuroimaging data were analyzed using SPM12, applying general linear models to validate task-specific brain activations. **Results:** Behavioural analyses confirmed the efficacy of RRES in eliciting climate-related emotions and the usability of CET for investigating climate-related decision-making. Neuroimaging results showed activation in expected brain networks: RRES engaged the reading network and limbic systems, and CET activated decision-making regions, including the prefrontal cortex and hippocampus. **Conclusions:** The CLIMATE BRAIN dataset provides unique material to investigate the links between

emotions, decision-making, and brain activity in the context of climate change, offering a valuable tool for advancing research and informing policy interventions with enhanced ecological validity

Keywords: environmental neuroscience, neuroimaging, climate change, dataset, climate action-taking

**18-06-2025 | 14:00 - 15:15**

**S-028**: **Double session: Symposium and Panel: Exploring the Conceptualization(s) of Environmental Psychology (Part I)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Amanda Gabriel, Swedish University of Agricultural Sciences and University of Surrey, Alnarp, Sweden.
Co-Chair: Eleanor Ratcliffe, Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom.

**ID-1161: RESEARCH TRENDS IN ENVIRONMENTAL PSYCHOLOGY: A BIBLIOMETRIC ANALYSIS OF PEER-REVIEWED PUBLICATIONS OVER THE LAST 20 YEARS**

Eleanor Ratcliffe[1], Birgitta Gatersleben [1], Clara Weber [1; 2], Amanda Guimaraes Gabriel [1; 3], Charles Musselwhite [4], Hebba Haddad [5], Simone Grassini [6], Freddie Lymeus [7]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [2]Business Administration and Human Resources Competency Group, School of Life Sci, Wädenswil, Switzerland, [3]Environmental psychology group, Department of People and Society, SLU Alnarp, Alnarp, Sweden, [4]Department of Psychology, Aberystwyth University, Aberystwyth, United Kingdom, [5]Department of Psychology & Human Development, School of Childhood and Social Car, London, United Kingdom, [6]Department of Psychosocial Science, University of Bergen, Bergen, Norway, [7]• Institute for Housing and Urban Research, Uppsala University, Uppsala, Sweden*

There is increasing academic, applied, and policy interest in environmental psychology, and explorations of disciplinary identity are timely. This includes the topics covered in environmental psychology publications, their interconnections, and changes over time. In this bibliometric analysis we examined keywords from over 5000 peer-reviewed articles published within five prominent environmental psychology journals or including the keyword “environmental psychology” for the period between 2003 and 2023. Most frequent keywords were: pro-environmental behaviour; climate change; nature; wellbeing; and sustainability. Trends over time were apparent: between 2003-2007 and 2008-2012 ‘place attachment’ was the most frequent keyword, compared to ‘pro-environmental behaviour’ in 2013-2017 and 2018-2023. VOSviewer was used to visualise keyword co-occurrences, indicating the presence of two key clusters of research topics in environmental psychology that are relatively distinct from one another: 1) nature, wellbeing, and restorative environments; and 2) pro-environmental behaviour, sustainability, and climate change. Place attachment and nature connectedness appear as smaller clusters connecting

the two larger ones. Our findings suggest that environmental psychology has a 'split' focus, with one major topic (nature—wellbeing) largely concerned with effects of environment on people, and another (pro-environmental behaviour) with effects of people on environment. Further, this division appears to have become enhanced over time. We hope that these findings can serve as a catalyst for conversations about the direction of the field. This might include the evolving identity of environmental psychology; horizon-scanning of under-researched topics; opportunities for thematic overlap; and (re)building connections within our community.

Keywords: bibliometric analysis, environmental psychology, disciplinary identity, keyword co-occurrence, research trends

**ID-1162: CONCEPTUALIZATION AND EPISTEMOLOGY(IES) OF ENVIRONMENTAL PSYCHOLOGY: A MIXED-METHODOLOGY RESEARCH ABOUT GLOBALIZED AND DIFFERENT DISCIPLINARY CONCEPTUALIZATIONS OF WHAT EP IS**

Amanda Guimaraes Gabriel[1; 2], Birgitta Gatersleben [1], Eleanor Ratcliffe [1], Tamala Andersson [1], Elizabeth Marcheschi [2], Caroline Hägerhäll [2]

*[1]Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom, [2]Environmental psychology group, Department of People and Society, SLU Alnarp, Alnarp, Sweden*

Environmental Psychology (EP) explores the interplay between humans and their environments and has experienced significant global growth, prompting questions about its disciplinary identity, epistemological foundations, and methodological approaches. The project draws from a bibliometric analysis of EP publications (by Ratcliffe et al., presented in this symposium) to investigate the epistemological perspectives shaping EP. It integrates mixed-methods, including global surveys and insights gathered from interactive posters and presentations at IAPS 2024, EDRA 2024, and BRePS 2024. This presentation focuses on results from about 40 participants of semi-structured interviews and focus groups conducted, aiming to explore shared principles while recognizing pluralistic viewpoints. Participants in the interviews include prominent leaders in the field and represent diverse disciplinary backgrounds, geographic regions, genders, and career stages. These engagements provide rich qualitative data, offering nuanced insights into the diversity of perspectives within EP. This presentation highlights critical insights from the interviews, contributing to broader discussions on EP's identity, theoretical frameworks, and its future role in addressing global human-environment challenges. Key findings reveal both convergences and divergences regarding EP's identity, with themes such as theoretical pluralism and the pursuit of unifying principles, along with differences in contexts across regions and disciplinary identities of the researchers and departments. While some emphasize EP's inherently interdisciplinary nature, blending theories and methods across fields, others advocate for an empirical focus to strengthen its applied core. We hope that these findings can start conversations about the direction of the field that can inform a strengthened position and more collaboration.

Keywords: environmental psychology, epistemologies, ontologies, research methods, global perspectives

**ID-1163: QUALITATIVE RESEARCH IN ENVIRONMENTAL PSYCHOLOGY: AN EXPLORATION OF THE DIVERSITY AND UTILITY OF QUALITATIVE METHODOLOGIES WITHIN OUR FIELD**

Samuel Lloyd[1]

[1]*Department of Psychology, University of Victoria*, *Victoria*, *Canada*

Recent years have seen an increase in the prevalence of debates around the identity and purpose of environmental psychology, at the same time as the field has begun to receive increasing attention from policymakers and interdisciplinary academics alike. As part of this period of introspection, recent perspectives have argued that qualitative research has an important role to play in the future of environmental psychology. Although practiced by a relatively small subset of environmental psychologists, qualitative research methods incorporate a wide array of methodologies, which illustrate the epistemological diversity that exists within our field, and are highly relevant to discussions of its future. This presentation aims to contribute to the discussion of "what environmental psychology is" by exploring the use of an array of qualitative methodologies within our field. Given that environmental psychologists often gravitate towards quantitative methods, it will aim to dispel common misunderstandings by defining qualitative research, before mapping the diverse methodological approaches that fall beneath its umbrella, outlining the epistemological beliefs that underly their design, and describing the methods that are most coherent with these beliefs. To illustrate these points, the presentation will take specific examples of each methodology from environmental psychology, and highlight how each approach can contribute to the field's search for identity, purpose and impact. Finally, this presentation will discuss how we define high-quality research in our field. Guided by ongoing debates within qualitative research circles, this discussion will consider different perspectives on research quality criteria, including both universal and methodology-specific approaches.

Keywords: qualitative research, methodologies, environmental psychology, epistemologies

**ID-1164: (HEGEMONIC) CONCEPTIONS OF ENVIRONMENTALISM: RACIALIZED PERSPECTIVES & EPISTEMOLOGIES OF IGNORANCE**

Syed Muhammad Omar[1], Sascha Kuhn [2], Trevor S. Lies [3], Glenn Adams [3]

[1]*Department of Psychology, The University of Kansas*, *Kansas*, *United States*, [2]*Ruhr-University Bochum*, *Bochum*, *Germany*, [3]*Department of Psychology, University of Kansas*, *Kansas*, *United States*

Dominant forms of environmentalism tend to neglect the historical and structural roots of ecological degradation, focusing instead on abstract technological and ecological concerns, thereby depoliticizing the crisis. Across three studies, this research explores conceptions of environmentalism among the U.S. public. Participants most strongly identified with forms rooted in affluent Euro-American settings—***Wilderness Preservation*** (WP), which emphasizes pristine nature protection and ***Ecomodernism*** (EM), which advocates green technological development and growth. Both WP and EM obscure social relations central to ecological harm and risk perpetuating colonial violence. In contrast, ***Environmental Justice*** (EJ), which links ecological crisis to systemic inequity, was least endorsed. Racialized patterns emerged: Black participants more strongly endorsed EJ, while White participants leaned toward WP. This gap widened with greater ethnic-racial identity satisfaction—White participants with higher identity satisfaction were less likely to associate EJ with environmentalism, whereas Black participants were more likely. In Study 3, exposure to information linking climate change to racism increased White participants' endorsement of

EJ. In this talk, I argue, that the racialized nature of conceptions of environmentalism raises critical questions about the epistemological and ontological foundations of environmental psychology. By centring Euro-American experiences, the discipline has largely neglected to interrogate the colonial and racialized dimensions of environmental phenomena, perpetuating an epistemology of ignorance that marginalizes critical perspectives from historically oppressed communities and sustain a "coloniality of knowledge". A decolonial turn is needed, embracing epistemologies and ontologies rooted in the experiences of those most affected by environmental harm.

Keywords: epistemologies, racialized perspectives, environmentalism

**ID-1165: ENVIRONMENTAL PSYCHOLOGY (IN)CAPACITY TO INFLUENCE POLICY: REFLECTIONS ON CLIMATE CHANGE ADAPTATION POLICIES IN THE MEXICAN PACIFIC COAST.**

Gloria Muñoz Romero[1]

[1]*Planning and Environmental Management, The University of Manchester*, *Manchester*, *United Kingdom*

Environmental psychology, as a field that explores the dynamic relationship between individuals and their physical environments, holds significant potential to influence policy, particularly in areas related to sustainability, public health, and urban development. However, the field's ability to effect meaningful change is contingent upon several factors, ranging from the choice of conceptual frames to address real-world complexity to the actual permeability of policymaking processes. In this presentation I explore the dual nature of environmental psychology's present capacity—both its potential and limitations—in influencing policy. Taking a critical social psychology approach, I argue that current approaches to study climate change responses tend to obscure the full scope of the climate crisis and contribute to a misrepresentation of the most affected populations. Using the case of climate change adaptation policy in México and drawing on the results of in-depth interviews with local stakeholders, I discuss how framing climate change as a matter of individual responsibility has negative implications for the development of social policy. Moving forward psychologists must do more to study both inequality and conflict in relation to climate change to improve the discipline's capacity to influence significant change. To conclude I reflect on the teachings and frameworks developed by influential critical academics Maritza Montero, Fals Borda and Martin Baró and offer a sketching of what a more responsive and impactful Environmental Psychology could look like.

Keywords: environmental psychology, climate change, adaptation policy, environmental justice, Mexico

**18-06-2025 | 14:00 - 15:15**

**S-084**: **School & nature**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Fauna Room*

Chair (IS): Julia Egger, University of Vienna, Vienna Cognitive Science Hub, Vienna, Austria.

**ID-673: GREEN CLASSROOM EFFECTS ON STUDENTS' PERCEIVED RESTORATIVENESS, ACHIEVEMENT EMOTIONS, AND SITUATIONAL DISTRESS**

Valentina Mariani[1], Ottavia Damian [1], Margherita Brondino [1], Margherita Pasini [1], Lorena Rocca [2]

*[1]Department of Human Sciences, University of Verona, Verona, Italy, [2]Department of Education and Learning, SUPSI, Locarno, Swaziland*

Stress Recovery Theory (Ulrich, 1983) postulates that exposure to restorative environments improves human emotional responses and stress resilience. Following biophilic design patterns identified by Terrapin (2014), enriching built environments with natural elements such as plants enhances perceived restorativeness. Control-Value Theory (Pekrun, 2006, 2024), argues that, in learning environments, a good emotional state and low situational stress positively impact students' well-being and performance. We conducted a study to test whether plant-enriched classrooms increase perceived restorativeness (PR) and, consequently, students' achievement emotions (AEs) are improved and situational distress (DISTR) is reduced. In a within-subjects experimental design, 4 classes from a bachelor's degree in Primary Education (78 subjects in total) had 6 hours of lessons in a classroom enriched with live plants (GREEN_C) and 6 hours of lessons in a traditional classroom (GREY_C). The order of classroom presentation was counterbalanced between groups and controlled by the teacher and the type of lesson delivered. Measurement instruments included: Rest@University (Menardo et al., 2024) for PR; AEAL (Raccanello et al., 2022) for AE; and SSSQ (Helton et al., 2015) for DISTR. Paired Sample T-tests showed significant differences between GREEN_C and GREY_C in students' levels of PR ($p<.001$), Enjoyment ($p=.002$), Anxiety ($p=.041$), Boredom ($p=.013$), and DISTR ($p=.028$). Additionally, regression analyses showed PR in GREEN_C predicts positive AEs activating ($b_{PR_GREEN_C}=.532$, $p<.001$) and deactivating ($b_{PR_GREEN_C}=.61$, $p<.001$) and negative AEs activating ($b_{PR_GREEN_C}=-.352$, $p=.015$) and deactivating ($b_{PR_GREEN_C}=-.368$, $p=.011$), with $R^2$ ranging from .105 to .372. The importance of biophilic/restorative classrooms in learning situations will be discussed.

Keywords: restorative environments, biophilic design, green classroom, achievement emotions, stress

**ID-384: PLANTING TREES FOR WELLBEING: A SYSTEMATIC REVIEW INVESTIGATING THE EFFECTS OF ENVIRONMENTAL RESTORATION INTERVENTIONS ON MENTAL HEALTH OF PRIMARY SCHOOL-AGED CHILDREN**

Inés Zevallos Labarthe[1; 2], Grey Coupland [1], Kelsie Prabawa-Sear [3], Renita Almeida [2]

*[1]Harry Butler Institute, Murdoch University, Perth, Australia, [2]School of Psychology, Murdoch University, Perth, Australia, [3]Nature Play WA, Perth, Australia*

In the context of escalating mental health problems in children globally, the natural world can bestow a plethora of positive benefits for children's physiological and mental health. This review focuses on how exposure to nature through environmental restoration interventions affects children's mental health and

wellbeing. Environmental restoration interventions offer climate change mitigation with education outcomes. The benefits of promoting children's interactions with nature have been investigated; however, explicitly exploring the effects of nature interventions that promote climate action and agency on children's mental health is imperative in the context of the climate and mental health crises. To fill this gap in the literature, this systematic review aimed to summarise the accumulated evidence about children's mental health outcomes associated with environmental restoration interventions. The review protocol was registered with PROSPERO (CRD42024606922), and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) procedures were followed. Ten academic databases were used to systematically search and identify projects in English or Spanish. Studies were selected if (a) they included children aged between 5 and 12 years, (b) they included an environmental restoration intervention, and (c) the study provided empirical evidence of mental health outcomes. The Mixed Methods Appraisal Tool of the National Institute for Health Care Excellence was used to assess article quality and risk of bias. Results demonstrated that environmental restoration programs are beneficial for children's socio emotional wellbeing. Implications and limitations are discussed for future research to improve evaluation-based intervention studies in the field of environmental psychology.

Keywords: reforestation, children, mental health, climate action, systematic review

**ID-794: INVESTIGATING THE RELATIONSHIP BETWEEN NATURE CONTACT, QUALITY OF NATURE, AND MENTAL HEALTH IN CHILDREN – INSIGHTS FROM THE C-PANS DATA**

Julia Anna Matilde Egger[1], Johanna-Eszter Borbely [2], Lars Henz [2], Sarah Ayan Kober [2], Angelika Muchitsch [2], Mathew Philip White [1]

*[1]University of Vienna, Vienna Cognitive Science Hub*, *Vienna*, *Austria*, *[2]University of Vienna*, *Vienna*, *Austria*

Over recent years, the mental well-being of young people has been deteriorating (Blanchflower et al., 2024), increasingly impacted by global crises such as the COVID-19 pandemic and geopolitical instability (Mahieu & Erbach, 2023). Access to natural environments can mitigate stress and improve well-being in children (Wells & Evans, 2003; Tillmann et al., 2018). Nature contact also improves mood and boosts resilience, with childhood exposures having lasting mental health benefits into adulthood (Mygind et al., 2019; Vitale et al., 2022). However, the interaction between aspects of nature contact and specific environmental elements in relation to young people's well-being remains unclear. Using data from over 8,000 children and adolescents in the UK's Children's People and Nature Survey (C-PaNS), this study will examine the influence of time spent in nature and nature connectedness on well-being. We also investigate how specific elements of natural environments – such as cleanliness, playgrounds, animals, and a sense of welcome – moderate the relationship between nature connectedness and well-being. We predict that higher levels of nature connectedness in young people, combined with higher-quality natural environments as a moderating factor, are associated with greater well-being. The C-PaNS design uniquely includes children's self-reports during both school and holiday periods, allowing us to capture the reality of their daily lives with varied routines and experiences. A comparison of these periods will provide representative insights into how nature contact and environmental quality influence the well-being of the young UK population, aiming to inform policies promoting mental health through nature-based interventions.

Keywords: nature contact, health and well-being, children, quality of nature, nature connectedness

**18-06-2025 | 14:00 - 15:15**

**S-090**: **Energy poverty**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Forest Room*

Chair (IS): Iljana Schubert, University of Basel, Sustainability Research Group, Basel, Switzerland

**ID-402: ENABLING CITIZEN PARTICIPATION IN ENERGY GOVERNANCE IN FRANCE AND THE NETHERLANDS BY IDENTIFYING BOTTLENECKS AND FACILITATORS IN INSTITUTIONAL ENERGY STAKEHOLDERS NARRATIVES.**

Adrien Chanteloup[1], Goda Perlaviciute [1], Lea Diestelmeier [1]

[1]*University of Groningen*, *Groningen*, *Netherlands*

Human energy consumption based on fossil fuels is one of the primary causes of climate change. Major adjustments in our energy governance model are essential to phase out fossil fuels, transition to more sustainable energy use, and reduce overall energy consumption. Involving people in energy governance could help implement socially acceptable efficiency and sufficiency measures. RESEARCH QUESTION. However, it remains unclear how institutional stakeholders in energy governance are ready (or not) to increase public participation in energy governance. MATERIALS AND METHODS. This article explores this momentous question by leading in-depth interviews with energy stakeholders in France (35 interviews) and the Netherlands (data collection in January 2025) to unfold their narratives on the current and future energy governance structure(s). We divided the stakeholders into four groups: public governance bodies, industry and business sector, civil society groups, and academia. We conducted the data analysis by combining thematic and computing analyses. Using Atlas.ti, we employed a mix of inductive coding (based on stakeholders' original statements) and deductive coding (based on the participatory capital framework) to unfold the narratives developed by participants. RESULTS. We evaluate energy stakeholders' willingness to accept and facilitate (or not) changes in energy governance structures to identify bottlenecks and facilitators to higher public participation in energy governance. We also analyse the contrasts and similarities in narratives from different interest groups. CONCLUSION. Based on these findings, we conclude by reflecting on the policy and institutional changes required in current energy governance to increase energy citizenship.

Keywords: energy governance, citizen participation, energy democracy, energy justice

**ID-540: DRIVERS AND BARRIERS TO ENERGY-SAVING BEHAVIOR FORMATION AND RETENTION IN RESPONSE TO EXTREME EVENTS: INSIGHTS FROM THE ENERGY CRISIS**

Yechennan Peng[1]

[1]*Department of Psychology, Norwegian University of Science and Technology, NTNU, Trondheim, Norway*

This paper discusses potential medium-term effects of the energy crisis on energy-saving behaviour. Using two-wave longitudinal survey data collected from Norwegian households in May (N=3,514) and November 2023 (N=2,289), our results challenge previous findings that external cues like high energy prices in Winter 2022/23 only lead to short-lived behavior adjustments. We found that 88% of the households were actively engaged in behaviour-based energy-saving actions in May 2023, with 65% continuing these behaviors six months later. This study also examines how external cues promote motivation, leading to the formation and long-term retention of energy-saving behaviors. Being an older resident, female and living in the north act as key drivers in translating awareness into actual energy-saving behaviors over time. In contrast, large household size, discomfort, being able to afford comfort-required costs, and residing in the south act as barriers to adopting these behaviors. Additionally, raising awareness of energy use changes, emerged as a crucial driver of behavior retention, alongside external changes in heating methods and innovativeness.

Keywords: energy crisis, energy-saving, behaviour formation and retention, drivers and barriers

**ID-1008: ONE-SIZE-FITS-ALL ENERGY COMMUNITY ENGAGEMENT ACROSS THE EUROPEAN UNION?**

Iljana Schubert[1], Antonia Kaiser [1], Stefan Oppliger [1], Annika Sohre [1], Adam Hearn [1]

[1]*University of Basel, Sustainability Research Group, Basel, Switzerland*

In Europe the electricity production and use sector account for over 75% of GHG emissions. To achieve the energy transition, the European commission set a target of producing 42.5% of renewable energy by 2030 in its Renewable Energy Directive (European Commission, 2018), also outlining new provisions for Renewable Energy Communities (RECs). Citizen engagement in RECs and hence increased energy citizenship is claimed to be necessary if EU targets, and the energy transition are to be achieved. Questions remain on how citizens can and want to be engaged in RECs and if there could be an engagement blueprint across European Nations. There are many possible constellations of RECs, leading to different engagement possibilities. Hence, understanding preferences for engaging in RECs, expressed by different societal and cultural groups, across Europe can support REC development and increase engagement. Using a discrete choice experiment from 6888 participants, this research investigates preferences for REC engagement strategies, focusing on 1. frequency of engagement (e.g. yearly, monthly, weekly etc.), 2. financial and non-financial engagement strategies (e.g., gamification, investment, information); and 3. varying levels of automated energy use (e.g. automation with no opt out to occasional monitoring) for potential members of RECs. We explore differences and similarities in preferences across seven European nations (AT, GR, HU, IE, PT, ES, CH), and using latent class analysis, we investigate preference clusters to develop potential REC user profiles. Findings reveal some similarities and differences across countries and a surprising openness to automation with op-out. The talk will summarize our key findings.

Keywords: energy transition, renewable energy communities, preferences for engagement, automation and demand shift, energy citizenship

**18-06-2025 | 14:00 - 15:15**

**S-081**: **Urban & public spaces**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Dawn Room*

Chair (IS): Heng Zhang, Department of Architecture, National Cheng Kung University, Department of Architecture, Tainan City, Taiwan.

### ID-828: THE IMPACT OF URBAN PARK ENVIRONMENTAL DESIGN ELEMENTS ON PLACE ATTACHMENT AND PERCEIVED ENVIRONMENTAL HEALING

Heng Zhang[1], Hongwei Ho [1]

[1]*Department of Architecture, National Cheng Kung University*, *Tainan City*, *Taiwan*

This study examines the relationships among environmental design elements, place attachment, and perceived environmental healing in urban parks, focusing on the Weiwuying Metropolitan Park in Kaohsiung. Urban parks, featuring natural and cultural elements, serve as vital spaces for relaxation and mental restoration. Using a sample of 431 visitors collected through onsite surveys, the authors employ multiple regression analyses to explore the impacts of six environmental design factors—recreational spaces, buildings, pathways, outdoor furniture, planting, and signage—on emotional and functional aspects of place attachment and environmental healing perception. The findings reveal that planting is the most significant predictor of perceived environmental healing and place attachment, followed by outdoor furniture. Among the dimensions of perceived environmental healing—being away, extent, fascination, and compatibility—compatibility and extent exert the most decisive influence on place attachment. Additionally, functional attachment is more prominent than emotional attachment in shaping visitors' loyalty to the park. These results underscore the importance of integrating natural and well-maintained design elements to foster a sense of attachment and psychological well-being among park visitors. This study highlights the potential of urban parks as therapeutic public spaces, emphasizing the role of user-centered design in creating environments that meet emotional and functional needs. By addressing these factors, urban public spaces can better support recreation, relaxation, and mental restoration, contributing to the development of sustainable and user-friendly urban environments.

Keywords: urban park, environmental design, perceived environmental healing, place attachment, planting

### ID-914: A PUBLIC ZOOLOGICAL PARK AS A RESTORATIVE ENVIRONMENT FOR VISITORS

Michel Rinderhagen[1], Claudia Hornberg [1], Kristina Hennig-Fast [2], Timothy Mc Call [1]

[1]*Bielefeld University, Medical School OWL*, *Bielefeld*, *Germany*, [2]*Bielefeld University, Department of Psychology and Sports Science*, *Bielefeld*, *Germany*

**Introduction**: It has been argued that the current rise in mental health problems is partly due to the growing lack of nature contact. Green space and animal contact have been associated with mental health benefits. In this study, we examined a specific type of public park that provides both – a zoological park. **Goals & Objectives**: We aimed to determine whether and how the public zoological park "Olderdissen" in Bielefeld, Germany, serves as a restorative environment. We investigated how the visit affects visitors' psychological well-being (positive and negative affect, and perceived stress, happiness, and well-being), what role different demographic, visit (e.g., perceived weather and crowdedness), and park characteristics (e.g., perceived animal and plant biodiversity, and naturalness) play in this relationship, and how these characteristics affect the park's perceived restorativeness. **Materials & Methods**: We asked 330 visitors about their demographics before their visit, about the visit and park characteristics after their visit, and about their current well-being immediately before and after their park visit. We used Wilcoxon tests to analyze pre-post-visit differences and multiple linear regression analyses to predict pre-post-visit changes and the perceived restorativeness. **Results**: Most of the visitors' well-being outcomes improved significantly from pre- to post-visit. Well-being improvements were related to the perceived restorativeness and the perceived restorativeness was mostly predicted by visit (e.g., intention fulfillment) and park characteristics (e.g., perceived naturalness). **Conclusions**: Public zoological parks can serve as attractive restorative environments that improve well-being. The perceived restorativeness of the park plays an important role in these well-being benefits.

Keywords: restorative environments, zoological park, nature, animals, well-being

## ID-444: EXPLORING THE 3-30-300 RULE: ASSOCIATIONS BETWEEN ITS ADHERENCES AND MENTAL HEALTH

Nicole Van den Bogerd[1]

[1]*Vrije Universiteit Amsterdam*, *Amsterdam*, *Netherlands*

To support policymakers, landscape designers, and other stakeholders in greening urban areas as a nature-based solution, the 3-30-300 rule was recently introduced by Prof. Konijnendijk (2023). The rule proposes that everyone should be able to see at least three mature trees from their home, neighborhoods should have at least 30% tree canopy coverage, and a green park should be within 300 meters of every residence. Its implementation aims to ensure a more equitable distribution of green spaces and their associated benefits. Although the rule is being widely adopted and implemented, there is still little evidence abouts its effectiveness for public mental health. We examined associations between adherence to 3-30-300 rule in 48 neighborhoods in a moderately urban city in the Netherlands and indicators of mental health in those neighborhoods. Preliminary results showed no meaningful associations between adherence to the 3-30-300 rule and mental health, risk of a mental health disorder, suicidal ideation, experienced stress, resilience, or loneliness. To deepen our understanding, we will replicate our research using data from a sample of parents with young children in the Amsterdam region (N = 3124). This follow-up study will examine the associations between adherence to the 3-30-300 rule and mental health, anxiety, depression, and loneliness. The findings from these two studies will provide insights to guide the

implementation of the 3-30-300 rule, enabling informed decision-making and the development of effective nature-based solutions for healthier, more resilient urban environments.

Keywords: 3-30-300 rule, green space, nature-based solutions, mental health, loneliness

**18-06-2025 | 14:00 - 15:15**

**S-0104**: **Trust**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Climate change)

*Sun Room*

Chair (IS): Mona Bielig, University of Konstanz, Konstanz, Germany.

### ID-816: TRUST DYNAMICS AND NORMS IN SUSTAINABLE TECHNOLOGY ADOPTION: INSIGHTS FROM INDIA'S SMART METER ROLLOUT

Mona Bielig[1; 2], Rohit Gupta [3], Elke Weber [3]

*[1]University of Konstanz, Konstanz, Germany, [2]Seeburg Castle University, Salzburg, Austria, [3]Andlinger Center for Energy and the Environment, Princeton University, Princeton, United States*

**Introduction**: The Indian government launched several initiatives in recent years to support a nationwide smart meter rollout, aiming to increase energy efficiency and grid stabilization. Despite these efforts, social acceptance remains a critical factor for rollout success, as evidenced by protests and resistance in some cities. **Objectives**: This study investigates how and by whom the rollout can be communicated most effectively, focusing on the interplay of social norms and trust in messengers in shaping public acceptance for smart meter installations. **Methods**: We conducted an online randomized controlled trial (RCT) designed to replicate and extend findings from a prior field study in India. Using a 3x2 factorial design in a scenario-based study, we sampled N = 788 participants from three Indian cities. Behavioral intention to adopt smart meters was measured after exposure to different messages (control/descriptive norms/injunctive norms) from different messengers (NGO/DSO). **Results**: While overall intention was high and social norm communication showed a positive main effect, our findings underscore the role of trust in messenger. Trust exhibited a significant positive effect on behavioral intention, and effectiveness of norm messages was significantly weaker when delivered by NGOs than by DSOs. This effect was moderated by trust: Low trust DSO's profited from norms, while low trust NGOs suffered from norms. **Conclusions**: These findings highlight the importance of aligning communication strategies with collective trust dynamics to maximize acceptance of smart meters. Insights into risk perceptions, e.g. over costs, security, or data privacy, further emphasize the need for using communication to mitigate societal resistance.

### ID-400: SAMPLING AND PROCESSING OF CLIMATE CHANGE (DIS)INFORMATION ACROSS THREE DIVERSE COUNTRIES

Zahra Rahmani Azad[1], Tobia Spampatti [2], Sebastian Gluth [3], Kim-Pong Tam [4], Ulf Hahnel [1]

*[1]University of Basel Faculty of Psychology, Basel, Switzerland, [2]New York University, New York City, United States, [3]University of Hamburg, Hamburg, Germany, [4]The Hong Kong University of Science and Technology, Hong Kong, Hong Kong*

Climate disinformation can undermine public support of climate policies and trust in climate science and its detrimental effects are difficult to prevent. Little is known about how people seek and process climate-related information and how this varies between cross-cultural contexts. In a preregistered, sequential information-sampling experiment with 2226 participants from the U.S., Germany, and China, we study how people sample climate-related information in a polarized information environment including both climate information and disinformation. Over 15 rounds, participants freely sampled real-world climate related statements, retrieved from the social media platform Twitter/X, from two boxes and rated agreement to the statements and their climate change concern in every round. One box always contained Pro-climate information while the other had Anti-climate disinformation. The results showed a confirmation bias, i.e. initial climate concern predicted preferences for the Pro or Anti Climate box. In Western countries, this effect was stronger than in China. Reading a statement impacted individual climate concern across countries such that climate concern was higher [lower] after reading a Pro [Anti] Climate statement. These two effects mutually reinforced each other in the U.S. The effects of climate concern and box choices mutually reinforced each other leading to greater polarization in the U.S. American sample. This provides evidence for reinforcing spirals, i.e. a drift in climate concern through selective exposure to one-sided perspectives. The information sampling paradigm offers new perspectives on how people process climate information and navigate polarized information environments.

Keywords: disinformation, climate action, climate policies, information processing, sequential sampling

## ID-676: TOO DISTANT TO TRUST? – HOW CITIZEN SCIENCE REDUCES PSYCHOLOGICAL DISTANCE BETWEEN SCIENCE AND SOCIETY ON ISSUES IN THE LIVING ENVIRONMENT

Kirsten Rebecca Vegt[1; 2], Janneke Elberse [1], Laurens Hessels [2; 3], Bastiaan Rutjens [4]

*[1]RIVM - National Institute for Public Health and the Environment, Bilthoven, Netherlands, [2]Leiden University, Leiden, Netherlands, [3]Rathenau, Den Haag, Netherlands, [4]University of Amsterdam, Amsterdam, Netherlands*

Public trust in policy-relevant environmental science is increasingly scrutinized (Davies and Mah, 2020). In the Netherlands, this is visible in public debates around air quality near industries, nitrogen deposition around livestock farms, and noise pollution surrounding transport hubs (Kunseler and Dammers, 2023). The Psychological Distance to Science (PSYDISC) framework offers insight into science skepticism by examining the temporal, spatial, social, and hypothetical dimensions of perceived distance between science and individuals (Većkalov et al., 2022). This study explores how citizen science can reduce PSYDISC and build trust in contested local environmental issues. Examining three case studies of citizen science projects on noise pollution and air quality, data were collected via in-depth interviews with citizen scientists and analyzed thematically to explore connections between PSYDISC dimensions and trust. Findings indicate that citizen science reduces psychological distance by offering real-time data (temporal),

addressing local conditions (spatial), enabling direct interaction with scientists (social), and producing concrete, tangible results aligned with participants' experiences that were seen as influential for shaping policy (hypothetical). Participants frequently expressed greater trust in citizen science compared to traditional scientific methods. Citizen science shows promise for bridging gaps between science and society, by lowering psychological distance and fostering trust in contested contexts. However, trust in environmental science depends not only on psychological factors but also on the scientific process and the application of its results in policy decisions. Transparency, inclusivity, and accountability in both the conduct of science and policy integration remain important factors in cultivating public trust in policy-relevant environmental research.

Keywords: psychological distance, citizen science, trust, science skepticism, policy

**18-06-2025 | 15:15 - 15:30**

**Relocation Break**

*Campus Courtyard*

**18-06-2025 | 15:30 - 16:45**

**S-055**: **WHAT DO CLIMATE CHANGE, MICROPLASTIC POLLUTION, 5G, AND RENEWABLE ENERGY HAVE IN COMMON? ON THE COMMUNICATION AND PUBLIC UNDERSTANDING OF RISKS, UNCERTAINTIES AND POLICY IMPACTS**

Session Topic: ENVIRONMENTAL PSYCHOLOGY AND SOCIAL ISSUES (Citizen participation and environmental policies)

*Valley Room*

Chair: Morris Krainz, University of Geneva, Geneva, Switzerland.

**ID-1157: PREVALENCE OF MISCONCEPTIONS AND UNCERTAINTIES ABOUT THE IMPACTS OF 5G TECHNOLOGIES ON HEALTH: RESULTS FROM 11 DIFFERENT COUNTRIES**

Nina Vaupotič[1], James Grellier [2], Leanne Martin [2], Matthew P. White [3]

*[1]University of Vienna, Urban and Environmental Psychology Group, Vienna, Austria, [2]University of Exeter / European Centre for Environment and Human Health, Penryn, United Kingdom, [3]University of Vienna, Vienna Cognitive Science Hub, Vienna, Austria*

The deployment of fifth-generation (5G) telecommunication technologies enables faster data transfer, lower latency, and better network capacity. However, among different societal groups, these technological advancements have raised concerns about negative impacts. While no negative health effects have been causally established to date, research into the potential consequences of exposure is ongoing, and uncertainties remain. Using a mental models approach, we first identified common misconceptions

through qualitative interviews (N = 36) with experts and non-experts, including individuals who identify as electrosensitive. Subsequently, we examined the prevalence and predictors of nine misconceptions in a representative sample of populations across 11 countries (N = 11,369). Using item response theory, we identified two key factors. The first factor involved overestimating risks where none have been established ("Living in an area with more 5G mobile phone antennas puts people at significantly greater risk of health problems" showed the highest discrimination and difficulty). The second factor involved underestimating established risks ("Holding a mobile phone directly to your ear during a call using 5G can cause skin to heat up" showed the highest discrimination and difficulty). Follow-up multilevel regression analyses revealed that being female, older, less educated, cohabiting with children, having lower trust in science, and identifying as electrosensitive were positively related to overestimating risks. Conversely, being male, younger, unemployed, and having a lower belief in scientific uncertainty were positively related to underestimating established risks. These findings suggest that misconceptions about 5G risks vary across demographic groups, with implications for designing effective risk communication strategies.

Keywords: risk perception, risk communication, misconceptions, 5G, multi-country study

**ID-1158: COMMUNICATING SCIENTIFIC UNCERTAINTIES? EFFECTS OF MESSAGE AND AUDIENCE CHARACTERISTICS IN THE CONTEXT OF MICROPLASTICS**

Leonie Fian[1], Nina Vaupotič [1], Isabel G. M. Richter-Jacob [2], Albert A. Koelmans [3], Sabine Pahl [1]

*[1]University of Vienna, Urban and Environmental Psychology Group*, *Vienna*, *Austria*, *[2]Department of Psychology, Norwegian University of Science and Technology, NTNU*, *Trondheim*, *Norway*, *[3]Wageningen University & Research*, *Wageningen*, *Netherlands*

The disclosure of scientific uncertainties constitutes an essential element of science communication. With numerous current global challenges, however, it is challenging to express current scientific knowledge adequately and ethically, while at the same time facilitating informed decision-making and public policy acceptance. One of these topical issues is microplastic in the human food chain and its potential health effects. While evidence about potential health effects is currently inconclusive, calls for implementing precautionary measures have been increasing. In a between-subject online experiment with a quasi-representative sample of the Austrian public (N = 1,126), we investigated the effects of different ways of communicating scientific evidence on health effects of microplastic on risk perception and policy support, while we also considered individual audience characteristics as potential moderating factors. We differentiated between three types of uncertainty or message characteristics (deficient uncertainty, consensus uncertainty, no uncertainty/control), and included beliefs about science, trust in scientists and preference for information about uncertain science (PIUS) as individual characteristics. Results suggest that uncertainty communication (vs. no uncertainty) triggered lower risk perception but had no effect on policy support. These effects were not moderated by individual characteristics. However, beliefs about science as a debate (vs. search for truth) were positively associated with risk perception, and trust in scientists and PIUS were positively linked with risk perception and policy support. Our study thereby contributes to the literature on communicating scientific uncertainties pertaining to environmental and health risks, and sheds light on the role of different message and audience characteristics driving the effects.

Keywords: scientific uncertainty, uncertainty communication, policy support, risk perception, microplastics

**ID-1159: INFORMED CITIZEN ACCEPTANCE OF HIGHLY UNCERTAIN CLIMATE MITIGATION MEASURES**

Valeria Sorgato[1], Morris Jakob Krainz [2], Tobias Brosch [2], Evelina Trutnevyte [3]

*[1]Renewable Energy Systems Group, Institute for Environmental Sciences, Geneva, Switzerland, [2]University of Geneva, Consumer Decision & Sustainable Behaviour Lab, Geneva, Switzerland, [3]Renewable Energy Systems Group, Institute for Environmental Sciences, Geneva, Switzerland*

Successful implementation of climate change mitigation measures largely depends on public support. However, relatively little is known about how public acceptance is affected by information, especially for lesser known mitigation measures with highly uncertain mitigation potentials. This study applies a deliberative-analytical approach to examine how (i) the provision of transparent information about uncertainties regarding natural resource availability, technological readiness, economic feasibility, and social behavior and acceptance, and (ii) the perceived uncertainty of these dimensions influence emotional responses and public acceptance toward four climate change mitigation measures: bioenergy with carbon capture and storage, afforestation and reforestation, green hydrogen, and shifting towards sustainable diets. We report data from an online survey conducted in six European countries of Germany, France, Italy, Spain, Poland, and the Netherlands (expected total N=2'850 participants). We test how information about uncertainties regarding the feasibility of these climate mitigation measures affects emotional responses and acceptance using linear mixed models. Additionally, we run multilevel models with person-mean-centering to assess associations regarding between-person differences and within-person changes in the perceived uncertainty, emotions towards and acceptance of these mitigation measures. Our results shed light on which uncertainty dimensions have a more pronounced effect on public acceptance and emotional responses, and provide a more robust measure of public acceptance for the four climate change mitigation measures. We also advance transparent communication literature by identifying key factors for effective communication strategies.

Keywords: uncertainty, transparent communication, climate mitigation support, emotions, informed citizen panel

**ID-1160: THE ROLE OF EMOTIONS IN TRANSPARENT COMMUNICATION ABOUT RENEWABLE ENERGY POLICIES**

Morris Jakob Krainz[1], Evelina Trutnevyte [2], Tobias Brosch [1]

*[1]University of Geneva, Consumer Decision & Sustainable Behaviour Lab, Geneva, Switzerland, [2]Renewable Energy Systems Group, Institute for Environmental Sciences, Geneva, Switzerland*

Transparently informing citizens about anticipated impacts of policies is an essential part of democratic decision-making which allows informed citizens to make choices in alignment with their interests and

values. An important area in which such choices need to be made concerns which measures, out of many different options, to take to decarbonise the energy system with renewable energy. Successful implementation of any of these measures requires understanding the cognitive and affective reactions of citizens to communication efforts about impacts of renewable energy policies. Here we investigate the effects of transparently communicating evidence concerning the environmental, societal, economic and energy system impacts of a renewable energy policy on experienced emotions towards and support for this policy. To this end, we will conduct an online survey experiment with a representative sample of Swiss participants (expected N ~ 500) using a within-between design. We will measure policy-related emotions and policy support at baseline (T0), after partial information provision (T1) and after complete information provision (T2). At T1, we will randomly assign participants to one out of four conditions where we vary which of the four information types is presented first. Statistical analyses consist of repeated measures ANOVAs to examine causal effects of different information types and multilevel models with person-mean-centering to investigate how differences in emotional responses to information between participants and changes in emotions within participants are related to policy support. Results will provide important evidence on which policy impacts drive public decisions and illuminate the affective mechanism behind these decisions.

Keywords: transparent communication, energy transition, policy support, emotions, climate change

**18-06-2025 | 15:30 - 16:45**

**S-0282**: **Panel Discussion: Exploring the Conceptualization(s) of Environmental Psychology (Part II)**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Earth Hall Plenary*

Chair: Amanda Gabriel, Swedish University of Agricultural Sciences and University of Surrey, Alnarp, Sweden.
Co-Chair: Eleanor Ratcliffe, Environmental Psychology Research Group, University of Surrey, Guildford, United Kingdom.

**18-06-2025 | 15:30 - 16:45**

**S-0100**: **FOOD & DIET**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Flora Room*

Chair (IS): Bianca Wassmann, ETH Zurich, Zurich, Switzerland.

## ID-207: PUBLIC ACCEPTANCE OF MEAT REDUCTION POLICIES ACROSS CULTURES: THE CASE OF SINGAPORE VS. SWITZERLAND

Bianca Wassmann[1], Shu Tian Ng [2], Mark Chong [2], Angela Leung [3], Michael Siegrist [1]

*[1]ETH Zurich, Zurich, Switzerland, [2]Singapore Management University, Singapore, Singapore, [3]The Chinese University of Hong Kong, Hong Kong, Hong Kong*

In many countries, meat reduction policies are increasingly being discussed due to environmental concerns about meat production. To enhance the acceptance of these policies, aligning them with consumers' cultural values is crucial. To this end, the current study examines the acceptance of meat reduction policies in Singapore and Switzerland as examples of countries that represent contrasting individualist and hierarchical worldviews. In an online survey, participants (N = 600) from Singapore and Switzerland rated their acceptance of eleven meat reduction policies (e.g., taxes, subsidies, labels), which were aggregated to a single variable. Acceptance of these policies was notably higher in Singapore than in Switzerland. Linear regression analyses were conducted to predict policy acceptance for each country separately. Sociodemographic variables (age, gender, education, and income) showed little association with acceptance. In contrast, low meat commitment and a strong pro-environmental identity were significantly associated with higher acceptance. Interestingly, cultural worldview showed different effects across the country samples. In both countries, communitarianism was a strong positive predictor of acceptance. In contrast, Individualism was a more influential negative predictor, and egalitarianism was a more influential positive predictor in Switzerland than in Singapore. These findings suggest that incorporating a population's cultural values is essential when designing and implementing meat reduction policies.

Keywords: meat reduction, policies, cultural psychology, environmental psychology, plant-based

## ID-715: ENCOUNTERING 'MEAT': EXPLORING THE ANCHORS IN SOCIAL REPRESENTATION OF ALTERNATIVE MEAT WITHIN FOODSCAPES

Yu Shuang Gan[1], Lorraine Whitmarsh [1], Catherine Butler [2], Julie Barnett [1]

*[1]Department of Psychology, University of Bath, Bath, United Kingdom, [2]Department of Geography, University of Exeter, Exeter, United Kingdom*

The creation of new food products, such as plant-based meat and cell-cultured meat, may act as more sustainable alternatives to substitute meat consumption. However, such novel food products (termed 'alternative meat') remain relatively unfamiliar and absent within the public's diet. Hence, with an interdisciplinary approach, we used the geographical concept of 'foodscape' as a unique lens to apply social representation to explore the opportunities and barriers underlying how alternative meat may 'come into existence' within our day-to-day food environment. In-depth qualitative interviews were conducted on UK participants (*N*=41) with diverse foodscapes (e.g., high vs. low access to food; meat-heavy vs. no-meat). Participants were asked about where, when, how and why they envision encountering and including alternative meat within their everyday lives. By using thematic analysis, we replicated previous findings in showing that negative perceptions of 'unnecessary, unnatural, ultra-processed,

unsafe' and lack of information acted as the initial barriers. Furthermore, even amongst participants who were more open and accepting of choosing alternative meat, our findings revealed a strong conditional acceptance, such that alternative meat needed to replicate normal meat in terms of both food characteristics (e.g., taste, texture, appearance) and interactions (e.g., preparation and cooking method, handling and serving practices). In short, this highlights that real-life practical considerations may form the next set of barriers for choosing alternative meat, after positive perceptions and attitudes. The everyday standards of normal meat acted as strong 'anchors' for the opportunities and barriers of choosing alternative meat, which has further implications for policies and interventions.

Keywords: sustainable food choice, alternative meat, meat consumption, social representation, foodscape

**ID-1002: STEAK IS NOT THE ONLY MEAT: MEN OPT FOR ALTERNATIVE MORE SUSTAINABLE MEAT WHEN MITIGATING MASCULINITY THREAT**

Izabella Poswistak-Jazwiecka[1], Peter M. Gollwitzer [2; 3; 4], Katarzyna Byrka [1]

*[1]SWPS University*, *Wrocław*, *Poland*, *[2]New York University*, *New York City*, *United States*, *[3]University of Konstanz*, *Konstanz*, *Germany*, *[4]Zeppelin University Friedrichshafen*, *Friedrichshafen*, *Germany*

**Introduction:** Human dietary patterns, particularly meat consumption, contribute to climate change and biodiversity loss (Hallstrom et al., 2015). Men consume more meat than women, often to affirm their masculinity through symbolic choices (Rippin et al., 2021; Stanley, 2023). Given the environmental impact of meat farming, efforts focus on protein-rich substitutes (Huise, 2013). Our study aimed to understand in which situations men choose meat or its alternatives (white larvae, offal) and whether threats to masculinity influence these decisions. We also examined whether disgust towards products and their perception of feminine affect such decisions. **Methods:** In three experiments ( Study 1, *N* = 247; Study 2, *N* = 256; Study 3, *N* = 156), men were assigned to conditions that challenged (self-incompleteness) or confirmed (self-completeness) their masculinity then made decisions about the amount of meat on a pizza (Study 1), their willingness to receive white larvae (Study 2), and a voucher for a cooking course for offal (Study 3). **Results:** In Study 1, men opted for more meat products when feeling incomplete in their masculinity. In Study 2, spicy edible larvae were taken by incomplete rather than complete men, despite being disgusting and repulsive. Study 3 showed that preparing disgusting offal during a cooking course may compensate for the masculinity threat but only when it is not perceived as feminine. **Conclusion:** Threat to masculinity prompts men to compensate with meat but also with more sustainable, alternative products. In line with past research on food consumption, disgust plays a role in the process.

Keywords: masculinity threat, meat consumption, protein substitutes, compensation, symbolic self-completion

**ID-401: INVOLVING FAMILY AND FRIENDS MAKES MEAT REDUCTION LAST LONGER: A RANDOMIZED CONTROLLED TRIAL**

Rosaly Severijns[1], Igor Asanov [2], Sandra Streukens [1], Stephan B. Bruns [1], Pablo Moleman [3], Jasperina Brouwer [4], Joey Van Griethuijsen [3], Sebastien Lizin [1]

[1]*Hasselt University*, *Hasselt*, *Belgium*, [2]*University of Kassel*, *Kassel*, *Germany*, [3]*ProVeg*, *Utrecht*, *Netherlands*, [4]*University of Groningen*, *Groningen*, *Netherlands*

Reducing animal product consumption is a necessary action to mitigate climate change and other environmental issues. Individually focused interventions tend to have short-term and small effects. We tested and compared the effectiveness of an individual and a social app-based 30-day challenge in reducing animal product consumption. Participants in the social treatment were encouraged to involve their social environment by inviting family and friends to participate in the challenge together and/or by involving them in the behavior change process. Through a pre-registered field randomized controlled trial ($n$ = 1213), we find that both conditions reduced animal product consumption by 16–17% compared to the control group, with a lasting effect only for the social treatment 3 months after the intervention. This is likely due to that seeking support from the social environment fosters the maintenance of behavior change. The effects were largest for meat consumption and those who consumed meat at the baseline. Additionally, associated greenhouse gas emissions decreased by 21–24% and are still significantly reduced 3 months after both interventions, with a larger effect for the social treatment. Our findings suggest that app-based animal product-free challenges are a cost-effective way (~€13–25 per $tCO_2$-eq assuming a 1-year lasting effect) to translate intentions into lasting dietary change, especially when involving the social environment and targeting meat eaters.

Keywords: meat consumption, sustainable diet, behavior change, social support, experiment

**ID-187: ANCIENT WISDOM, MODERN CRISIS: ENVIRONMENTAL ETHICS AND BEHAVIORAL TRANSFORMATIONS INSPIRED BY THE BIBLICAL SABBATICAL YEAR AMIDST CLIMATE CHANGE**

Einat Kramer[1; 2]

[1]*The Hebrew University of Jerusalem*, *Jerusalem*, *Israel*, [2]*Ma'ayan Center for Jewish Philosophy and Sustainability at Bar-Ilan University*, *Ramat Gan*, *Israel*

The biblical Shemitah commandment, as articulated in Leviticus 25:1–7, Deuteronomy 15:1–11, and Exodus 23:10–11, mandates a sabbatical year every seventh year. During this time, agricultural activities cease, fields lie fallow, and produce is shared equitably, embodying values of land stewardship, social equity, and ecological renewal. These ancient principles highlight humanity's responsibility toward creation and underscore the interconnectedness of environmental balance and societal well-being. In contemporary Israel, Shemitah has been reinterpreted through the lens of modern environmental challenges, particularly the climate crisis. Popular media, theological writings, and public discourse have framed Shemitah both as a model for stewardship—emphasizing the care for natural resources—and as a "laboratory" for resilience in navigating crises such as COVID-19 and increasing environmental instability. This study explores how Shemitah-inspired ecological ethics influence behavioral and societal transformations across various sectors in Israel. By analyzing media representations, case studies, and interviews with leaders of Shemitah-based initiatives, the research maps the practical application of theological ideas. Examples include agricultural frameworks that integrate sustainable practices, urban projects advocating for equitable resource distribution, and grassroots campaigns promoting collective responsibility for environmental justice. By examining diverse societal sectors, including secular, religious, and ultra-Orthodox communities, this study highlights Shemitah's potential to inspire both behavioral and

structural transformations. The findings demonstrate how biblical traditions can inform contemporary environmental ethics and foster collective action in addressing global climate challenges. Shemitah serves as a bridge between ancient wisdom and modern ecological practices, offering valuable insights for shaping human-environment interactions in an era of unprecedented environmental risks.

Keywords: climate crisis, environmental ethics, eco-theology, behavioral transformation, shemitah (biblical sabbatical year)

**18-06-2025 | 15:30 - 16:45**

**S-085**: **Restorativeness**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Restorative environments)

*Fauna Room*

Chair (IS): Mathew White, University of Vienna, Vienna, Austria.

**ID-1013: THE EFFECT OF NATURE'S FRACTAL GEOMETRY ON TASK PERFORMANCE**

Asta Lisauskienė[1], Yannick Joye [2], Florian Lange [3]

*[1]ISM University of Management and Economics*, *Vilnius*, *Lithuania*, *[2]Vilnius University / Faculty of Economics and Business Administration*, *Vilnius*, *Lithuania*, *[3]KU Leuven / Faculty of Economics and Business, Behavioral Economics and Engineer*, *Leuven*, *Belgium*

**Introduction**: Restoration research suggests that nature can enhance cognitive functioning by replenishing depleted cognitive resources. An alternative perspective, the nature-as-reward hypothesis (NAR), proposes that nature's cognitive benefits are driven by the rewarding character of viewing nature scenes, motivating individuals to work harder on (cognitive) tasks. **Objectives**: Following NAR, this online study investigated whether exposure to fractals—representing nature's geometry—would enhance motivation to perform both easy and cognitively challenging button-clicking tasks. **Materials & Methods**: In this between-subjects experiment, participants (N=620) were randomly assigned to view either aesthetically pleasing fractals or less pleasing pixelated versions of those fractals for 10 seconds before completing a button-clicking task. This task required participants to freely click up to 150 boxes and had two variations: a simple version where participants clicked boxes without constraints, and a more difficult version where participants followed a specific cognitive rule while clicking. The sequence of image exposure followed by a clicking task was repeated over five rounds. **Results**: For the easy-clicking task, we unexpectedly found that participants clicked fewer boxes after viewing fractal versus pixelated images,

possibly reflecting randomization issues. For the difficult clicking task, an interaction between clicking round and image type was observed: participants' motivation to complete the task remained consistent across five rounds in the fractal image condition but declined in the pixelated image condition. **Conclusions**: These findings provide mixed evidence that aesthetically pleasing images can enhance task performance and motivation, as proposed by NAR.

Keywords: nature-as-reward hypothesis, fractal geometry, beauty, performance, motivation

### ID-731: THE EFFECT OF SIMULATED VISITS TO NATURAL AND MUSEUM ENVIRONMENTS ON AFFECT, COGNITION, AND PERCEIVED RESTORATIVENESS IN YOUNG AND OLDER ADULTS

Elisabetta Ricciardi[1], Luigi Tinella [2], Sergio Traficante [1], Rosa Napoletano [1], Claudia Mirenghi [1], Davide Crivelli [3], Antonella Lopez [4], Alessandro Oronzo Caffò [1], Andrea Bosco [1], Giuseppina Spano [5]

*[1]University of Bari*, *Bari*, *Italy*, *[2]University of Salerno*, *Salerno*, *Italy*, *[3]Università Cattolica del Sacro Cuore*, *Milan*, *Italy*, *[4]Giustino Fortunato University*, *Benevento*, *Italy*, *[5]Pegaso University*, *Napoli*, *Italy*

A growing body of evidence suggests that virtual exposure to natural environments can benefit affect and cognition, as indicated by pre- and post-exposure responses and high satisfaction reflected in perceived restorativeness. This is particularly relevant for older adults, as such environments may provide an alternative for individuals with limited access to real settings. Previous studies have demonstrated that the exposition to virtual natural environments yields better psychological outcomes than urban environments. It remains unclear whether these effects arise from nature's specific characteristics or from general pleasantness. This study investigates the effects on affect, memory, attention, and restorativeness of the exposition to 2D 4K videos of simulated visits of natural and museum environments projected on screen with a large visual angle (73 degrees), compared to a resting control condition without visual stimulation. The sample included 88 participants (52 females). A 2x3x2 design was used with pre/post intervention, three exposure conditions (nature, museum, control), and two age groups (44 young, 44 older adults). Results suggest that older participants are more likely to experience improved attention after simulated visits to museum compared to natural environments and the control condition. Both groups reported higher perceived restorativeness following exposure to simulated visits to natural and museum environments compared to control condition. However, no significant improvements in affect and memory were observed after exposure to either environment. The present findings contribute to the debate on the psychological benefits of simulated visits to natural or aesthetically pleasing anthropic environments, particularly for older adults.

Keywords: virtual nature, affect, cognition, restorativeness, older adults

### ID-107: WHEN NATURAL IS NOT BETTER: THE INTERACTION OF ENVIRONMENTAL ENGAGEMENT AND ENVIRONMENT TYPE ON ATTENTION AND AFFECT

Janet Trammell[1]

*[1]Pepperdine University*, *Malibu*, *United States*

**Introduction:** While the majority of published research demonstrates positive effects of exposure to nature on affect and attention, some studies report weaker, non-existent, or even opposite effects. **Goals & Objectives:** This research tested two promising explanations for inconsistent findings: 1) how engaged one is with the environment itself, and 2) how frequently one is exposed to natural environments. **Materials & Methods:** 126 U.S. adults completed measures of affect and attention prior to mindfully engaging with a randomly assigned 5-minute video of either a natural or urban environment. Participants were also randomly assigned to either mindfully engage with environmental aspects of the video (i.e., the natural or urban elements) or to mindfully engage with non-environmental aspects of the video (people in the video). Next, participants completed additional affect, attention, and demographic measures, including residential zip code. **Results**: Results show an intriguing interaction between environment and engagement, such that those in the natural environment condition reported greater improvement in affect and attention than those in the urban condition, but only when mindfully engaging with the environmental elements. When attending to people in the environment, those in the urban condition reported greater improvement in affect and attention than those in the natural environment condition. Frequency of prior exposure to natural environments will be tested as a moderator of these effects, once remaining data collection (target *N* = 210 participants) is complete. **Conclusion:** This work demonstrates that exposure to natural environments is not universally beneficial and depends on how one engages with the environment.

Keywords: nature, environmental engagement, urban, affect, attention

## ID-446: "THAT INWARD EYE": MEMORIES ARE AN IMPORTANT BUT NEGLECTED SOURCE OF NATURE EXPOSURE

Mathew P White[1], Alex J. Smalley [2]

*[1]University of Vienna / Faculty of Psychology*, *Vienna*, *Austria*, *[2]University of Exeter / European Centre for Environment & Human Health*, *Falmouth*, *United Kingdom*

Whether it's commuting through a park, camping in a woodland, or walking across a shoreline, evidence abounds for how direct contact with nature can promote physical, psychological and social well-being. But what if the simple act of just *remembering* these experiences could operate as a unique, discrete, and so far, overlooked way to (re)encounter the natural world? In this talk we explore this possibility. Our thesis outlines how the formation, recall, replay and social sharing of autobiographical memories might apply to nature-based experiences. We examine the potential for this process to lead to cumulative emotional benefits over time such that the full emotional experience through recall far outweights what is usually measured in scientific research (e.g. experience duration in situ). We then sketch out a framework for how this mechanism could unfold in practice, and consider how temporal, cultural, and individual dependencies might impact its operation. We suggest that the complex emotion of nostalgia may offer a crucial lens through which to relive and reinterpret nature-based memories. Finally, we highlight how a burgeoning research agenda might recognise and measure nature-based memories, and their associated mental images, soundscapes etc., in order to better understand people's full "nature exposure" and to identify ways in which these memories could be exploited as a powerful way of bringing nature's benefits into people's lives more regularly or at particularly important moments.

Keywords: nature exposure, nature imagery, memories, emotions

**ID-137: NATURE-BASED WELFARE AND THE ECO-APPRECIATION PERSPECTIVE: AGING IN CHANGING CLIMATES**

Mali Nevo[1], Lia Levin [1]

[1]*School of Social Work, Tel Aviv University*, *Tel Aviv*, *Israel*

**Introduction**: As ecological and social challenges escalate, there is a growing need for regenerative shifts from anthropocentric to eco-centric approaches to well-being. This presentation introduces *Nature-Based Welfare* as a conceptual and practical framework for recognizing the interconnectedness between human well-being and ecological health, and the *Eco-Appreciation Perspective*, a novel model emphasizing the conscious exploration of human-nature relations. **Objectives**: The notions of Nature-Based Welfare and the Eco-Appreciation Perspective are exemplified through research that addressed older adults' ecological experiences, connection with nature, epistemic agency and well-being. **Materials and Methods**: The research drew on in-depth interviews with 60 older adults residing in urban and rural regions across Israel. Narrative analysis guided by the Eco-Appreciation Perspective was utilized to uncover facets of older adults' experiences of aging and changing relations with the natural environment; specifically, as these intersect with participants' well-being, social stratification, and epistemic status. **Results**: The study reveals the complex dynamics of human-nature relations that shift throughout the course of life but can remain a consistent source of meaning-making and a sense of purpose, as well as of individual and intergenerational well-being. It also exposes how access to nature, and active participation in social constructions and applications of human-nature relations, are often impeded by social constraints, stigma, and what we term "eco-agism". **Conclusions**: The Eco-Appreciation Perspective on Nature-Based Welfare and the empirical support thereof call for valuing nature as a partner in shaping holistic well-being and transforming eco-social systems to address the challenges humanity faces in the present era of climate change.

Keywords: nature-based welfare, eco-appreciation perspective, epistemic justice, aging societies, well-being

**18-06-2025 | 15:30 - 16:45**

**S-091**: **ENERGY FINANCING & RISK PERCEPTION**

Session Topic: ENERGY, CARBON EMISSIONS AND HUMAN BEHAVIOUR (Sustainable Energy Transition)

*Forest Room*

Chair (IS): Christine Boomsma, RIVM - National Institute for Public Health and the Environment, Bilthoven, Netherlands

**ID-61: HOW CAN ENERGY-RELEVANT INVESTMENT DECISIONS BE BOOSTED? THE ROLE OF EVENTS AS INITIATORS AND DRIVERS OF THE DECISION PROCESS**

Gonzalo Haefner[1], Ingo Kastner [1], Andreas Deuß [2], Jan-Niklas Meier [3], Katrin Beer [4], Karolin Schmidt [1], Paul Lehmann [3], Ellen Matthies [1]

*[1]Otto-von-Guericke Universität Magdeburg, Institute of Environmental Psychology, Magdeburg, Germany, [2]Otto-von-Guericke Universität Magdeburg, Magdebug, Germany, [3]University of Leipzig, Leipzig, Germany, [4]Technische Universität München, München, Germany*

Households can make fundamental contributions to reaching carbon reduction targets by means of high-impact energy-relevant investments. Using a stage model of decision-making, we analyzed which external factors, i.e., strong and disruptive events, make households consider such investments and may push their decision process forward. Three investment types were investigated: renewable heating systems, energy-efficient insulation measures and electric vehicle (EV) purchases. *N* = 812 German homeowners, living in existing single- or two-family houses, were questioned. As expected, a great majority of the participants could be allocated to the early stages of decision-making, i.e., they either do not consider an investment at all or they are still unsure whether to do so. Thus, we focused on these early stages in the following part of our analysis, employing several ordinal logit regression (OLR) analyses. The analyses revealed that the investments in renewable heating systems and energy-efficient insulation measures are related to economic, ecological, and social events. The importance of specific events for the decision-making process differed, though, depending on the type of investment and the point of decision-making investigated. The propensity to invest in an EV was influenced mainly by the necessity to buy a new car, while ecological and economical events played a relevant role, too. The findings provide insights for the design of intervention strategies that empower households to make energy-relevant investments, thereby not only considering the type of investment, but also the stage of decision-making households are in.

Keywords: investment decisions, stage model, renewable heating systems, households, EV purchases

**ID-567: FROM PERCEPTION TO PARTICIPATION: HOW INTERGROUP DYNAMICS DRIVE ENERGY TRADING BEHAVIOUR**

Charlie John Walker Clarke[1], Thijs Bouman [1], Elliot Sharpe [1]

*[1]University of Groningen - Department of Psychology, Groningen, Netherlands*

As energy systems become more decentralised, electric vehicles (EVs) are emerging as mobile energy storage units, potentially playing a critical role in enabling local energy trading. This development opens new opportunities for EV owners and local residents to trade energy with one another. However, collaboration between local residents and EV owners raises important psychological questions about their willingness to work together, particularly as EV owners may be perceived by many as an elitist and inaccessible group. We propose that non-EV owners' perceptions of EV owners will influence their willingness to collaborate on energy trading behaviours. For instance, we predict that people may charge EV owners higher prices for electricity if they perceive them as being primarily motivated by financial and symbolic reasons, rather than environmental or social considerations. Additionally, we explore the concept of group permeability, examining whether people perceive EV drivers as a distinct group, how attainable they find membership in this group, and how these perceptions influence their intentions to collaborate. Data collected from an online panel in the Netherlands (n = 1,191) show that individuals who perceive EV owners as motivated by self-transcendent factors (such as environmental or societal concerns) are more likely to collaborate, including accepting local charging infrastructure and being more willing to trade electricity. These findings suggest that intergroup perceptions may significantly influence individuals' intentions to collaborate. The implications of this for the success of energy trading schemes will be discussed further.

Keywords: group perceptions, group permeability, collaboration, energy trading, electric vehicles

**ID-703: HOW RISK PERCEPTIONS OF NEW ENERGY TECHNOLOGIES TAKE SHAPE: THE CASE OF THE HYDROGEN SUPPLY CHAIN IN THE NETHERLANDS**

Christine Boomsma[1], Michelle Zonneveld [1], Jeroen Neuvel [1]

[1]*RIVM - National Institute for Public Health and the Environment*, *Bilthoven*, *Netherlands*

As the energy transition progresses people are confronted with new energy technologies in their local environments. These technologies come with benefits but also risks and challenges. Public perceptions of these risks tend to only be considered late in the decision-making process (if at all). In research commissioned by the Dutch Government we examined how the public perceive risks related to the hydrogen supply chain, and which factors relate to these risk perceptions. Plans around hydrogen have started to take shape but have not been implemented on a large scale, thus offering an opportunity to study public perceptions at a very early stage in policy development. This also creates a challenge on how to gauge people's opinion on something that is relatively unknown. We conducted four focus groups (*N* = 35), using a mental model approach, where a drawing task was used to gain insight into the images that people have of the hydrogen supply chain and associated risks. This was followed by a survey under a representative sample of the Dutch population (*N* = 975) to examine the generalizability of the findings from the focus groups and study the relationship between risk perceptions and psychological factors. By offering information about the hydrogen supply chain in stages, in both the focus groups and survey, uninformed and informed views were assessed. At the time of writing the results are being finalized and translated into policy recommendations to benefit a hydrogen transition that aligns more closely with public needs and views.

Keywords: hydrogen, risk perceptions, mental models, energy policy

**ID-615: PUBLIC PERCEPTIONS OF NUCLEAR DANGER: A SYSTEMATIC MAP OF POST-COLD WAR RESEARCH**

Astrid Kause[1; 2]

[1]*Institute for Sustainability Psychology*, *Lüneburg*, *Germany*, [2]*Princeton University*, *Princeton*, *United States*

Nuclear weapons are increasingly being used to threaten political opponents. Leaders, including the US government, ramp up their nuclear weapon arsenals. As a result, scientists from physics, political science, and related fields have described 2024 as a 'moment of historic danger' for planet and people. This 'existential' risk requires an understanding of how individuals respond to nuclear danger, including their perceptions of nuclear weapons impacts as well as peoples' views of nuclear policies, among others. A seminal review by Susan Fiske in 1987 called "People's reactions to nuclear war: Implications for psychologists" described attitudes, feelings and action in face of nuclear danger. Moreover, prominent psychologists, including Fiske (1987) encouraged others to conduct more and better psychological research on nuclear danger. We assess how nuclear danger was studied since Fiske (1987): Using established systematic review methods, we identified N = 259 empirical articles from psychology, political sciences and related fields that examined individual reactions to nuclear danger. Articles were published either around the end of cold war, or more recently, since the outbreak of the Ukraine war. Also, more recent research was published mostly not in psychology, but other fields. I will present insights about a scattered research landscape, including the type and focus of studies, as well as methods. I will conclude with some thoughts about responses to nuclear danger could – again – be picked up by psychologists as well as what the psychology of climate change can learn from studies on this almost forgotten global challenge.

Keywords: global challenge, existential risk, nuclear danger, systematic review

**18-06-2025 | 15:30 - 16:45**

**S-082**: **Social ecology**

Session Topic: ENVIRONMENT, NATURE AND HUMAN HEALTH & WELLBEING (Environment and health)

*Dawn Room*

Chair: Rita Žukauskienė, Applied Psychology Research Laboratory, Mykolas Romeris University, Vilnius, Lithuania

**ID-457: MAPPING THE SOCIAL IMPACTS OF WOODLAND CREATION AND EXPANSION LONGITUDINALLY**

George Murrell[1], Beth Brockett [2], Berglind Karlsdóttir [3], Clare Hall [4], Elliot Colley [3]

[1]*Forest Research*, *Farnham*, *United Kingdom*, [2]*Forest Research*, *Delamere*, *United Kingdom*, [3]*Forest Research*, *Bristol*, *United Kingdom*, [4]*Forest Research*, *Roslin*, *United Kingdom*

Tree planting has rapidly increased in the UK since the government's pledge to plant 30,000 hectares of trees per year by 2025 and the UK landscape is therefore undergoing major changes. While the environmental and economic impacts of such land-use change are relatively well evidenced, the social impacts are far less clear. The objective of this research, funded through the Nature for Climate Fund, was to address this gap to better understand how communities at two English case-study locations experience woodland creation and expansion in their local area. These sites are close to large urban centres and are undergoing environmental regeneration following years of industrial activity, alongside new building and infrastructure development. A qualitative-longitudinal approach was employed to gain in-depth understandings of individuals' experiences of the new planting, including associated values, benefits and barriers, and whether these change over time as the treescapes develop. Online and walking interviews with local community members were conducted at three time-points between October 2023 and September 2024, and sought to understand past, present and anticipated future experiences. Findings highlight the various ways new woodlands are valued and the impacts they have on local community member's lives. They will be crucial in informing the design of future woodland creation schemes to best benefit local communities. Note. We previously aimed to present early findings at the IAPS 2024 conference, but the stage of the project and pre-election period of sensitivity meant findings could not be disseminated. We present findings here for the first time.

Keywords: tree-planting, woodlands, qualitative, longitudinal, regeneration

**ID-760: URBAN NATURE AND THE MENTAL HEALTH OF MIGRANTS: THE ROLES OF SENSE OF PLACE**

Qingyue Xue[1], Ben Wheeler [1], Lucy Szaboova [2], Sarah Bell [1]

[1]*University of Exeter / European Centre for Environment and Human Health*, *Penryn*, *United Kingdom*, [2]*Department of Geography, University of Exeter*, *Exeter*, *United Kingdom*

**Introduction:** Mental health problems faced by immigrants in urban environments with cultural differences are multifaceted. Sense of place is a guiding principle of the environment and contributes to psychological status and social cohesion. Urban nature has been shown to promote mental health and wellbeing, but its impact on migrants, specifically through the lens of "sense of place" remains underexplored. **Objectives:** This study focuses on mental health, migration, exploring urban nature's role in shaping sense of place among Chinese migrants. Recognising the large and growing body of evidence suggesting potential mental health benefits of time spent with nature, this research aims to investigate how does urban nature influences migrants' sense of place, and consequently, affects their mental health and wellbeing. **Methods:** A mixed-methods approach is employed, combining quantitative data analysis with qualitative interviews. Data has been collected from migrants residing in diverse urban areas, with measures of secondary data regression analysis complementing participant data from fieldwork surveys to contextualise findings. **Results:** Preliminary analysis is expected to reveal that migrants who report a strong sense of place in urban nature enhanced mental health outcomes with lower stress levels and higher life satisfaction. Trends may also indicate differences dependent on urban space access, quality, and cultural relevance. **Conclusions:** This study will contribute to migrants' mental health benefits of

urban nature, and the effectiveness of sense of place. It also offers insights into how urban planners and policymakers can design inclusive urban nature spaces that support the wellbeing of diverse populations, particularly migrants.

Keywords: urban, mental health, migration

**18-06-2025 | 15:30 - 16:45**

**S-0105**: **Pro-environmental behaviour**

Session Topic: CLIMATE EMERGENCY AND GLOBAL ISSUES (Ecological behaviour and pro-environmental attitudes)

*Sun Room*

Chair (IS): Dr. Bernadette Sütterlin (Zurich University of Applied Sciences, Winterthur, Switzerland)

**ID-990: HOW DO WE MAKE PRO-ENVIRONMENTAL DECISIONS? AN EYE-TRACKING STUDY OF THE ROLE OF ATTITUDES AND ATTENTION IN PRO-ENVIRONMENTAL DECISION-MAKING**

Zoé Bollen[1; 2], Annika Wyss [1], Emmanuel Guizar Rosales [1], Zarah Le Houcq Corbi [3], Daria Knoch [1]

*[1]Department of Social Neuroscience and Social Psychology, University of Bern, Bern, Switzerland, [2]Center for Psychology of Sustainability and Behavior Change, University of Basel, Basel, Switzerland, [3]Department of Psychology, Ludwig Maximilian University Munich, Munich, Germany*

**Introduction:** Climate change mitigation is a critical challenge urgently calling on individuals to adopt more pro-environmental behaviours. While prior research has primarily examined the key factors explaining *why* people behave (un)sustainably, the cognitive processes underlying *how* they make such decisions remain poorly understood. **Goals & Objectives:** This preregistered study investigates the role of environmental attitudes and attentional processes during decision-making involving real trade-offs between personal financial rewards and environmental consequences. **Materials & Methods:** In a laboratory setting, 114 university students completed an adapted version of the carbon emission task while their eye movements were recorded via eye-tracking, providing direct measures of information acquisition and weighting preceding decision-making. After the task, environmental attitudes were assessed using the Schwartz Value Scale and the Campbell Paradigm. **Results:** Using mixed-effect models, we found that stronger Campbellian environmental attitudes predicted an attentional prioritization of environmental information (i.e., $CO_2$ emissions), as reflected by a higher proportion of fixation time on this information, and an increasing likelihood of fixating it first once participants became familiar with the task. In contrast, the attention-behaviour link appears context-dependent, influenced by factors such as the magnitude of financial incentives and environmental stakes. Notably, while attention played a role in financially less rewarding choices, we speculate that financially more rewarding decisions may involve higher-order cognitive processes. **Conclusions:** These findings emphasize the interplay between attentional dynamics, decision context, and environmental attitudes in shaping pro-environmental

behaviour. Integrating these insights could inform strategies to promote pro-environmental decision-making.

Keywords: pro-environmental behaviour, eye-tracking, attention, process tracing, environmental attitudes

**ID-761: A DIFFERENTIATED FRAMEWORK FOR UNDERSTANDING ENVIRONMENTALLY RELEVANT BEHAVIOUR: DIFFERENTIATING BEHAVIOURAL TYPES, DOMAINS, AND CONTEXTS**

Bernadette Sütterlin[1], Debora Frei [1]

[1]*Zurich University of Applied Sciences*, *Winterthur*, *Switzerland*

People can engage in different types of environmentally friendly behaviours in different domains and contexts. These behaviours are psychologically different and they differ in their dependence on facilitating conditions. For example, sufficiency/curtailment behaviours such as reducing car use, heating temperature or meat consumption are associated with changes in lifestyle, comfort, and habits. On the other hand, behaviours such as investment in energy-efficient or smart-living appliances only require one single action with no changes in everyday use behaviour or comfort. Consequently, the behavioural determinants identified for one type of behaviour in a specific domain and context may not generalize to other behavioural types, domains, and contexts. We aim to provide a more comprehensive and differentiated framework for understanding environmentally relevant behaviour that accounts for differences between behavioural types, domains, and contexts. For this purpose, we conducted an online survey with a representative sample of the Swiss population (N=1533) assessing different behavioural types (sufficiency, efficiency, smart living, sharing, circular economy, public-sphere behaviour), domains (housing, mobility, food), and contexts (everyday life, leisure, work). Furthermore, psychosocial drivers, personal capabilities, and sociodemographics were assessed. First analyses indicate that personal norms and (low) importance attributed to status and possession are important predictors of sufficiency behaviour, except for work-related mobility that mainly depends on contextual factors. For sharing, circular economy, and smart living behaviours, the social context is important in terms of social norms, collective efficacy, and, for smart living, also social status. Findings bear important implications for the development of more targeted interventions and understanding spillovers.

Keywords: environmentally relevant behaviour, differentiated framework, types of behaviour, behavioural domains, behavioural contexts

**ID-895: SPILLOVER EFFECTS OF PERCEIVED PRO-ENVIRONMENTAL BEHAVIORS IN DAILY LIFE: AN EXPERIENCE SAMPLING STUDY**

Kathi Diel[1], Maximilian Thiel [1], Simone Dohle [2], Wilhelm Hofmann [3], Malte Friese [1]

[1]*Saarland University, Department of Psychology*, *Saarbrücken*, *Germany*, [2]*Universitätsklinikum Bonn*, *Bonn*, *Germany*, [3]*Ruhr-University*, *Bochum*, *Germany*

The spillover effect - where a pro-environmental behavior influences a subsequent behavior - remains a topic of debate. While previous research has primarily manipulated individual behaviors to assess their

impact on subsequent actions, often yielding weak results, we took a different methodological approach by examining how spillover effects occur naturally in everyday life, providing a fresh perspective on the issue. We categorized spillovers into four types: positive consistency (pro-environmental followed by pro-environmental), licensing (pro-environmental followed by environmentally harmful), negative consistency (harmful followed by harmful), and compensation (harmful followed by pro-environmental). Using experience sampling, 191 participants reported environmentally relevant behaviors five times daily for five days, resulting in 2,982 behaviors and 528 sequential behaviors. Participants reported more consistent behaviors (positive and negative) than balancing behaviors (licensing and compensating). Sequential behaviors occurred more often within specific categories (e.g., transportation, food) than across categories. Positive consistency and compensation were associated with heightened positive emotions, whereas negative consistency and licensing were correlated with negative emotions. Our study shows that spillover effects occur naturally in everyday life, manifesting themselves in different forms and frequencies. However, not all reported behaviors were related to antecedent behaviors. These findings provide new insights into the natural occurrence of spillover effects and highlight the need for future research that examines how these findings can be used to design interventions that promote pro-environmental spillovers in real-world contexts.

Keywords: spillover effect, proenvironmental behavior, experience sampling, emotions

**ID-569: EPISTEMIC CURIOSITY IS LINKED TO PRO-ENVIRONMENTAL ATTITUDES**

Adéla Plechatá[1], Cecilie Fenja Strandsbjerg [1], Lau Lilleholt [1; 2], Valdemar Aksel Stenberdt [2], Guido Makransky [2], Ingo Zettler [1; 2]

*[1]Copenhagen Center for Social Data Science (SODAS), University of Copenhagen*, *Copenhagen*, *Denmark*, *[2]Department of Psychology, University of Copenhagen*, *Copenhagen*, *Denmark*

**Introduction:** Classic behavioral theories emphasize that determinants must be behavior-specific to provide valid predictions, limiting their generalizability across behaviors. Identifying broad dispositional characteristics associated with pro-environmental actions can help overcome this limitation and facilitate scaling up mitigation efforts. Personality dimensions such as Honesty-Humility and Openness to experience have been repeatedly linked to pro-environmentalism. Epistemic curiosity—an intrinsic desire to seek information—has been proposed as a mechanism to reduce climate opinion polarization, but its direct link to climate-related outcomes has not been tested yet. **Goals & Objectives:** This study investigates the relationship between curiosity and climate-related outcomes. **Materials & Methods:** Data were collected from a Danish panel study ($N_{analyzed}$ = 6,048) across three waves (each one year apart), measuring personality dimensions (e.g., HEXACO dimensions), curiosity, climate concern, willingness to sacrifice for the environment (WTSE), and connectedness to nature (CNS). Pearson correlations and multiple regression analyses were used to assess the explanatory value of curiosity beyond the HEXACO dimensions, age, and gender. **Results:** The interest aspect of curiosity was significantly correlated with WTSE ($r$ = 0.27), CNS ($r$ = 0.25), and climate concern ($r$ = 0.12). Multiple linear regression analyses further showed that curiosity was a significant predictor of climate-related outcomes while controlling for the HEXACO dimensions and demographics. **Conclusions:** The study highlights curiosity as a promising trait for explaining individual differences in climate-related outcomes. Follow-up research using diverse samples and behavioral measures is needed to confirm and extend these findings.

Keywords: sustainability, personality, climate concern, curiosity, pro-environmental behavior

**ID-693: HOW DO ATTITUDES, LIFE SATISFACTION AND HUMAN DEVELOPMENT INDEX IMPACTS REDUCE AND REUSE BEHAVIOURS IN EUROPEAN UNION COUNTRIES?**

Genovaitė Liobikienė[1], Vilija Šatienė [1]

[1]*Vytautas Magnus University, Department of Environmental Sciences*, *Kaunas*, *Lithuania*

The implementation of sustainable consumption is a key aspect of environmental policy. The promotion of reduce and reuse behaviours is not only related to the waste reduction but also to the decline of environmental impact and the achievement of sustainable consumption goals. This work aims to investigate the impact of attitudes and life satisfaction on the reduce and reuse behaviours by analyzing **survey data** conducted in all European countries and **applying the binary logistic regression** using SPSS program. The analysis of tendencies and main determinants of these behaviours in the European countries was based on the Eurobarometer survey 92.4 (EC, 2019). The analyzed period was selected 2019, before the Covid-19 pandemic and military conflicts, which caused various crises in European region. The results revealed statistically significant correlation between Human Development Index (HDI) and the prevalence of reduce and reuse actions. Second-hand products were purchased by the smallest share of Europeans, while most respondents stated that they try to avoid consuming single-use plastic goods. Moreover, the attitudes towards sustainable clothing and life satisfaction, along with age and gender, significantly determined the purchase of second-hand products. Attitudes towards plastic reduction tools and sustainable clothing, life satisfaction and gender positively and significantly affected the use of repaired products. Avoiding single-use plastic and over-packaged products was influenced by all types of attitudes, life satisfaction and gender. This work revealed that life satisfaction could be reconciled with the analyzed behaviors, and that attitudes directly related to these behaviors were the most important factors.

Keywords: sustainable consumption, reduce and reuse behaviour, environmental attitudes, life satisfaction, European Union

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**Closing Ceremony**

*Earth Hall Plenary*

** All abstracts have undergone peer review.*