

6. Human behavior and the natural environment: Insights from environmental psychology

Author(s): Ruth Krebs (chair), Florian Lange, Sarah Kusch, Alessandra Carella, Yannick Joye, Alexander Hooyberg

Abstract: The urgent challenges related to climate change and biodiversity loss demand significant individual and collective action to mitigate further environmental degradation. Despite widespread scientific consensus about human-induced climate change, there remains knowledge gaps on how to foster sustainable human-environment relationships. Research in the field of environmental psychology has outlined two pathways through which this discipline can contribute to understanding the relationship between human behavior and the natural environment. One path focuses on the cognitive and affective processes that may hinder or promote pro-environmental behavior (“human-to-environment”). The second path focuses on the effects of the natural and built environment on human well-being and behavior (“environment-to-human”). In this symposium we will present recent research along both pathways to showcase how psychological science can advance our understanding of motivation or amotivation in the face of climate-related and environmental challenges and contribute to developing behavior-change interventions. Five speakers will present the methods, key findings, and implications of their research, each followed by a brief question round.

Florian Lange (KU Leuven) will present a new behavioral paradigm that allows studying pro-environmental behavior as a function of its opportunity costs. In the Behavioral Allocation Task (BAT), participants can repeatedly 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 to 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.

Sarah Kusch (Ghent University) will focus on the role of cognitive effort, which is a characteristic but understudied feature of many pro-environmental behaviors. While cognitive effort has traditionally been considered as a barrier for engaging in pro-environmental behavior, recent frameworks have promoted the notion that effort can also be a source of value, for example, by increasing the subjective value of an outcome of an effortful action. They reanalyzed existing data (N = 1160) from the Work for Environmental Protection Task (WEPT; Lange & Dewitte, 2023), in which participants can exert cognitive effort in exchange for donations to a pre-selected pro-environmental organization. After performing the WEPT, participants were more likely to donate additional bonus money to their assigned organization compared to an alternative organization. This observation was confirmed in a high-powered, preregistered study (N = 801), which also included a self-report index of subjective value. These findings resonate with the notion that effort is more than just a barrier and can have a positive impact on pro-environmental behavior.

Alessandra Carella (University of Padova) will present her work on consumer choices in the fashion sector, one of the most polluting industries in the global market. 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 (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 material and trendiness. These findings highlight that informing consumers about sustainability attributes, and in particular the benefits of purchasing a more expensive but longer-lasting garment, can encourage more sustainable decisions. Moreover, the results underscore the importance of considering consumers' levels of impulsivity, materialism, and environmental identity.

Yannick Joye (Vilnius University) is focusing on the putative positive impact of exposure to natural environments on psychological functioning. Two influential frameworks (i.e., Attention Restoration Theory, ART; Stress Recovery Theory, SRT) that have postulated that the demands of modern urban life can be emotionally and cognitively depleting and that nature might act as a restoring counterpart have faced criticism in recent years. Although some limitations could be resolved through theoretical refinements and further empirical work, they will argue that the challenges are more fundamental. Specifically, both ART and SRT fail to meet the criteria for robust scientific theories: their core constructs (e.g., "soft fascination") lack predictive power due to conceptual vagueness and circularity, and their explanations for restoration are built on contentious evolutionary assumptions about human nature. Furthermore, they challenge the notion that nature's restorative benefits are inherently "special", warranting nature-specific theories. Instead, these effects are better understood as manifestations of broader psychological processes that should be integrated into more comprehensive models of human behavior.

Alexander Hooyberg (Ghent University) investigates the impact of coastal environments on mental well-being and health. While it is well-evidenced that inland green nature has positive effects on our health, there is surprisingly little evidence on coastal environments in particular. Alexander combined diverse observational and experimental methods to explore the effects of different coastal environments on psychological and physiological indicators of mental health and individual differences in visitors' activity-patterns and experiences. As such, he found that coastal residents report to have a better general health than their inland counterparts, that natural environments at the coast are perceived to be more psychologically restorative, that virtual exposure to beaches reduces sympathetic nervous system activity and breathing rate more than green and urban exposure, and that individuals' activity at the coast vary according to four dimensions (frequency, preference for nature vs. urban, social company, preference to socialize vs. explore). The insights inform landscape planners, tourism managers, and the health care sector about how the coast influences health and well-being, and how to leverage these benefits to ensure sustainable human-environment interactions.