Grand Challenges in Environmental Psychology

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Environmental psychology is the subdiscipline of psychological science that deals with psychological processes engaged in encounters between people and the built and natural environment (Stern, 2000). It covers all aspects of human behavior and mental life in relation to the sociophysical environment, whether considered as ambient environmental factors (e.g., noise, temperature, lighting), specific behavior settings (e.g., schools, offices, hospitals), the basic infrastructure of everyday life (e.g., energy and transportation systems), or in a broader sense, with regard to landscape and the relationship between built and natural aspects of human environments. Human behavior and mental life include, but are not limited to, perception and cognition, emotion, stress and mental fatigue, decision making, and social interactions, as manifest in covert and overt behavior. In short, environmental psychology is concerned with the facts of bi-directional influence in people-environment interactions; it considers how the sociophysical environment influences people and how people influence the environment (Gärling, 2014).

Global climate change is currently one of society’s grand challenges (American Psychological Association, 2008; Hansen et al., 2013). Psychology cannot by itself slow or halt global warming, but it can explain why people sometimes engage in pro-environmental behavior that can mitigate climate change and it can help citizens overcome the psychological barriers of sustainable behavior (Gifford, 2011). A grand challenge for the environmental psychologist is to study, explain and predict how people’s behavior can be changed to promote environmentally sustainable behavior (Vlek and Stag, 2007; Kaiser et al., 2013), environmentalism (Dietz et al., 1998) and conservation (Cialdini, 2003). One approach to this grand challenge involves the use of normative messages (Cialdini, 2003), framings (Hurlstone et al., 2014), social norms (Clark et al., 2008; Bertoldo et al., 2013) and educational programs (Ernst and Theimer, 2011) to reduce people’s environmental footprint through communication and information interventions. This view aligns with a social psychological tradition with an emphasis on the study of how personality traits and attitudes shape behavior. Another approach—largely neglected in contemporary environmental psychology (Gärling, 2014)—focuses on how the environment itself should be built and modified to support and even require more sustainable human behavior (Johansson et al., 2016). This latter view stems from a behavioral and ecological approach to human functioning and focuses on how the environment shapes behavior (Scott, 2005). While the social psychological view has unquestionable merits, I envision a practicable way toward scientific breakthrough is to reintroduce this classic, ecological approach in environmental psychology and apply it to the modern problems of society.

The current anthropogenic global warming is coupled with an exponential human population growth that is placing tremendous demands on agricultural and natural resources (Foley et al., 2011). Environmental psychologists will play an important role in providing society with needed insights in several areas, including how to handle the social dilemmas of sharing resources in sustainable ways (Biel and Gärling, 1995; Anderies et al., 2013), how to implement techniques to mitigate the effects of increased energy demand (Nilsson et al., 2015) and how to understand the psychological consequences...
of scarcity (Griskevicius et al., 2013). One way to deal with the consequences of the population growth is to build megacities with high residential densities, as there are gains in energy and transportation efficiency to be made which can help to mitigate the negative effects of human activity on the environment (Kennedy et al., 2015). A major challenge with this development, however, is that such urbanization can lead to built environments that many people will find unlivable. A likely scenario is however, is that such urbanization can lead to built environments

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