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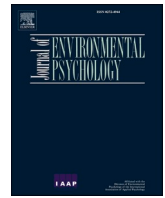
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Letter to the Editor



Theory enhances impact. Reply to: 'The case for impact-focused environmental psychology'

Nielsen et al. (2021) make the case for 'impact-focused' environmental psychology, arguing that environmental psychology can be more impactful 'if [researchers] focus primarily on environmental impact and secondarily on psychological theory' (p. 1). We agree it is important to consider environmental impact to increase the practical relevance of environmental psychology, and that more research could focus on high-impact behaviours. However, this must not imply that researchers need to prioritize either theory or impact, as both go hand in hand.

Lewin (1945) famously stated that 'there is nothing as practical as a good theory'. Theories provide insight into the antecedents of behaviour, which is critical for developing interventions that target key drivers of behaviour (Bartholomew & Mullen, 2011). Theories inform us why interventions did or did not work and how they can be improved (Michie & Prestwich, 2010). Moreover, theories offer a framework for structuring and integrating evidence across studies, contexts, and populations, which is needed to build cumulative knowledge on which interventions are effective, when, and for whom (Michie & Prestwich, 2010). Evidence from health psychology suggests that interventions with a strong theoretical basis are more effective in realising behaviour change than interventions that have no or a limited theoretical basis (Bluethmann et al., 2017; Peters et al., 2009; Webb et al., 2010).

Several assumptions lead Nielsen et al. (2021) to suggest that research in environmental psychology should reduce focus on theory and prioritize impact. We contest these assumptions and argue that the implied tension between theory and impact is unwarranted. The first assumption is that theory-driven research in environmental psychology has led to 'systematic neglect of some particularly impactful behaviours and their determinants', such as 'home and vehicle purchases, investment in solar panels, and decisions about family size' (Nielsen et al., 2021, p. 1). Yet, many theory-based studies in environmental psychology have focused on these and other behaviours that are identified as highly impactful (Ivanova et al., 2020), such as (but not limited to) energy use, consumption of animal products, purchase of material goods, and car use (e.g., Abrahamse et al., 2005; Büchs, 2017; Fielding et al., 2008; Gatersleben et al., 2002; Graham & Abrahamse, 2017; Hahnel et al., 2020; Lai et al., 2020; Namazkhan et al., 2020; Nordlund, 2003; Pahl et al., 2016; Ruby et al., 2020; Schultz et al., 2015; Tan & Goh, 2018; Whitmarsh et al., 2020; Wolske et al., 2017, and many more).

The second assumption is that 'we cannot expect insights from the study of low-impact behaviors to generalize to high-impact behaviors', since 'contextual factors beyond the individual are usually of greater importance' (Nielsen et al., 2021, p. 1). Yet, the previously mentioned studies already show that theories provide key insights into factors influencing high-impact behaviour. More importantly, Nielsen et al. (2021) seem to equate high-impact behaviours with high-cost behaviours (in terms of time, money, or comfort) that indeed often depend more on contextual factors (Diekmann & Preisendörfer, 2003). However, high-impact behaviours are not necessarily costly. For example, voting for green political parties and expressing support for environmental policies are high-impact behaviours (Stern, 2000) that typically do not involve high costs, and are predicted by psychological variables included in prominent theories (Drews & van den Bergh, 2016; Ejelöv & Nilsson, 2020, p. 14; Wan et al., 2017). On the flip side, contextual factors do not affect only high-impact behaviours, but have also been found to shape lower-impact behaviours, such as recycling (Geiger et al., 2019; Schultz et al., 1995).

Third, Nielsen and colleagues suggest that theories in environmental psychology only consider psychological factors, which may be less important for explaining high-cost behaviours. Yet, many theories in environmental psychology do not only include psychological constructs, but also acknowledge the role of contextual factors in pro-environmental behaviour (Clayton et al., 2016; Gifford & Nilsson, 2014; Guagnano et al., 1995; Schultz et al., 2013; Steg & Vlek, 2009). For example, it has been theorised when and how contextual factors drive behaviour and define the boundary conditions that determine when psychological variables are more or less strongly related to pro-environmental behaviour (e.g., low cost hypothesis (Diekmann & Preisendörfer, 2003), ABC model (Guagnano et al., 1995), IFEP model (Steg et al., 2014)). Additionally, perceptions related to contextual factors (e.g., self-efficacy) are key components of influential theories applied in environmental psychology, such as the Theory of Planned Behaviour and Protection Motivation Theory (Steg & De Groot, 2019). We agree that the role of contextual factors could be studied more systematically within environmental psychology, but this would require more (rather than less) theorizing on the relationship between contextual factors, psychological factors, and behaviour (Clayton et al., 2016). Such theorizing would benefit from interdisciplinary collaborations (Burger et al., 2015; Steg & Vlek, 2009), in which environmental psychologists increasingly take part, contributing both theory and empirical evidence (e.g., IPCC, 2018; SAPEA, 2019).

Revisiting these three assumptions also has implications for the research agenda proposed by Nielsen et al. (2021). Theories in environmental psychology explain the role of both psychological and contextual factors in different types of behaviours, and as such are highly useful for understanding and changing high-impact behaviours too. For example, theory is needed to select psychological and contextual factors that are likely to influence the behaviour (Step 3 of the proposed research agenda), and theory helps to characterise in which context behaviour occurs (Step 2).

In conclusion, we agree that studying high-impact behaviours is important to ensure the practical relevance of environmental psychology, but we argue that neither theory nor impact should be prioritized over the other. Rather, theory and impact are synergistic. Theory-based research has been crucial to understanding the psychological and contextual determinants of both high- and lower impact (and low- and high-cost) behaviours. In fact,

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more (rather than less) theorizing on psychological and contextual factors and their interrelation is necessary to understand and change high-impact behaviours. We encourage researchers in environmental psychology to keep testing and expanding psychological theories to enhance our scientific understanding of environmental behaviours, including high-impact behaviours, and to simultaneously amplify the practical impact of environmental psychology.

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