

# Enhancing the impact of environmental psychology for a sustainable development by building bridges to sustainability transition studies

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## 1 Benefits of bridging the two disciplines

Environmental psychology and sustainability transition studies are two disciplines with the common goal to support a sustainable development (Steg et al. 2019; Köhler et al. 2019). Yet, the exchange between them remains limited (Bögel & Upham 2018; Kaufman et al. 2021). We argue that the field of environmental psychology could draw inspiration from transition studies' systems perspective to sustainability challenges to enhance its impact for a sustainable development. Through a systemic perspective, we can gain a better understanding of the enablers and constraints of social change and transitions in general, the relevant social interactions between actors that determine key outcomes of sustainability transitions and the structural embeddedness of these interactions. Taking such an approach matches the complex reality of sustainable transitions and would address the current critique on psychological approaches by sustainability researchers, especially regarding their focus on individual behaviour change (see e.g., Shove's (2010) highly-cited critique of the ABC-paradigm). By taking such a systematic approach, environmental psychologists could also align better with the system perspective taken at the science-policy intersection. This puts environmental psychology in a better position to contribute to this science-policy intersection at platforms such as IPCC and IPBES (see Nielsen et al. 2021).

However, attempts to build bridges need to consider longstanding debates, especially on structure-agency relations and especially the critique raised that psychology research focuses only on micro-level processes and individual behaviour – and the ontological turf wars this debate is embedded in (as addressed above, e.g., Bögel &

Upham 2018 for a discussion). We develop three propositions on how to move forward:

## 2 Proposition No 1: Psychologists need to consider structure-agency dynamics

Any theoretical model which aims at capturing psychological processes embedded in their systemic context, we argue, could benefit from considering structure-agency assumptions rooted in sociology and underlying transition studies (Bögel & Upham 2018). The focus of transition studies is on deep-structural change in socio-technical systems (e.g., energy or mobility systems), i.e. fundamental change in norms and values, markets and industry, politics and regulation, knowledge systems and culture shaping a socio-technical system. Structure encompasses the institutions, interpretative schemes and norms implicated in the reproduction of social systems. Structure itself is "virtual", it exists by way of actors drawing on these shared rules and norms. The duality of structure describes how agency, defined as "the capacity to act" (Geels 2020, p. 3) is enabled and/or constrained by structure, while at the same time structure is the result of agency. Assuming knowledgeable and intentional actors, structuration theory can help explain not only the stability of social systems but also how the "rules of the game" can be changed through agency (by enhancing the capacity to act). This interplay between structure and agency is thus a crucial foundation of transition studies, underlying some of its most prominent analytical frameworks (Köhler et al. 2019).

Attempts for an integrated perspective, however, often show limited understanding of transition theories in general and their understanding of structure-agency relations in particular (see Hanss 2021). The "structural constraints" are often defined here as an enveloping context, yet one which can be disentangled from the psycho-

logical process of motivation (see for example Steg et al. 2015). In contrast, structure and agency are viewed in transition studies as mutually constitutive of each other and separable only in terms of analytical categories; thus, the “separation approach” often found in environmental psychology is not compatible with transition models (see also de Roeck & van Poeck 2023). By acknowledging this interdependence, we believe that environmental psychology can gain a better understanding of the role of psychology in sustainability transitions and through this can increase their value to transition scholars.

One attempt to achieve this are embedded agency models building on structuration approaches – and from there focusing more explicitly on individual and collective actors (e.g., the Embedded Agency Perspective, see Bögel et al. 2022; Augenstein et al. 2022). The focus here is on empirically tracing actions of individual and collective actors in relation to their embeddedness in the structural contexts. The Embedded Agency Perspective has been applied to empirical cases of studying urban and energy transition experiments (ibid.) making observable how spatial structures, symbolic or regulatory contexts influence perceptions of individuals and collective action. At the same time, drawing on their lived experiences and discussing them with others, individuals and groups developed capacities to change symbolic meanings of urban sites or local photovoltaic installations, formed new group identities (e.g., as energy citizens) and developed strategies towards political mobilization and regulatory change related to municipal development plans or heritage conservations hindering sustainability-oriented change. Observing these situated structure-agency dynamics reveals potential for identifying relevant processes and strategies for challenging, altering or replacing established structures and patterns of ‘how things are normally done’. Further development is needed in the discipline of environmental psychology to develop this model further, especially

bridging ontological differences (see Bögel & Upham 2018; Bögel et al. 2019).

### 3 Proposition No. 2: Social environmental psychology as a way to bridge the divide

In transition research, the structural elements are usually more prominent, and agency often remains a more implicit analytical category (de Roeck & van Poeck 2023). Psychological approaches may help to open the black box of agency in transition studies by shedding light on (individual and collective) actors and their motivations.

Historically, environmental psychology often focused on individual-level drivers of behaviour and individual sustainable behaviour (Wullenkord & Hamann 2021; Masson & Fritsche 2021). Yet, this focus on individual action is at odds with structuration theories and their focus on social and societal development (Bögel & Upham 2018). We support calls that aim to move the growing body of literature on towards a more collective understanding of environmental behaviour (Bingley et al. 2023) and broadening the field of environmental psychology, recognizing the pivotal role social identity (including collective motivations, emotions, and efficacy) play in individual and collective environmental behaviour. Yet, we think current social identity models in environmental psychology such as the SIMPEA (Fritsche et al. 2018) still do not go far enough. To bridge environmental psychology and transition studies, we need to not only consider how social identity affects individual and collective environmental behaviour, but we also need to consider how norms and (social) identities are formed and changed, and thereby drive system change.

Initial evidence for the potential of such an approach comes from recent work on community

energy initiatives, i.e., initiatives set up by community members that aim to further sustainable energy in their local community. These studies show that seeing others in your community setting up a sustainable initiative, signals that we as a community care about sustainability (changing perceived community norms), and that as a community member we can meaningfully contribute to the community (strengthening community identification; Jans, 2021). Thus, through the bottom-up formation of community energy initiatives, sustainable social identities can be built, which foster further sustainable change (Jans 2021). The effect for a just sustainable development is particularly high when diverse groups and pre-existing identities in the community are included (Bögel et al. 2023). These studies and other recent literature on energy communities and other niche innovations building on key concepts of social environmental psychology such as identities and values, could be a good starting point for a joint research agenda in social environmental psychology (see, e.g., Bolderdijk & Jans 2021; Jans 2021; Bögel et al. 2023).

#### 4 Proposition No. 3: Broadening and connecting methods

Third, we argue for the need to integrate methods from environmental psychology and transition studies (see also Wullenkord & Hamann 2021) to complement each other. Transition studies methods tend to be freer and more flexible and adapted to the transition and stakeholders at hand compared to environmental psychology. Often, several methods are used, e.g., in case study designs, and findings are integrated (e.g., Köhler et al. 2019). Transition studies often explicitly aim at developing solutions for sustainability challenges and in some cases also empowering change agents. Sometimes this broad

perspective and openness comes at the cost of losing methodological rigour (Sovacool et al. 2018). Environmental psychology methods tend to favour standardised approaches, such as validated scales implemented in survey studies, lab and field experiments and to a limited extent interviews.

The methodological expertise of psychology could help develop transition studies further, especially with regard to their need for more methodological rigour (Sovacool et al. 2018). Vice versa, psychology could profit from transition methods. So far, it often lacks the context in which real system change happens; especially embedded agency models to better capture the impact of (psychological) interventions on system change could contribute to this research gap. To really assess transition, more longitudinal studies would be needed in both research communities.

A promising basis for connecting methods can be transdisciplinary and transformative research settings, including transition experiments, which are a key element of transition studies (Bruhn 2021). Transition experiments are defined as “inclusive, practice-based and challenge-led initiative(s) designed to promote system innovation through social learning under conditions of uncertainty and ambiguity” (Sengers et al. 2019, p. 9). This is important to consider with respect to a reflection of the roles of scientists in these experiments, the specific methodologies and impact criteria, which differ from experiments in the field of psychology (Caniglia et al. 2017, Schneidewind et al. 2018, Wittmayer & Schöpke 2014).

Considering the different rationales for experimenting – a focus on knowledge integration, exploring solutions and theory development in transition studies vs. a focus on theory-testing and identifying causal mechanisms in psychology – can be the starting point for making differ-

ent ontological and epistemological assumptions explicit and exploring opportunities for mutual learning. Introducing quasi-experimental designs testing interventions in real-world labs based on psychological theories (see also van Valkengoed et al. 2021 regarding the role of theory) could be a way forward. For psychologists, it might also be a way to combine the calls for both further strengthening theory-based studies and more inductive and open-ended studies (see Nielsen et al. 2021 and the reply by van Valkengoed et al. 2021) by finding new balances between theory-based designs and the openness of transdisciplinary formats (see Bögel et al. 2023 for an illustrative example).

## 5 Conclusion

In summary, we propose that environmental psychology could foster its impact for a sustainable development (1) by acknowledging the interconnectedness between structure and agency and developing theoretical models to capture it; (2) by developing the field of social environmental psychology as a way to study structure-agency relations and bridging the divide; and (3) by connecting and broadening methods to have scientific rigour embedded in real-world contexts. In this sense, we conclude with Wullenkord & Hamann's words (2021, p. 4) on their commentary on the development of environmental psychology: „Of course, our own view is limited and subject to discussion. We hope to stimulate such discussion and encourage readers to reflect on their own research practices (...)“.

## Kontakt

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