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Improving Research on the Psychology of Sustainable Consumption: Some Considerations from an Early Career Perspective

Lucy M. Richardson*

Monash University

Joel Ginn

University of Massachusetts Amherst

Annayah M. B. Prosser

University of Bath

Julian W. Fernando and Madeline Judge

University of Melbourne

Psychological research on sustainable consumption is developing a rich and diverse corpus of knowledge and tools, involving a broad range of disciplines. This very growth and diversity, however, poses challenges to our collective ability to build upon past research and progress in the field. We aim to place a selection of these challenges in the spotlight for discussion. In particular, we highlight some of the salient difficulties for early career researchers in psychology who are entering this field. Based on issues raised at a workshop conducted as part of the Psychology of Sustainable Consumption Small Group Meeting of the Society for the Psychological Study of Social Issues and the Society of Australasian Social Psychologists in 2018, we first examine challenges associated with working in transdisciplinary teams, measurement quality, data accessibility, and research

*Correspondence concerning this article should be addressed to Lucy Richardson, Monash University [e-mail: lucy.richardson@monash.edu].

Madeline Judge is now at Department of Psychology, University of Groningen.

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dissemination. We then propose several options to address these, ranging from actions individual researchers can take, to more systemic changes.

In recent decades, an extensive corpus of research has accrued on the psychology of sustainable consumption. Despite the growth in this field, several methodological challenges face researchers in social psychology hoping to build upon this vast knowledge. Although methodological issues are faced by researchers in many psychological disciplines (see Simons, 2018a), the inherently interdisciplinary nature of sustainable consumption research may amplify these challenges, and present new challenges specific to this context (Lim et al., 2017). Additionally, there are a number of unique challenges for early career researchers (ECRs) in psychology who are entering this field. Addressing these will enhance our collective capacity to learn from, and build upon, previous research.

Social psychology is a field with a strong history of methodological problem solving (Sassenberg, Muller, & Klauer, 2014), and researchers in the field of sustainable consumption regularly take stock of the research corpus and societal needs to suggest strategic directions for questioning (e.g., Lorek & Vergragt, 2012; Opatow & Giesecking, 2011; Steg & Vlek, 2009). Strategic considerations of methodology from a psychological perspective, however, are not a common focus in these reviews, which can result in researchers lacking resources to deal with methodological issues or being unaware of relevant methodological developments in the field. In this article, we aim to place these issues in the spotlight so that solutions and action can be discussed. We do not discuss the specifics of research focus (see for example, Gifford, 2008; Lorek & Vergragt, 2012; Opatow & Giesecking, 2011; Steg & Vlek, 2009), but instead review some of the critical methodological issues facing today's early career psychological researchers focusing on sustainable consumption, examine the barrier each issue poses to the collective ability of the field to build upon past research to maximize impact, and suggest a selection of possible solutions.

The Psychology of Sustainable Consumption

Sustainable consumption may be defined differently depending upon one's field of research, geopolitical setting, or behavioral domain. Broadly, however, sustainable consumption is behavior that minimizes impact on the natural world. This broad concept encompasses many facets of human behavior, including typical consumption behaviors, but also potentially encompasses things like changing production practices or the utilization of technical innovations to minimize the impact of pre-existing behaviors. Defining specific behaviors as more or less "sustainable" can be complex, with the potential for existing ideas to become outdated when new evidence arises or becomes shaped by other agendas (Verplanken & Roy, 2015). Sustainability is a complex issue, which demands contributions from dif-

ferent perspectives (Whitmarsh, O'Neill, & Lorenzoni, 2011), and thus, research and interventions for change have involved a diverse field of researchers and practitioners spanning many disciplines, worldviews, nomenclatures, and methodologies (Doran, Golden, & Turner, 2017). In psychology, sustainable consumption is often seen as a shift in individual behavior to reduce or avoid unsustainable consumption. Although social psychologists researching sustainable consumption face a range of challenges, many of these are common across fields of research and represent general barriers to best practice (e.g., the use of convenience rather than randomized samples, sample representativeness and diversity, and reliance on self-report; Anderson et al., 2019; Baumeister, Vohs, & Funder, 2007). A subset of challenges is, however, relatively specific to sustainable consumption, largely owing to the pervasiveness of consumption behaviors in modern society, and the aforementioned diversity of disciplines that may concern themselves with this topic.

Imagining the progress of a hypothetical research project on the psychology of sustainable consumption can help us to articulate the challenges faced specifically by ECRs in this area. Figure 1 displays an idealized model of the scientific method (adapted from Munafò et al., 2017), at various stages of which, we have highlighted a potential challenge. We begin with the generation of hypotheses, which will likely be conducted within a research team including some level of disciplinary diversity and/or researcher/practitioner diversity. Second is the study design stage, for which the research team will need to understand the state of research in the area, and have access to relevant research materials (e.g., manuscripts, data). Third, for the conduct of the study and subsequent analysis the research team will need to access or develop measures of their constructs of interest. And finally, at the interpretation and dissemination stages, the research team will make decisions about the relevance of the results and how/whether to disseminate them. Here, we elucidate the challenges that ECRs investigating the psychology of sustainable consumption face at each of these stages of the research process.

Working with Diverse Disciplines and Industry Partners

Diverse perspectives can enrich research processes and outcomes; however, balancing disparate expectations and integrating knowledge can be challenging. Researching within teams that are transdisciplinary (i.e., those aiming to integrate knowledge from multiple disciplines; see Lorek & Vergragt, 2012), or involving industry partners, offers many benefits (see Saber & Silka, 2020). Yet, integrating team members' diverse perspectives poses challenges that affect both the design and outcomes of research projects (Schoot Uiterkamp & Vlek, 2007). These challenges may include the need to balance academic interests and industry needs, as well as complexities associated with the interpretation and communication of research designs, conduct, and output.

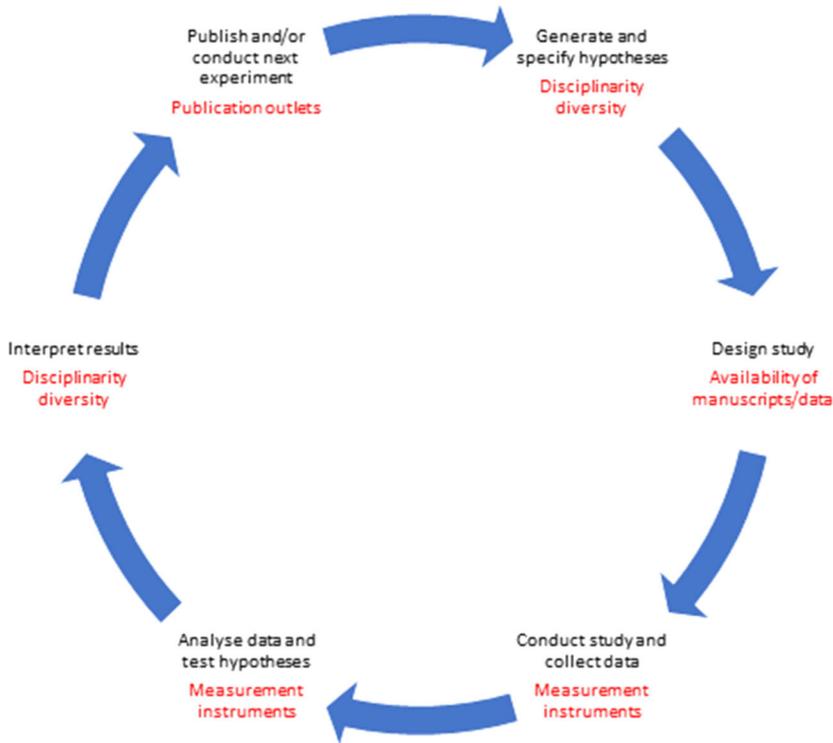


Fig. 1. An idealized representation of the scientific method (adapted from Munafò et al., 2017); at each stage highlighting a challenge faced by researchers in the psychology of sustainable consumption. [Color figure can be viewed at wileyonlinelibrary.com]

There are disadvantages to researchers—especially early-career researchers—engaging in this kind of interdisciplinary research. ECRs in psychology have clear incentives to produce basic experimental research, with an emphasis on laboratory experiments (Krieger, 2013). There is thus incongruence between the pursuit of traditional indicators of academic success, and participation in the complex, interdisciplinary landscape of sustainability research despite the critical need for such joint work (Dreyer et al., 2020).

It is common wisdom that interdisciplinary research is something that should be postponed until later in one's career, after first being trained in one's primary discipline (Gibson, Stutchbury, Ikutegbe, & Michielin, 2018). However, increasingly, governments, philanthropic agencies, and universities are viewing interdisciplinary research as a solution for the world's problems, and actively encouraging these collaborations (Proctor & Vu, 2019). Additionally, neoliberal initiatives, such

as funding cuts and the concept of the “entrepreneurial university,” have produced a need to find alternative income sources such as university–industry partnerships (e.g., Richter & Hostettler 2015; Sintov & Schuitem, 2018; Wright & Shore, 2017). These trends have meant that a growing number of ECR employment opportunities (e.g., post-doctoral research fellowships or grants) have an interdisciplinary focus. Thus, many ECRs in psychology may not have the luxury of being completely trained in their primary discipline before entering these research contexts.

Despite increasing institutional endorsement, ECRs in psychology may be hesitant to engage in interdisciplinary research on sustainable consumption. This hesitation may be due to the belief that it will negatively impact future career opportunities (Lyll & Meagher, 2012) or that they will become viewed as a “jack of all trades and master of none” (Cuevas-Garcia, 2015). For example, an ECR in psychology conducting interdisciplinary research on sustainable consumption is likely to encounter literature from a wide range of disciplines, including consumer research, marketing, anthropology, and economics, and thus, contend with a diversity of epistemological perspectives and methodologies. Additionally, due to the interdisciplinary nature of the field, tasks, such as the literature review process, are complicated by the many publications authored by researchers who are not trained in psychology but who are using psychological concepts and frameworks (e.g., the theory of planned behavior). Consequently, there can be delays in learning how to interpret relevant research findings and developing a pipeline of research.

Another concern for ECRs in social psychology is that the social sciences are sometimes viewed as the “service” component of interdisciplinary collaborations and can even be viewed as research that could just as easily be performed by researchers in other disciplines (Mallaband et al., 2017). Similarly, there may be a lack of understanding from industry partners regarding what social psychology can contribute. For example, an industry partner often will have a research and product development team, which may see social psychological research as analogous to (and contributing little more than) the market research they are already conducting. Under these circumstances it may be difficult for ECRs in psychology to achieve their research and career goals.

Despite these and other concerns, Millar (2013) notes that there is relatively little research on how interdisciplinary research impacts academic career outcomes, and that there may be a cohort difference in which interdisciplinarity is becoming more advantageous. ECRs themselves can also have diverse views, with many starting to incorporate interdisciplinarity into their academic identities and advocating interdisciplinary research as “the new normal” or as a more realistic approach to real-world problems (Cuevas-Garcia, 2015; Enright & Facer, 2017; Martimianakis & Muzzin, 2015). In the future, it will be increasingly important to provide better training and support for ECRs in psychology to enable them to successfully engage in interdisciplinary research (see the “Moving forward” section for some suggestions).

Accessibility of Data and Materials

For scientific understanding to progress, there must be transparent and easy access to data and research materials. Meta-analysis is one method used for theoretical and empirical integration; however, these studies can provide skewed results when there is limited access to data, measures, and null findings (Sutton, 2009). Accessibility issues relating to materials from research on the psychology of sustainable consumption can be particularly problematic for industry organizations, academics from other disciplines, and researchers at institutions with limited access to journals.

With regard to the accessibility of data, norms around data storage have tended to prioritize participant privacy, and the main approach to sharing data has been to ask authors for these directly. However, a study investigating the accessibility of data found that 73% of researchers did not provide their data when it was requested (Wicherts, Borsboom, Kats, & Molenaar, 2006). Collaborations between industry and academia can also create additional complexities for the sharing of data such as issues of competitive, proprietary knowledge (see Jasny et al., 2017). The inaccessibility of data and materials prevents replication and the checking of results by new researchers, as well as value adding—such as through reanalyzing data or combining it into large datasets—all of which are increasingly important to scientific integrity and the progression of sustainable consumption research.

Measurement

The quality and utility of empirical studies rests strongly on the ways in which concepts are measured. The inability to compare and generalize findings can severely limit research progression and impair the replicability upon which scientific credibility rests. Although an individual study may face specific challenges in measuring a particular construct or behavior, the adopted solutions have broader implications for the research field, potentially leading to incomparable or ineffective measurement instruments, as well as ungeneralizable or untranslatable findings. Similarly, barriers to accessing data and measurement instruments from studies—both published and unpublished—may limit the benefits of research to the wider field. Two important processes support the progressive improvement of scientific knowledge: the ability to compare findings across studies and confidence in the validity of those findings. Comparability can be negatively impacted by the existence of diverse measurement scales for potentially equivalent constructs, or the incomplete application of scales whereby a subset of items is used but no comparative validity and reliability assessments are undertaken (see Fischer, Stanszus, Geiger, Grossman, & Schrader, 2017). Although these issues are of concern in many areas of research, sustainable consumption researchers are

especially susceptible to these difficulties. The number of academic disciplines that have an interest in sustainable consumption means that many different psychological phenomena may be studied from diverse perspectives; either via psychologists borrowing related measurements or concepts from other disciplines, which can lead to overlaps with existing psychology measures, or the opposite in which psychological constructs are drawn into work in other disciplines. These combined factors mean that this research is conducive to a proliferation of diverse psychological measurement instruments for similar concepts.

Given the large variety of behaviors that can be considered “sustainable,” even within a particular domain, the target of measurement may vary. For example, when measuring environmental identification, researchers may consider identification with nature, as an environmentalist, as an environmental activist, or with a specific behavior (e.g., as a vegan or cyclist; see Kurz & Prosser, 2020). Because of the specificity of these constructs, researchers have created a multitude of measures for many related, potentially overlapping, constructs. Although such scales may help in understanding a specific construct in a particular context, it can make comparisons between findings difficult without conducting studies specifically designed for such divergent validity evaluations. This can also make the establishment of a “gold standard” for measuring certain constructs problematic.

Publishing

A final challenge for social psychology researchers in the field of sustainable consumption is the interpretation and dissemination of research. One potential concern when engaging in interdisciplinary collaborations is that the collaboration will be “parasitical,” where one discipline benefits more than the other (Pilnick, 2013). For example, ECRs in social psychology may join a research project aiming to increase the adoption of energy innovations, which will benefit engineers, but it is less clear how this will contribute to social psychology. In these circumstances, it may be difficult for ECRs to advocate for research that will be publishable in journals in their own area. Partnerships with industry can create additional challenges. These collaborations can involve the commercialization of knowledge, which may be unfamiliar to ECRs in social psychology who may view the commercialization of academic research as less relevant for creating social impact, or even antithetical to their disciplinary identity (e.g., similar to sociologists; Komp, 2018). Sintov and Schuitema (2018) highlight that breakdowns in university–industry partnerships most commonly involve social processes and differing underlying assumptions about research. In psychology, there have also been recent trends toward Open Science and a commons-based approach to sharing research findings. This can mean that ECRs working in industry–academic collaborations may perceive a tension between disciplinary norms promoting Open Science, and the commercialization of knowledge (Caulfield, Harmon, & Joly,

2012). Industry partnerships also usually require completing other milestones, such as industry reports, which uses time that would usually be dedicated to research and is unlikely to be recognized in academic performance reviews or future academic employment applications.

When research findings are disseminated, identifying suitable academic and nonacademic outlets for publishing (what is often) transdisciplinary research can become an issue. As noted above regarding the disincentives for engaging in interdisciplinary or industry collaborations, most academic institutions require that ECRs publish in traditionally “prestigious,” mainstream, and monodisciplinary journals (Krieger, 2013). This may not always be possible for research generated by industry or interdisciplinary collaborations, which may be more suitable for and better able to generate real-world impact in interdisciplinary journals or journals outside of psychology (e.g., the *Journal of Cleaner Production*, *Journal of Industrial Ecology*, and *Natural Resources Forum* have all run special issue in sustainable consumption and production). Thus, interdisciplinary publications are less likely to be in top-ranked psychology journals and may even be seen as lower quality (Bridle, Vrieling, Cardillo, Araya, & Hinojosa, 2013).

Moving Forward

Although there are potentially many ways to meet the challenges outlined above, we believe that an ethos of consolidation should guide the responses of the field. Research is an inherently expansive enterprise, and novelty in the phenomena of interest, theoretical perspectives, and methodologies, are often prized (potentially to the detriment of the field, see Higginson & Munafò, 2016). Unrestrained exploration (especially from various disciplinary perspectives) can, however, result in a research literature that is disconnected and unwieldy. Balancing exploration and consolidation offers a strong foundation for advancing the field of psychology generally (Baumeister, 2016), but is particularly relevant for a field such as sustainable consumption research. The consolidation of existing knowledge and resources is critical to establishing a strong base from which to grow sustainable consumption research. With the urgency required in addressing sustainability issues, such as climate change, and the competition for financial resources across many important social issues, maximizing the usefulness of what we already know and have available is a logical and efficient approach. Here, we outline some practical steps that social psychologists working in the field of sustainable consumption could take to meet the challenges we have articulated, as well as (briefly) some broader goals that might be achieved by more systemic changes.

Given the number of measurable concepts and behaviors that could qualify as relating to “sustainable consumption,” the proliferation of measurement instruments may not be suitable for resolution by establishing, for example, a

gold-standard measure. One approach for managing measurement proliferation would be for researchers to resist the temptation to create a new measure for every new context of sustainable consumption. The incentives to create new measures are strong—especially if supported by strong psychometric evaluation—as they satisfy demands for novelty and rigor in the publication process and may potentially yield a high number of citations if used by other researchers. On the other hand, they may create disjunctions in the literature where potentially convergent lines of research are instead made divergent because of different measurement approaches. This can negatively impact fellow researchers' capacity to review and understand the current state of the field, especially from a formal meta-analytic perspective.

Instead, researchers can be encouraged to, firstly, make use of existing measurement instruments including those that have been developed outside the field of social psychology. Failing that, researchers can be encouraged to develop and use approaches to characterize and categorize measures within a conceptual framework. For example, Geiger, Fischer, and Schrader (2018) proposed that sustainable consumption behaviors can be characterized by their values on four dimensions: sustainability impact, sustainability scope, phase of consumption, and category of consumption. Conceptual frameworks such as these can assist researchers in placing their work in the context of previous research and identifying existing studies of direct pertinence. Although we recommend caution regarding the development of new measurement instruments, at times existing measures do not meet researchers' needs, and frameworks, such as that of Geiger and colleagues (2018), can provide a systematic means of identifying whether appropriate measures exist, and helping place new measures within the corpus of extant research (see also Stern, 2000, for a framework of environmentally significant behavior). Researchers may also wish to position their research within a broader theoretical perspective; for example, Geels, McMeekin, Mylan, and Southerton (2015) have proposed three broad agendas for sustainability research from "reformist," "revolutionary," and "reconfiguration" perspectives.

A second, related, approach is to make use of Open Science initiatives to allow for wider dissemination of research methods and findings than is supported by the traditional journal publication and subscription processes. Open Science initiatives aim to increase the transparency and rigor of psychological research by promoting practices such as preregistering studies, providing access to data, scripts, and research materials, and making publications freely available (Nosek et al., 2015). A range of options exist for making articles and associated data and materials open access, with varying levels of expense and restrictions for researchers. Although an extensive discussion of data and information sharing practices and debates is beyond the scope of this article, Klein et al. (2018) provide a practical introduction, and additional discussions and guides can be found in the invited forum edited by Simons (2018b). Additional suggestions for managing confidentiality and privacy

issues through a hierarchy of data release options is also provided by Gilmore, Kennedy, and Adolph (2018).

We now turn to a selection of broader systemic changes that would enhance progression in the psychology of sustainable consumption (although we recognize that there are greater barriers to the adoption of these solutions). First, we would encourage the establishment of repositories to improve the accessibility and systematic cataloguing of existing measures, specifically in the domain of sustainability science. This would, of course, require considerable coordination across disciplines and institutional support; however, similar resources, such as PsycTESTS, an indexed database of psychological measurement instruments, suggest that these kinds of repositories are achievable. Similarly, in several fields, handbooks have been published containing measures of several prominent concepts. Those repositories are limited, however, in that they typically contain resources from within a specific discipline, which would not satisfy the need for collating knowledge across disciplines as is the case for sustainable consumption. Many of these resources are also inaccessible to some researchers as they are behind paywalls.

Consolidation should not refer to only practices, but also the human component of these systems—the skills and accountability of researchers. ECRs in psychology must, firstly, be appropriately trained and encouraged to effectively utilize shared data, scales, and materials. Although procedures for the appropriate design and evaluation of measurement scales exist, researchers do not always appear to be equally skilled, encouraged, or held to account regarding appropriate implementation (Baumeister, 2016). Thus, critical components for the effective implementation of these suggested consolidation solutions also include improvements in the education, mentoring, and accountability of researchers in the field. ECRs in psychology can also be supported to engage in interdisciplinary research by the provision of better mentoring and career guidance from supervisors, opportunities to build networks outside of their primary discipline, training in communication (e.g., supporting the development of clear research goals and the coordination of labor), more opportunities for seed funding and pilot testing of exploratory ideas, and more guidance when adopting leadership positions (Bridle et al., 2013; Gibson et al., 2018; Lyall & Meagher, 2012; Proctor & Vu, 2019). Hein et al. (2018) also recommend that universities consider how to better incorporate interdisciplinary outcomes into performance review and promotion frameworks.

Conclusion

A number of recent trends are creating new challenges for ECRs working on the psychology of sustainable consumption; specifically, the neoliberalization of the university and rise of interdisciplinary research collaborations, as well as

the replicability crisis in psychology and shift toward Open Science practices. Some of these issues have exacerbated the already expansive nature of scientific inquiry, making the literature and practice of sustainability research unwieldy. We examined some of the critical issues facing researchers studying the psychology of sustainable consumption, and suggested a range of potential solutions. We aimed to open discussion and stimulate action toward addressing these challenges. Critical areas for improvement were highlighted, including the consolidation of measurement, data storage, skills, and accountability. All stakeholders, from individual researchers to funding and publishing institutions, will need to take responsibility for these changes in order to effectively advance the research field and achieve real world impact.

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LUCY RICHARDSON completed her PhD research at Monash University and is now Research Assistant at Monash University, Adjunct Research Fellow at the University of Southern Queensland and supporting the integration of psychological research into environmental practice in her new role with Southern Queensland

Landscapes. Lucy's PhD research investigated the potential for climate change mitigation psychology research to support behavior change campaign practice.

JOEL GINN is a psychology PhD student at the University of Massachusetts, Amherst. His research is focused on the ways values, motives, and identity shape how people respond to social and environmental issues.

ANNAYAH PROSSER is currently pursuing a PhD in Environmental Identity at the University of Bath, UK. Her background is in moral psychology, and she has conducted work at Yale University and the University of Oxford exploring the neuroeconomic profiles of "exceptional altruists," perceptions of morality in everyday life, and transformative prosocial experiences.

JULIAN FERNANDO is a postdoctoral research fellow at the University of Melbourne. His research interests include utopian thinking, proenvironmental attitudes and behavior, emotional predictors of social action orientations, and authentic social identity.

MADLINE JUDGE is a postdoctoral research fellow at the University of Melbourne, Australia. Her research interests include the ideological foundations of meat consumption and vegetarianism, folk theories and sustainable consumption, and the role of moralization and interpersonal processes in social change.