

Social sciences and campus sustainable development

This short overview provides a rationale for the special issue on social sciences and campus sustainability development. Each manuscript's unique contribution is identified and select benefits of drawing on the social sciences to overcome campus sustainable development challenges are described, to catalyze additional efforts to increase social science uptake by campus sustainable development leaders.

Why a special issue on social sciences and campus sustainable development?

Transitions toward sustainable development, whether on higher education (HE) campuses or beyond, cannot be achieved without social innovations. People are at the core of sustainable development challenges and, thus, must be at the core of their solutions (Becker and Jahn, 1999; ISS/UNESCO, 2013; Petersen-Boring and Forbes, 2014; Mascia, 2016). Because of the social sciences' focus on human behavior and interactions, they are uniquely positioned to provide insights into the social innovations that are so urgently needed. And yet, the use of the social science theories, perspectives and empirical findings to support sustainable development has been limited, including on HE campuses. The majority of HE sustainable development programs are based on intuition or experience and few are evaluated to determine if they are meeting their objectives. The lack of use of the social sciences to help meet campus sustainable development goals is particularly paradoxical because universities and colleges conduct the majority of social science research, prepare the next generation of sustainability leaders and entrepreneurs and nurture the formation of new life habits that students will carry forward with them. Thus, HE institutions not only have the expertise and resources, but also have a responsibility to model how the social sciences can be drawn on to transition campuses to sustainability.

About the special issue

We know that there is a gap between the natural science information available and the use of this natural science information to inform decisions (Stokes, 1997; Cash *et al.*, 2006), including within sustainable development contexts (Lemos *et al.*, 2012). This gap may be even larger for social science information. Among the reasons for this gap are a lack of understanding of, as well as misperceptions about, the social sciences by sustainability leaders (Bennett and Roth, 2015). The primary goal of this special issue was therefore to help reduce these particular barriers by illustrating how research from a range and combination of social sciences can advance campus sustainable development in a variety of ways.

In response to the special issue call in early fall 2014, an impressive number of over 110 abstracts were received for consideration, reflecting great interest in the social sciences and campus sustainable development. The authors of 17 abstracts were invited to submit a manuscript for the special issue and about 47 were asked to contribute to an accompanying book (Leal Filho and Zint, 2016). Abstracts were selected for the special issue based on their quality and to showcase a range of disciplinary social science approaches, applied to a variety of campus sustainable development challenges. The

review process resulted in several manuscripts being declined, and unfortunately, some authors, including ones from countries outside the USA, chose not to further pursue publication in the special issue. The final seven manuscripts in the special issue draw on theories and findings from psychology (Karp *et al.*, 2016; Sintov *et al.*, 2016), sociology (Beer, 2016; Flagg and Bates, 2016), communication (Carpenter *et al.*, 2016), education and evaluation (Natkin and Kolbe, 2016) as well as education and political science (Clark, 2016). They illustrate how the social sciences can be used to inform and enhance campus sustainable development as related to operations (Flagg and Bates, 2016; Karp *et al.*, 2016; Sintov *et al.*, 2016), governance (Beer, 2016; Carpenter *et al.*, 2016), formal curricula (Natkin and Kolbe, 2016) and free-choice learning (Clark, 2016).

Each of the seven special issue manuscripts makes unique contributions to the topic of social sciences and campus sustainable development. For example, unlike prior studies of energy conservation interventions in dormitories, Sintov *et al.* (2016) measured changes in energy use during peak energy demand periods as well as students' psychosocial characteristics, to link these to behavioral changes and energy savings. Similar to Sintov *et al.* (2016); Karp *et al.* (2016) also studied a dormitory energy conservation intervention that included the use of real-time feedback. In this study, however, feedback included different colored backgrounds as well as smiley, neutral or frowning faces to convey changes in energy use over time. The two sets of authors credit feedback along with other "nudges" with the statistically significant declines in energy use they observed. In contrast to these two psychology grounded studies, Flagg and Bates (2016) explore to what extent campus recycling may be a manifestation of "cultural greening", as predicted by sociologists' ecological modernization theory. According to this theory, recycling may have become a normative campus behavior, one that occurs widely and not just among individuals with internal environmental orientation. Indeed, Flagg and Bates (2016) found no evidence to suggest that environmentally oriented individuals were more likely to engage in recycling behaviors that reduced their campus' waste stream, consistent with ecological modernization theory. Beer's (2016) study, also inspired by sociological findings, identifies the main factors to which administrators attribute their HE institutions' decisions to divest from fossil fuels. Rather than being determined by student social movements, divestment decisions appear strongly influenced by HE institutions' missions and associated ecological, educational and financial considerations. Beer (2016) thus makes a critical contribution to the currently popular, but understudied, topic of HE fossil fuel divestment. Another topic that has received limited attention by researchers, despite being frequently identified as key to successful campus sustainable development, is communication. Carpenter *et al.* (2016) contribute toward addressing this particular research gap by exploring how campus sustainability leaders across the USA have recruited participants, built bridges and empowered individuals by drawing on different dialogical or relational (vs one-way) communication strategies. They find that communication strategies focused on "empathy" by building stakeholders' trust and creating supportive atmospheres are most frequently used and ones that contain risk because they engage target audiences on their own terms to be least frequently practiced. The final two studies focus on formal and informal sustainable development education on HE campuses. One of these studies describes an evaluation of a faculty learning community to support greater integration of sustainability content and pedagogies. Natkin and Kolbe (2016) illustrate how evaluative research can be used to

systematically assess campus sustainable development programs' successes and limitations and to offer insights into program improvements. Because few sustainability-focused faculty learning communities have been evaluated, this study will be helpful to those seeking to design and evaluate similar professional development programs. Finally, [Clark \(2016\)](#) focuses on the need for HE campuses to focus on strengthening students' "collective action competencies", which she defines as "the capability of a group of people to behave towards a common goal based on a collective literacy, a collective set of skills and experiences, and a collective need". Clark stresses the need for campuses to change from a focus on individual literacy and behavior to social learning and collective action, grounding her rationale in a combination of theories and findings from education as well as political science research.

Some potential benefits of drawing on the social sciences

The manuscripts in this special issue illustrate some of the potential benefits of drawing on the social sciences to help transition campuses to sustainability. These benefits include developing an in-depth understanding of why campuses face particular sustainability challenges, particularly when examined from the perspective of multiple disciplines' theoretical perspectives. Deeper understanding of sustainability challenges combined with use of research findings on the effectiveness of potential interventions allows for more informed decisions to comprehensively address these challenges. One important "take away" within this context is that the social sciences not only offer instrumental strategies for changing targeted campus sustainability behaviors, but also approaches for engaging and empowering campus stakeholders in ways that are more consistent with HE's education mission and are more likely to have long-term sustainability benefits for society. Social science theories and findings can also be used to predict to what extent and how social interventions may be effective in achieving desired sustainable development outcomes. Evaluative research can subsequently be used to judge if programs actually achieved their sustainable development objectives, to which program aspects successes and limitations can be attributed and to guide program improvements and replication. Finally and importantly, the manuscripts in this issue not only illustrate how social science research can be applied to a range of campus sustainability development contexts, but how such research can, in turn, contribute to disciplinary social science theory and knowledge.

Conclusion and moving forward

This special issue and the accompanying book ([Leal Filho and Zint, 2016](#)) demonstrate the potential the social sciences have for advancing sustainable development on HE campuses and beyond. My hope is that the special issue and book will inspire campus sustainable development leaders to increase their social science uptake and catalyze additional efforts to realize this vision.

Considering the many real and perceived barriers to the use of science in decision making ([Stokes, 1997](#); [Cash *et al.*, 2006](#); [Lemos *et al.*, 2012](#)), such efforts should:

- strive to increase campus sustainability leaders' perceptions of social science information's "fit", or relevance, for their decisions;
- ensure "interplay" by illustrating how social science information can be integrated into existing practices; and

- create opportunities for quality participatory “interaction” between social scientists and campus sustainability leaders to improve mutual understanding.

Ideally, these efforts will be accompanied by research to strengthen our understanding of social science uptake by campus sustainable development leaders. Such research will help advance sustainable development on campus and beyond as well as extend the relatively limited knowledge about social versus natural science uptake. Today’s pressing sustainable development concerns must not be left to intuition, they should be informed by the natural and social sciences as well as by the humanities for that matter, a topic for a future special issue in this journal.

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