

Commentary

Minding the Science-Practice Gap to Reach the Goals of Sustainable Recreation Research

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Executive Summary

Scholars featured in a recent special issue of the *Journal of Park and Recreation Administration* and others have noted that public lands management has yet to integrate sustainable recreation policy and practice (Cervený et al., 2022, p. 1). Additionally, there is growing recognition that inter-agency and scientist-citizen collaboration are needed to achieve this goal. In this commentary, we offer an example of minding the science-practice gap through cocreating research. Specifically, we describe how scientists from the US Forest Service and the University of California, Davis, and practitioners from the Los Angeles-based organization Outward Bound Adventures (OBA) operationalized 10 essential characteristics of research (DePoy & Gitlin, 2020) in the development of a research proposal and implementation of a study on urban Black, Indigenous, and People of Color (BIPOC) youth perspectives of the outdoors.

Keywords

Youth, BIPOC, cocreation, diversity, public lands, outdoor education

In the Spring 2022 special issue on “Sustainability and Outdoor Recreation Management on Public Lands: New Directions” of the *Journal of Park and Recreation Administration*, the editors argue that “While sustainability has been variously conceptualized and operationalized, implementation of sustainable recreation policy and practice has not yet been fully realized in public lands management” (Cervený et al., 2022, p. 1), and call for “scientist, agencies, and citizens coming together to advance the cause of sustainable recreation” (p. 6). Moreover, shifting the siloed paradigm of outdoor recreation management from the realm of “leisure” to more comprehensive realms of “lifestyle” and “lifeway” (Blahna et al., 2020) requires a view of outdoor recreation that

includes the diverse experiences and benefits people derive from recreation activities beyond hiking, skiing, boating, hunting, and fishing and that recognize recreation as a “life-affirming activity” more inclusive of additional ways people interact with public lands (e.g., religious, spiritual, cultural) (Cervený et al., 2022). A research agenda to Ignite the Science of Outdoor Recreation (Selin et al., 2020) necessarily requires minding the science–practice gap throughout the outdoor recreation research cycle. In this commentary, we provide an example of how to mind the science–practice gap in a way that nudges the paradigm of outdoor recreation toward sustainable recreation, and from leisure to a life-affirming activity. Specifically, this commentary outlines an approach to understanding better the complexities of how urban Black, Indigenous, and People of Color (BIPOC) youth develop an appreciation for the outdoors.

Despite evidence of the detrimental effects of race- and class-based environmental inequality (Floyd & Stodolska, 2019; Sene-Harper et al., 2022; Taylor, 2023), there is a paucity of studies that specifically examine the benefits that urban BIPOC youth derive from participating in outdoor educational and experiential programs that enable them to enjoy nature and recreate on expansive public lands (Bowers et al., 2019; Djonko-Moore et al., 2018). This lacuna in our understanding of the social, psychological, and economic value of outdoor recreation for urban BIPOC youth undermines the ability of community organizations and government agencies to ensure that all people can equally access public lands. In conducting research on the benefits of outdoor recreation, and to fully realize sustainable recreation on public lands, we suggest scientists mind the science–practice gap by developing a symbiotic relationship with practitioners throughout the research cycle.

Minding the gap between science and practice requires “cocreating forward,” a concept derived from business management and education, and is part of a broader array of approaches designed to encourage co-production and design of research to solve problems embedded in complex systems that are constantly evolving (Sharma et al., 2022). To address the challenges embedded in complex dynamic systems (e.g., in our case social-ecological systems), scientists and practitioners must cocreate solutions wherein “research, learning, and practice need not be sequential but rather simultaneous activities” (Sharma et al., 2022, p. 350). Distinct from present-day models that focus on historical data with practitioner’s past experiences, “cocreating forward” begins with collaborative scientist–practitioner conceptualization of the problem at the outset. Cocreation engages both parties and illuminates differences and complexity (Kondrat, 1992; Rynes et al., 2001). In the following commentary, we discuss cocreating forward during the scientific research cycle as an approach to ultimately advance sustainable recreation and BIPOC representation on public lands.

We adopt the 10 essential characteristics of research as defined by DePoy and Gitlin (2020) to explain how cocreating forward can be applied to sustainable recreation research that serves urban BIPOC youth. The 10 essential characteristics of research are: 1) identify a philosophical foundation, 2) frame a research problem, 3) determine supporting knowledge, 4) identify a theory base, 5) develop a specific question or query, 6) select a design, 7) set study boundaries, 8) obtain information, 9) analyze information and draw conclusions, and 10) share and use research knowledge. The 10 essentials are not mutually exclusive, or sequential, and are interwoven throughout the research cycle and the cocreation of knowledge between scientists and practitioners.

Research scientists from the US Forest Service and the University of California, Davis, collaborated with practitioners from Outward Bound Adventures (OBA) to conduct a study of urban BIPOC youth living in Los Angeles, California. OBA is a non-profit organization that serves disadvantaged youth through outdoor adventure trips that foster leadership skills and responsible land stewardship. From development of the research proposal through implementation of the study—which is ongoing at the time of this writing—the team has collaborated through each phase of the research cycle. Below, we describe how we have cocreated forward by adopting Depoy and Gitlin's (2020) 10 essential characteristics of research:

1. **Identify a philosophical foundation.** Research scientists collaborated with practitioners to answer a call for proposals. We identified our respective epistemological frameworks and our underlying assumptions regarding outdoor recreation benefits in order to arrive at a shared definition of outdoor recreation.
2. **Frame a research problem.** Research scientists and practitioners identified the need to promote more diverse participation in outdoor activities, given the limited time urban BIPOC youth spend in open spaces and natural settings.
3. **Determine supporting knowledge.** Research scientists reviewed and synthesized existing literature to examine how ontological assumptions about the social, economic, psychological, and physical health benefits of outdoor recreation in natural protected areas may be similar to or diverge from the benefits gained by urban BIPOC youth.
4. **Identify a theory base.** Research scientists identified research on nature-based recreation in both health and education. The absence of nature and the presence of social ills in low-income urban regions tend to diminish the senses, promote attention deficiencies, and increase rates of physical and emotional illness (Tandon et al., 2018). Education research suggests that young people learn best when they are thinking, acting, doing, and making meaning of their outdoor experiences (Freire, 1970).
5. **Develop a specific question or query.** Together, research scientists and practitioners developed the following research questions: a) do outdoor trips improve participants' understanding of eco-literacy, cultural literacy, community building, physical challenges, leadership development, careers in conservation, and stewardship ethics?, and b) does exposure to nature impact future recreation behavior?
6. **Select a design strategy.** To answer these questions, research scientists and practitioners co-developed an assessment survey administered to OBA participants prior to participating in an outdoor excursion. This assessment was used to develop and test official survey questions. Ongoing dialogue between research scientists and practitioners led to revisions for final survey questions and implementation.
7. **Set study boundaries.** Practitioners established the scope of the study and recruited research participants. Participation was based on OBA-scheduled educational nature-based trips with 15 cohorts of youth, ages 13–18 years, for a target total of 180 youth from historically underrepresented BIPOC communities.
8. **Obtain information.** Upon completion of the pre-assessment survey, research scientists and practitioners determined when, where, and how best to collect quantitative and qualitative information from research participants. Data collection, based on pre and post surveys, is in process at the time of this writing.

9. **Analyze information and draw conclusions.** Research scientists led the systematic data analysis and derived several conclusions from the pre-assessment survey results. Scientists presented their findings to OBA practitioners in a report and a slide presentation. The scientist–practitioner team then worked together to make sense of the results and draw more generalizable conclusions.
10. **Share and use research knowledge.** Pre-assessment results are being used to shape OBA strategic operations and have been used for academic publication and presentation at outdoor recreation conferences. Results are also being shared via social media for use by other scientists and practitioners.

Minding the science–practice gap is not a linear process. Cocreation involves ongoing, recursive dialogue between scientists and practitioners across the ten essential characteristics of the research cycle. For example, without collectively identifying a philosophical foundation, creating research questions, or co-developing the survey, the project would have overlooked how urban BIPOC youth define the outdoors based on their background, or we would have missed how they make sense of survey questions. Research scientists began this project with an understanding that sustainable recreation on public lands combines social, political, economic, and biophysical factors within a social-ecological system that is complex (McCool & Kline, 2020). Thus, for research scientists to be more inclusive, they, along with practitioners must scrutinize the silos within which they operate and the epistemological paradigms that shape their work. As recreation opportunities become more accessible to an increasingly racially, ethnically, and economically diverse population, and as Executive Orders (Exec. Order No. 14096, 2023), as well as government and industry funding sources such as the Great American Outdoors Act (GAOA), and REI's Cooperative Action Fund (REI, n.d.) become available, scientists and practitioners have a “golden opportunity” (Blahna et al., 2022) to develop new approaches to advance environmental justice on public lands. We believe our study demonstrates that such work is currently underway and provides an example for expanding such opportunities.

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