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COMMENTARY

How engaged scholarship is helping combat the wildfire crisis

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Introduction

Voss et al. (2025) aptly noted the importance of collaborative multidisciplinary research that incorporates diverse stakeholder perspectives. Based on this, they provided specific recommendations for instilling engaged scholarship across the various stages of the research process. They noted that their "hard-won advice" was based on their "rich and unique experiences" with respect to collaborative research efforts. Despite the wealth of meaningful experiences amassed by the author team, their focal article was lacking in specific examples of successful collaborative efforts that showcase the benefits of engaged scholarship. Indeed, the only specific example from a real-world situation was regarding a recommendation for embedding engaged scholarship in the process of data analysis and interpretation. In this section, the authors noted the ongoing collaborative efforts for the Fire Service Organizational Culture of Safety project by the Center for Firefighter Injury Research and Safety Trends and their "teach-back" sessions that support iterative research that benefits both scientists and practitioners. Although certainly laudable, there is no real description of these efforts, leaving it unclear how this collaboration progressed through the research phases prior to data analysis and interpretation or how its members successfully navigated its later stages.

The purpose of this commentary is to provide readers with a specific example of engaged scholarship that is ongoing within the United States Forest Service (USFS). We first provide background information to elucidate why engaged scholarship was deemed essential for advancing the mission of the USFS and addressing the wildfire crisis. We then describe the establishment of a social science research group (SSRG) for wildfire and pinpoint how members of the SSRG are progressing through the phases of research outlined by Voss et al., By providing a singular example across the various stages, we hope to demonstrate that engaged scholarship at all stages is not only possible but truly advantageous. In this manner, we provide the necessary evidence-based support to what is, at this point, mainly abstract conjecture.

Impetus for engaged scholarship in combatting the wildfire crisis

In recent decades, a growing wildfire crisis has significantly threatened natural resources and communities while simultaneously straining the capacity of the wildland firefighting workforce. Although the USFS is the largest wildfire management agency in the United States, it does not have sole responsibility and authority to comprehensively address wildfire risk in the US. Instead, the USFS is part of a complex network of public, private, and tribal agencies and

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organizations, each having varied roles in addressing wildfire risk across diverse fire-prone landscapes and communities. Thus, to successfully address wildfire risk, the USFS must work jointly with multiple communities and organizations both to improve coordination and to engage in collaborative learning to improve social and ecological outcomes.

In short, many of the greatest wildfire threats that we currently face are not only due to climate change or other environmental processes; these challenges are deeply rooted in policy, the economy, demographic shifts, and local community characteristics. Given the complexity of the wildland fire crisis and the number of actors necessarily involved in reducing wildfire risk, it is vital to involve diverse perspectives from multiple disciplines in identifying current and future challenges and to offer evidence-based actions. Thus, the need for engaged scholarship in tackling the wildfire crisis is critical.

Engaged scholarship in practice: how we are doing it

The establishment of a social science research group (SSRG) for wildfire—a group of social scientists from multiple disciplines along with highly experienced practitioners—offered a unique opportunity to examine the complex interactions required to address wildfire. For much of the Forest Service's history, investments related to wildfire risk have focused on calculating risk based on biophysical characteristics of fire-prone areas, identifying opportunities to engage an active fire incident more successfully, and then delivering this information to end users and other decision makers. Although these investments have yielded important outputs and insights, they do not always take local context, social-demographic factors of at-risk communities, and organizational working relationships into account. Nor do these efforts shed light on the culturally and organizationally specific roles that the USFS should play in different fire-prone places. This is precisely where social scientists—industrial and organizational (I-O) psychologists included—can make a difference in the wildfire crisis.

Phase 0: getting started

To create the SSRG, USFS researchers sought and obtained funding from their Fire and Aviation Management branch with the intent of bringing together seasoned practitioners and senior-level social scientists to gain insights about varying social geographies of wildfire mitigation and the roles of the USFS in those landscapes. The stated plan was for members of the SSRG to work independently as well as collectively to generate place- and culturally specific knowledge to address the wildfire crisis.

Social science investigators at academic institutions from such fields as I-O psychology, sociology, and communication studies were identified based on prior collaborative efforts with the USFS. USFS practitioners were identified based on their comprehensive understanding of the agency and its work. Practitioners include current and retired USFS employees with backgrounds in wildfire mitigation, suppression, and line officer experience. Practitioners were chosen not only for their explicit knowledge in their respective areas but also for their tacit knowledge developed through years of experience.

Although some members of the SSRG were already acquainted, many had never met or interacted with one another. To facilitate introductions, an in-person workshop was scheduled for all SSRG members to meet and become familiar with each other and their work. In addition to SSRG members, representatives from other agencies involved in addressing the wildfire crisis (e.g., Wildfire Research Center, USFS Decision Support Center, and Colorado Forest Restoration Institute) were invited to present to the group to create additional science and practice connections beyond the SSRG.

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Phase 1: formulating the research question

After establishing introductions at the practitioner and researcher workshop, SSRG members outlined potential research areas that emerged based on the needs that were presented. A series of breakout sessions allowed different groupings of people to discuss how they could collaborate to bring together their individual expertise to address a common problem. In these discussions, researchers discussed different theoretical perspectives from their disciplines that could be beneficial in understanding a wildfire crisis issue and described the likely methodology they would use to answer the research question. As ideas were generated, contact information for relevant USFS insiders was shared to ensure connections could be made internally with appropriate parties to further strengthen research efforts.

After the workshop, SSRG members disseminated and further clarified the identified research questions, outlining the purpose of the research, the intended methodology, and the likely impact of the research on practice. These plans were shared with the seasoned practitioners for their input on the relevance and feasibility of the project. Meetings were held to discuss practitioner feedback on each research idea, ensure understanding, and clarify the overall research questions. Ultimately, this iterative process of formulating the research question with researcher and practitioner input ensured the research question would address an actual need that would be more likely to lead to actionable evidence-based learning.

Phase 2: literature review

A key benefit of the SSRG for addressing the wildfire crisis can be seen in the diverse perspectives that allow for a broad identification of relevant information both within and outside of the USFS. By utilizing a cross-disciplinary network within the SSRG, the theoretical foundations for investigating phenomena were not limited to a certain perspective. Scholars from outside of I-O psychology were made aware of core concepts within our field such as psychological contracts, equity theory, and realistic job previews. Similarly, core theories from other disciplines were highlighted as being applicable to research ideas identified by I-O psychologists, informing hypotheses and suggesting connections previously unconsidered.

In addition to theoretical and empirical research from outside disciplines being highlighted, the practitioner members of the SSRG were able to identify existing internal documents and agency projects that would provide additional context to the research questions. Including these documents and contacting the leads of the internal projects allowed additional networking with appropriate stakeholders, providing buy-in for the project while ensuring the project remained practically relevant.

Phase 3: research design and method

As Voss et al., noted, decisions surrounding research design and methodology are usually determined by the researchers conducting the study, though practitioner input is necessary to address potential constraints and enhance practicality and acceptance. In addition, input from researchers outside of the project—and outside of the principal investigator's discipline—is important in ensuring the research questions being asked can best be answered. This is indeed the case for the SSRG.

It is often the case that researchers become "comfortable" with certain methodologies (e.g., surveys, interviews) and lean on those methodologies to the exclusion of other, potentially more suitable ones for a particular research question. By obtaining input from other researchers who favor different methodologies, the research design is sufficiently questioned to ensure proper choices are made. In addition, practitioners provide insight into whether and how agency employees may have biases for or against certain methodologies and how to best navigate these situations. For example, an oversurveyed population may be reticent to onceagain be presented

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with a survey that has unclear implications for them. The SSRG practitioners provide suggestions on relationships to foster and information to share with key stakeholders prior to conducting a survey to facilitate acceptance.

Phase 4: data collection

SSRG practitioner perspectives are critical for gaining access to research participants and determining appropriate times to conduct research. Having insider information regarding when the busiest times of the fire season are and the likelihood of having (or not having) access to important perspectives, as well as field sites, is critical in ensuring project success. It is common for USFS wildland firefighters to have, for example, upwards of 1,000 hours of overtime during a typical fire season. Scheduling interviews or expecting survey completion during the busiest times of the season is a recipe for disaster. Not only would it result in low participation rates, but it may signal a lack of understanding of key stakeholders' work. In addition, thanks to practitioner involvement in the SSRG, we also can visit field sites where wildfire risk mitigation and response efforts have happened and are happening in real-time, creating even greater impact and opportunities during the data collection stage. Thus, practitioner input is crucial for identifying potential issues with data collection, figuring out ways to mitigate problems, and providing opportunities to engage more meaningfully with participants in their natural space.

Phase 5: data analysis and interpretation

Within the SSRG, many researchers are involved in qualitative research. The nuances of responses from interviews are better informed through practitioner input. In addition, and perhaps the most impactful benefit of engaged scholarship, is the interpretation of results that are counter to hypotheses. Findings that appear to challenge traditional theories can be examined through the lens of scholars in different disciplines and practitioners who do not hold preconceived notions of what "should" have occurred. By dissecting the seemingly aberrant results, theories from a wide array of disciplines can be highlighted that speak to the circumstances, allowing for more meaningful interpretations.

Phase 6: reporting, publication, and dissemination

A key purpose of the SSRG is to provide USFS fire managers and line officers with practical research in the form of research briefs and other materials to better understand their role, communicate with others, and cultivate communities of practice across diverse landscapes and human communities. To accomplish this, SSRG members are tasked with contributing academic research through accessible media and non-media-based learning platforms such as websites, webinars, newsletters, conferences, peer-reviewed journals, government technical reports, and meetings for USFS and locally based communities of practice to help navigate systemic barriers to wildfire risk mitigation and communication. In a true partnership, the researchers and practitioners who comprise the SSRG identify the most appropriate outlets for the research findings to ensure their proper dissemination and increase the number of relevant stakeholders who have access to and utilize the findings in meaningful ways.

Specific outlets showcasing research findings from members of the SSRG have included government technical reports (e.g., Flores et al., 2022), peer-reviewed journal publications (e.g., Flores et al., 2024a; Jahn, 2019), practitioner publications (e.g., Conley et al., 2022; Howes & Fox, 2022), conference panel discussions (e.g., Flores et al., 2024b), internal memoranda, and other internal and external avenues. Importantly, the variety of work products has ensured that the efforts have been beneficial to both the academics (i.e., external funding and peer-reviewed

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publications and conference presentations) and the practitioners (i.e., having a direct impact on USFS leadership through reports, briefing, and presentations).

Concluding thoughts

The SSRG for wildfire is grounded in a philosophy of codevelopment of knowledge and application bringing together senior-level social science researchers and seasoned practitioners to generate cutting-edge research and applicable findings to the USFS and the greater wildland fire community. The objectives of the SSRG—to develop an experienced team of wildfire experts, provide accessible research results, and advise USFS fire managers and line officers—are a critical first step in moving forward in building a research agenda that promotes application-oriented outcomes.

The innovative nature of this effort allows for the opportunity to improve collaborative relationships within and across fire-prone landscapes to better realize the goals of the National Cohesive and Wildland Fire Crisis Strategies. As priorities change, and learning occurs, it will be prudent to engage in a review and subsequent strategic planning processes to ensure the SSRG remains relevant to the needs of the USFS and the greater wildland fire community. Readers interested in working with members of the SSRG are encouraged to reach out to the authors.

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