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BRIEF REPORT



Broadening Recruitment Paradigms to Increase Occupational Safety and Health Research Engagement

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ABSTRACT

Engaging target populations and obtaining reliable research data has become increasingly difficult. Traditional randomized control trial (RCT) approaches, though useful in establishing sound knowledge and identifying effective interventions, can also be counterproductive. This brief provides examples from past research initiatives in which RCT approaches were ineffective and supplemented with alternate recruitment and engagement strategies. In its conclusion, we propose methods for broadening our research approaches to better serve the populations we work with: farmers, commercial fishermen, and loggers. Further, we invite others to join this conversation.

KEYWORDS

Engagement; randomized control trials; recruitment strategies; study design

Introduction

Engagement with target populations and reliable data are key to understanding and tailoring solutions to address the health and safety concerns of at-risk populations, including in the workplace. Randomized control trials (RCTs) are considered a gold standard for determining cause and effects relationships between interventions and outcomes. Thus, grant reviewers often prioritize this method. While RCTs have many benefits, they pose underappreciated challenges for research intended to understand human behaviors and the social systems that shape these behaviors. The factors that shape behaviors and health outcomes are complex and ever-changing. It can be difficult, or even unethical, to randomize participants or assign exposures in interventions focused on removing workplace hazards or changing behaviors. Engagement has grown increasingly challenging given the dramatic decline in response rates over the past few decades.¹ Reasons for this decline include the loss of trust (i.e., in science, unknown organizations) and increasing spam or scam marketing which taxes potential respondents' mental load while further eroding trust in professional research organizations.^{2–4} In our work with agriculture, forestry, and fishing

(AgFF) communities, we also face challenges connected to the fear that research could lead to regulations, research fatigue among a shrinking and over studied population, and the lack of publicly available sampling frames for these populations.^{1,5,6}

As we have tried to resolve the tension between RCTs requirements and declining engagement in research over the years, we have sometimes found ourselves in tricky, if not counterproductive, situations. The high level of competition for AgFF Occupational Safety and Health (OSH) funding,⁷ coupled with RCTs being the gold standard for health and safety intervention research, means we have felt corned into writing grants that do not deviate from the gold standard, even when we know of more suitable recruitment approaches. This has meant that in some cases, we have had to shift gears mid-way due to recruitment challenges. Meanwhile, projects we have proposed with recruitment strategies that deviate from RCTs' gold standards have not been well-received by review panels. Though this brief focuses on AgFF populations, we argue that its premise is applicable in other populations with similar challenges.

Examples illustrating the need to broaden recruitment approaches

To encourage the broadening of recruitment paradigms in OSH research, we draw from two previous projects to illustrate how the lack of flexibility in research approaches can be counter-productive. These examples also illustrate how we can strategically use alternative recruitment strategies to better study human behaviors and social structures, while engaging with target populations that have historically been difficult to recruit.

- (1) Sleep and health in the fishing industry: Between 2019 and 2022, Sorensen et al. assessed the health impacts of sleep deprivation in the commercial fishing industry using randomized fishery permitting lists.⁸ While the permitting lists were sufficient to connect with the Alaska salmon and Oregon Dungeness crab fishermen, there were no lists for the Massachusetts scallop industry. To address this gap, we asked boat owners and settlement houses to refer fishermen to the study. Randomized calling led to a survey response rate of 36.9% ($n = 185$), taking an average of 12 calls per answer. The research also involved providing physical examinations, but only 85 were completed. The study team decided to expand its approach by recruiting dockside ($n = 51$), through local promotions ($n = 18$), and by word-of-mouth or other means ($n = 8$), resulting in an additional 77 examinations. While the change in our recruitment approach deviated from the original protocol and made it difficult to calculate the response rate, we noted several benefits to our community-based recruitment approach. Very few of the fishermen we approached dockside declined, likely because they could meet the team and ask questions. Dockside recruitment was much more efficient, as it typically took place over the span of one week, while calls went on for months.
- (2) Maine loggers' health and safety: In the Spring of 2018, Scott et al. began enrollment for a study exploring the health and safety

of Maine logging workers.⁹ During a 6-month period, we contacted 224 logging companies by mail and through 687 phone calls (repeated at different times of day). These contacts resulted in an enrollment rate of less than 14% of the required sample size of 295. While mailing and phone recruitment was taking place, we continued to network with industry stakeholders. This included site visits to dozens of logging businesses to introduce the study and develop a database of over 1,738 loggers. Since the phone recruitment was falling short, we decided to mail the survey to the newly created list. In total 393 loggers participated in the study, exceeding our required sample size. Part of the success of paper enrollment was that loggers were often working during the times of the call and the revised method meant they could enroll at their leisure. It is also possible that having heard about the study through site visits, they were more willing to participate.

Moving forward

These examples are just a few that highlight the challenges of applying traditional RCTs in some contexts, as well as the negative impact they can have on recruitment. Continuing to draw on our previous experiences, we propose the following as a means to increase flexibility in recruitment strategies so that we can further OSH intervention research in ways that are responsive to our target populations and their needs. Though these methods deviate from the RCT structure, we argue that when thoughtfully applied, they allow researchers to maintain (or even improve) the rigor of their studies by increasing and broadening participant engagement.

- (1) Direct, bidirectional engagement with target communities is crucial. This engagement allows researchers to better understand the issues that communities prioritize while also helping to build trust.¹⁰ Both are important to increase engagement in research. We have done this by joining community organizations

or boards, inviting community partners to be part of the research team or advisory boards, and simply going out and meeting people where they live and work. The latter option, though sometimes challenging due to distance, is particularly important in building trust with new, harder-to-reach populations. Key informant interviews are also a valuable approach to develop background insights, build new relationships, and inform gatekeepers about the study.^{11,12}

- (2) Welcome flexible alternatives to RCTs when appropriate. Our experiences raise questions about the reliability of RCTs in obtaining the necessary sample size and collecting representative and complete data. For instance, those who agree to participate in an RCT may feel less connected to a study and be less thoughtful in their responses. Meanwhile, those who have a deeper connection to the study and research team may be more likely to agree to participate and provide more detailed responses. Further with a larger sample size collected via RCT-alternatives, the likelihood of the study sample being representative of the population increases. Instead of narrowly focusing on the “right way” to conduct RCTs, grant review panels must give adequate consideration to the shortcomings of RCTs and the strategies proposed to overcome these challenges. By doing so, grant reviewers will ensure that research is effective, timely, and population-focused starting with the initial design. The alternative is recruitment campaigns that fail or that need to be rethought partway through.

Rigorous and well-established approaches are certainly key to developing sound knowledge bases and effective interventions. However, our ability to continue building this body of knowledge can be stifled without innovation and flexibility to respond to challenges experienced with long-established methods. Further, this innovation and flexibility should be embraced not only by research teams but also by grant reviewers who are making vital decisions about what does or does not constitute rigorous and meaningful research. Ensuring

diverse representation of disciplines (i.e., STEM, social sciences, natural sciences, humanities) on review panels is a necessary step toward bringing innovation and flexibility, along with an appreciation for the wide range of methodological tools available to researchers. We invite others to contribute to this conversation on the risks and benefits of deviating from traditional research approaches and recruitment strategies.

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