The Fieldwork Wellness Framework: a new approach to field research in ecology

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Fieldwork is often an important aspect of research in ecology, evolution, and conservation biology (EECB), but individuals of marginalized identities are likely to experience compromised wellness. The responsibility for structurally changing fieldwork to improve experiences and outcomes falls on the entire EECB community. We propose a Fieldwork Wellness Framework to replace traditional fieldwork approaches, which are hazardous and ill-suited to today's increasingly diverse EECB community and its goals. The purpose of this Framework is to prevent and manage risk while also promoting holistic well-being for all field research participants. We outline nine facets of the Framework: acknowledge and address identity, create a code of conduct, promote and practice self-care, form local connections, use support structures in decision making, host and attend trainings, address financial concerns, enact emergency plans, and debrief. By centering wellness in the planning and performing of fieldwork, EECB can cultivate a more diverse, equitable, inclusive, healthy, and productive community.

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Fieldwork is often an essential part of ecology, evolution, and conservation biology (EECB) research. However, individuals – especially those from vulnerable groups (Nash *et al.* 2019; Chiarella and Vurro 2020; Berhe *et al.* 2022) – often face undue stress and hazards that complicate work, self-care, and reporting issues (Sharp and Kremer 2006; Cheyne 2019; Demery and Pipkin 2021). Without acknowledgement of and preparation for these risks, fieldwork can present serious physical and emotional challenges (Pollard 2009; Cheyne 2019). In the long term, unsafe field experiences can reduce feelings of belonging, cause lasting mental health problems, and counteract efforts to foster diversity in EECB (Emery *et al.* 2021). As such, to actively promote the holistic well-being of all research participants in the field, we contend that EECB needs to create and implement a Fieldwork Wellness Framework.

In a nutshell:

- Fieldwork, a key part of research, is often carried out in ways that can cause harm, especially for individuals of marginalized identities
- We propose a novel Fieldwork Wellness Framework to replace current underlying beliefs and practices of fieldwork that are dangerous and ill-suited to our research community
- We delineate nine actionable steps that labs, departments, and institutions should take to make fieldwork safer and more equitable: acknowledge and address identity, create a code of conduct, promote and practice self-care, form local connections, use support structures in decision making, host and attend trainings, address financial concerns, enact emergency plans, and debrief

In EECB, most field data collection is conducted by junior participants, including research assistants, local research guides, graduate students, and/or postdoctoral researchers. These groups are often disproportionately exposed to expectations and practices for field research that are unsafe and unsuitable to an increasingly diverse EECB community (Anadu *et al.* 2020; Douglas-Jones *et al.* 2020). In many cases, researchers undertaking fieldwork are expected to independently manage all risks without the tools or resources to identify, mitigate, or confront those risks (Nash *et al.* 2019; King *et al.* 2020). People who identify as women, BIPOC (Black, Indigenous, and people of color), disabled, and LGBTQIA+ (lesbian, gay, bisexual, transgender, queer, intersex, asexual/agender, and others) often face the additional burden of managing ill-treatment or even violence stemming from identity prejudice (for definitions of key terms used throughout the main text, see Panel 1) (Cheyne 2019; Anadu *et al.* 2020; Demery and Pipkin 2021). Suffering in the field is *not* a requisite for graduate or early career training, but rather a signal that intervention is needed (Douglas-Jones *et al.* 2020; King *et al.* 2020).

Rather than simply modifying the current system of fieldwork that values struggle and work over well-being, we must create new basic tenets for fieldwork that prevent and manage

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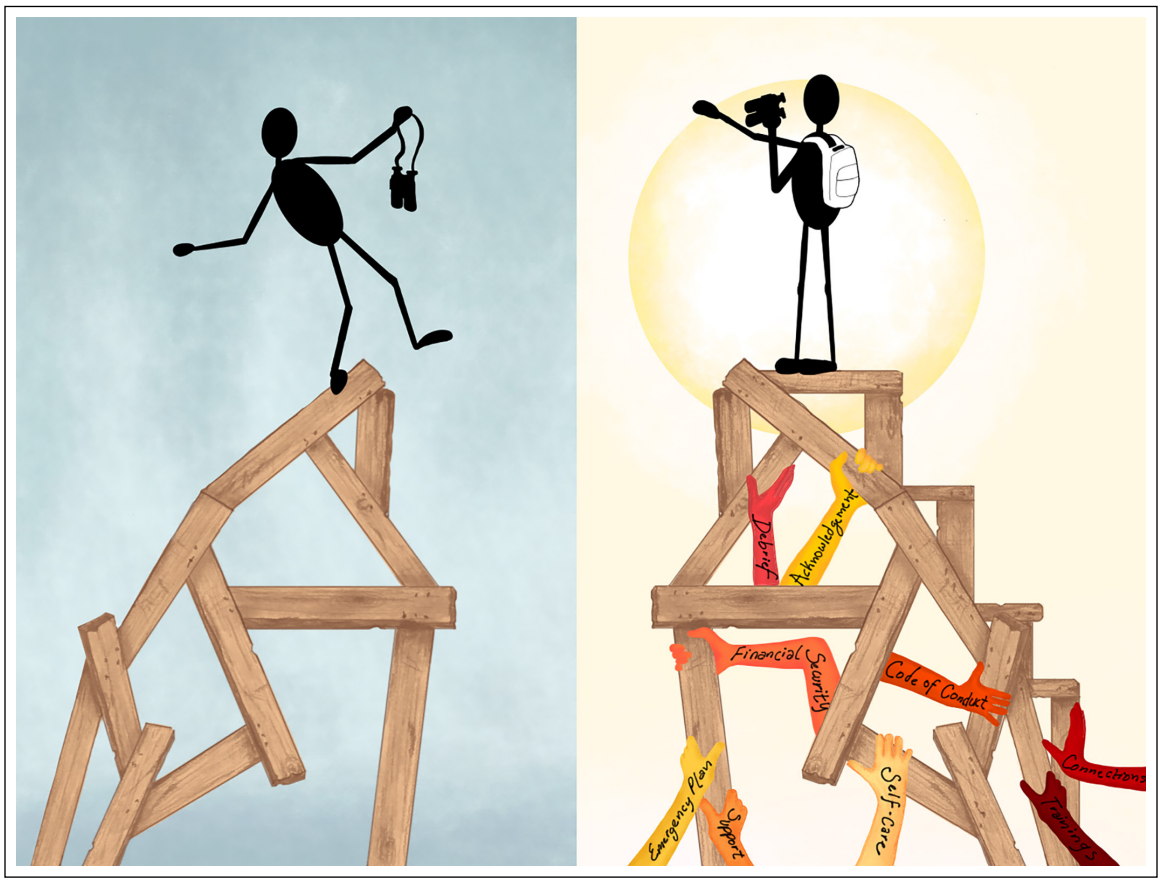

Figure 1. Rebuilding the traditional approach to conducting field research (left) based on the Fieldwork Wellness Framework (right) will improve fieldwork for everyone, especially individuals of marginalized identities. Note the inclusion of the nine facets (colored arms) as buttresses that reinforce the Framework's structural integrity.

risk while also promoting belonging and productivity (Figure 1). The Fieldwork Wellness Framework proposed here requires more than the bare minimum of keeping research participants (anyone executing or supporting research activities; hereafter "researchers") safe (free of physical and psychological harm). It identifies and considers the needs of the most at-risk to ensure the wellness of all in the field. Wellness (1) includes both preventative and restorative measures, (2) emphasizes each individual's potential, (3) stresses holistic and continuous well-being, and (4) contains eight dimensions that extend well-being beyond physical safety (Dunn 1977) (Figure 2). Adopting the Framework will help reconstruct the way fieldwork is planned and performed, thereby establishing a more diverse, equitable, inclusive, and healthy EECB community.

By recognizing issues with current procedures and enacting solutions for structural change, we can create a supportive space for all researchers to thrive in the field and in EECB. The responsibility for improving fieldwork experiences falls not on individuals hoping to "make it" in the field, but rather on the EECB community and especially those in leadership positions who make decisions on institutional policy and procedures that affect other researchers (hereafter, "leadership"). Below, we present and discuss nine facets of the Fieldwork Wellness Framework that individuals and leadership can implement to promote wellness for field researchers of all identities before, during, and after fieldwork. Although the Framework may not cover every aspect of wellness for every individual (see also Panel 2), it is our hope that the EECB community will use it as a starting point for centering wellness in fieldwork. Additional resources on fieldwork wellness are also provided in WebPanel 1.

Facets of the Fieldwork Wellness Framework

Acknowledge and address identity

The risks a researcher faces are intrinsically shaped by elements of identity and prejudices others may hold against these identities (Sharp and Kremer 2006; Cheyne 2019; Demery and Pipkin 2021). Yet many field researchers feel unprepared to deal with the discrimination or harassment they experience (Clark and Grant 2015). When leadership fails not only to address the impact of identity on fieldwork experiences but also to provide equitable field support for all researchers, the EECB community perpetuates the exclusion of marginalized groups. All community members should openly learn and discuss how different identities experience

fieldwork and be prepared to listen without judgment as concerns arise. People who have not experienced identity-related threats may feel apprehensive about these discussions due to feelings of guilt or anxiety. However, conducting these conversations through a "hold harmless" approach – one that assumes the best intentions of all participants – can foster mutual understanding and lead to more productive discourse about the use of power and privilege to support those historically harmed and currently vulnerable in EECB (Demery and Pipkin 2021). Mitigation of identity-related risks should not be the sole responsibility of an individual, but rather a task shared by an informed EECB research community.

Create a code of conduct

Unclear expectations for behavior and lack of explicit repercussions for violating group norms can lead to abuses of power among researchers, teammates, and subordinates (Nelson *et al.* 2017; Marín-Spiotta *et al.* 2020). This ambiguity creates an environment that fosters distrust and contention within the team and local community (Nelson *et al.* 2017; Schneider 2020). Designing, discussing, and implementing a clear code of conduct can reduce questions regarding what is and what is not acceptable behavior in the field, build in accountability for misconduct, and reduce risks (Mansur *et al.* 2017). All team members should read and sign the code of conduct prior to fieldwork, regardless of whether they work within their own communities, other cultural contexts, and/or international research spaces. A code of conduct ensures that all researchers understand behavioral expectations and that actionable steps for reporting misconduct for both victims and bystanders, regardless of their role or responsibility level, are clearly delineated.

Promote and practice self-care

Long days in harsh conditions, continually changing plans, and separation from familiar social environments can take a toll on mental and physical health (Eifling 2021). This can be particularly challenging when a researcher also faces identity-related challenges, has underlying health concerns, or struggles with imposter syndrome (Tucker and Horton 2019). Promoting the well-being of every individual is rooted in a team culture of self-care, which begins in the planning stages of fieldwork through the establishment of reasonable goals and expectations (Hummel and El Kurd 2021). Pre-fieldwork conversations should plan for sufficient sleep and downtime, bathroom accommodations, space for spiritual practices, mitigating responses to emotional triggers and second-hand trauma, and other mechanisms for practicing self-care within the anticipated field environment (van der Merwe and Hunt 2019; Hummel and El Kurd 2021). Non-judgmental discussions around self-care should continue once in the field, addressing issues that arise in both personal and professional spheres of life, particularly when cultural, hierarchical, or financial status promotes work over well-being. Adversity may be inevitable but maintaining self-care routines can build resilience and positivity.

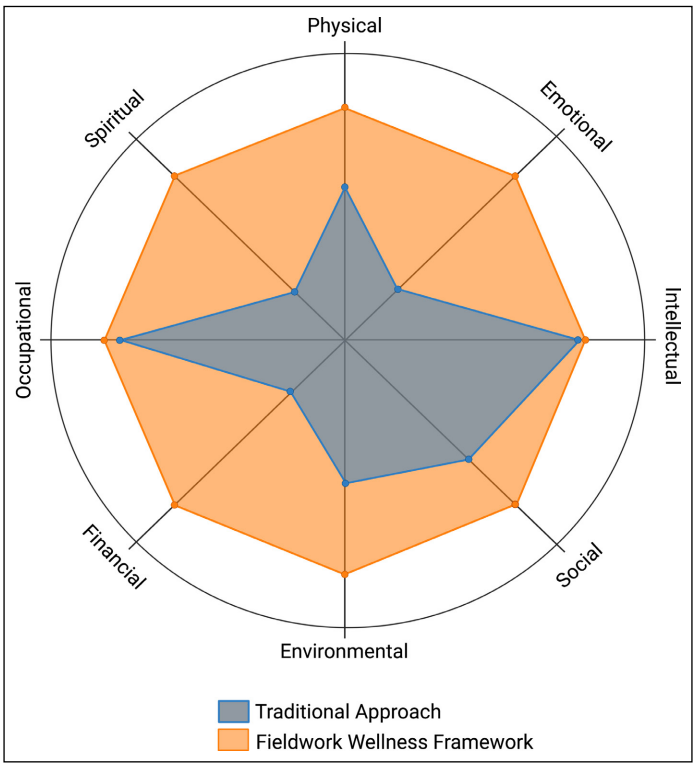

Figure 2. As symbolically depicted in a spider graph, the Fieldwork Wellness Framework promotes holistic well-being by incorporating the eight dimensions of wellness (Dunn 1977) (outer shading), as compared to an example of an individual's wellness under the traditional fieldwork paradigm (inner shading).

Form local connections

Field research, especially in remote or unfamiliar locations, can be lonely. When conducted outside of a researcher's homeland and/or culture, it can also perpetuate colonialist science, leading to harm to local people and communities (Asase *et al.* 2022). Local connections are essential for reducing isolation; collaborating equitably with local communities; dealing with emergencies; and promoting successful, ethical fieldwork. Research leaders should establish connections with people who will be present at or near the field site to ensure adequate on-the-ground support. As much as possible, local contacts should be identified before fieldwork begins, as their absence on arrival could leave researchers particularly vulnerable and slow research progress. Trusted, on-the-ground individuals can aid in resolving concerns and facilitate the proper actions outlined in an emergency plan. The inclusion of local researchers in all stages of fieldwork (that is, planning, executing, and debriefing) promotes decolonization of the research enterprise, equitable cross-cultural understanding, proper benefit sharing, and informed interpretation of findings.

Use support structures in decision making

All researchers involved in fieldwork face a near-constant stream of decisions in the field regarding both research and well-being. Under the traditional do-it-yourself approach to fieldwork, the ability and willingness to make such decisions alone signals an individual's innate capacity to succeed (Douglas-Jones *et al.* 2020; King *et al.* 2020). However, it is rarely necessary, nor advisable, for important decisions to be made in isolation (Pollard 2009). Having a variety of support structures in place can prevent decision fatigue, minimize unnecessary mistakes, and serve as a mechanism for researchers to engage with those outside of their direct field team. Internal support can come from within research teams through discussions around decisions and plans, thereby promoting belonging and agency for all team members. Before going into the field, researchers should also prepare a list of readily available individuals to act as sounding boards, who can listen non-judgmentally and provide reliable advice. This support network may include local contacts, colleagues from a researcher's institution, research mentors, and friends and family – each of whom can help address different needs or issues that may arise.

Host and attend trainings

Leadership has a responsibility to help researchers anticipate, avoid, and mitigate unsafe field situations and to foster inclusive environments (Demery and Pipkin 2021; Peixotto *et al.* 2021). At nearly every research institution, training in laboratory safety is a prerequisite for engaging in labwork, and training in sexual harassment and assault prevention is usually required for new employees. However, institutions often do not mandate any preparatory training for or discussion of potential risks prior to fieldwork. Training researchers in field-relevant subjects such as wilderness first aid, self-defense, anti-colonialism/anti-racism, mental health care, bystander conduct, and field-specific harassment and assault intervention is vital for fostering wellness-centered research and producing high-quality work.

Address financial concerns

Having access to sufficient funds while in the field is critical to researcher safety and well-being (Rinkus *et al.* 2018). Funding for EECB research is often limited and highly competitive, leaving researchers with scarcity mindsets and shoestring budgets (Bakker *et al.* 2010). Researchers may therefore place themselves in risky scenarios, such as staying at hotels in dangerous locations, walking instead of taking a taxi or ride-share, or working alone rather than hiring field assistants. Financial stress is exacerbated by commonly used reimbursement systems, wherein researchers must pay for field expenses out-of-pocket and receive reimbursement weeks or months after fieldwork completion. This practice

Panel 1. Key terms

BIPOC: Black, Indigenous, and people of color. This term is "specific to the US, intended to center the experiences of Black and Indigenous groups and demonstrate solidarity between communities of color" (Davidson 2021).

Fieldwork code of conduct: written rules and expectations that outline appropriate and/or inappropriate behavior for interacting with other members of the research team, engaging with local communities and/or other cultures, and mitigating risks in the research environment. This document also clearly describes consequences for violating these rules and reporting protocols.

Fieldwork Wellness Framework: a conceptual, solution-oriented, and evolving approach toward fieldwork that broadens goals to include all aspects of wellness. The Framework takes an identity-centered approach that both removes barriers for marginalized individuals and raises the bar for everyone. Currently, the Framework consists of nine facets: acknowledge and address identity, create a code of conduct, promote and practice self-care, form local connections, use support structures in decision making, host and attend trainings, address financial concerns, enact emergency plans, and debrief.

Identity: experiences, relationships, traits, and values that collectively form an individual's sense of self. These may include, but are not limited to, (dis)ability, ethnicity, sexuality, gender identity and expression, race, religion, and socioeconomic status.

Leadership: individuals and/or groups that make decisions about organization policy and procedures that affect other individuals and/or groups. These include advisors, chairs, deans, departments, field station managers, labs, provosts, and society presidents.

LGBTQIA+: an evolving initialism that encompasses the identities of lesbian, gay, bisexual, transgender, queer, intersex, asexual/agender, and all other non-heterosexual or non-cisgender identities.

Researcher: an individual or member of a team executing or supporting research activities. This includes senior faculty, early career faculty, postdoctoral researchers, graduate students, undergraduate students, research technicians, local guides, and anyone else who contributes to the conducting of research. Some researchers also play leadership roles, depending on their position within the institutional and team power hierarchies.

Safety: a foundation for wellness that focuses on minimizing the risk of physical and psychological danger and harm.

Wellness: the active pursuit of good health and quality of life across eight interconnected dimensions (physical, emotional, social, intellectual, environmental, spiritual, occupational, and financial). Wellness includes both preventative and restorative measures, emphasizes each individual's potential, and stresses holistic and continuous well-being (Dunn 1977).

Panel 2. Positionality statement

Our identities shape our perspectives and experiences in research and fieldwork, as well as our ideas presented in this paper. We are women in EECB and are PhD students, a postdoctoral researcher, a research scientist, and an associate professor from public and private universities. We are Jamaican-American, mixed Latinx American, and white American citizens, both first generation and not. We identify as cis- and transgender, straight, and bisexual. We are agnostic, atheist, Buddhist, Christian, Jewish, and spiritual. We are neurodiverse, with attention deficit/hyperactivity disorder, anxiety, depression, dyslexia, and post-traumatic stress disorder. We are introverts and extroverts. We recognize that we do not speak for everyone with these identities and note that our identities represent only a fraction of those in our field; our proposed solutions may thus be limited by our own experiences.

To identify changes needed in EECB fieldwork, we drew on published literature and personal experiences. We conduct fieldwork domestically in the US and internationally in multiple countries. All of us have experienced unsafe conditions and have been unwell while in the field, and know of many others with similar experiences. We have witnessed and experienced financial hardships, hazing, homophobia, neocolonialism, racism, religious intolerance, and sexism. We have had the emotionally taxing need to hide our identities in the field to avoid danger and discrimination. We have sustained physical injuries and endured verbal abuse. We have survived failings of our institutions and the EECB community while watching others be permanently harmed, held back in their careers, or compelled to leave EECB altogether. For these reasons and more, we feel the need to work toward large-scale change.

puts unfair burdens on graduate students and other early career researchers, particularly those from low-income backgrounds, who often lack the financial means to pay costs upfront (Ruud *et al.* 2016; Cronin *et al.* 2021). Leadership must ensure that researchers going into the field have sufficient funds to cover day-to-day and research expenses, without assuming that *any* researcher can front money. Emergency funds must also be accessible by field researchers so that money is not a limiting factor when decisions involving safety and well-being are necessary.

Enact emergency plans

Detailed emergency plans enable researchers to quickly respond to dangerous situations, yet surveys suggest that nearly half of American archeologists and biologists conducting international fieldwork do not believe their teams have an adequate emergency plan in place (Eifling and Klehm 2018). Prior to any fieldwork, comprehensive protocols should be established that delineate risk mitigation and prevention strategies; describe local customs and the historical context of the field site; address physical and mental health emergencies, theft, civil unrest, sexual harassment, and sexual assault; include contact information for reporting and confidentiality guidelines; describe evacuation plans or safe havens if evacuation is not possible; explain processes for seeking medical attention and insurance coverage; and address how to immediately access emergency funds. Once written, the document should be reviewed by each team member prior to fieldwork, with sufficient time to propose changes and with opportunities to request additional information, and a hard copy of the plan should be made freely available to all researchers in the field.

Debrief

A critical, but often neglected, part of fieldwork is making time for a formal debriefing process among research team members and between researchers and leadership. Debriefings should emphasize the comfort and safety of the researcher; acknowledge power structures and differences in identity; and clearly identify alternative people to talk to outside of the research team, lab, department, or institution, depending on researcher needs. Debriefing provides an important opportunity for participants to reflect on their experiences and receive necessary support (Roguski and Tauri 2013), and (if they so wish) to express and discuss concerns about wellness that arose during fieldwork and offer suggestions for mitigating risks in the future (Rinkus *et al.* 2018). Debriefing is most effective if systems are in place for addressing concerns, including follow-up care and the option of formally documenting issues to create institutional memory. Concerns raised during debriefing that involve a particular site, individual, or situation require further investigation by leadership and transparency regarding actions taken.

Conclusion

Implementation of the Fieldwork Wellness Framework can provide meaningful steps toward transforming fieldwork practices for the present and future EECB community. Leadership should carefully assess and account for the substantial financial and energy investments necessary for promoting the wellness of current and new researchers in the field (Rinkus *et al.* 2018). The potential rewards for these investments – including improved work satisfaction and performance, along with more diverse, equitable, inclusive, and healthy research spaces – are invaluable.

Successful promotion of all dimensions of wellness for researchers conducting fieldwork must be embedded in a culture of open and respectful communication. This will normalize discussions of wellness and empower all researchers, especially those of marginalized identities. To monitor changes in fieldwork experiences over time and act upon expressed needs, leadership should consider collecting anonymous survey data regarding the field experiences of researchers under their

supervision (Pollard 2009; Bohannon 2013; Clancy *et al.* 2014). Such surveys must be designed to protect researchers, and therefore questions regarding identity should be optional and include the response "minority" to allow participants to withhold specific identifying information. As we gather more information about fieldwork experiences and encourage further conversations, the EECB community should revisit and revise the Framework proposed here to ensure that wellness is continuously centered in all fieldwork for all individuals.

Addressing major flaws in EECB's current approach to fieldwork can help remove barriers faced by historically excluded groups and strengthen the research community as a whole. Overhauls in fieldwork practices are already underway within the anthropology, archeology, and geosciences communities (King *et al.* 2020; Marín-Spiotta *et al.* 2020; Peixotto *et al.* 2021), and EECB must do the same. We expect that adopting the Fieldwork Wellness Framework for EECB will allow for the recruitment and retention of more diverse researchers who are motivated, well, and better equipped to succeed professionally and advance their fields.

Data Availability Statement

No data were collected for this study.

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Supporting Information

Additional, web-only material may be found in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1002/fee.2649/suppinfo