



Evaluating diversity, equity, and inclusivity in outdoor programs for veterans on public lands

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ABSTRACT

Outdoor programs operating on U.S. public lands introduce a range of activities, settings, and therapies for veterans experiencing post-traumatic stress, injuries, or disabilities. The extent to which these programs serve diverse veteran populations is not well understood in terms of race, ethnicity, age, gender, ability, or socioeconomic status. Since governmental agencies are increasingly required to foster diversity, equity, and inclusivity, this presents a knowledge gap with policy implications. We paired a thematic analysis of interviews with outdoor professionals with a content analysis of program websites. We found that promotional materials for outdoor veterans' programs feature predominantly White, male, youthful clientele without visible disabilities, potentially making it difficult for others to see a place for themselves. Interviewees expressed concern about their ability to accommodate participants' diverse identities and abilities. We discuss how program providers and public land managers can improve inclusivity and serve diverse populations of veterans.

KEYWORDS

Military veterans; outdoor leisure; public lands; nature; access

Many military veterans face challenges reintegrating with civilian society, which can be especially difficult for women, LGBTQ+, and other veterans who are more likely to have experienced military sexual trauma and harassment (Eichler & Smith-Evans, 2018). These challenges are often compounded by post-traumatic stress and other physical and mental injuries (Kukla et al., 2015; Sayer et al., 2010). Leisure is an important coping resource in these contexts and can facilitate personal transformation (Hutchinson et al., 2003; Kleiber et al., 2002). Studies document the physical and psychological benefits of outdoor leisure for veterans, particularly reduced anxiety, restored attention, and enhanced coping (Bettmann et al., 2021; Caddick & Smith, 2014; Lackey et al., 2021; Tysor et al., 2020). For some, formal instruction, facilitation, and guidance is needed to build expertise or confidence to participate (Greer et al., 2019). Several distinct types of outdoor programs for veterans (OPVs) have been described, that strive to meet diverse needs by supporting a range of activities, formats, trip lengths, locations, and therapeutic components across public and private lands (Derrien et al., 2020).

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OPVs operate with many overlaps in programming, activities, scope, and target populations (Havlick et al., 2021). For this study that focuses on questions of diversity, equity, inclusion (DEI) and access, OPVs using federal, state, and other public lands warrant particular attention, since most federal and state agencies are legally bound to nondiscriminatory practices. Despite legal mandates, public lands do not serve the U.S. population equitably (Flores et al., 2018; Floyd & Johnson, 2002), and agencies have only in recent years begun to address some of the historical and contemporary forces that work against DEI. For example, a 2017 U.S. Presidential Memorandum sought to promote diversity and inclusion in national parks, national forests, and other public lands, requiring federal land management agencies to identify opportunities to improve sites and programs to expand participation and address barriers to public lands access (White House, 2017). In 2021, Executive Order 13985 identified the role of government to advance racial equity and support underserved communities (White House, 2021). In response, public agencies have sharpened their focus on addressing DEI and directed attention to underserved constituencies. These executive actions build on the Americans with Disabilities Act (P.L. 101-336), which protects against discrimination and requires public entities to accommodate a wide range of needs, as well as the Civil Rights Act (P.L. 88-352), and its amendments, which ban discrimination based on race, color, religion, sex (gender identity and sexual orientation), age, disability, and national origin. Public lands' mixed record on inclusiveness and discrimination are germane to these recent federal efforts and motivate our interest in examining how OPVs on public lands represent themselves in this respect (c.f. Taylor, 2016; Johnson, 2017; Young, 2017). These notions of equity, diversity, and access were identified as a priority by the interagency Task Force on Outdoor Recreation for Veterans under the Compact Act of 2020 (P.L. 116-214), which seeks to "improve opportunities for outdoor recreation and address inequitable access to nature and its benefits" (87 FR 10281)(U.S. Department of Veterans Affairs, 2022).

For land managers who develop partnerships with OPVs and permit their activities, considering whether they serve diverse veteran populations is critical to these DEI goals. A DEI focus on OPVs prompts questions about whether programs serve veterans of different ages and with differing physical abilities, gender identities, racial and ethnic backgrounds, and financial resources, as well as factors such as their proximity to populations served and support offered (Greer et al., 2019).

Here, we consider these questions for OPVs operating on public lands. We examine whether OPVs are designed and marketed to cater widely to veterans and identify the constraints that make it difficult for some veterans to participate. Specifically, we conducted: (a) a thematic analysis of interviews with OPV providers, public land managers, and health professionals to identify challenges and opportunities to achieving DEI goals and expanding program benefits on public lands; and (b) a content analysis of OPV providers' websites to assess the extent to which OPVs represent diversity in their marketing with a focus on gender, race, and physical ability. Our results will inform public land managers and OPVs seeking to advance racial equity and support underserved communities. While the focus of this study was on OPV interactions with public lands, results have immediate implications for programs operating on private lands and seeking to attract a diverse range of participants.

Literature review

Diversity, equity, and inclusion on public lands

Outdoor leisure is an important way for people of all backgrounds and identities to connect with nature and experience its associated health benefits (Baker et al., 2022; Winter et al., 2020). Constructions of nature, however, as places for privileged (e.g., White, male, heterosexual, able-bodied) people's leisure activities have dominated public lands recreation and management in the U.S. for over a century (Byrne & Wolch, 2009; Finney, 2014; Stanley, 2020). People of color (POC, defined as those who are Black, Hispanic, and other nonwhite races/ethnicities) have long been underrepresented in outdoor marketing and other media (Finney, 2014; Martin 2004). Martin (2004) analyzed more than 4,000 advertisements with outdoor scenes finding that Black models were featured primarily in urban settings, whereas White models dominated wild domains, indicating a racialized outdoor leisure identity. This suggests that potential OPV participants may seldom see themselves in leisure activities and spaces that could be beneficial to them (Avery, 2003; Perkins et al., 2000).

Associated ideas about appropriate relationships with, and activities on, public lands have had an outsized imprint on policies, norms, and practices governing public spaces from urban parks to national forests. While public lands are intended for the general public, they often serve a much narrower demographic (Colley et al., 2022; Flores et al., 2018; Roberts, 2015; Schwartz & Corkery, 2011; Winter et al., 2020). In effect, people's experiences of sexism, racism, xenophobia, classism, and other forms of discrimination have resulted in relationships to public lands and nature that can be ambivalent, strained, or negative (Davis, 2019; Johnson & Bowker, 2004; Roberts, 2009).

Gendered assumptions about the outdoors are also prevalent, normalizing the outdoors as a male space (Evans et al., 2020; McAnirlin & Maddox, 2022). Stanley (2020) relates questions about gender and the outdoors to prevailing notions of the size, color, sexuality, or appearance of who "belongs" outside, and describes the effects on "unlikely hikers" who do not fit the dominant culture. This aligns with research on intersectionality that emphasizes the cumulative effects of the multiple identities people hold in leisure and recreation, especially related to gender, race, class, physical ability, and other marginalized positions (Powers et al., 2020; Shinew et al., 2004; Stanley, 2020). The social, political, and economic processes that shape public lands are also apparent in wilderness and recreation management (Byrne & Wolch, 2009).

These forces should be viewed not only as resulting in populations that are "underserved," but as a distinct environmental injustice, stemming from a lack of access to positive environmental opportunities and benefits (Floyd & Johnson, 2002). While there are many practical reasons why people may not participate in leisure activities on public lands (e.g., lack of transportation, gear, time, local knowledge), these practical challenges can be compounded by deeply rooted views related to a fear of uniformed authorities, language barriers, a lack of culturally relevant facilities, activities, and information, or outright discrimination (Byrne, 2012; Cervený, 2022; Roberts & Rodriguez, 2008; Stodolska et al., 2020; Xiao et al., 2017). Removing barriers to participation is insufficient for resolving underlying issues that drive (non)visitation or (non)participation (Johnson, 1998). This emphasizes the

need to study not only practical constraints, but also how inclusion is signaled in terms of media communications and representation.

Health challenges for veterans and nature-based recreation therapies

For veterans, environmental injustices related to public lands access overlay distinct considerations for a population bearing disproportionate burdens of stress, illness, and injury. Many veterans returning from service face challenges reintegrating with civilian life and making family, community, and workforce transitions. Challenges are often compounded for those with physical or mental disabilities. Of 18.5 million U.S. military veterans, 4.7 million (26%) have had a service-connected disability (Bureau of Labor Statistics, 2020). Identities related to race, ethnicity, and gender lead to different military and veteran experiences (Hack et al., 2017; Suter et al., 2006), and shifts in demographics have implications for service-related health conditions. In 2018, female veterans comprised 9.2% of the total veteran population (16.8% for post 9/11 veterans). Female veterans are more likely than males both to report a severe disability (Vespa, 2020) and to report sexual assault and harassment during military service (U.S. Department of Veterans Affairs, 2021). In 2019, 26% of veterans identified as POC (Schaeffer, 2021). Veterans of color are more likely to have a disability than White veterans (Vespa 2020). While the U.S. Department of Veterans Affairs does not collect data regarding veterans' sexual orientations, or non-binary or trans gender identities, the agency is likely the largest single health-care provider for these sexual and gender minoritized populations in the U.S.; extrapolations suggest that at least 3% of veterans fit these categories (Mattocks et al., 2014).

Compared to civilians, veterans face distinct patterns in health issues, with a higher proportion experiencing post-traumatic stress, traumatic brain injury, mental health conditions, and substance abuse (Olenick et al., 2015; Tanielian & Jaycox, 2008). If untreated, post-traumatic stress disorder (PTSD) can be debilitating and is associated with reduced quality of life, high suicide rates and depression, social impairment, and financial difficulties (Grieger et al., 2006). Due to stigma or other barriers, one in four veterans eschews formal treatment for PTSD (Hoge et al., 2004; Vogt, 2011). Ethnic and gender identities are also associated with how veterans perceive veteran-oriented health-care (De Luca et al., 2016), resulting in differing uses of services and their associated outcomes.

Leisure can serve as a coping resource for people experiencing traumatic injury, illness, or stress (Hutchinson et al., 2003; Kleiber et al., 2002). Taff et al.'s (2016) conceptual framework shows how leisure creates a contrast to the structured military regimen and supports active combat veterans in both deployment and reintegration by managing stress, building family bonds, providing exercise, and generating positive emotions. Programs that support social connections while addressing health challenges have proliferated, including *nature-based therapy* (exposure to nature and green spaces), and *recreation therapy* (health and functioning through outdoor leisure) (Derrien et al., 2020; Greer & Vin-Raviv, 2019). Positive outcomes from nature-based and recreation therapies have prompted OPVs that focus on increasing personal resilience, developing skills (including leadership, communication, and work habits), and fostering social

connectivity and camaraderie (Hawkins et al., 2016; Kintzle et al., 2018). Studies have measured the efficacy of nature-based and recreation therapy for veterans with PTSD, showing positive psychological outcomes including improved mood, and reduced stress and anxiety (Davis-Berman et al., 2018; Dustin et al., 2011; Greer & Vin-Raviv, 2019; Hawkins et al., 2016; Wheeler et al., 2020). Companionship and social interaction during the activity have been shown to provide additional release from stress (Coleman & Iso-Ahola, 1993; Weng & Chiang, 2014).

Research has also explored the outcomes associated with outdoor leisure for people with physical disabilities (Lundberg et al., 2011), with growing evidence of positive outcomes for self-esteem, quality of life, self-efficacy, community reintegration, and motivation (Blauwet & Willick, 2012; Sahlin & Lexell, 2015). Adaptive sports programs offer opportunities for veterans with physical disabilities to participate in outdoor activities, supported by specialized equipment, instruction, and assistance (Greer et al., 2019). These activities can help veterans develop new skills and renegotiate their sense of competency (Lundberg et al., 2016).

The health benefits of nature-based and recreation therapy are becoming better understood—including for veterans—with a central role emerging for public land managers as partners (Derrien et al., 2022). But it is less understood whether veterans of all genders, races, ethnicities, ages, abilities, and income levels have sufficient access to these programs, which has left questions unanswered about the pursuit of public agency goals around DEI. We designed our study to identify constraints that limit access to OPVs and understand the extent to which OPV providers collectively serve the veteran population and promote DEI.

Methods

We used several data sources and analytic methods to assess the range of OPVs available in the U.S. and whether this range serves diverse segments of the veteran population. Our approach, detailed below, included a thematic analysis of interviews, a program inventory, and a website and video content analysis.

Qualitative interviews

We conducted 36 interviews over a nine-month period in 2018 and 2019. We used diverse strategies for identifying and recruiting interviewees. Initial interviews were conducted with known public land managers and OPV providers. We asked these interviewees to identify additional individuals in resource management, nature-based therapy or outdoor programs, veteran organizations, and the health sector, consistent with chain referral sampling (Hay, 2005). We also identified interviewees from online searches of OPVs. Our final set of interviewees included federal land management agency staff (13), outdoor providers serving veterans (10), representatives from trail conservation groups and other nongovernmental organizations (5), researchers and health practitioners (7), and industry experts (1). Some interviewees were also veterans themselves and former OPV participants. We stopped conducting interviews when multiple interviewees

referred us to the same sources, and when we agreed that the amount of new information had begun to wane and the sample had been saturated (Glaser & Strauss, 2017).

Interviews were conducted both by phone and in person, guided by ten questions that were modified for different interviewee categories, with follow-up questions to encourage elaboration. Questions focused on individuals' knowledge and interactions with OPVs, experiences with public land administrative processes and policies, institutional and programmatic challenges, and partnerships. Interview lengths averaged about 25 to 40 minutes. All but six interviews were audio-recorded. For those not recorded, detailed notes were taken. We transcribed all recordings manually.

Authors read all interview transcripts to create an initial code list around the following themes: program types, land management agency interactions, and challenges and opportunities in program implementation. We initially coded a subset of interviews and discussed discrepancies among the author team which helped to develop a consistent code list with descriptions. These codes were applied systematically to the transcripts, while also allowing for additional emergent codes. After the first round of coding, each interview was re-read and re-coded by separate team members to ensure that codes had been consistently applied and that meaningful segments had not been missed. We then compiled coded segments, categorized subthemes, and produced summary documents that described the content of coded segments. This allowed us to analyze and interpret patterns, which we iteratively refined as a team. While DEI was not the focus of our interview questions, prior analysis (reported in Derrien et al., 2020; Havlick, 2021) raised questions and insights into DEI, access, and accommodation. We therefore conducted a second round of thematic analysis with a focus on these topics, using qualitative coding with Microsoft Office tools to identify relevant interview segments and categorize content (Braun & Clarke, 2012).

Website and video content analysis

Derrien et al. (2020), developed a database of U.S.-based OPVs operating on private and public lands which documented their attributes, such as program locations, outdoor activities offered, populations served, and program duration. We purposively sampled this database for OPVs that took place entirely or partially on state or federal public lands, which were the focus of this investigation. Our sampling resulted in a subset of 55 public-land OPVs. We assessed how these public-land OPVs communicated with prospective participants about the populations their programs serve, including how they signal inclusivity or exclusivity via their websites and videos. Web-based content often offers prospective participants a first impression of an organization's culture through program descriptions and depictions of program participants, leaders, and experiences (Klassen, 2001). Our approach to analyzing websites and videos assumes that they (1) are designed to entice prospective participants, and (2) influence impressions of who programs serve and decisions to participate (Fairchild & Petrzela, 2021; Schwartz & Corkery, 2011).

We used a structured approach to approximate the experience of a prospective participant browsing a site. We documented the presence of explicit statements regarding commitments to DEI and veterans with disabilities, and then categorized the program

types offered for veterans with different identities or backgrounds (e.g., gender- or ability-specific programs, programs for POC).

To assess website imagery, we built on the binary coding approach used by Fairchild & Petrzalka (2021) to evaluate visible markers of gender, race, and ability. To ensure consistency, all authors coded an initial set of websites to evaluate still images, compared results, and refined the protocol until reaching consensus. We then followed the standardized protocol to recode the initial set and code the remaining websites. In addition, we analyzed videos that were present on websites; this included embedded and linked videos from 37 of the 55 sites (the remaining sites had no videos). We summarized the visible markers of gender, race, and ability in photos, videos, and other website imagery, using three broad, subjective categories to describe the composition of people on the site. We focused on these broad markers of identity, assuming they were salient characteristics that help people see themselves represented (or not) in programs, and because they offered insight into multiple dimensions of programmatic diversity. We also noted representations of gender, race, and ability for people in named positions (i.e., founder/staff member, participant) who had speaking and non-speaking roles, with the assumption that these positions and roles have some influence how prospective participants perceive programs.

Limitations

Studying representations of identities and understanding organizational challenges and commitments to DEI is complex and not accessible via singular methods. We paired our interview-based inquiry with a method intended to mimic the experience of a prospective participant visiting an OPV website, documenting the coarse categories of identities observed. This method is unavoidably subject to researchers' interpretations based on traditional norms of gender and race, and limited visual and auditory cues. Our broad categories helped account for diversity within categories (e.g., "predominantly male" for an entire website instead of a more precise quantification), and we restricted our interpretations to what we could confidently observe. Still, many markers of identity are not apparent in images or videos. Identities are also more contextual, fluid, and dynamic than categorical, and we recognize it is imperfect to externally categorize interpretations of others' identities. While these would ideally be self-reported, our method was still valuable for providing insight into how prospective participants might perceive a program's composition in terms of gender, race, and ability – at least as these are traditionally signaled.

We recognize that by focusing exclusively on OPVs hosted on public lands, our analysis omits many important programs that rely solely on private lands. Future research attending to OPVs on private lands may find important similarities and differences.

Results

Our results reflect our two distinct project stages. Our initial interviews, designed to explore the diversity of OPVs and opportunities for public lands partnerships, yielded several intriguing findings related to equity and inclusivity, leading us to wonder about

the extent to which OPVs serve a diverse public. This prompted our subsequent website and video analysis. We organize our findings by first exploring four DEI themes identified in our interviews: engaging veterans with disabilities, gender inclusivity, generational status, and program proximity and logistics. (Racial and ethnic diversity were not topics raised by interviewees.) We then present results from the content analysis of OPV website and videos to understand representation in program marketing.

Qualitative analysis of OPV interviews

Engaging veterans with physical, mental, and cognitive disabilities

Interviewees described the importance of designing programming to meet the needs of veterans with a wide variety of physical disabilities, mental health challenges, brain injuries, developmental disabilities, and other specialized needs. Several organizations, including large national providers, exclusively serve veterans with physical disabilities. These programs provide a range of adaptive equipment and training for participation in outdoor activities (e.g., adaptive sports). Many other organizations serve individuals with disabilities on a case-by-case basis, as part of program offerings for the broader veteran population.

The physical demands of some programs may reduce opportunities for those with physical limitations. When alternative or hybrid opportunities exist, they may remove a participant from the communal nature of the physical experience. As one counselor and OPV volunteer described,

The one I went on was a 10-mile hike – climbing 4,000 feet you know, that’s no joke. You don’t want just anybody doing that. And, you know people with ... physical limitations can be driven up to the [location], but ... an important element of the trip is the communal suffer.

Interviewees also observed that it can be difficult for someone with mental disabilities to overcome tendencies of avoidance and commit to participate in a multi-day program. As one program provider explained, “I know it’s hard to get four days away especially when you have PTSD. It’s really hard to get over that avoidance you know and be willing to confront whatever you’re running from.”

Some interviewees described the opportunities they saw for veterans with cognitive or developmental challenges. One land manager explained:

I think some of those folks have anxiety issues, with social situations, and crowds ... Some of our avid long-distance trail hikers are actually autistic, and it just happens to be their groove, and it just kind of fits with what they’re actually comfortable with doing. ... the ability to experience solitude and self-reliance and so forth is a really important part of the therapeutic benefits that these trails can offer.

Providers also described the challenges in serving veterans with mental health conditions. They noted that some potential participants were screened out because programs do not have the staff or structure to address certain mental health needs. For example, one provider described how they could not accommodate a potential participant: “Our instructors aren’t therapists; they aren’t doctors. Depending on medical history, psychological history ... there are times when we’re not able to put a veteran on course, because we’re not capable of handling the things they might go through.”

Other program providers described how their organizations did enlist medical staff trained to support participants with mental disabilities and respond to mental health emergencies, and thus could accommodate this population. In fact, some providers noted that the benefits of outdoor experiences could be strongest for people with mental disabilities. As one researcher explained, “we don’t have any mental health ‘rule-outs.’ And I will tell you that the strongest evidence for exercise and activity-based interventions for mental health, are actually with the severe mentally ill population.”

Gender diversity and inclusion in OPVs

Developing programs to meet the needs of participants of all genders was a challenge described by several OPV providers who observed that programs often do not adequately serve participants outside of their typical male demographic. One interviewee observed that while many programs do not actively discourage women, they do not actively welcome them either. They described how their organization had made a concerted effort to appeal to women and had increased their participation from 1% to 30%.

Several interviewees described the tradeoffs between single-gender and mixed-gender groups. One OPV provider explained that single-gender trips were the norm for their organization, “because we believe the level of disclosure is greater,” but that they often reengaged participants in coed groups if they returned for a second trip, because “that allow[s] them to share ideas between men and women – which is a huge gap for a lot of military people.” Another OPV provider explained that while an earlier trend in their programs was to run gender-specific programs, more recently trips had become more mixed.

Several interviewees noted the value of single-gender groups for survivors of military sexual trauma, since single-gender trips could be more supportive for those who were assaulted by a member of the opposite sex (the most common pattern). Interviewees noted the higher prevalence of military sexual trauma among female veterans, and what this meant for gender dynamics on trips and ensuring survivors’ needs were accommodated. One counselor/clinician noted:

It’s a point of pride that you can hang with the men, so I almost wonder if you only had like a women’s only group, would women be like, “what do you mean, I can’t do the men’s group?” ... But, on the other hand, maybe they would feel like, “hey I can talk to this other woman about things I can’t talk to this man about because he wouldn’t have experienced that,” I feel like I could argue it either way.

Questions persisted for some OPV providers about how to best serve the differing needs of participants of different genders, with interviewees describing a lack of understanding of best practices for program design. One OPV provider described:

One of the questions we ... find challenging is like, do we do the same activities with females that we do with males? And so, we acknowledge that difference is ... a super delicate, area, but physically, mentally, and emotionally it’s a different demographic than males.

Age and war generations

Some OPV providers experienced challenges in reaching veterans across age groups, generations, and service records, despite intentional recruitment efforts for broad engagement. Other OPVs catered programs to veterans based on eras of military

conflict and deployment locations (e.g., Vietnam, Iraq, Afghanistan). Interviewees described tradeoffs between broad and narrow inclusion. The OPVs that served a narrower demographic promoted connections among veteran peer-groups who shared similar experiences. Some OPV providers described having a formal requirement for overseas service or involvement in combat. Yet, one program provider suggested that narrowly focused programs led to segregated environments; their organization designed programs so that all veterans were welcome on every trip:

Everybody was wanting to run trips for post-9/11 vets, but not include all vets in that. Or, they would only serve physical disabled veterans, or they were only trying to serve people with post-traumatic stress. But, they would never put everyone together. And for us, that was segregating our own community and it's not something that is very desirable to us as vets.

Proximity, logistics, and program costs

Programs varied in the logistics of their programming, including recruitment radius, the durations of programs and how often they occurred, and cost to participants. All these factors may influence whether programs are perceived as accessible or welcoming to prospective participants. Some OPV providers recruited veterans from all over the U.S. to participate in a “once-in-a-lifetime” experience in an iconic outdoor destination. Other programs focused on close-to-home recruitment, emphasizing local weekend or single day trips, and identifying ways to reduce participation costs. Interviewees described the potential of using trails or parks close to where participants live and offering supportive programming to get participants outside more frequently. Some interviewees also noted that this programming can be integrated with initiatives where physicians prescribe a regime of regular outdoor activity. One program provider who was engaged in a study on program outcomes explained,

It can be helpful having opportunities within the community, that they can frequently participate on their own. ... it's almost like there's a dose that needs to occur in order to get the effects. ... the more often you do it, the most regular you do it, the better the benefit.

Another program provider described their goal to create an “outing program” that instead of offering “once-in-a-lifetime” trips, offered experiences for veterans on a regular basis on nearby public lands. They thought that it was “really critical to help people see that wherever they are, whether its Wichita, Kansas; Tacoma, Washington; or Boston, Massachusetts; that there really are amazing opportunities relatively close by most of the time on public lands.”

Interviewees noted that it was more than just proximity, however, that made programs accessible: it was also the logistical and knowledge support. Some programs focused support on veterans with the highest needs to navigate the logistics of gear and permits for unfamiliar activities in unfamiliar settings. Lack of participant knowledge was described as a “huge obstacle” for access and was often a source of anxiety, even for mundane tasks such as renting a car or securing airline reservations. Interviewees noted that the time, financial, and opportunity costs of planning and participating in a program was prohibitive to some prospective participants, especially those with children. This was especially related to the feasibility of participating in multi-day programming.

Some providers were developing programs and trips of different lengths to encourage participation for those with different constraints, as well as helping trip participants connect and organize shorter trips on their own. Taking time away from family or employment obligations presented a challenge for many and was seen as a privilege by some interviewees. Even if programs had little or no cost for participants, they still faced opportunity costs of not working for the duration of the program. One land manager suggested programs could offer stipends to participants to help defray the cost of lost work.

However costs were shouldered, some interviewees shared the perspective that the costs were necessary long-term investments in healing and transition processes. As one OPV provider described, prospective participants needed affirmation from friends or family, being told, “listen, you were gone for six months on deployment, and if this will help you take another deployment, look at it like that.’ We hear that all the time; I hear the words ‘civilian deployment,’ ‘healing deployment,’ ‘treatment deployment.’”

Media analysis: Signals of diversity and inclusivity in OPV websites

Our structured, multi-step approach also explored inclusivity and accessibility of OPVs by focusing on gender, race, and (dis)ability in the content of public-land OPV websites and videos.

Formal DEI statements and program offerings

OPV providers signaled inclusive programming through formal statements of diversity, equal opportunity, disability, or other intentions that articulate organizational commitments to these goals or practices (Table 1). In the websites for the 55 public-land OPVs in our inventory, we found that 13% of programs had explicit statements that discussed diversity, inclusivity, or equal opportunity. Of these statements, only four were specific to an OPV, whereas the other three were part of the larger, parent organization where veterans programming was one component of many. Nearly half of OPV websites provided statements on commitments to people with disabilities.

Table 1. Characteristics of DEI statements and program features on public land OPV websites ($n = 55$).

Category	Frequency (Percentage) of Websites
Explicit statements discussing DEI	7 (13%)*
Statement on commitment to people with disabilities	26 (48%)
No specific mention of gender, race, income or (dis)ability	29 (53%)
Programs specifically for women	3 (6%)
Programs specifically for POC	0 (0%)
Programs for people with physical disabilities	23 (42%)
Programs for people with cognitive disabilities	21 (38%)
Free programs offered	21 (38%)
No information on program costs	24 (44%)
Mix of programs offered free or with costs	4 (7%)

*Of these statements, only four (7%) were specific to an OPV, whereas the other three were part of an organization where veterans programming was one part of its larger offerings.

Of the 55 public-land OPV websites, 29 did not specify offering programs oriented to particular gender, race, income, or (dis)ability categories. Three of the websites advertised programs explicitly for women and none focused on POC. We found 23 websites that offered programs for people with physical disabilities, often in the form of adaptive sports programs, and 21 websites that featured programs geared for people with non-physical disabilities. We also noted costs of program offerings. More than one-third of programs (38%) stated that they offered free programming, while many did not share information about costs.

Website and video imagery

We assessed how OPVs signal diversity and inclusivity through their website imagery by characterizing the people in photographs, using broad categories for gender, race, and ability/disability (Table 2). The 55 public-land OPV websites contained more male representation than female representation, as 51% were classified as “predominantly male,” and not quite 46% were classified as “similar representation of male/female;” no websites presented predominantly females. Considering race, we categorized most websites as containing images of predominantly White individuals (71%), whereas only 24% featured “similar representation of White/POC.” Only one website contained predominantly images of POC. We also examined the presence of veterans with disabilities, relying on explicit visible markers, such as wheelchairs, canes, or prosthetic or missing limbs. We found that 47% of websites presented “predominantly individuals without visible disabilities.” Meanwhile, just over 25% were classified as “similar representation of people with and without visible disabilities” and 20% presented “predominantly individuals with visible disabilities.”

Of the 55 public-land OPV websites, 37 included promotional videos. We focused on the characteristics of OPV staff and participants in these videos, differentiating between people with speaking and non-speaking roles (Table 3). We observed a consistent trend in the presentation of males/females across the speaker types. Nearly 60% of OPV

Table 2. Frequencies of qualitative imagery categories associated with individuals present on public land OPV websites (*n* = 55).

Category	Frequency (percentage) of websites
Gender	
Predominantly male	28 (50.9%)
Similar representation of male/female	25 (45.5%)
Predominantly female	0 (0.0%)
Not categorized*	2 (2.6%)
Race	
Predominantly White	39 (71.0%)
Similar representation of White/POC	13 (24.0%)
Predominantly POC	1 (1.8%)
Not categorized*	2 (2.6%)
Ability/Disability	
Predominantly individuals without visible disabilities	26 (47.3%)
Similar representation of individuals with and without visible disabilities	14 (25.5%)
Predominantly individuals with visible disabilities	11 (20.0%)
Not categorized*	4 (7.2%)

*Could not categorize some website imagery due to no individuals on the webpages or not enough visual information (e.g., could not identify disabilities with only headshots).

Table 3. Frequencies of qualitative imagery categories associated with speakers and non-speakers in OPV videos ($n = 37$).

Category	Frequency (Percentage) of Videos		
	OPV staff speakers	OPV participant speakers	Non-speakers
Gender			
Predominantly male	22 (59.5%)	17 (45.9%)	19 (51.4%)
Similar representation of male/female	6 (16.2%)	14 (37.8%)	15 (40.5%)
Predominantly female	1 (2.7%)	1 (2.7%)	0 (0.0%)
Not categorized*	8 (21.6%)	5 (13.5%)	3 (8.1%)
Race			
Predominantly White	23 (62.2%)	23 (62.2%)	24 (64.9%)
Similar representation of White/POC	3 (8.1%)	7 (18.9%)	8 (21.6%)
Predominantly POC	3 (8.1%)	2 (5.4%)	2 (5.4%)
Not categorized*	8 (21.6%)	5 (13.5%)	3 (8.1%)
Ability/Disability			
Predominantly individuals without visible disabilities	25 (67.6%)	24 (64.9%)	18 (48.6%)
Similar representation of individuals with and without visible disabilities	3 (8.1%)	5 (13.5%)	7 (18.9%)
Predominantly individuals with visible disabilities	0 (0.0%)	2 (5.4%)	9 (24.3%)
Not categorized*	9 (24.3%)	6 (16.2%)	3 (8.1%)

*Could not categorize some video imagery due to no individuals in speaker/non-speaker categories or voice overs (no image of speaker).

videos presented “predominantly male” staff speakers and 46% featured “predominantly male” participant speakers. Meanwhile, 51% of videos featured “predominantly male” non-speakers. Notably, there were only two instances of “predominantly female” classifications across all video roles. Videos were more likely to be classified as having a “similar representation of male/female” for OPV participant speakers (38%) and non-speakers (41%). The majority of OPV videos were classified as “predominantly White” for all speaking/non-speaking roles (all more than 60%). Very few OPV staff speakers presented “similar representation of White/POC,” but several more were categorized this way for OPV participant speakers (19%) and non-speaking roles (22%). When examining videos for visual cues about ability status, we found that the vast majority of OPV videos were classified as “predominantly individuals without visible disabilities” for both staff (68%) and participant (65%) speaking roles, compared to non-speaking roles (49%). Few videos featured “predominantly individuals with visible disabilities” or a “similar representation of individuals with and without visible disabilities” in speaking roles, but videos were more commonly classified in these ways for non-speaking roles.

Discussion

Our study offers insights into (a) professionals’ intentions and concerns regarding DEI in OPVs operating on public lands, and (b) how programs present their offerings to prospective participants via online representations of race, gender, age, ability, and other identities, which, in turn, may invite or discourage participation. Our interview guide

was not initially designed with a DEI focus, but many interviewees brought DEI-related concerns to our attention, prompting our subsequent media content analysis. Our methods of analyzing images on websites required subjective interpretations of identities; while we recognize imperfections in this approach, and a potentially problematic essentializing of categories such as race or gender, these methods likely mimic how many veterans encounter promotional materials as they search for outdoor programs online. By focusing on OPVs that accessed public lands, we offer insights to land managers seeking to address the DEI objectives of Executive Order 13985.

Our analysis of OPV promotional websites and videos supported the concern that these programs cater most readily to veterans who present as male, White, and able-bodied. In the video analysis, this was even more pronounced among images of OPV staff and participants offering video testimonials, which likely amplifies programs' resonance with male, White, and able-bodied participants. As we described in the literature review, the public land contexts where many of these programs take place carry an array of cultural legacies that may exacerbate a sense of alienation or exclusion to prospective participants whose identity does not fit comfortably, or historically, with outdoor recreation in these settings (Martin, 2004; Roberts, 2015).

Our methods enabled us to characterize the array of OPVs in the U.S. that aspiring participants are likely to encounter, leading to conclusions about what (and whom) these programs represent, as well who is not represented. While no individual organization or program can serve the needs of the entire veteran population, we contend that if OPVs collectively provide program options in ways that are equitable and inclusive, they ought to be able to serve veterans' wide-ranging needs and backgrounds. To overcome the historical and often racialized histories of public lands, OPVs operating on these lands likely need to be more intentional in efforts to promote inclusivity and an openness to a diverse array of participants.

Veterans' identities, backgrounds, and abilities can affect whether they feel included or comfortable in OPVs, suggesting the need for OPVs that disentangle or deconstruct prevailing norms to create spaces for those with identities not traditionally associated with outdoor leisure. Our interview findings provided insight into the complex dynamics of gender and sexuality in OPVs, suggesting that OPVs should not present themselves as one-size-fits-all approaches, and emphasizing the need for programs of different durations, settings, activities, and ability-levels to meet the needs of diverse participants. For veterans who identify as gender non-binary or LGBTQ+, needs for gender-supportive programming intersect with other specialized needs, especially given the history of gender and sexuality discrimination in military policy and culture (Gurung et al., 2018; Lundquist, 2008). Interviewees described how women or gender non-binary veterans with PTSD (or who have experienced military sexual trauma) may process stress differently and have specialized needs. Physical or emotional traumas can be compounded by experiences related to gender or sexuality. Furthermore, our website and video findings revealed that gendered representations are pervasive in OPVs. While more than half of the public-land OPV websites predominantly featured men in their imagery, none featured a predominant depiction of female veterans. Our findings raise questions about the lack of diverse representation in OPV promotional materials, reinforcing the outdoors and public lands as traditional male-dominated spaces (Baker et al., 2022).

Veterans of color represent another example of “unlikely hikers” who may face practical and cultural barriers to participation in outdoor programming (Stanley, 2020). Veterans of color are not well represented in OPV promotional materials. This raises questions about representation in actual programming, which warrants further research. Veterans of color represent more than one-third of post-9/11 veterans, so it seems reasonable to expect similarly diverse representation on websites and in programs to serve this veteran population. Representation in media that helps overcome the inequities of the status quo and promote access may need to be strategically placed to promote desirable (increased) levels of participation by underrepresented groups (Fairchild & Petrzelka, 2021). Due to histories of racism and discrimination in outdoor recreation and public lands (Finney, 2014; Roberts, 2009), we expect that veterans of color may more likely be drawn to programs that reflect their own identities and communities. Veterans of color can experience rural and urban contexts in racialized ways and may also find entire geographic regions alienating, disorienting, or unsafe (Johnson et al., 2001). Interestingly, neither race nor ethnicity was mentioned in any of our interviews, while other variables such as gender, age, socioeconomic status, and geographic location were discussed. This silence around race in interviews with both land managers and OPV providers suggests that more work may be needed to identify structures and processes that reinforce biases about who belongs in outdoor leisure settings.

Our analysis did find representations of veterans with physical disabilities engaged in OPVs. Compared to women and POC, veterans with disabilities were more likely to see people resembling themselves among OPVs in our inventory. Yet, other questions may be raised about program access, cost, and availability, which are sometimes barriers for people with disabilities (Greer et al., 2019). Not all OPV activities cater to veterans with disabilities, which means that they may be tacitly exclusive. Some OPV providers described limitations in their ability to accommodate people with severe mental disabilities. Moreover, not all activities are equally suitable to veterans with mobility limitations (e.g., backpacking or mountaineering), and traveling to program sites may pose additional challenges for veterans with disabilities.

Finally, OPV providers suggested that outdoor programs may pose difficulties for veterans lacking discretionary income or time to participate. Some programs require significant time away from home to participate in lengthy programs or travel to remote locations, which may not be feasible for veterans with family or work obligations. Travel to unfamiliar or isolated locations may pose additional emotional, financial, or practical obstacles. While many OPVs cover direct costs, removing opportunity costs through logistical and organizational support could create more options for veterans facing those obstacles. Designing or offering local programs in urban parks or community forests could also meet these needs.

We know that each of these axes of identity – gender, race, ability, affluence – do not occur in isolation, but rather in concert with each other as part of individuals’ complex, intersectional identities. As Stanley (2020, p. 252) describes: “Hiking while fat, and/or queer, and/or non-White, and/or as a lone woman: the difficulties are multiplicative rather than additive.” While our study extends beyond hiking as an outdoor activity, we know that outdoor spaces in the U.S. – and the activities that happen in them – often pose challenges for people who do not fit the usual mold (Gupta, 2022). Our study

offers a coarse approach to looking at representations of a few of these identities individually; future research would benefit from an approach that appreciates how these identities are defined, how they intersect, and how they are supported. We encourage future empirical studies that assess demographic characteristics associated with veteran participation in outdoor programs and that explore the direct experiences of veteran participants and OPV staff.

While we found that some OPV providers feature explicit DEI statements in their mission, website images and videos often reflect a mismatch to these intentions, neglecting to represent diverse participants or staff. Intentionality in both written commitments and diverse representations in imagery is important for programs to successfully reach and accommodate a diverse veteran population and ensure alignment between programs' stated commitments, their marketing, and their reach. OPVs that issue generalized claims about serving "all veterans," but predominantly serve veterans who are White, male, and able-bodied, risk being perceived as inauthentic. By neglecting to acknowledge veterans of diverse backgrounds or to develop specific programs and recruitment strategies to serve a variety of needs, OPV providers and public land managers, however well-intentioned, reinforce systemic biases.

Policy implications

Public land management agencies in the U.S. have opportunities to be more intentional about managing lands as therapeutic landscapes to serve veterans (Derrien et al., 2020; Havlick et al., 2021) and are investigating ways to make the outdoors more accessible and inclusive, as directed by Executive Order 13985. In doing so, the health benefits of being in natural settings can be more widely appreciated and achieved (Thomas et al., 2022). We have conceptualized a set of DEI criteria that public land managers may refer to when forming new partnerships, agreements, contracts, or permits with OPV providers. This framework also can be used to inform OPV providers operating on private or public lands as they seek to design or expand their programs. Figure 1 shows a set of six criteria that could be built into formal or informal administrative processes: access, equity, diversity, activity, timing, and support. Each criterion comes with a sample set of questions that can be asked to assess institutional biases or structural barriers within the managing agency or prospective OPV provider. These criteria encourage inquiry about whether a proposed program caters to underserved populations, or whether – by nature of the activity being featured, the site being used, the timing of events, or staffing – there are demographic groups that would be tacitly excluded. We envision this as an initial framework for evaluating the extent to which OPV providers consider the ways their program offerings may reach diverse audiences. New conceptual models that explore how OPV providers consider intersectionality and overlapping identities would also be beneficial and we encourage research in this domain.

OPV providers are important partners for public agencies seeking to advance these goals, helping veterans access the outdoors through guided, facilitated, or organized programs. It is important for public land managers partnering with OPVs to consider how providers intend to facilitate access and foster inclusion and diversity. This goes beyond the basic terms of nondiscrimination focused on race, color, religion, sex, national

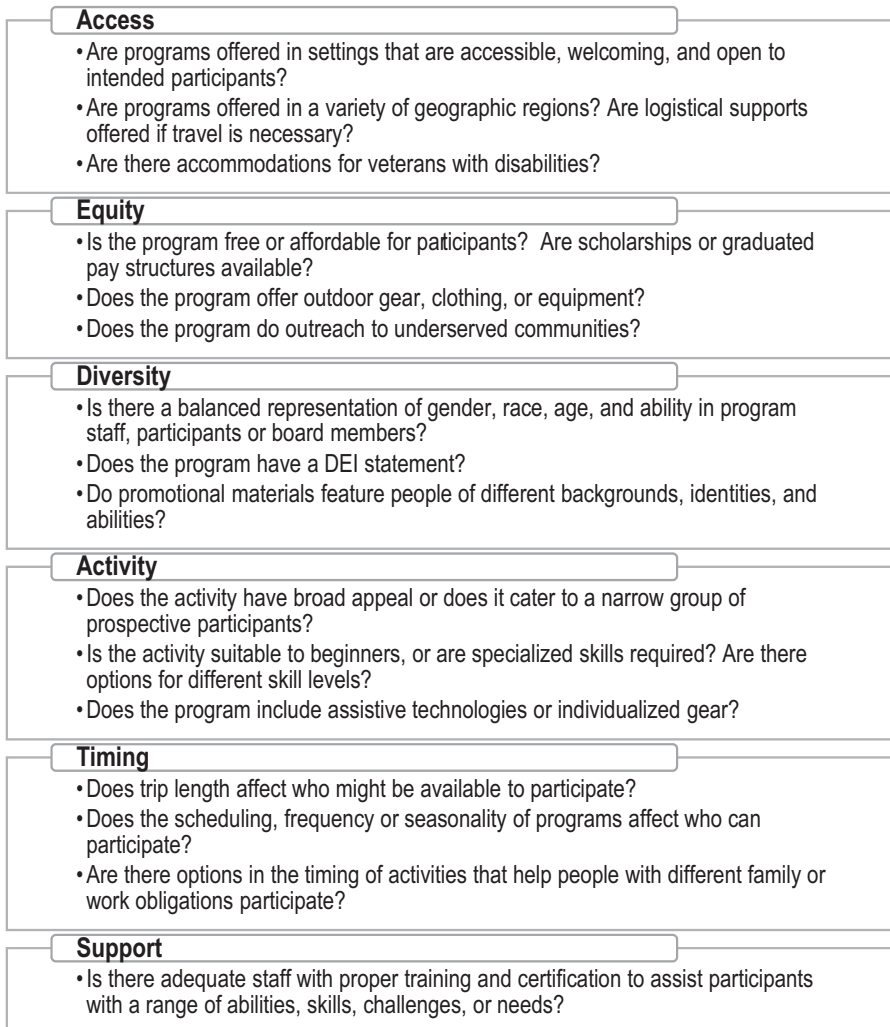


Figure 1. Diversity, equity and inclusion considerations for veterans' outdoor programs.

origin, disability, or age, and could be actively reoriented into a promotion of diverse representations and identities, including categories not covered by traditional or legal disclaimers. Creating common language, goals, expectations, and metrics to communicate these goals is important for building these into administrative processes, such as special use permits, agreements, or contracts.

Conclusion

Our study's examination of DEI in OPVs suggests that within the array of programs, many veterans may not see themselves represented or feel welcomed by existing opportunities. OPVs that aspire for DEI in their programming would benefit from better representing those efforts in their marketing. Public land management agencies seeking to enhance outdoor experiences and improve access to parks, forests, and other protected

areas for diverse constituents would benefit from forming partnerships with OPV providers that foster connections for veterans of diverse backgrounds and abilities to the outdoors. Gaps in OPV recruitment or programming likely result in certain demographic or ability groups consistently missing from these programs, raising questions about inadvertent exclusion. Our study builds on the work of others who have drawn attention to ways that the public lands recreation has become dominated by privileged identities. Greater attention to DEI in OPVs could bring us closer to sharing nature's benefits more equitably with veterans and expanding the reach of valuable programs and outdoor opportunities.

Ethics statement

This project received approval from the Institutional Review Board for the Protection of Human Subjects at University of Colorado Colorado Springs, protocol #17-229.

Disclosure statement

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References

- Avery, D. R. (2003). Reactions to diversity in recruitment advertising: Are differences black and white? *The Journal of Applied Psychology*, 88(4), 672–679. <https://doi.org/10.1037/0021-9010.88.4.672>
- Baker, M., Carr, N., & Stewart, E. (2022). Introduction to special issue on being outdoors: Challenging and celebrating diverse outdoor leisure embodiments and experiences. *Annals of Leisure Research*, 25(3), 305–313.
- Bettmann, J. E., Prince, K. C., Ganesh, K., Rugo, K. F., Bryan, A. O., Bryan, C. J., & Leifker, F. R. (2021). The effect of time outdoors on veterans receiving treatment for PTSD. *Journal of Clinical Psychology*, 77(9), 2041–2056. <https://doi.org/10.1002/jclp.23139>
- Blauwet, C., & Willick, S. E. (2012). The paralympic movement: Using sports to promote health, disability rights, and social integration for athletes with disabilities. *The Journal of Injury, Function, and Rehabilitation*, 4(11), 851–856. <https://doi.org/10.1016/j.pmrj.2012.08.015>
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, M. N. Coutanche, L. M. McMullen, & A. T. Panter (Eds.), *APA handbook of research methods in psychology Volume 2. Research designs: Quantitative, qualitative, neuropsychological and biological* (Vol. 2, pp. 57–71). American Psychological Association.

- Bureau of Labor Statistics. (2020). Employment situation of veterans – 2020 <https://www.bls.gov/news.release/pdf/vet.pdf>
- Byrne, J. (2012). When green is White: The cultural politics of race, nature and social exclusion in a Los Angeles urban national park. *Geoforum*, 43(3), 595–611.
- Byrne, J., & Wolch, J. (2009). Nature, race, and parks: Past research and future directions for geographic research. *Progress in Human Geography*, 33(6), 743–765. <https://doi.org/10.1177/0309132509103156>
- Caddick, N., & Smith, B. (2014). The impact of sport and physical activity on the well-being of combat veterans: A systematic review. *Psychology of Sport & Exercise*, 15(1), 9–18. <https://doi.org/10.1016/j.psychsport.2013.09.011>
- Cervený, L. K., McLain, R. J., Banis, D., & Helmer, M. (2022). National Forest visitation preferences and avenues to participation for urban Hispanic recreationists in the Portland Metropolitan Area (USA). *Journal of Forestry*, 2020, . vac023 <https://doi.org/10.1093/jofore/fvac023>
- Coleman, D., & Iso-Ahola, S. E. (1993). Leisure and health: The role of social support and self-determination. *Journal of Leisure Research*, 25(2), 111–128. <https://doi.org/10.1080/0022216.1993.11969913>
- Colley, K., Irvine, K. N., & Currie, M. (2022). Who benefits from nature? A quantitative intersectional perspective on inequalities in contact with nature and the gender gap outdoors. *Landscape & Urban Planning*, 223, 104420. <https://doi.org/10.1016/j.landurbplan.2022.104420>
- Davis, J. (2019). Black faces, black spaces: Rethinking African American underrepresentation in wildland spaces and outdoor recreation. *Environment & Planning E*, 2(1), 89–109. <https://doi.org/10.1177/2514848618817480>
- Davis-Berman, J., Berman, D., & Berman, N. D. (2018). Outdoor programs as treatment for post-traumatic stress disorder in veterans: Issues and evidence. *Best Practices in Mental Health*, 14(2), 9–20.
- De Luca, S. M., Blossnich, J. R., Hentschel, E. A. W., King, E., & Amen, S. (2016). Mental health care utilization: How race, ethnicity and veteran status are associated with seeking help. *Community Mental Health Journal*, 52(2), 174–179. <https://doi.org/10.1007/s10597-015-9964-3>
- Derrien, M. M., Bloom, T., & Duke, S. (2022). Local partnerships for health on national forests. *Journal of Park and Recreation Administration*, 40(1), 216–227. <https://doi.org/10.18666/JPra-2021-10969>
- Derrien, M. M., Cervený, L. K., & Havlick, D. G. (2020). Outdoor programs for veterans: Public land policies and practices to support therapeutic opportunities. *Journal of Forestry*, 118(5), 534–547. <https://doi.org/10.1093/jofore/fvaa023>
- Dustin, D., Bricker, N., Arave, J., Wall, W., & Wendt, G. (2011). The promise of river running as a therapeutic medium for veterans coping with post-traumatic stress disorder. *Therapeutic Recreation Journal*, 45(4), 326–340.
- Eichler, M., & Smith-Evans, K. (2018). Gender in veteran reintegration and transition: A scoping review. *Journal of Military, Veteran & Family Health*, 4(1), 5–19. <https://doi.org/10.3138/jmvfh.2017-0004>
- Evans, K. E., Schmalz, D. L., Anderson, D. M., & Agate, S. T. (2020). “Try not to make waves”: Managing gender discrimination in outdoor recreation. *Leisure Sciences*, 2020, 1–17. <https://doi.org/10.3138/jmvfh.2017-0004>
- Fairchild, E., & Petrzela, P. (2021). The USDA, gender, and race equity: Representation on conservation agency websites and social media. *Society & Natural Resources*, 34(1), 122–132. <https://doi.org/10.1080/08941920.2020.1743802>
- Finney, C. (2014). *Black faces, white spaces: Reimagining the relationship of African Americans to the great outdoors*. University of North Carolina Press.
- Flores, D., Falco, G., Roberts, N. S., & Valenzuela, F. P. (2018). Recreation equity: Is the Forest Service serving its diverse publics? *Journal of Forestry*, 116(3), 266–272. <https://doi.org/10.1093/jofore/fvx016>

- Floyd, M. F., & Johnson, C. Y. (2002). Coming to terms with environmental justice in outdoor recreation: A conceptual discussion with research implications. *Leisure Sciences*, 24(1), 59–77. <https://doi.org/10.1080/01490400252772836>
- Glaser, B. G., & Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.
- Greer, N., Balser, D., McKenzie, L., Nicholson, H., MacDonald, R., Rosebush, C., Senk, A., Tonkin, B., & Wilt, T. J. (2019). *Adaptive sports for disabled veterans*. U.S. Department of Veterans Affairs.
- Greer, M., & Vin-Raviv, N. (2019). Outdoor-based therapeutic recreation programs among military veterans with posttraumatic stress disorder: Assessing the evidence. *Military Behavioral Health*, 7(3), 286–303. <https://doi.org/10.1080/21635781.2018.1543063>
- Grieger, T. A., Cozza, S. J., Ursano, R. J., Hoge, C., Martinez, P. E., Engel, C. C., & Wain, H. J. (2006). Posttraumatic stress disorder and depression in battle-injured soldiers. *American Journal of Psychiatry*, 163(10), 1777–1783.
- Gupta, A. H. (2022, July 19). The benefits of an inclusive outdoor escape. *New York Times* D7.
- Gurung, S., Ventuneac, A., Rendina, H. J., Savarese, E., Grov, C., & Parsons, J. T. (2018). Prevalence of military sexual trauma and sexual orientation discrimination among lesbian, gay, bisexual, and transgender military personnel: A descriptive study. *Sexuality Research & Social Policy*, 15(1), 74–82. <https://doi.org/10.1007/s13178-017-0311-z>
- Hack, S. M., DeForge, B. R., & Lucksted, A. (2017). Variation in veteran identity as a factor in veteran-targeted interventions. *Psychiatric Services*, 68(7), 727–729. <https://doi.org/10.1176/appi.ps.201600237>
- Havlick, D. G., Cervený, L. K., & Derrien, M. M. (2021). Therapeutic landscapes, outdoor programs for veterans, and public lands. *Social Science & Medicine*, 268, 113540. <https://doi.org/10.1016/j.socscimed.2020.113540>
- Hawkins, B. L., Townsend, J. A., & Garst, B. A. (2016). Nature-based recreational therapy for military service members: A strengths approach. *Therapeutic Recreation Journal*, 50(1), 55–74. <https://doi.org/10.18666/TRJ-2016-V50-I1-6793>
- Hay, I. (2005). *Qualitative research methods in human geography*, 4th ed. Oxford University Press.
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *The New England Journal of Medicine*, 351(1), 13–22. <https://doi.org/10.1056/NEJMoa040603>
- Hutchinson, S. L., Loy, D. P., Kleiber, D. A., & Dattilo, J. (2003). Leisure as a coping resource: Variations in coping with traumatic injury and illness. *Leisure Sciences*, 25(2–3), 143–161.
- Johnson, B. H. (2017). *Escaping the dark, gray city: Fear and hope in progressive-era conservation*. Yale University Press.
- Johnson, C. Y. (1998). A consideration of collective memory in African American attachment to wildland recreation places. *Human Ecology Review*, 5(1), 5–15. <https://www.jstor.org/stable/24707101>
- Johnson, C. Y., & Bowker, J. M. (2004). African-American wildland memories. *Environmental Ethics*, 26(1), 57–75. <https://doi.org/10.5840/enviroethics200426141>
- Johnson, C. Y., Bowker, J. M., & Cordell, H. K. (2001). Outdoor recreation constraints: An examination of race, gender, and rural dwelling. *Journal of Rural Social Science*, 17(1), 111–133. <https://doi.org/10.5840/enviroethics200426141>
- Kintzle, S., Barr, N., Corletto, G., & Castro, C. (2018). PTSD in U.S. Veterans: The role of social connectedness, combat experience and discharge. *Healthcare*, 6(3), 102–109. <https://doi.org/10.3390/healthcare6030102>
- Klassen, M. L. (2001). Lots of fun, not much work, and no hassles: Marketing images of higher education. *Journal of Marketing for Higher Education*, 10(2), 11–26. https://doi.org/10.1300/J050v10n02_02
- Kleiber, D. A., Hutchinson, S. L., & Williams, R. (2002). Leisure as a resource in transcending negative life events: Self-protection, self-restoration, and personal transformation. *Leisure Sciences*, 24(2), 219–235.

- Kukla, M., Rattray, N. A., & Salyers, M. P. (2015). Mixed methods study examining work reintegration experiences from perspectives of Veterans with mental health disorders. *Journal of Rehabilitation Research & Development*, 52(4), 477–491. <https://doi.org/10.1682/JRRD.2014.11.0289>
- Lackey, N. Q., Tysor, D. A., McNay, G. D., Joyner, L., Baker, K. H., & Hodge, C. (2021). Mental health benefits of nature-based recreation: A systematic review. *Annals of Leisure Research*, 24(3), 379–393. <https://doi.org/10.1080/11745398.2019.1655459>
- Lundberg, N., Taniguchi, S., McCormick, B., & Tibbs, C. (2011). Identity negotiating: Re-defining stigmatized identities through recreational sports participation among individuals with physical disability. *Journal of Leisure Research*, 43(2), 205–225. <https://doi.org/10.1080/00222216.2011.11950233>
- Lundberg, N., Taniguchi, S., McGovern, R., & Smith, S. (2016). Female veterans' involvement in outdoor sports and recreation: A theoretical sample of recreation opportunity structures. *Journal of Leisure Research*, 48(5), 413–430. <https://doi.org/10.18666/JLR-2016-V48-I5-6897>
- Lundquist, J. H. (2008). Ethnic and gender satisfaction in the military: The effect of a meritocratic institution. *American Sociological Review*, 73(3), 477–496. <https://doi.org/10.1177/000312240807300306>
- Martin, D. C. (2004). Apartheid in the great outdoors: American advertising and the reproduction of a racialized outdoor leisure identity. *Journal of Leisure Research*, 36(4), 513–535. <https://doi.org/10.1080/00222216.2004.11950034>
- Mattocks, K. M., Kauth, M. R., Sandfort, T., Matza, A. R., Sullivan, J. C., & Shipherd, J. C. (2014). Gender minority veterans: How targeted research and policy can improve health. *LGBT Health*, 1(1), 50–57. <https://doi.org/10.1089/lgbt.2013.0003>
- McAnirlin, O., & Maddox, C. B. (2022). 'We have to be a little more realistic': Women's outdoor recreation experiences in a community hiking group. *Annals of Leisure Research*, 25(3), 335–351. <https://doi.org/10.1080/11745398.2020.1820880>
- Olenick, M., Flowers, M., & Diaz, V. J. (2015). U.S. veterans and their unique issues: Enhancing health care professional awareness. *Advances in Medical Education & Practice*, 6, 635–639. <https://doi.org/10.2147/AMEP.S89479>
- Perkins, L. A., Thomas, K. M., & Taylor, G. A. (2000). Advertising and recruitment: Marketing to minorities. *Psychology & Marketing*, 17(3), 235–255. [https://doi.org/10.1002/\(SICI\)1520-6793\(200003\)17:3<235::AID-MAR3>3.0.CO;2-%23](https://doi.org/10.1002/(SICI)1520-6793(200003)17:3<235::AID-MAR3>3.0.CO;2-%23)
- Powers, S. L., Lee, K. J., Pitas, N. A., Graefe, A. R., & Mowen, A. J. (2020). Understanding access and use of municipal parks and recreation through an intersectionality perspective. *Journal of Leisure Research*, 51(4), 377–396. <https://doi.org/10.1080/00222216.2019.1701965>
- Roberts, N. S. (2009). Crossing the color line with a different perspective on whiteness and (anti) racism: A response to Mary McDonald. *Journal of Leisure Research*, 41(4), 495–509. <https://doi.org/10.1080/00222216.2009.11950187>
- Roberts, N. S. (2015). Race, ethnicity and outdoor studies: Trends, challenges and forward momentum. In B. Heatherstone, H. Prince, & K.A. Henderson (Eds.). *Routledge international handbook of outdoor studies* (pp. 341–350). Routledge.
- Roberts, N. S., & Rodriguez, D. A. (2008). Use of multiple methods: An examination of constraints effecting ethnic minority visitor use of national parks and management implications. *Ethnic Studies Review*, 31(2), 35–70.
- Sahlin, K. B., & Lexell, J. (2015). Impact of organized sports on activity, participation, and quality of life in people with neurologic disabilities. *Physical Medicine & Rehabilitation*, 7, 1081–1088. <https://doi.org/10.1016/j.pmri.2015.03.019>
- Sayer, N. A., Noorbaloochi, S., Frazier, P., Carlson, K., Gravely, A., & Murdoch, M. (2010). Reintegration problems and treatment interests among Iraq and Afghanistan combat veterans receiving VA medical care. *Psychiatric Services*, 61(6), 589–597. <https://doi.org/10.1176/ps.2010.61.6.589>
- Schaeffer, K. (2021). *The changing face of America's veteran population*. Pew Research Center.

- Schwartz, A., & Corkery, M. R. (2011). Barriers to participation among underrepresented populations in outdoor programs. *Recreation Sports Journal*, 35(2), 130–144. <https://doi.org/10.1123/rsj.35.2.130>
- Shinew, K. J., Floyd, M. F., & Parry, D. (2004). Understanding the relationship between race and leisure activities and constraints: Exploring an alternative framework. *Leisure Sciences*, 26(2), 181–199. <https://doi.org/10.1080/00222216.2008.11950130>
- Stanley, P. (2020). Unlikely hikers? Activism, Instagram, and the queer mobilities of fat hikers, women hiking alone, and hikers of colour. *Mobilities*, 15(2), 241–256. <https://doi.org/10.1080/17450101.2019.1696038>
- Stodolska, M., Shinew, K. J., & Camarillo, L. N. (2020). Constraints on recreation among people of color: Toward a new constraints model. *Leisure Sciences*, 42(5–6), 533–551. <https://doi.org/10.1080/01490400.2018.1519473>
- Suter, E. A., Lamb, E. N., Marko, M., & Tye-Williams, S. (2006). Female veterans' identity construction, maintenance, and reproduction. *Women and Language*, 29(1), 10–15.
- Taff, B. D., Dattilo, J., Davis, K. D., & Moeller, J. D. (2016). Leisure perceptions of combat veterans of Operations Enduring Freedom and Iraqi Freedom. *Journal of Leisure Research*, 48(4), 265–283. <https://doi.org/10.18666/JLR-2016-V48-I4-6854>
- Tanielian, T., & Jaycox, L. H. (Eds) (2008). *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*. RAND.
- Taylor, D. E. (2016). *The rise of the American conservation movement: Power, privilege, and environmental protection*. Duke University Press.
- Thomas, A. S., Sánchez, J. J., & Flores, D. (2022). A review of trends and knowledge gaps in Latinx outdoor recreation on federal and state public lands. *Journal of Park & Recreation Administration*, 40(1), 24–43. <https://doi.org/10.18666/JPRA-2021-11064>
- Tysor, D. A., Isaacs, L. L., & Bricker, K. (2020). The social benefits of nature-based recreation for veterans: A scoping review. *American Journal of Recreation Therapy*, 19(2), 15–33.
- U.S. Department of Veterans Affairs. (2021). National Center for PTSD. https://www.ptsd.va.gov/understand/common/common_veterans.asp
- U.S. Department of Veterans Affairs. (2022). Federal register notice: Notice of request for information regarding veterans outdoor recreation. 87 FR 10281: 10281–10283. February 23, 2022, Washington, DC <https://www.govinfo.gov/content/pkg/FR-2022-02-23/pdf/2022-03734.pdf>
- Vespa, J. (2020). Those who served: America's veterans from World War II to the War on Terror. World War II (December 1941 to December 1946), US Census Bureau, American Community Survey Report ACS 43. 485(463), 22. <https://www.womenveteransalliance.org/wp-content/uploads/2020/06/Those-Who-Served-WWII-to-War-on-Terror.pdf>
- Vogt, D. (2011). Mental health-related beliefs as a barrier to service use for military personnel and veterans: A review. *Psychiatric Services*, 62(2), 136–142.
- Weng, P. Y., & Chiang, Y. C. (2014). Psychological restoration through indoor and outdoor leisure activities. *Journal of Leisure Research*, 46(2), 203–217. <https://doi.org/10.1080/00222216.2014.11950320>
- Wheeler, M., Cooper, N. R., Andrews, L., Hacker Hughes, J., Juanchich, M., Rakow, T., & Orbell, S. (2020). Outdoor recreational activity experiences improve psychological wellbeing of military veterans with post-traumatic stress disorder: Positive findings from a pilot study and a randomised controlled trial. *PLoS One*, 15(11), e0241763. <https://doi.org/10.1371/journal.pone.0241763>
- White House. (2017). Presidential memorandum promoting diversity and inclusion in our national parks, national forests, and other public lands and waters. <https://obamawhitehouse.archives.gov/the-press-office/2017/01/12/presidential-memorandum-promoting-diversity-and-inclusion-our-national>
- White House. (2021). Executive order on diversity, equity, inclusion, and accessibility in the federal workforce. <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce/>

- Winter, P. L., Crano, W. D., Basanez, T., & Lamb, C. S. (2020). Equity in access to outdoor recreation: Informing a sustainable future. *Sustainability*, 12(1), 124–140. <https://doi.org/10.3390/su12010124>
- Xiao, X., Perry, E., Manning, R., Krymkowski, D., Valliere, W., & Reigner, N. (2017). Effects of transportation on racial/ethnic diversity of national park visitors. *Leisure Sciences*, 39(2), 126–143. <https://doi.org/10.1080/01490400.2016.1151846>
- Young, T. (2017). *Heading out: A history of American camping*. Cornell University Press.