THE SELF-GOVERNANCE CHALLENGES FACING CLIMBERS, WITH EXAMPLES FROM UTAH, COLORADO, & ONTARIO

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Abstract

Climbers are mobilizing to collectively address challenges associated with their sport. In this paper, we argue that such challenges deserve greater attention, as do climbers' responses to them. The argument is illustrated through three challenges: the "classic" self-governance challenge of divergent climber preferences regarding fixed hardware; the "evolving" challenge of attitudes towards acceptable climber behavior; and, the "emerging" challenge of ensuring diversity, inclusion, and representation in this historically white and male activity. We outline a research approach that leverages collaboration with local climbing organizations and present survey data from communities in Colorado (U.S.), Utah (U.S.), and Ontario (Canada). Similar to other outdoor recreation contexts, a better understanding of self-governance challenges is critical for climbers and land managers alike, as both groups seek effective management for the benefit of recreationists and the natural resources themselves.

Keywords: Rock climbing, climbing ethics, local climbing organizations, governance, self-governance

Available data suggest a growing interest in rock climbing across many countries. For example, the International Federation of Sport Climbing (the governing body for international competition climbing) reports that 44.5 million people worldwide participated in some form of climbing during 2019 (IFSC, 2019). In the United States (U.S.), the Outdoor Industry Association estimates up to 7.7 million indoor and outdoor climbing participants in 2018, up from 7.24 million in the prior year (OIA, 2019). Climbing Wall Association data indicates that although much of the sport's growth likely occurs indoors (U.S. indoor climbing facilities average up to 100 new members a month; CWA, 2018), this likely translates to more outdoor climbers: in a survey of over 11,000 U.S. climbers nationwide, 60% of indoor-only respondents said they intended to start climbing outdoors in the coming year (CWA, 2020).

The implications of increasing climbing participation have not gone unnoticed in the literature. A range of studies examine the environmental repercussions of climbing activity (McMillan & Larson, 2002; Monz, 2009), as well as participants' attitudes towards the environmental impacts of climbing (Adams & Zaniewski, 2012; Schwartz et al., 2019). Climbers' economic impact draws attention (Maples et al., 2017) and research addresses discrete climbing subpopulations, such as students (Hyder, 1999; Smyth & Fasoli, 2007) and competition climbers (Gagnon et al., 2016). Other research shows climbers to have a high degree of place attachment and concern for the environment (Wilson et al. 2014). A number of studies also address the social dimensions of rock climbing (e.g. Léséleuc, 2004; Cailly, 2006), with much attention afforded to climbers' preferences towards the placement of bolts and other fixed hardware (Schuster, Thompson, & Hammitt 2001; Bogardus, 2012; Rendueles, 2015; Wood, 2016; Carter, 2019).

Such literature notwithstanding, self-governance among climbers has received little systematic scholarly attention, despite its importance for climbing communities, the managers of public lands in which much climbing activity takes place, and natural and recreational resource users. For example, mitigating climbing's environmental toll often requires land managers to work with self-governing communities to develop and enforce appropriate management policies (Keough & Blahna, 2006; Carter & Weible, 2014). Furthermore, effective self-governance and land management, alike, must address social cleavages within climbing circles, as new entrants to the sport challenge traditional notions of what constitutes appropriate climbing practices, what is a "climber," or who belongs to a climbing community (Léséleuc, 2004; Cailly, 2006; Bogardus, 2012).

We argue that these challenges deserve greater attention, as do climbers' responses to them. We begin by highlighting the contributions that such research offers. We then describe the evolution of self-governance among North American climbers in recent decades and three related self-governance challenges: a "classic" self-governance challenge, an "evolving" one, and an "emerging" one. Next, we describe a research approach that leverages collaboration with climbing organizations to gain a better understanding of such challenges. To illustrate this approach, we present survey data from climbing communities in Colorado (U.S.), Utah (U.S.), and Ontario (Canada). Similar to other outdoor recreation contexts (e.g. Brownlee et al. 2015), we contend that self-governance challenges are critical for climbers and land managers alike, as they seek effective management for the benefit of climbers and the natural resources all outdoor recreationists rely on.

Self-Governance among Climbers: Relevance, Evolution, & Challenges

Our central argument in this paper is that there are practical and theoretical contributions to be realized from concerted study of self-governance among climbers. Underlying both the need and promise of

such research is climbing's institutional context: a quintessential "lifestyle sport," climbing is historically characterized by individualism (absence of team competition) and a distinctive subculture (Bogardus, 2012; Rickly-Boyd 2016; Rinehart & Sydnor, 2012). The climbing subculture extends beyond idiosyncratic jargon (almost unintelligible to outsiders; Kozak 1988; Rickly-Boyd, 2012); climbing activity is traditionally self-regulated by informal community norms determined out of deliberation, and sometimes conflict, regarding appropriate climber behavior (Mellor 2001; Bogardus 2012). Climbing norms address a range of activities, from the way a climb is ascended, to the type of equipment that is acceptable in an area (Léséleuc, 2004; Scott & McMahan, 2017).

With significant technological and social transformations in climbing over recent decades, the tradition of informal self-regulation has given way to more formal self-governing arrangements, taking the form of "local climbing organizations," or LCOs, in the U.S. and Canada (described further below). The everyday climbers leading formal self-governing efforts need credible data to inform their decisions and initiatives. Successful self-governance hinges on more than the mandates of a relatively narrow climbing elite, as has often been the case historically (Hamilton, 1979); it will demand an appreciation for the characteristics, experiences, and perceptions of an ever more diverse social landscape. This is particularly the case for historically cohesive local climbing communities, where new community entrants may be regarded as undesirable outsiders (Léséleuc, 2004).

Climbing communities are not the only ones who would benefit from such research. Other recreationists and public lands stakeholders are impacted by climbers and climbing behavior (Hanemann, 2000; Dussias, 2001; Schild, 2009) and land managers increasingly look to such user groups to shoulder management responsibilities (Plummer & Armitage, 2007). Successful self-governance among climbers will therefore aid public lands managers, recreationists, and stakeholders, alike. Because managers often struggle to understand and integrate the perspectives of recreational users in their management decisions (Manning & Lime, 2000), research such as that presented in this paper may also prove a valuable source of user information. As stated by Schuster, Thompson, and Hammitt (2001, 405):

> While the climbing communities' ability to evolve and accept change over time may ease tensions within the climbing community, it can also create management difficulties. The attitudes, beliefs, and concerns of the climbing community can change over a relatively short period of time. Consequently, land managers must monitor and frequently update management plans.

Beyond practical contributions, the changing institutional and social context of climbing presents an opportunity for broader theoretical contributions. Researchers have previously leveraged the climbing context for a better understanding of social processes such as symbolism and territorialization (Léséleuc, 2004; Cailly, 2006), intragroup conflict (Bogardus, 2012; Mueller & Graefe, 2018), and institutional maintenance (Carter, 2019). Research of climbing communities' evolution towards more formal governance can generate yet further insights. For example, it offers a greater understanding of how everyday users engage in collective action for the purposes of natural and recreational resource stewardship (McCool, Nkhata, Breen, & Freimund, 2013; Schild, 2018). Moreover, critical examination of self-governance among climbers can help identify what enables or impedes successful user-informed recreational management (Stenseke & Hansen, 2014; Schild, 2019).

The remainder of this section discusses in greater detail the evolution that is taking place in climber self-governance and outlines three associated challenges. Because this paper's empirical data come from the U.S. and Canada, the discussion is framed largely within the North American context. We

discuss the implications of our research in an international context when we return to the benefits that climber self-governance research promises in the Discussion section.

The Evolution of Self-Governance in North American Climbing

The turn towards formal self-governance among North American climbers is arguably marked by their coordinated response to access threats coinciding with the "sport climbing revolution" of the 1980s and 90s. In 1985, the American Alpine Club established an Access Committee to address mounting climbing area closures. Six years later, the Committee evolved into an independent nonprofit organization, known as Access Fund. At the time, Access Fund's primary purpose was to secure access to climbing areas in threat of closure, often through the purchase of threatened property (Access Fund, 2019b). With climbing's growth in subsequent years, the mandate broadened in scope. Today the organization's objectives include "working to reverse or prevent closures, reduce climbers' environmental impacts, buy threatened climbing areas, help landowners manage risk and liability concerns, and educate the next generation of climbers on responsible climbing practices that protect access" (Access Fund, 2019b).

Access Fund is not alone in this mission. Across North America, climbers have coordinated to established LCOs - stewardship and advocacy organizations, generally taking the form of 501(c)(3) nonprofits or their Canadian equivalents, which assume responsibility for addressing local or regional climbing-related collective action challenges (Maples et al., 2018; Schild, 2018, 2019). Some are organized around a metropolitan area, such as Montana's Helena Climbers' Coalition, others by a region, such as the Upstate New York Climbers Access Coalition, and still others around a particular climbing area, such as West Virginia's New River Alliance of Climbers. As of the time of this writing, at least 120 LCOs are active in the U.S. and Access Fund lists one Canadian LCO affiliate (the Climbers Access Society of British Columbia; Access Fund, 2019a). This study involves another Canadian LCO: the Ontario Alliance of Climbers (OAC).

LCOs tackle a range of challenges, from infrastructure maintenance (e.g. trail improvements), to advocating for climbing-conducive land management policies (Maples et al. 2018; Schild, 2019). Many are related to climbers' efforts at self-governance—coordination through the creation and enforcement of shared rules and norms (Ostrom, 2005). Thus, the self-governance challenges facing LCOs include difficulties that climbers face in agreeing on, implementing, and sustaining climbing "ethics" that reduce climbers' impacts on natural resources and other recreationists, support climbing access, and reflect and serve the interests of the broader community. In the subsections that follow, we discuss three self-governance challenges facing climbers: the "classic" challenge of divergent preferences over bolts and fixed hardware, the "evolving" challenge of differing attitudes towards appropriate climber behavior, and an "emerging" challenge of supporting inclusion and representation in an era of increasing climber diversity.

A "Classic" Governance Challenge: Preferences Regarding Bolts & Fixed Hardware

We consider this first governance challenge a "classic" one, as the installation of bolts and other semi-permanent climbing hardware is a perennial source of conflict among North American climbers. Many historical and contemporary climbing conflicts revolve around differences in climbing route development practices, first ascensionists' authority to determine how and where to protect routes, and related safety concerns (Bogardus, 2012; Wood, 2016; Carter, 2019). North American "bolt wars" date as far back as the late 1980's, where climbers took it upon themselves to remove fixed protection that

they deemed inappropriate, at times resulting in physical altercations, resource and property damage, and climbing area closures (Bogardus, 2012).

While these types of incidents persist (e.g. Carter, 2019), contemporary concern pertains to the aging of fixed hardware. Bolts placed during the sport climbing boom of the 1980s and 90's are reaching (or have reached) the end of their life, creating dangerous conditions for climbers. Climbing communities and LCOs across North America are scrambling to replace old forms of protection with newer, stronger, and longer lasting technologies. Although there are examples of popular climbing areas (e.g. Boulder, Colorado; Old Baldy, Ontario) re-bolted through both manager and climber input, the majority of climbing areas do not have such support to facilitate the process, which demands both human and financial capital. Efforts are further complicated by the challenge of determining the "right" way to replace fixed hardware and who gets to decide what the "right" way is.

At the heart of the added challenge are divergent climber preferences towards the use of fixed hardware, harkening back to the ethics and conflicts of past decades. For example, Bogardus (2012) illustrates the conflicts that arise when new bolts are added to already-established climbs (a practice referred to as "retro-bolting"), concluding that "removing and replacing bolts repeatedly has damaged the rock and resulted in violence and vandalism, but it also has been a powerful incentive for local climbers to address bolting issues collectively" (2012, 302). Similarly, referring to the fixed hardware preference differences among climbers, Schuster, Thompson, and Hammitt (2001, 404) argue: "The perceptions, attitudes, and values of stakeholders need to be understood both independently and collectively to improve the management process and avoid future complications." We discuss our approach to understanding climbers' fixed hardware preferences and present results from surveys conducted with LCOs later in this paper.

An "Evolving" Governance Challenge: Attitudes towards Acceptable Climber Behavior

Beyond the realm of fixed hardware, institutional and social tensions are driven by evolving perceptions of what constitutes acceptable (or unacceptable) climber practices and behaviors. Tensions may reside primarily within the climbing community, such when adherents of different climbing disciplines (e.g. traditional versus sport climbing) exhibit attitudinal differences towards climber practices, management policies, and the role of climbing resource management, generally (Schuster, Thompson, & Hammitt, 2001). Evolving attitudes may also put climbers at odds with land managers or other stakeholder groups. For example, climbers in U.S. national parks advocate Leave No Trace principles, yet simultaneously and antithetically support altering landscapes to accommodate bouldering and removing plants to accommodate climbing routes (Schwartz et al., 2019).

The local climbing conventions through which climbing communities have historically self-governed can serve as both impediments to attitudinal changes and mechanisms for encouraging greater community consensus. As described by Léséleuc (2004, 98) in reference to the local climbing community of Claret, France: "…a prescriptive social process takes place through which a group forms and imposes its definitions of the proper way to behave, on one hand within the activity, and on the other hand among those who practice the activity." This social process can encourage normative changes, particularly where climbing access is threatened and new norms are reinforced by local leaders (Carter, 2019). In contrast, where the consequences of normative divergence are less clear, differences are more likely to persist (e.g. Bogardus, 2012). As our results show later in this paper, while surveyed climbers tend to exhibit near-consensus regarding some behaviors, such as climbing a route closed to protect nesting

raptors, other behaviors engender a wide range of opinions, such as the acceptability of chalk "tick marks" on bouldering problems and climbing routes.

An "Emerging" Governance Challenge: Diversity, Inclusion, & Representation

North American climbing trends white, male, and heterosexual (Chisholm, 2008; Gagnon et al. 2016), mirroring trends in outdoor recreation generally (AAC, 2019; OIA, 2019). Among the likely causes are socioeconomic inequalities and differing levels of cultural integration in dominant society (Johnson et al., 2004; Roberts & Suren, 2010) and the social construction of wilderness landscapes, representing white privilege (Rose & Paisley, 2012) and Western notions of spirituality (Ashley, 2007). The aforementioned socially cohesive nature of climbing communities may exacerbate the problem, where defined "insider" identities compound the institutional barriers facing "outsiders" (Chisholm, 2008).

Although a lack of inclusion and diversity in climbing is not new, we characterize this as an "emerging" self-governance challenge because our personal experiences and observations suggest it has gone unrecognized by most climbers until recently—an assumption that is supported by a 2019 Access Fund survey, as discussed below. However, moves in the outdoor industry and climbing communities suggest a growing recognition. For example, in the wake of heightened anti-racist activism following the deaths of Black Americans at the hands of police, Access Fund and several LCOs issued statements in support of the Black Lives Matter movement (Access Fund, 2020). Before that, the CEO of Canada's largest outdoor retailer wrote an open letter to the outdoor community arguing for greater representation of diversity by all outdoor equipment retailers in their advertisements (Labistour, 2018). Access Fund (2019c) identified diversity and inclusion as "central issues to our community" and the American Mountain Guides Association (the authoritative source for guide training in the U.S.) lists expanding guiding access and diversifying guiding ranks as key priorities (AAC, 2019, 5). Organizations such as Brown Girls Climb (Brown Girls Climb, 2018) and Brothers of Climbing (BOC, 2019) seek to create opportunities for and raise the profile of minority climbers. Finally, the 2019 Outdoor Participation Report indicated that, for the first time, more than half of U.S. indoor climbers, sport climbers, and boulderers are female, and African Americans were the demographic group with the most growth in indoor climbing (OIA, 2019).

Despite such gains, much work remains before climbing communities are open and safe for participants that do not fit the stereotypically white, male, and heterosexual norm. Indeed, a 2019 Access Fund survey suggests diversity and inclusion likely remains far from being a universally recognized need: among a convenience sample of 2,791 respondents, a lack of inclusion and diversity in the climbing community ranked twelfth out of 14 concerning issues facing climbers (Carter, 2020). As stated by self-identified multi-racial climber Indigo Johnson (2016): "Nothing about non-white people intrinsically prevents them from rock climbing, yet they still seem largely absent from the sport." Similar to the topics already discussed, creating a more inclusive, inviting, and diverse social landscape for climbers of all backgrounds and identities is preconditioned by an understanding of where current efforts fall short. As the data we share later in this paper shows, while the biases exhibited in the social composition of climbers in Colorado, Utah, and Ontario may be uncomfortable for some in those communities, recognizing them is a first step towards addressing the problem.

A Collaborative Approach to Studying Self-Governance among Climbers

Studying climbers confronts obstacles experienced by all researchers who examine opaque social groups: determining population characteristics and identifying samples is problematic absent a pre-identified population (Landers & Behrend, 2015). Our approach addresses these obstacles by leveraging the collaboration of LCOs. LCO collaboration enables us to strategically target potential respondents via affiliation with an organization they likely care about, thereby ensuring greater reach among the desired communities. It also has the substantive benefit of providing LCOs with greater insight into the communities they serve.

In the analyses that follow, we report select data from four surveys conducted in collaboration with three LCOs. These surveys are: 2018 and 2019 surveys conducted with the Salt Lake Climbers Alliance (SLCA), an LCO operating in the Salt Lake City area of Utah's Wasatch Front; a 2019 survey conducted with the Boulder Climbing Community (BCC), which serves Boulder-area climbers residing on Colorado's Front Range; and a 2019 survey conducted with the aforementioned OAC, which is based in Ontario, Canada. Methods were consistent across the surveys, except where noted in the following discussion.

Study Designs

Each survey was developed in collaboration with LCO leadership (Executive Directors and/or Board of Director members) by one of this paper's authors. The approach is best characterized as non-participant "insider" research (de Volo & Schatz, 2004) because the researchers are climbers of over a decade and, in two cases, members of the LCOs in question. Survey development began with identifying 4-5 objectives to guide each survey; for example, to describe the climbing backgrounds and demographic characteristics of local climbers, understand local climbers' preferences regarding installation of bolts and fixed-hardware, or assess local climbers' opinions regarding various climber behaviors and practices. Next, researchers developed associated questions and revised them in response to feedback from LCO representatives. Construct development—such as operationalization of fixed-hardware preferences or climbers' practices—was informed by researchers' experiences as climbers and those of LCO representatives.

Although we strove to align objectives and questions across the surveys, some differences exist because each was guided by the context and preferences of individual LCOs. For example, in 2019, the OAC declined to ask about climbers' races/ethnicities and the OAC question querying respondent gender differed from that used in the other surveys. In our reported findings below, survey questions and prompts were consistent across surveys unless otherwise noted.

Survey Distribution & Responses

The surveys were conducted online via open survey URLs distributed through LCOs' email lists, social media posts (Facebook and Instagram), and by encouraging other nonprofit and industry partners to do the same. Email distribution by the SLCA and BCC was through dedicated (survey invitation only) emails, while the OAC's survey invitation was sent as part of the organization's periodic email newsletter. Upon completing the surveys, respondents were given the option to enter a drawing for a free item of climbing gear. The distribution rationale is straightforward—we sought to gather responses from as many climbers as possible within each region—however, it comes with nontrivial hazards, as discussed below.

Distribution through social media and through partner organizations precludes the ability to provide response rates. However, context can be provided relative to distributions via email and response from LCO members. Table 1 provides email distribution and member response details for each survey. Overall respondent numbers are provided in the second table column. Columns 3-5 report the number of survey invitation emails sent, followed by the number of emails opened, and the number of recipients that clicked the embedded URL to access a survey. The last two columns provide LCO membership totals (at the time of survey distributions) and the number of self-identified member respondents.

Table 1. Survey email distributions and LCO membership responses

	Total respondents	Emails sent	Emails opened	Survey links clicked	LCO members	Member respondents
SLCA 2018	799	20,000	3,227	456	1,193	415 [a]
SLCA 2019	1,132	18,673	2,223	414	1,500	537
BCC 2019	630	2,100	583	104	450	183
OAC 2019	326	1,953	1,044 [b]	38	2,000 [c]	143

Notes: a = Respondents to the 2018 SLCA survey were asked if they held SLCA membership at some point in the preceding 3 years (rather than current membership), likely inflating the member response rate for this survey; b = the OAC survey invitation was sent as part of the periodic email newsletter (rather than in a dedicated email); c = the OAC follows a lifetime membership model, while the SLCA and BCC follow annual membership models, likely depressing the OAC's member response rate relative to the other surveys

Although the email response figures reported in Table 1 are low compared to recognized social science standards (Dillman, 2002), a couple of considerations are worth noting. The first is the challenge increasingly faced by nonprofits (and other organizations) attempting to reach individuals exposed to a large number of communications from a growing number of entities. Indeed, Mailchimp reports an average email open rate of only 20% for nonprofits. Furthermore, the email lists were compiled over years, and sometimes through partnering organizations. The list thus undoubtedly includes the emails of climbers that had moved away and non-climbers that attended a single event or were gathered through a partner organization. Given these considerations, the email lists are best thought of as lists of potential but unconfirmed population members rather than defined study populations.

Sample Considerations & Caveats

The resulting study samples are best characterized as convenience samples of respondents attentive to LCO communications, as the climbers most likely to encounter survey invitations had at some point consented to receiving LCO communication through email and/or social media. A lack of credible population estimates precludes findings generalizations and direct comparison of findings across the surveys, as the samples' representativeness are unknown (Etikan, Musa, and Alkassim 2016). Open invitation surveys are vulnerable to non-population and repeat respondents. We addressed the former concern with survey questions intended to assess respondents' climbing backgrounds and the latter is less likely due to survey completion times (approximately 15 minutes); nonetheless, we cannot rule them out as possible threats.

These important caveats notwithstanding, the collaborative approach to collecting climber data has merits that are both practical and scholarly in nature. Chief among the scholarly benefits is the ability to

collect data on the characteristics, preferences, and perspectives of hundreds of climbers by region: as reported in Table 1, 799 climbers responded to the SLCA survey in 2018 and 1,132 responded in 2019, 630 responded to the 2019 BCC survey, and 326 responded to the 2019 OAC survey. Although the studies are subject to the limitations of convenience sample research, as discussed above, they are consistent with similar research conducted in collaboration with organizational partners (e.g. Maples et al, 2017; Mueller & Graefe, 2018).

Self-Governance Challenges in Climbing: Select Data from Utah, Colorado, & Canada

In the paragraphs that follow, we present findings pulled selectively from across our studies to depict the three self-governance challenges discussed earlier. We begin with the "classic" governance challenge of divergent preferences regarding bolts and fixed hardware. Our manner of assessing differences among fixed hardware preferences consists of asking respondents their relative agreement with various re-bolting practices and/or norms, depicted in Table 2. Results from the 2018 survey of Utah climbers follow in Figure 1. We display the data in a chart to facilitate interpretation; the findings are also offered in a frequency table in the Appendix.

As seen in Figure 1, the extent to which surveyed Utah climbers agree on fixed hardware practices varies considerably by the practice in question. For example, only a small minority of climbers disagreed that an old piton (metal spikes hammered into cracks) should be replaced with a bolt where no other protection options are available, suggesting relative agreement among respondents on the matter. In contrast, the surveyed climbers were effectively split in their opinions towards the long-held tradition that a route's first ascensionist is the sole authority when it comes to a route's fixed protection.

Table 2. Survey prompts for measuring fixed hardware preferences

| Variable label	Survey prompt
Replace old piton with bolt	"If no other protection opportunities can be found nearby, an old fixed piton should be replaced with a bolt."
Can add new bolts for safety	"It is acceptable to increase the number of bolts when replacing aging hardware if it makes a climb safer."
Move bolts to increase enjoyment	"When old bolts are replaced, the location of the bolts should be changed if it makes the route more enjoyable to climb, but not necessarily safer."
First ascensionist authority	"The first ascensionist of a route should always have the first and last word on a route's protection."
Majority rule in bolting decisions	"The norm that bolts should not be added to established climbs is outdated — route protection should be changed if a majority of local climbers think it should."

"The majority opinion of a climbing community should be more influential than the minority opinion in route protection decisions, even if the minority group has more climbing experience."
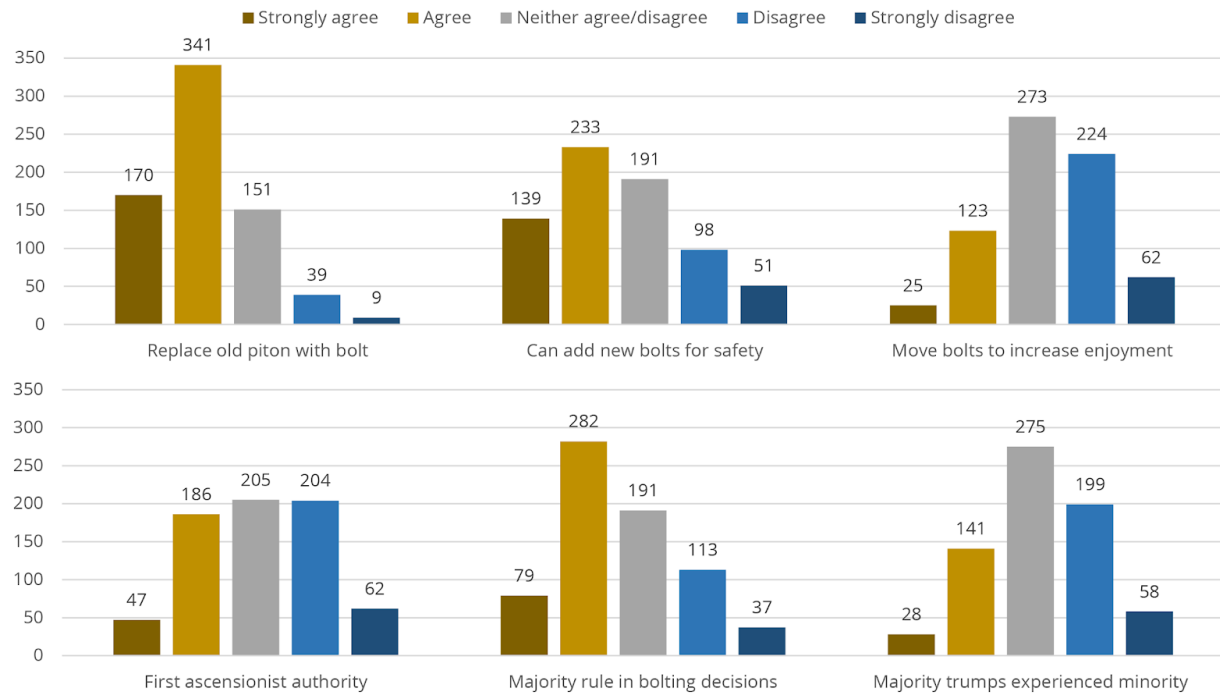
Figure 1. Utah respondents' fixed hardware preferences from the 2018 SLCA survey

The second self-governance challenge, our "evolving" challenge, is about differing attitudes among climbers over what constitutes "appropriate" climber behavior. We gathered data depicting climbers' attitudes by querying them about the perceived acceptability of various behaviors. Figure 2 presents the findings. The top panel depicts findings from the 2019 survey of climbers residing along Colorado's Front Range, while the bottom panel reports those from the 2019 Ontario survey (see the Appendix for frequency tables). As with fixed hardware preferences, the extent to which surveyed climbers' attitudes aligned or diverged varied considerably depending on the behavior in question. For example, Colorado and Ontario respondents overwhelmingly reported that climbing a route closed for raptor nesting and playing music at "the crag" (i.e. outdoor climbing area) are unacceptable behaviors. Findings relative to three other behaviors show greater variation in climber attitudes, even though there are trends between Colorado and Ontario, as no clear consensus emerges regarding the acceptability of leaving chalk "tick marks" on rocks, allowing dogs off leash in climbing areas, or bushwhacking (hiking off trail) to access a climbing area.

Figure 2. Colorado (top) and Ontario (bottom) respondents' acceptable behavior attitudes from the 2019 surveys
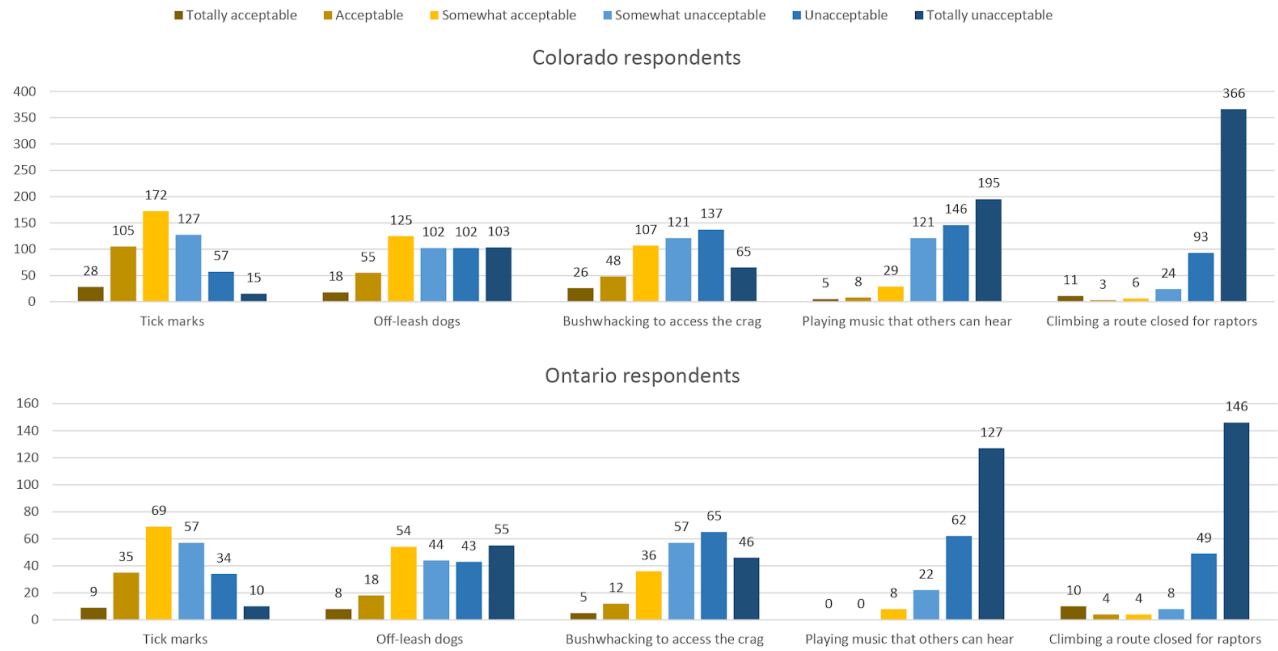
Our third self-governance challenge, which we dubbed "emerging" (in recognition of climbers' emerging recognition of it), is the lack of inclusion and diversity exhibited across North American climbing communities. Data from 2019 surveys in Utah, Colorado, and Ontario support the authors' anecdotal experiences at climbing areas. Most notably, and as presented in Table 3, in both the Utah and Colorado surveys women are outnumbered by men at a rate roughly 2-to-1; the disparity is less acute in the case of the Ontario survey. Respondents to the Utah and Colorado surveys are 90 percent white (the Ontario survey did not query respondents' race/ethnicity in 2019, as discussed above), reflecting notably unrepresentative samples of the broader communities from which the respondents come. We discuss the implications of these findings and how they might be leveraged to address the problem of limited diversity and representation of outdoor climbing communities in the following discussion.

Table 3. Respondents' genders and races/ethnicities in the 2019 SLCA, BCC, and OAC surveys

	SLCA (Utah)		BCC (Colorado)		OAC (Ontario) [a]	
Genders						
Male	613	(64.0%)	343	(71.0%)	128	(60.1%)
Female	335	(35.0%)	135	(28.0%)	84	(39.4%)
Non-binary	5	(0.5%)	1	(0.2%)	--	
Prefer to self-describe	5	(0.5%)	4	(0.8%)	1	(0.5%)
Races/ethnicities						
White/Caucasian	881	(90.0%)	448	(89.8%)	--	
Asian	32	(3.3%)	19	(3.8%)	--	
Hispanic or Latino	40	(4.1%)	18	(3.6%)	--	
American Indian or Alaska Native	8	(0.8%)	5	(1.0%)	--	
Black or African American	3	(0.3%)	2	(0.4%)	--	
Other not listed	15	(0.2%)	7	(1.4%)	--	

Note: OAC demographic data diverged somewhat from that of the other two surveys: gender data were collected through an open-ended question that asked respondents to type their preferred gender pronoun and respondents were not queried as to their races/ethnicities

Discussion

point to possible roles and opportunities for more formal community self-governance — particularly those behaviors for which disagreement was found among survey respondents. Studies such as Kulczycki (2014) demonstrate how climbers relate to broader landscape meanings, which can be leveraged by LCOs to encourage stewardship customs and more sustainable resource outcomes. For example, Borden and Mahamane (2020) present a contemporary case of social marketing campaigns aimed at promoting responsible environmental behavior among rock climbers. They outline a successful process of strategic communication co-creation with Access Fund employees and an indoor rock climbing facility to identify and target persuadable climbers within their community. Notably, as part of their marketing effort, the authors surveyed climbers at the indoor facility about their environmental attitudes.

the changing institutional context of climbing communities and climbers' efforts at collective action represent promising settings for empirical inquiry. Among the more evident contributions to be made may be a greater understanding of what Rebecca Schild (2018, 2019) dubs "civic recreation groups"—voluntary organizations of recreational users that "work to conserve, manage, monitor, advocate for, and educate about recreational resources" (2019, 642)—of which LCOs are one example. Yet, the implications of such research are broader. As demands on land management agencies increasingly outstrip agency budgets and capacities, reliance on co- and collaborative management approaches is expanding, where land managers expect users to meaningfully contribute to management efforts, from "friends of" groups (Selin & Chevez, 1995) to trail ambassadors (e.g. Furman et al, 2019). Research assessing more (and less) productive LCO initiatives and deliverables from the perspectives of land managers and the public will offer insights into the promises and limitations of self-regulation, collaborative governance, and co-management arrangements, alike.

Finally, opportunities can also be found in comparative studies of social and institutional evolution among climbing communities. While the tradition of self-governance through informal rules and norms seems to be a trait shared by climbing communities from France (Léséleuc, 2004; Cailly, 2006) to the U.S. (Hamilton, 1979), the proliferation of LCO-like civic recreation groups does not appear to be as common in Europe, where government action and more traditional climbing and mountain "clubs" play more robust climbing management roles (Hanemann, 2000). The extent to which, how, and why climbing community governance evolves differently across national contexts is a promising line of research, which may offer insights into how recreational and civic communities respond to different challenges and in different institutional contexts.

Finally, climber self-governance challenges offer a promising setting for broader theoretical testing and refinement. For example, investigating how climbers perceive the impacts of their sport, and how these perceptions vary across climbers, can contribute to the vibrant line of research examining recreational users' environmental values, beliefs, and perceptions (Stern et al, 1995; Wynveen, Kyle, & Sutton, 2014). In explaining attitudinal differences among climbers (including and beyond those cited earlier), researchers will find new opportunities to apply established theories, such as prosocial behavior typologies (Padilla-Walker & Carlo, 2015) and rule compliance theory (Gramann, Bonifield, & Kim, 1995). Such novel applications can help to tease out varying developmental, situational, and personality influences on individuals' social norm preferences, generally.

Management Implications

On a practical level, this research can prove valuable to the managers responsible for overseeing the public lands in which much climbing activity takes place. Charged with balancing the many and often conflicting interests of diverse stakeholders (Grijalva & Berrens, 2003), public land managers are often challenged by the task of understanding and incorporating the attitudes and desires of distinct user groups (Schuster, Thompson, & Hammitt, 2001). Our findings thus offer managers a window into the preferences of climbers, with the opportunity to better understand where resistance or conflict is more and less likely, which can be leveraged towards more palatable and effective management policies.

Furthermore, as climbers and their organizations mobilize to address new and evolving obstacles, they will need credible data to understand the characteristics and preferences of the climbers that they represent. This paper highlights the substantive benefits of scholar-practitioner collaborations to aid in this effort. Existing research suggests that climbers have already recognized the promise of such

collaborations for the purposes of gathering economic impact (Maples et al, 2017) and membership data, in the case of national organizations such as Access Fund (Mueller & Graefe, 2018). Our studies suggest that promise extends to the "sticky" issues that can consume much of a climbing initiative's attention and time—issues such as understanding the drivers of fixed hardware conflicts and the prevalence of "rogue" recreationist practices that counter prevailing community norms (Schild, 2019).

It is worth noting that in conducting this research, we encountered reluctance on the part of some LCO representatives to broach potentially controversial topics. For example, concerns were raised that asking questions about bolting practices might enflame dormant tensions between vocal climber subgroups or that querying climbers regarding their genders or sexual orientations might alienate or offend select respondents. Yet, research shows that overcoming the barriers and conflict associated with contentious issues requires active and persistent effort (Brannon et al, 2018). Data such as the above are a tool enabling climbers to better understand their local communities by identifying the types of climbers most attentive to LCO communications (such as survey requests), those that are likely underrepresented, and the issues where a community's preferences most likely align or diverge. We suggest that the payoffs of collecting such data outweigh the discomfort or minor backlash that it may engender.

We close this section with a final reflection on the practical salience of such research for climbers, land managers, and the wider outdoor recreation community. For climbers, successful self-governance is needed to not only preserve the environmental aesthetic of climbing areas, but also ensure they remain accessible to climbers. The 2019 closure of the popular Wyoming climbing area Ten Sleep by the U.S. Forest Service—due in large part to the climbing community's inability to resolve disputes over route development practices—is a timely illustration of the threat. Land managers benefit from reduced monitoring and enforcement costs, the infrastructure contributions of LCOs, and the benefit of interfacing with organizational partners, rather than attempting to communicate to a diffuse and ill-defined recreational group (Schild, 2019). Other outdoor recreation participants benefit from the infrastructure and environmental gains that collective action among climbers generates. Thus, researchers have the opportunity to not only realize scholarly benefits through examination of climbers' self-governance challenges, but may also contribute to the positive externalities that such inquiry promises.

Caveats & Limitations

Although our collaborative approach to climbers' self-governance challenges has notable benefits, these must be understood within the context of the approach's limitations. Chief among these are the convenience sample limitations discussed in this paper's study design section (Etikan, Musa, and Alkassim 2016): because the samples' representativeness is unknown, research findings should not be generalized beyond study respondents, nor should broader conclusions be drawn from comparison of surveys in different locations. Future research compiling population-relevant information, including population estimates and descriptive data regarding climber characteristics and demographics can help alleviate such shortcomings, albeit with considerable effort.

Second, surveying climbers, alone, does not capture the full range of data necessary to understand all aspects of the self-governance challenges facing climbers, nor climbers' responses to them. Thus, while climber surveys are a useful starting point, a research agenda will need to incorporate data collection from other populations, such as LCO volunteers and the land managers they coordinate with, and

interdisciplinary research to document and assess the outcomes of LCO efforts (Schild, 2019). For example, fruitful research collaborations may involve partnering with ecological and environmental researchers specializing in assessing the environmental impact of recreational activity (e.g. Adams & Zaniewski, 2012). Furthermore, a more nuanced understanding of subjective phenomena, such as climbers' experiences and motivations, will benefit from additional qualitative methods, such as the in-depth interviews Bogardus (2012) uses to understand climbers' attitudes towards bolting.

These caveats notwithstanding, our approach offers a valuable first step in a research agenda focused on understanding the self-governance challenges facing climbers. It allows researchers to leverage the benefits of quantitative data, without the hazard of pooling convenience samples from disparate climbing regions (e.g. Schuster, Thompson, & Hammitt, 2001), each of which is likely characterized by a distinct community and climbing culture (Mellor, 2001). And, as argued throughout this paper, it further supports the practical relevance of the research and encourages recognition and application of its findings by practitioners.

Conclusion

Our central argument in this paper is that there are practical and theoretical contributions to be realized from concerted study of self-governance among climbers. In developing the argument, we highlighted three of challenges: the "classic" self-governance challenge of divergent climber preferences regarding fixed hardware; the "evolving" challenge of attitudes towards acceptable climber behavior; and, the "emerging" challenge of supporting and ensuring diversity, inclusion, and representation in this historically white and male activity. We pointed to promising lines of inquiry, outlined a collaborative approach to pursuing such research, and presented findings from our own research as a "proof of concept."

Our findings highlighted the fixed hardware practices most likely to generate controversy or conflict, identified the likely points of community alignment and divergence when it comes to climbers' perceptions of (un)acceptable behavior, and empirically illustrated the exclusivity of many outdoor climbing communities. Climbing communities are promising contexts for research, as their historical trajectory from governance through informal norms to more recent efforts at formal coordination offers settings rich in the complexities of collective action and self-governance (Carter & Weible, 2014; Carter, 2019; Schild, 2019). And, as we argued at this paper's outset, such research is practically salient - in no small part because of growing interest in climbing participation, which we expect to continue into the foreseeable future.

References

Access Fund. (2019a). Local climbing organizations.
https://www.accessfund.org/meet-the-access-fund/our-network/local-climbing-organizations
Accessed 3 February 2020.

Access Fund. (2019b). Our history. https://www.accessfund.org/meet-the-access-fund/our-history
Accessed 3 February 2020.

Access Fund. (2019c). Access Fund's commitment to diversity, equity, and inclusion.
https://www.accessfund.org/open-gate-blog/access-funds-commitment-to-diversity-equity-and
-inclusion Accessed 3 February 2020.

Access Fund. (2020). To our community.
https://www.accessfund.org/open-gate-blog/to-our-community. Accessed 25 July 2020.

Adams, M.D. & Zaniewski, K. (2012). Effects of recreational rock climbing and environmental variation
on a sandstone cliff-face lichen community. *Botany, 90*(4), 253–59.

American Alpine Club (AAC). (2019). *State of Climbing Report, 2019.* Golden, CO: Author.

Ashley, P. (2007). Toward an understanding and definition of wilderness spirituality. *The Australian
Geographer, 38*(1), 53–69.

BOC. About Us. (2019). https://boccrew.com/about-us/ Accessed 3 February 2020.

Bogardus, L.M. (2012). The bolt wars: A social worlds perspective on rock climbing and intragroup
conflict. *Journal of Contemporary Ethnography, 41*(3), 283–308.

Borden, D., & Mahamane, S. (2020). Social marketing and outdoor recreational advocacy groups:
Lessons from a rock climbing campaign. Journal of Outdoor Recreation and Tourism, 29,
100262–. https://doi.org/10.1016/j.jort.2019.100262

Brannon, T.N., Carter, E.R., Murdock-Perriera, L.A., & Higginbotham, G. D. (2018). From backlash to
inclusion for all: Instituting diversity efforts to maximize benefits across group lines. *Social Issues
and Policy Review*, *12*(1), 57-90.

Brown Girls Climb. About. (2018). https://www.browngirlsclimb.com Accessed 3 February 2020.

Brownlee, M.T.J., Hallo, J.C., Jodice, L.W., Moore, D.D., Powell, R.B., & Wright, B.A. (2015). Place
attachment and marine recreationists' attitudes toward offshore wind energy development.
Journal of Leisure Research 47(2), 263–84.

Cailly, L. (2006). Climbing sites as counter-sites? Essay on neo-community forms and territorialisation
processes at work in the practice of rock climbing. *Revue de Géographie Alpine, 94*(3), 35-44.

Carter, D.P. (2019). Institutional enforcement, signaling, and deliberation: Rock climbers attempting to maintain rules and norms through social sanctioning. *International Journal of the Commons, 13*(1), 353–77.

Carter, D.P. (2020). *2019 Climber Survey Summary Report.* Boulder, CO: Author.

Carter, D.P. & Weible, C.M. (2014). Assessing Rule Compliance and Robustness in Recreational Resource Management. *Journal of Environmental Policy & Planning*, *16*(1), 117-139.

Chisholm, D. (2008). Climbing like a girl: An exemplary adventure in feminist phenomenology. *Hypatia, 23*(1), 9-40.

Climbing Wall Association (CWA). (2020). *2019 Indoor Climber Survey Summary Report.* Boulder, CO: Author.

Climbing Wall Association (CWA). (2018). *Indoor Climbing Industry Report.* Boulder, CO: Author.

deVolo, L.B. & Schatz, E. (2004). From inside out: Ethnographic methods in political research. *Political Science and Politics, 37*(2), 267-271.

Dillman, D.A. (2002). Presidential address: Navigating the rapids of change: Some observations on survey methodology in the early twenty-first century. *The Public Opinion Quarterly*, *66*(3), 473-494.

Dussias, A.M. (2000). Cultural conflicts regarding land use: The conflict between recreational users at Devil's Tower and Native American ceremonial users. *Vermont Journal of Environmental Law, 2*, 13-40.

Etikan, I., Musa, S.A., & Alkassim, R.S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1–4.

Furman, N., Rose, J., Rushford, N., & Brownlee, M. (2019). Supporting public lands in an uncertain age: The Wasatch Front Urban Ranger Program. *Journal of Park & Recreation Administration, 37*(1), 105-114.

Gagnon, R.J., Stone, G.A., Garst, B.A., & Arthure-Banning, S. (2016). Competition climbing: From leisure pursuit to lifestyle sport. *Journal of Unconventional Parks, Tourism & Recreation Research, 6*(1), 2–12.

Gramann, J. H., Bonifield, R. L., & Kim, Y. G. (1995). Effect of personality and situational factors on intentions to obey rules in outdoor recreation areas. *Journal of Leisure Research*, *27*(4), 326-343.

Gress, S., & Hall, T. (2017). Diversity in the outdoors: National outdoor leadership school students' attitudes about wilderness. *Journal of Experiential Education*, *40*(2), 114-134.

Grijalva, T. C., & Berrens, R. P. (2003). Standing: Institutional change and rock climbing in wilderness areas. *Society & Natural Resources, 16*(3), 239-247.

Hamilton, L. C. (1979). Modern American rock climbing: Some aspects of social change. *Pacific Sociological Review*, *22*(3), 285-308.

Hanemann, B. (2000). *Cooperation in the European Mountains: The sustainable management of climbing areas in Europe* (Vol. 3). Gland, Switzerland: International Union for Conservation of Nature.

Hyder, M. A. (1999). Have your students climbing the walls: The growth of indoor climbing. *Journal of Physical Education, Recreation & Dance*, *70*(9), 32-39.

International Federation of Sport Climbing (IFSC). Key figures. (2019). http://www.ifsc-climbing.org/index.php/about-us/key-figures Accessed 3 February 2020.

Johnson, C. Y., Bowker, J. M., Bergstrom, J. C., & Ken Cordell, H. (2004). Wilderness values in America: does immigrant status or ethnicity matter? *Society and Natural Resources*, *17*(7), 611-628.

Johnson, I. Diversity in climbing: A difficult conversation. (2016). *Climbing* [online]. https://www.climbing.com/people/diversity-in-climbing-a-tough-conversation/ Accessed 3 February 2020.

Kulczycki, C. (2014). Place meanings and rock climbing in outdoor settings. *Journal of Outdoor Recreation and Tourism,* 7-8, 8–15. https://doi.org/10.1016/j.jort.2014.09.005

Lee Kozak, D. (1988). On Deciding What to Climb: A Sociolinguistic Portrait of North American Rock Climbers. *Studies in Popular Culture*, *11*(2), 60-77.

Léséleuc, E. (2004). Rock climbing and territory: Symbolic processes in the appropriation of a public space. *Revue de Géographie Alpine, 92*(4), 95-103.

Labistour, D. (2018). *Do white people dominate the outdoors?* Vancouver, Canada: Mountain Equipment Co-op. https://www.mec.ca/en/article/outside-is-for-everyone Accessed 3 February 2020.

Landers, R.N. & Behrend, T.S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology*, *8*(2), 142-164.

Manning, R.E. & Lime, D.W. (2000). Defining and managing the quality of wilderness recreation experiences. In D.N. Cole, S.F. McCool, W.T. Borrie, & J. O'Loughlin (Eds.). *Wilderness Science in a Time of Change Conference-Volume 4: Wilderness Visitors, Experiences, and Visitor Management.* Missoula, MT: US Department of Agriculture.

Maples, J.N., Martin, K., Bradley, M.J., & Clark, B.J. (2018). *Local Climbing Organization Survey Evaluation and Assessment.* Boulder, CO: Access Fund.

Maples, J.N., Sharp, R.L., Clark, B.G., Gerlaugh, K., & Gillespie, B. (2017). Climbing out of poverty: The economic impact of rock climbing in and around eastern Kentucky's Red River Gorge. *Journal of Appalachian Studies*, *23*(1), 53-71.

McCool, S. F., Nkhata, B., Breen, C., & Freimund, W. A. (2013). A heuristic framework for reflecting on protected areas and their stewardship in the 21st century. *Journal of Outdoor Recreation and Tourism*, *1*, 9-17.

McMillan, M.A. & Larson, D.W. (2002). Effects of rock climbing on the vegetation of the Niagara Escarpment in southern Ontario, Canada. *Conservation biology*, *16*(2), 389-398.

Mellor, D. (2001). *American Rock: Region, Rock, and Culture in American Climbing.* Woodstock, VT: Countryman Press.

Mills, J.E. (2014). *The Adventure Gap: Changing the Face of the Outdoors.* Seattle, WA: Mountaineers Books.

Monz, C. A. (2009). Climbers' attitudes toward recreation resource impacts in the Adirondack Park's Giant Mountain Wilderness. *International Journal of Wilderness*, *15*(1), 26-33.

Mueller, J.T. & Graefe, A.R. (2018). Testing the relationships between conflict, specialization, and place attachment among members of the American Alpine Club. *Journal of Outdoor Recreation and Tourism*, *24*, 26-34.

Ostrom, E. (2005*). Understanding Institutional Diversity.* Princeton, NJ: Princeton University Press.

Outdoor Industry Association (OIA). (2019). *2019 Outdoor Participation Report.* Washington, DC: Author.

Padilla-Walker, L.M. & Carlo, G. (2015). *Prosocial Development: A Multidimensional Approach.* Oxford, UK: Oxford University Press.

Plummer, R. & Armitage, D. (2007). Crossing boundaries, crossing scales: The evolution of environment and resource co-management. *Geography Compass*, *1*(4), 834-849.

Rendueles, C. (2015). Common-pool resources in rock climbing. *Sociology of Sport Journal, 32*(4), 436-451.

Rickly-Boyd, J. (2012). Lifestyle climbing: Toward existential authenticity. *Journal of Sport & Tourism, 17*(2), 85-104.

Rickly-Boyd, J. (2016). Lifestyle mobilities: A politics of lifestyle rock climbing. *Mobilities, 11*(2), 243-263.

Rinehart, R.E. & Sydnor, S. (2012). *To the Extreme: Alternative Sports, Inside and Out.* Albany, NY: State University of New York Press.

Roberts, N.S. & Suren, A.T. (2010). Through the eyes of youth: A qualitative evaluation of outdoor leadership programs. *Journal of Park and Recreation Administration*, *28*(4), 59-80.

Rose, J. & Paisley, K. (2012). White privilege in experiential education: A critical reflection. *Leisure Sciences*, *34*(2), 136-154.

Schild, R. (2018). Fostering environmental stewardship: The motivations and outcomes of civic recreation. *Journal of Environmental Planning and Management, 61*(5-6), 924-949.

Schild, R. (2019). Civic recreation: Outdoor recreationists as advocates, stewards, and managers of natural resources. *Environmental Management, 63,* 629-646.

Schuster, R.M., Thompson, J.G., & Hammitt, W.E. (2001). Rock climbers' attitudes toward management of climbing and the use of bolts. *Environmental Management*, *28*(3), 403-412.

Schwartz, F., Taff, B.D., Lawhon, B., Pettebone, D., Esser, S., & D'Antonio, A. (2019). Leave No Trace bouldering ethics: Transitioning from the gym to the crag. *Journal of Outdoor Recreation and Tourism*, *25*, 16-23.

Scott, D. & McMahan, K.K. (2017). Hard-core leisure: A conceptualization. *Leisure Sciences*, *39*(6), 569-574.

Selin, S. & Chevez, D. (1995). Developing a collaborative model for environmental planning and management. *Environmental management*, *19*(2), 189-195.

Sharp, R.L., Maples, J.N., & Gerlaugh, K. (2018). Factors influencing knowledge and self-reported application of Leave No Trace principles amongst rock climbers in Kentucky's Red River Gorge. *Journal of Adventure Education and Outdoor Learning*, 1-14.

Smyth, J. & Fasoli, L. (2007). Climbing over the rocks in the road to student engagement and learning in a challenging high school in Australia. *Educational Research*, *49*(3), 273-295.

Stern, P.C., Kalof, L., Dietz, T., & Guagnano, G.A. (1995). Values, beliefs, and proenvironmental action: Attitude formation toward emergent attitude objects. *Journal of applied social psychology*, *25*(18), 1611-1636.

Stenseke, M., & Hansen, A. S. (2014). From rhetoric to knowledge based actions–Challenges for outdoor recreation management in Sweden. *Journal of Outdoor Recreation and Tourism*, *7*, 26-34.

Wilson, W., Szolozi, A., Martin, B., & Scanlan, S. (2014). Identifying with the Gunks: Investigating the effect of serious leisure participation and place attachment on environmental concern among traditional climbers. *Journal of Outdoor Recreation, Education, and Leadership, 6*(2), 114-132.

Wood, M. (2016). On norms and their transgression in serious leisure: Two case studies from rock climbing. *Culture and Organization, 22*(3), 262–82.

Wynveen, C.J., Kyle, G.T., & Sutton, S.G. (2014). Environmental worldview, place attachment, and awareness of environmental impacts in a marine environment. *Environment and Behavior, 46*(8), 993–1017.

Appendix

Figure A1. Utah respondents' fixed hardware preferences from the 2018 SLCA survey

	Strongly agree	Agree	Neither agree/disagree	Disagree	Strongly disagree
Replace old piton with bolt	170 (24%)	341 (48%)	151 (21%)	39 (5%)	9 (1%)
Can add new bolts for safety	139 (20%)	233 (33%)	191 (27%)	98 (14%)	51 (7%)
Move bolts to increase enjoyment	25 (4%)	123 (17%)	273 (39%)	224 (32%)	62 (9%)
First ascensionist authority	47 (7%)	186 (26%)	205 (29%)	204 (29%)	62 (9%)
Majority rule in bolting decisions	79 (11%)	282 (40%)	191 (27%)	113 (16%)	37 (5%)
Majority trumps experienced minority	28 (4%)	141 (20%)	275 (39%)	199 (28%)	58 (8%)

Figure A2. Colorado respondents' acceptable behavior attitudes from the 2019 BCC survey

	Totally acceptable	Acceptable	Somewhat acceptable	Somewhat unacceptable	Unacceptable	Totally unacceptable
Tick marks	28 (6%)	105 (21%)	172 (34%)	127 (25%)	57 (11%)	15 (3%)
Off-leash dogs	18 (4%)	55 (11%)	125 (25%)	102 (20%)	102 (20%)	103 (20%)
Bushwhacking to access the crag	26 (5%)	48 (10%)	107 (21%)	121 (24%)	137 (27%)	65 (13%)
Playing music that others can hear	5 (1%)	8 (2%)	29 (6%)	121 (24%)	146 (29%)	195 (39%
Climbing a route closed for raptors	11 (2%)	3 (1%)	6 (1%)	24 (5%)	93 (18%)	366 (73%)

Figure A3. Ontario respondents' acceptable behavior attitudes from the 2019 OAC survey

	Totally acceptable	Acceptable	Somewhat acceptable	Somewhat unacceptable	Unacceptable	Totally unacceptable
Tick marks	9 (4%)	35 (16%)	69 (32%)	57 (27%)	34 (16%)	10 (5%)
Off-leash dogs	8 (4%)	18 (8%)	54 (24%)	44 (20%)	43 (19%)	55 (25%)
Bushwhacking to access the crag	5 (2%)	12 (5%)	36 (16%)	57 (26%)	65 (29%)	46 (21%)
Playing music that others can hear	0 (0%)	0 (0%)	8 (4%)	22 (10%)	62 (28%)	127 (58%)
Climbing a route closed for raptors	10 (5%)	4 (2%)	4 (2%)	8 (4%)	49 (22%)	146 (66%)