

Examining LGBTQ+ Access to Green Space: Challenges and Pathways to Inclusion

Philip C. Taylor Jr.

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Committee:

Phillip Levin

Gregory Bratman

Amanda Swarr

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Philip C. Taylor Jr.

University of Washington

**Abstract**

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Philip C. Taylor Jr.

Chair of the Supervisory Committee:

Phillip Levin

School of Environmental and Forest Sciences

Contact with nature is widely recognized as essential for mental and physical well-being, there is increasing evidence that access to nature and its associated benefits are unequally distributed. However, LGBTQ+ individuals remain underrepresented in research on accessibility to nature and its benefits. This study examines the constraints affecting LGBTQ+ individuals' experiences in natural spaces within the Puget Sound Region. Using Q methodology—an approach that combines qualitative and quantitative methodologies, this research identifies three dominant discourses regarding LGBTQ+ accessibility to green spaces: (1) Strong Sense of Belonging, (2) A Call for Action, and (3) Safety as a Concern.

Study participants ranked and sorted statements regarding their experiences, allowing for the identification of shared perspectives. The Strong Sense of Belonging discourse describes individuals who feel comfortable and accepted in green spaces, particularly in nature itself rather than in institutions such as National Parks. The Call for Action discourse emphasizes the need for

systemic change, citing a lack of initiatives that promote inclusivity of the LGBTQ+ community and distrust toward land management organizations. The Safety as a Concern discourse highlights the fear of discrimination, harassment, and violence, with participants often carrying self-defense tools and avoiding certain green spaces.

Findings reveal that LGBTQ+ individuals navigate access to nature differently based on perceived safety, political climate, and institutional support. Many participants noted that urban green spaces often feel less safe than wilderness areas due to social dynamics and potential for bias-related encounters. The research also revealed that participants value queer visibility in outdoor recreation and recognize the need for policies that promote equity in green space access.

Like other environmental justice scholarship, this work highlights the need for land management strategies that are inclusive. This research can inform policies to enhance safety, visibility, and accessibility for LGBTQ+ individuals in outdoor spaces. By addressing this research gap, the study fosters a deeper understanding of how social identity shapes interactions with nature, promoting a more equitable approach to environmental planning.

Nature exposure has significant benefits for mental health. Nature contact enhances well-being, happiness, social connections, cohesion, engagement, life purpose as well as improves overall life management. However, there is increasing evidence that access to nature and its associated benefits are unequally distributed. Although scholars have focused on inequities in nature contact, however LGBTQ+ individuals have been largely excluded from this body of work. The harmful effects of social exclusion may be exacerbated in natural green spaces, further marginalizing LGBTQ+ individuals and limiting their ability to experience the well-documented

health benefits of nature exposure. This study identified the constraints that influence LGBTQ+ individuals' perceptions and experiences of acceptance when accessing green or natural spaces. The three discourses identified in this study are (1) Strong Sense of Belonging (2) A Call for Action (3) Safety as a Concern. Broadly, the study aims to inform management practices that enhance opportunities for LGBTQ+ individuals to engage with nature and maximize its benefits. By using a social science methodology known as Q methodology, this research identified and examined the perspectives of LGBTQ+ individuals regarding their feelings of acceptance or exclusion in natural green spaces. This approach enabled participants to identify specific features of green spaces that contribute to their accessibility or inaccessibility for LGBTQ+ populations.

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## **Introduction**

Ecosystem services are the benefits that we receive from the natural environment. The four types of ecosystem services are provisioning, regulating, cultural, and supporting (Millennium Ecosystem Assessment [MEA], 2005). The implications of ecosystem services are critical for maintaining ecological and human well-being. Provisioning services are tangible items like food and water. (Costanza et al., 2017). Regulating services are natural events such as the climate, water cleanliness, and pollination (Díaz et al., 2006). Cultural services are non-physical benefits that people can gain from contact with the natural environment. Cultural services can be outdoor recreation, spirituality, or mental and physical well-being when engaging with nature (Chan et al., 2012). Both urban and rural green spaces such as parks have been linked to improved mental health outcomes such as reduced stress levels (Bratman et al., 2019). Documented health benefits include increased happiness, subjective well-being, positive social interactions, social cohesion, engagement, a sense of meaning and purpose, and improved manageability of daily life tasks (Hartig & Kahn, 2016). The loss of thriving ecosystems in both urban and rural green spaces result in an increased the risk of missing out on the benefits associated cultural ecosystem services which can lead to social and psychological consequences. Supporting services are ecological processes that are critical for the production and maintenance of all other ecosystem services (De Groot et al., 2010).

## **Health and Well-Being**

Research on the mental health benefits of nature contact has highlighted the significance of factors that can enhance or diminish its effects on mental well-being, such as social identity (Hartig et al., 2014). Notably, sexual identity has received no attention as moderating factors in

how one experiences nature. When examining gender identity one study found that men may experience higher rates of stress reduction when engaging with green spaces with moderate levels of tree density. Women experience no change with in stress reduction depending on differing levels of tree density (Jiang et al., 2014). The rich literature on the impacts of sexual or gender identity on other factors affecting well-being (Moleiro & Pinto, 2015), suggests that this may be a fruitful and important area of investigation because of higher rates of mental illness like anxiety, depression -all which nature's benefits have been shown to improve. Access to outdoor spaces is essential for physical health--a need highlighted during the COVID-pandemic ((Jackson et al., 2021; Tandon et al., 2022; Slater et al., 2020). Despite the widespread impact of stay-at-home orders, governments encouraged outdoor exercise to promote physical health and well-being (Venter et al., 2020). Evidence indicates that physical activity is strongly associated with positive health outcomes, including the prevention and management of cardiometabolic diseases, cancers, osteoarthritis, improved bone health, and reduced obesity rates (Warburton, 2006). A meta-analysis of relevant literature has demonstrated a positive association between exposure to nature and physical health, further emphasizing the importance of integrating ecosystem service perspectives into decision-making processes (Markevych et al., 2017). Green spaces can provide opportunities for outdoor recreation and physical activity. Urban nature settings can significantly increase physical activity (Sallis et al., 2016). For example, individuals are more likely to engage in recreational jogging when living near aesthetically appealing parks with designated trails (Zhang et al., 2019). Similarly, urban residents are more likely to commute via bicycle when tree-lined routes are available (Mertens et al., 2017). Longitudinal and controlled studies reveal that contact with nature positively influences cognitive function, memory, attention, impulse inhibition, and creativity (Bratman et al., 2019). Evidence also

supports an association between nature experiences and a reduction in risk factors and burdens associated with certain mental illnesses (Bratman et al., 2019). There is consensus among researchers that nature exposure can significantly alleviate symptoms of conditions such as ADHD, depression, and sleep disturbances (Annerstedt van den Bosch & Depledge, 2015; Bratman et al., 2019; Frumkin et al., 2015). Despite these findings, existing studies fail to evaluate sexual or gender identity as moderating factors, revealing a critical gap in the literature. This underscores the need for further research into the mental health benefits of nature exposure for LGBTQ+ individuals. The lack of research concerning LGBTQ+ access to green spaces indicates that this population remains underserved and that current studies may not fully capture the unique experiences and challenges faced by LGBTQ+ individuals in these environments.

### **Access To Nature Is Inequitable**

Ecosystem services are not equitably distributed among diverse populations (Jennings et al., 2016). Social equity can be defined as “the fair, just, and equitable management of all institutions serving the public directly as well as the commitment to promote fairness, justice, and equity in the form of public policy” (Svara & Brunet, 2005, p. 14). The connections between social determinants of health and the cultural ecosystem services provided by green spaces are well-documented. For example, when considering neighborhood and built environments as social determinants of health, the cultural ecosystem service benefits include a sense of place, community satisfaction, reduced crime and incivility, and access to healthy food (Jennings et al., 2016). Social contexts and community dynamics, also social determinants of health, are linked to benefits such as social cohesion and social capital. Similarly, health and healthcare as social determinants of health align with cultural ecosystem services that promote both physical and

psychological well-being (Jennings et al., 2016). To achieve health equity, all communities must have equal access to the cultural ecosystem services that influence social determinants of health and, ultimately, overall well-being (Jennings et al., 2016). Marginalized identities remain significantly underrepresented in environmental-behavioral research (Gallegos-Riofrío et al., 2022). A recent analysis of 174 peer-reviewed publications on nature and well-being revealed an overrepresentation of white participants, with 62% of studies failing to report participant ethnicity altogether (Gallegos-Riofrío et al., 2022). This lack of representation highlights the urgent need for researchers to examine nature exposure and well-being among historically marginalized groups, including LGBTQ+ individuals. Current research does not adequately capture the experiences of LGBTQ+ individuals in green and natural spaces. Advancing diversity, equity, and inclusion in environmental psychology is critical to fostering inclusive and ethical science. Failure to incorporate marginalized communities into this work constitutes a disservice to scientific progress and perpetuates tangible harm for these populations.

### **Racial/Ethnic inequities in nature access.**

Barriers to accessible nature disproportionately affect Black, Indigenous, and People of Color (BIPOC) compared to Caucasian individuals (Byrne, 2012). These barriers can negatively impact well-being by fostering feelings of exclusion from natural spaces and associated activities (Byrne, 2012). For example, interviews conducted with Latina women in a California national park revealed that participants felt "out of place" and "unwelcome" due to their racial identities (Byrne, 2012). Existing data indicates that people of color visit national parks in the United States significantly less frequently than white individuals (Scott & Lee, 2018; National Park Service Projects, n.d.). According to Taylor et al. (2011) and Pettebone and Meldrum (2018),

53% of white individuals reported visiting a national park in the past two years, compared to only 32% of Hispanic individuals and 28% of Black individuals.

The National Park Service (NPS) Visitor Services Project (VSP) further reported that people of color make up a disproportionately small percentage of national park visitors (National Park Service Projects, n.d.). Hispanic and Asian American visitors accounted for less than 5% of total visitors, while African American visitors represented less than 2% (National Park Service Projects, n.d.). Scholars within and outside the NPS have argued that the organization's long-term viability depends on creating parks that are more welcoming and equitable (Wilkinson, 2000). Racist encounters with other park visitors remain a significant barrier, ranging from hostile stares to physical assaults (Stodolska, 2014). Discrimination in outdoor recreation is multifaceted and includes biased behavior from park and recreation workers toward marginalized communities (Fernandez & Witt, 2013).

Racial discrimination in outdoor recreation and public land use in the United States is well-documented (Scott & Lee, 2018). Many individuals of color report encountering discrimination during outdoor recreation, which diminishes their enjoyment of both urban and rural parks (Lee & Scott, 2017). Furthermore, park professionals and staff often fail to address the specific needs, sensitivities, and interests of BIPOC visitors, creating an environment where other visitors may feel emboldened to engage in racist acts (Fernandez & Witt, 2013). A lack of positive experiences in national parks reinforces the perception among many people of color that public lands are culturally irrelevant to their communities (Scott & Lee, 2018). Dominant groups often engage in "boundary maintenance" to preserve their own identities, resisting diversity and the inclusion of marginalized groups in green spaces (Scott & Lee, 2018). Experiences in green

spaces can be determined by a multitude of factors given the different identities one holds. If someone holds multiple oppressed identities they it is possible for them to experience exclusion at higher rates.

Recent research has examined whether green spaces have stronger associations with physical health for disadvantaged and marginalized groups compared to privileged groups (Rigolon et al., 2021). The researchers hypothesized that individuals with marginalized identities might derive greater protective effects from green spaces due to their increased reliance on proximate green spaces, as they often lack access to other health-promoting resources. The findings confirmed that green spaces provide stronger protective effects for individuals with low socioeconomic status and in less affluent neighborhoods compared to more privileged groups and areas.

Similarly, green spaces had stronger protective effects for racial and ethnic minorities than for white individuals. The study's identification of socioeconomic status and race/ethnicity as modifiers in the relationship between green space and well-being suggests that other social identities, such as LGBTQ+ status, may also serve as modifiers and warrant further investigation. The researchers noted that, to their knowledge, this was the first study to analyze whether green spaces could contribute to advancing health equity goals (Rigolon et al., 2021).

### **LGBTQ+ exclusion in green spaces.**

While limited research exists on LGBTQ+ exclusion in green spaces, related literature suggests significant issues that warrant attention. Extensive studies have focused on the experiences of other marginalized identities in green spaces, particularly concerning race, yet there is a substantial deficit in research concerning LGBTQ+ individuals (Stewart, 2014). It is important to remember that race and ethnicity overlap with LGBTQ+ identities and one's experience is

unique. The mental health benefits of nature exposure are well-documented and multifaceted (Bratman et al., 2019). However, LGBTQ+ individuals remain an underexplored demographic in this context, unlike other marginalized groups. Current methodologies in environmental psychology often fail to capture the nuanced experiences of specific populations, including LGBTQ+ individuals (Bratman & Olvera-Alvarez, 2022). To better understand how this group might benefit from nature contact, researchers must investigate their access to public lands and the constraints influencing their feelings of acceptance in both urban and rural spaces.

Examining the gradient between urban and rural parks is essential because different people use different spaces. Some individuals do not have access to green space while others are going on multiday backpacking trips in wilderness locations. Identifying the factors contributing to positive experiences in one setting and applying those insights to improve other spaces is critical. Understanding how LGBTQ+ individuals engage with public natural spaces and the factors influencing inclusion or exclusion is critical for advancing inclusive literature in environmental psychology and the field of nature and health. In addition to enriching academic discourse, a deeper understanding of LGBTQ+ experiences in green spaces can inform policymakers to ensure that existing and future green infrastructure is designed to be inclusive and diverse. Promoting equitable access to green spaces for LGBTQ+ individuals not only aligns with social justice principles but also enhances the overall benefits these spaces offer to human well-being.

## **Research Questions and Objectives:**

The purpose of this study is to reveal the dominant discourses about factors influencing access of LGBTQ+ identified individuals to public green spaces. Specifically, I will address the following questions:

1. What factors limit access of LGBTQ+ identified individuals to public green space and associated nature-based benefits in the Puget Sound area?
2. What are potential actions that may improve access to green space and its benefits in the Puget Sound region?

## **Methodology**

To examine the discourses surrounding access to green space by LGBTQ+ individuals, I used Q methodology. Q methodology is a structured approach commonly used in psychological and other social science research (Webler et al., 2009; Watts & Stenner, 2005) and is seeing increased use in environmental science (Nelson et al., 2022; Loring & Hinzman, 2018; Low et al., 2023). The method uses both quantitative and qualitative techniques to identify dominant discourses among populations while also identifying consensus and divergent perspectives using a rank-order activity and factor analysis (Webler et al., 2009; Zabala et al., 2018; Brown, 1980). The intent of a Q sort is to explore discourses and uncover consensus and divergent views among a studied population (Brown, 1999). In the context of this study, a discourse is defined as the way a participant views or forms conceptions of the spaces they are engaging with (Barry & Proops, 1999). A discourse also describes a participant's worldview and their perspective and verbal dialogue about a topic (Barry & Proops, 1999). We chose to use a method that examines discourses because we wanted to further understand the social structures and dynamics that

reinforces inclusion or exclusion in green spaces for LGBTQ+ identified people. Q methodology aims to understand perspectives and common patterns of thinking of individuals and not to extrapolate to populations (e.g., Cairns, 2012; Sandbrook et al., 2013).

The structure of a Q study (Figure 1) involves the development of the Q set (the items that participants rank), the actual sorting exercise, and a factor analysis and interpretation (Nelson et al., 2022). Under supervision of the researcher, participants sorted the Q set into a pre-determined, semi-normal distribution along an established spectrum. The established spectrum (Figure 2) allowed participants to rank the Q set statements from most representative to least representative (Webler et al., 2009; Watts & Stenner, 2012; Brown, 1980). Factor analysis is used to analyze the data and to generate idealized Q sorts, which can be interpreted as common perspectives held by the specific group (Nelson et al., 2022).

### **Q Set**

The first step in Q methodology is to develop a “Q set” (Figure 1). A Q set is a series of statements that participants sort and rank and are what determine the shared discourses of the studied population. A Q set should be inclusive of a diverse range of perspectives and should be able to apply to the experiences of each participant in the study (Stephenson, 1953). Following Eden et al. (2005), I developed a draft Q set from secondary sources through a literature analysis of relevant research topics. The literature review was primarily influenced by studies that examined the intersection of race/ethnicity and green spaces, specifically what factors contribute to those with marginalized racial backgrounds being excluded from green spaces. I also considered literature that examined transgender experiences within the outdoor recreation industry. I then conducted pilot tests with members of the target population to ensure that the Q set statements were clear and easily understandable. When a member who participated in the Q

set piloting activity made a comment on a statement, I incorporated their feedback into the next piloting session until there were no more comments. Feedback from those who participated in piloting was mainly centered around language that could be used to make the statements clearer and easier to understand. The final Q set (Table 1) consisted of 23 statements. After conducting the literature review to develop the Q set, we grouped the statements into three categories. The groups were decided upon after identifying three themes around accessibility concerns among the statements. The themes of the groups were safety, political action, and belongingness. The themes of the Q set reflected the discourses represented among the participants.

### **P Set**

Following the guidance of Webler et al. (2009), we recruited participants (the P set) who represented a variety of opinions and perspectives among individuals who self-identify as LGBTQ+ and engage in outdoor recreation. Participants were recruited through stratified chain referral (Biernacki & Waldorf, 1981). Additionally, an advertisement for the study was posted in relevant outdoor recreation group pages on multiple social media platforms, as well as in person around the University of Washington campus.

To be eligible, participants had to be at least 18 years old, reside in the Puget Sound region, self-identify as LGBTQ+, and have either visited or wanted to visit a city, state, or national park, or a wilderness area in the Puget Sound region within the past year. Twenty individuals participated in the study—a sample size within the typical range for Q studies, allowing for a meaningful capture of diverse perspectives (Watts & Stenner, 2005). Participation was voluntary, and no money or goods were exchanged. I performed the interviews and Q sort using virtual video

conferencing. After receiving consent from participants, I recorded and transcribed interviews to capture explanations and the thought process used by participants.

### **Q Sort and Interview.**

Next, we guided each participant through the Q sort using the online platform Q Method Software ([qmethodsoftware.com](http://qmethodsoftware.com)). Participants were given the prompt, “Sort the following statements in a high, moderate, or low priority when it comes to supporting or improving the conditions of LGBTQ+ individuals in green space.” Participants were asked to rank the 23 statements of the Q set, reflecting how representative the statements aligned with their experiences, values, and beliefs.

Participants first performed a preliminary sort where each of the statements was ranked as high, medium, or low, and this was followed by a detailed sort where participants placed the pre-sorted statements onto a Q board where -3 represented their lowest ranked and +3 represented their highest ranked solutions (Figure 2). Statements placed in the same column were treated as the same rank (i.e., all statements in the -2 column were of the same prioritization) (Figure 2). Throughout the exercise, I prompted participants to explain their rationale for their sorting choices.

After completing the detailed sorting exercise, participants answered two questions on a 6-point Likert scale: (1) In general, how easy is it for you to access green space? and (2) Rank your overall health. The two Likert scale questions were followed by two open-ended questions: (1) Were there any statements that did not capture your experience? and (2) Is there anything else you would like to add? The average total duration of the Q sort activity and interview was 45 minutes. The Q sort data was analyzed using [qmethodsoftware.com](http://qmethodsoftware.com), which identifies factors that

allow researchers to understand the social discourses demonstrated by the participants. It is important to note that the purpose of Q methodology is not to identify patterns within the studied population but to better understand the shared discourses among a population (Loring & Hinzman, 2018).

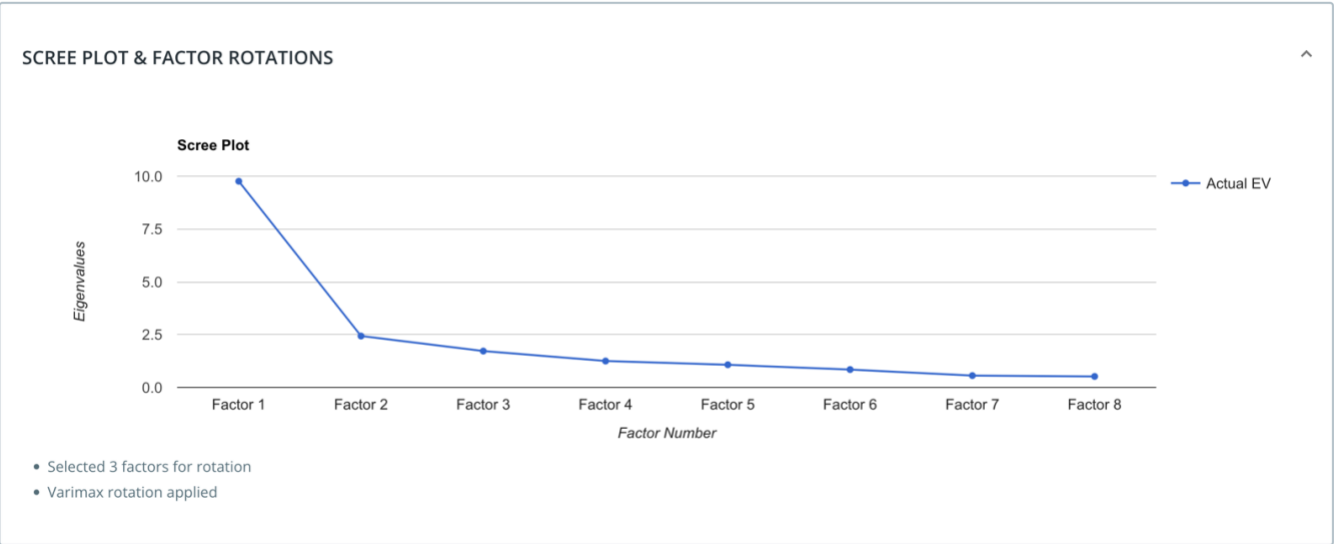
### **Factor Analysis.**

Factor analysis on Q sorts ( $n = 20$ ) was conducted using Qmethodsoftware.com (Lutfallah & Buchanan, 2019). I used Centroid Extraction factor analysis to identify significant discourses within the data and applied a varimax rotation to assign each participant to only one discourse. The three discourses represent Q sorts reflecting the dominant discourse of the group. Each Q statement (Q set) has a z-score, which represents the weighted average of the scores that similar participants gave to the Q statement (Zabala et al., 2018), as well as an identifying number that represents where the statement was placed in the Q sorts. We also identified distinguishing and consensus statements through analysis with the research software—statements that are statistically different ( $p \leq 0.05$ ) or like other perspectives. We analyzed the discourses by comparing the ranking of statements across factors, examining overlapping distinguishing and consensus statements between the factors, and conducting a qualitative analysis of the transcribed interview

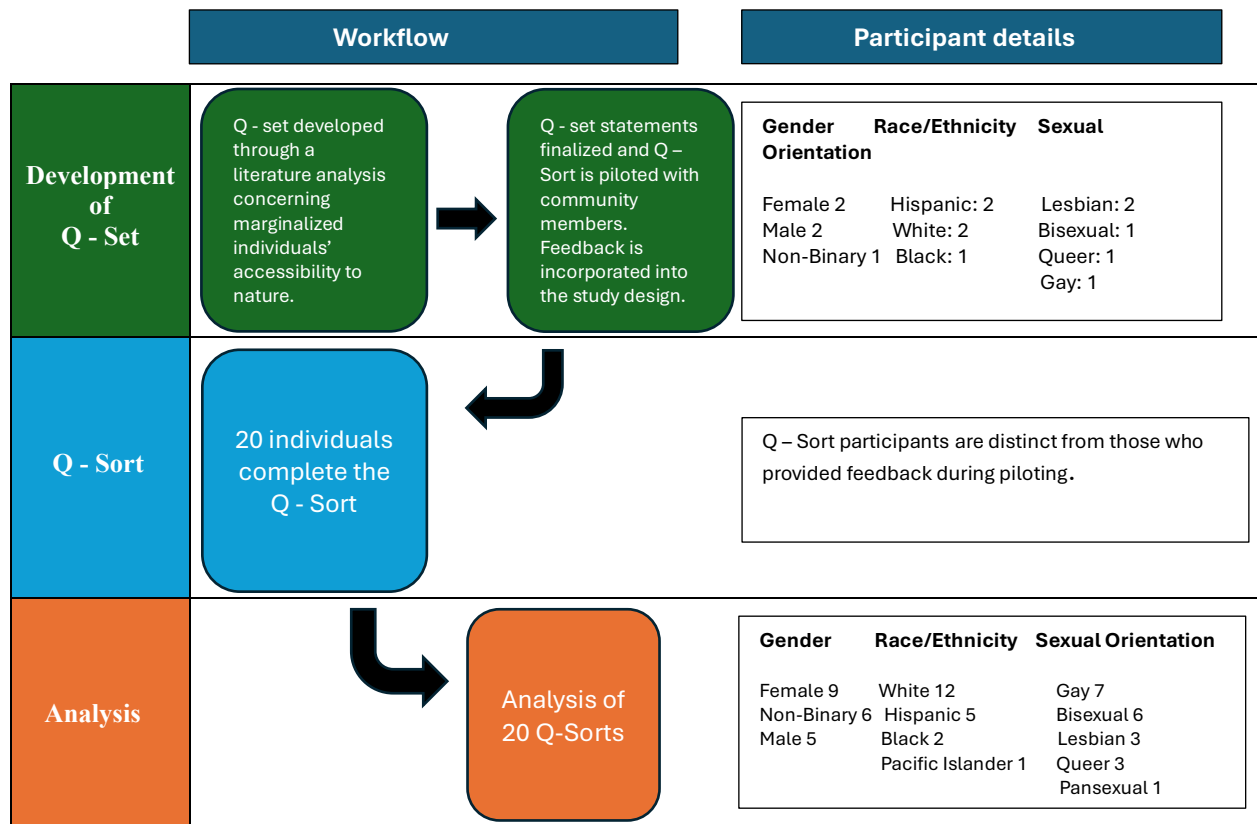
**Table 7. Procedure.**

Step 1	Step 2	Step 3	Step 4
The inform consent form will be explained and signed by the participant.	Prior to completing the exercise, each participant will be asked to provide some demographic background questions.	Participants will be given the prompt, <i>“Sort the following statements in a high, moderate, or low priority when it comes supporting or improving the conditions of LGBTQ+ individuals in green space”</i> .	This will be followed by the detailed sort where participants place statements into a semi-normal, ranked distribution. While the exercise is conducted, participants will be asked to explain the rationale for their sorting choices.

**Figure 4. Scree Plot representing identified discourses.**



**Figure 1. Research Workflow.**



Description of research workflow and demographic information about participants in each component of the study.

## Results

Twenty of the sorts exhibited significant loadings on three distinct factors. The three factors represent the predominant perspectives or discourses held by participants. We refer to these discourses (1) Strong Sense of Belonging, (2) Call for Action, and (3) Safety as a Concern. The discourses are described below, and the distribution of statements within each of the sorts is illustrated in Figure 3. A comprehensive list of statements, along with their associated factor scores and distinguishing or consensus status, is provided in Table 1 and Figure 3. Based on the results of the scree plot (Figure 4), eigenvalues, and the theoretical significance of the data (Brown et al., 1999; Watts & Stenner, 2005), we identified three discourses (Figure 4).

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### **Discourse 1 – Strong Sense of Belonging**

The first discourse, *Strong Sense of Belonging*, is characterized by a desire to engage with a variety of green spaces, both urban and rural (Figure 3). Members of this group perceive green spaces as inclusive environments, where they feel comfortable presenting themselves as visibly LGBTQ+ (Figure 3, Table 1). While they generally view nature as an inclusive space, they do identify National Parks as among the least inclusive for LGBTQ+ individuals (Figure 3, Table 1). Participants in this discourse report feeling minimal concern regarding safety while engaging with nature. They do not fear accidental injuries or encounters with other individuals during their visits to green spaces (Figure 3, Table 1). Two of the most distinguishing statements which highlight the central themes of this discourse were: “City parks are inclusive spaces for LGBTQ+ people” (Table 2) and “I am comfortable presenting as visibly LGBTQ+ in green spaces” (Table

2). One group member shared examples on their own sense of belonging in nature and how it can override other safety concerns:

*I think I'm not as scared as other people about hiking, and I think the earth just makes me feel safe in my heart, and I think that that gives me a sense of calm that other people are not experiencing. Maybe other people thinking about like, somebody could kidnap me, or somebody can hurt me. And I'm thinking about the earth. And I'm not really thinking about the people -just the earth around me.*

Although this group is less preoccupied with safety concerns, this does not suggest they are immune to the negative experiences that other discourses have identified. (Figure 3, Table 1) Positive experiences rooted in a strong sense of belonging was highlighted by one participant as follows:

*I think that for me the sense of belonging in nature and green spaces is almost separate from what non-marginalized people experience. I think connecting with nature, and almost seeing something like older, bigger than myself, makes me feel like I belong there and makes me feel like I should kind of be there having this experience.*

Similar to the “call to action” discourse detailed below, this group does acknowledge some issues related to political climate, such as a preference for recreating in "blue" regions of the state. However, negative experiences in nature do not deter them from visiting green spaces (Figure 3, Table 1). They are not sufficiently uncomfortable to warrant concerns regarding personal safety

or the need for political action. An example of how members of the “Strong Sense of Belonging” discourse are aware of specific concerns while still experiencing a sense of belonging is emphasized in this quote:

*I feel strongly that queerness, belongs in nature. Whether or not society has caused problems with that or our cultures, have caused problems with that.*

The defining characteristics of this discourse are a strong desire to visit all types of green spaces and a spiritual and social sense of belonging in green spaces. (Table 2). For instance, one participant summed up this consensus by describing their experience:

*I can just get lost in nature and be in this world of plants and flowers that, you know, never yelled or judged or called me a faggot. And I could admire just, you know, the magic of what nature provides, and that in itself is so powerful and so healing.*

---

## **Discourse 2 – A Call for Action**

The second discourse, “A Call for Action”, is defined by a recognition of the need for increased initiatives to improve the experiences of LGBTQ+ individuals in green spaces (Table 3).

Participants in this group report feeling that LGBTQ+ individuals face hostile or unwelcoming conditions in these spaces and express a desire for systemic change to improve the climate in these environments (Figure 3, Table 1). Two of the most distinguishing statements which highlight the central themes of this discourse were: “I value queer/trans visibility in the outdoor

recreation industry” and “I value public land management initiatives to better the experiences of LGBTQ+ people in green spaces” (Table 4). Reflecting on the idea of hostile conditions in green spaces a participant shared:

*I don't know that the parks in general, both national park and state parks care about us. I don't know that they're doing things to like help LGBTQ+ people feel included, but one thing that is for sure is they're not safe spaces.*

A key theme within this discourse is the perception that the National Park Service, along with other federal and state agencies, are insufficiently equipped to address LGBTQ+ concerns. Many participants indicated discomfort with the idea of interacting with park staff, such as park rangers. A participant from group two shared their perspective on park rangers.

*I think park rangers feel safer than a cop feels, but they're in the same family. I don't feel protected by them. I think I feel surveilled, and I feel like they're here to assert their dominance -but I don't feel protected by them.*

The primary focus is centered on the lack of LGBTQ+ competency within institutional structures and a lack of implementation of ongoing initiatives (Figure 3, Table 1). A participant shared their perspective on the matter:

*I think there are ongoing initiatives. But I think something that I realize is there's a lot of stuff on paper. But it's not really implemented at all.*

Despite these concerns, members of this group expressed a strong desire to visit National Parks and rural green spaces (Table 5). Additionally, code switching to be perceived as heterosexual is a common coping strategy among members of this discourse. The central theme of the “Call for Action” Discourse is a recognition of the need for ongoing and future efforts to enhance the inclusivity of green spaces for LGBTQ+ individuals, as well as an acknowledgment of the positive impact of increased queer and trans visibility in outdoor recreation (Table 5). One participant sums up the general theme of this discourse as follows:

*I love the idea of queer focused outdoor activities and think they are needed. I've thought about doing a meetup group that's like queer birders or queer fungal people and go out and look at cool animals together and look at fungi together. I think it is something that would be nice for changing the narrative that those activities are typically for straight people.*

---

### **Discourse C – Safety as a Concern**

The third discourse, “Safety as a Concern”, revolves around the specific safety risks perceived by LGBTQ+ individuals when using green spaces. Participants in this group report feeling unsafe in both rural and urban green spaces, though they express little concern about the risk of encountering wild animals or sustaining accidental injuries (Figure 3, Table 1). Two of the most distinguishing statements which highlight the central themes of this discourse were: “When considering visiting green space I would do preliminary research to determine how safe it will be

for me” and “I carry or would carry some type of self-defense tool (pepper spray, knife, firearm, etc) to keep myself safe in green spaces” (Table 6). A participant shared an example of this by stating:

*I'm definitely more scared of people than I am of wildlife. Obviously, either is better if I am with other people but if I'm hiking with friends, then I feel like I feel safer in either setting. But if I'm on my own animals just scare me way less than other people on the trail.*

Instead, safety concerns are primarily related to the potential for discrimination, harassment, or violence from other individuals while in these spaces. Consequently, it is common for participants in this discourse to carry self-defense tools, such as knives, pepper spray, or firearms, while visiting green spaces (Figure 3, Table 1). A member of group one shared that they do not enter a forest without self-defense tools:

*As a certified lesbian I do not go into the woods without my gun or bear spray -the bear spray is not for bears.*

Preliminary research into the safety of a given location is a key consideration for these individuals before planning their visits. Like the other two discourses, member of the “Safety as a Concern” discourse prefer to visit green spaces in groups rather than alone, and they frequently participate in "queer-only" events in natural settings (Figure 3, Table 1). Although safety is the predominant concern for this group, their overall desire to engage with both urban and rural green spaces remain high. Notably, members of the Safety as a Concern discourse did not

express a preference for visiting green spaces located in politically "blue" or "red" regions of the state. However, they felt that wilderness areas offered greater safety compared to city parks and generally preferred less populated parks. One group member summed up their experience by stating:

*Less populated parks are something that feels really good, because you have a place to yourself, and you can, you know be with your lover, and not even have to think about anyone watching or judging you for being queer together in nature.*

Additionally, participants in this discourse expressed a lack of awareness regarding any active initiatives by land management organizations aimed at improving conditions for LGBTQ+ individuals in green space which could suggest that they feel as if there are not institutional policies that serve to protect them from discrimination or harassment. Despite heightened safety concerns, this group's sense of belonging within nature remains robust (Table 8.)

### **Differences among discourses.**

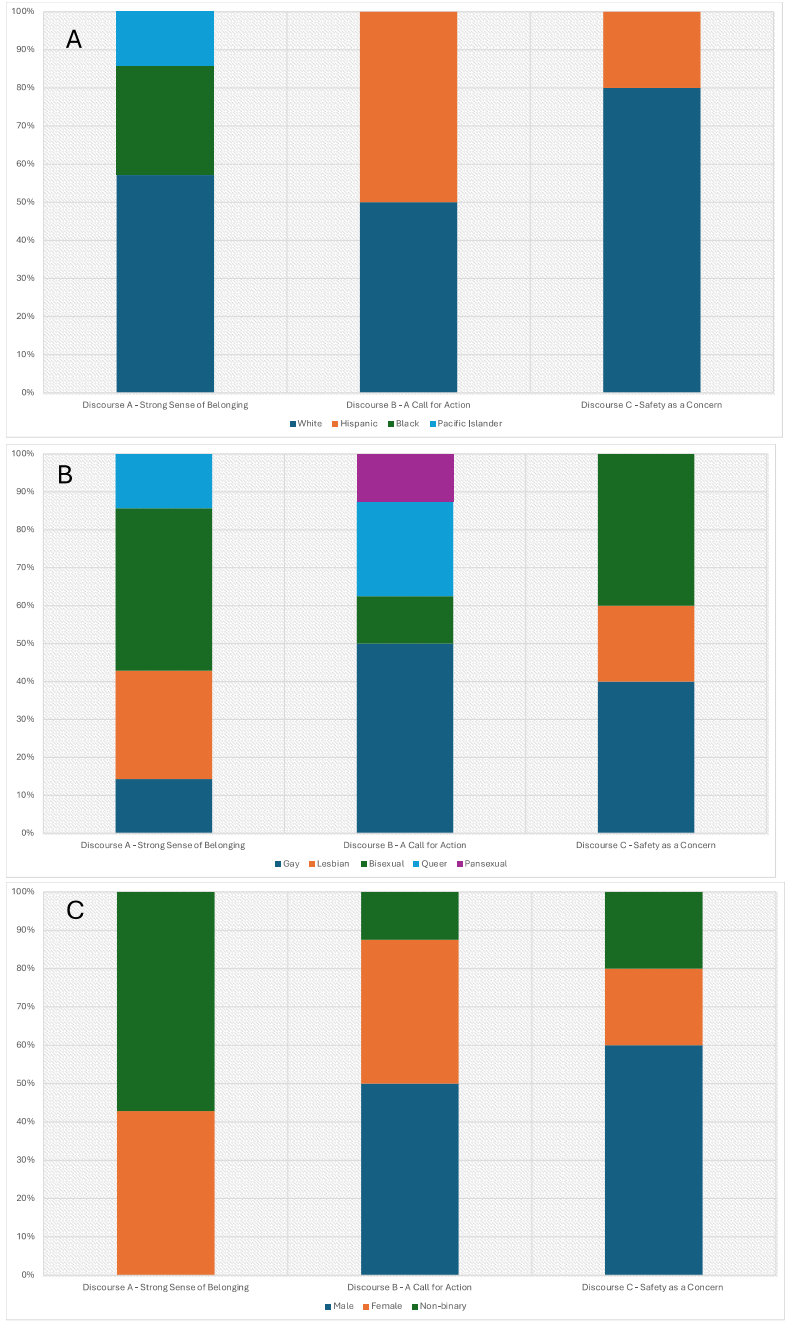
The strong sense of belonging discourse was comprised of 55% non-binary and 45% female. Males were not associated with this discourse. The call for action discourse included 50% male, 40% female, 10% nonbinary. The safety as a concern discourse was 60% male, 20% female, and 20% non-binary. The strong sense of belonging discourse included 45% bisexuals, 40% lesbians, 7.5% gay individuals, and 7.5% queer individuals. The call for action discourse was 50% gay individuals, 26% queer individuals, 12% bisexuals, and 12% pansexuals. The safety as a concern discourse was 40% gay individuals, 40% bisexuals, and 20% lesbians. The strong sense of

belonging discourse was 55% white, 30% black, and 20% pacific islander. The a call for action discourse was 50% hispanic and 50% white (Figure 5). The safety as a concern discourse was 80% white and 20% Hispanic. I was unable to detect differences among discourses in gender indeinty ( $\chi^2=7$ ; df 4; p=0.14), sexual orientation ( $\chi^2 = 7.71$ ; df 8; p=0.463), and race/ethnicity ( $\chi^2= 9.85$ ; df 6; p=0.131) (Figure 5).

I also examined if the responses to likert-scale questions about health and access to nature was associated with membership in discourses. The response to access to nature question averaged 6.X (0.4364 SE) for call to action, 5.8 (0.4629 SE) for safety as a concern and 6.X (0.5831 SE) for Strong sense of belonging. I was unable to detect a difference among discourses in response to this question (F=0.0476; df 17; p-value=09537) (Figure 6)

When I asked about health status I was also unable to detect a difference among discourses (F=0.0986; df 17; p=0.9066) (Figure 6). The response to the self evaluation of ones overall health question averaged 5.8 (0.2500 SE) for call to action, 5.8 (0.5831 SE) for safety as a concern and 5.5 (0.3689 SE) for Strong sense of belonging.

**Figure 5. Description of dempograhcis among the three discourses 1. safety as a concern, 2. A call for action 3. A stong sense of belonging.**



**Table 2. Group Characteristics for Discourse A – Strong Sense of Belonging.**

Name	Loading Q Sorts	% Variance Explained	Eigenvalues
Strong Sense of Belonging	7	48	9.7
Top 3 Priorities			Z-Scores
I feel like I belong in nature/green spaces.			2.1346
I feel a strong urge or desire to visit urban or city parks.			1.1638
I value queer/trans visibility in the outdoor recreation industry.			1.0099

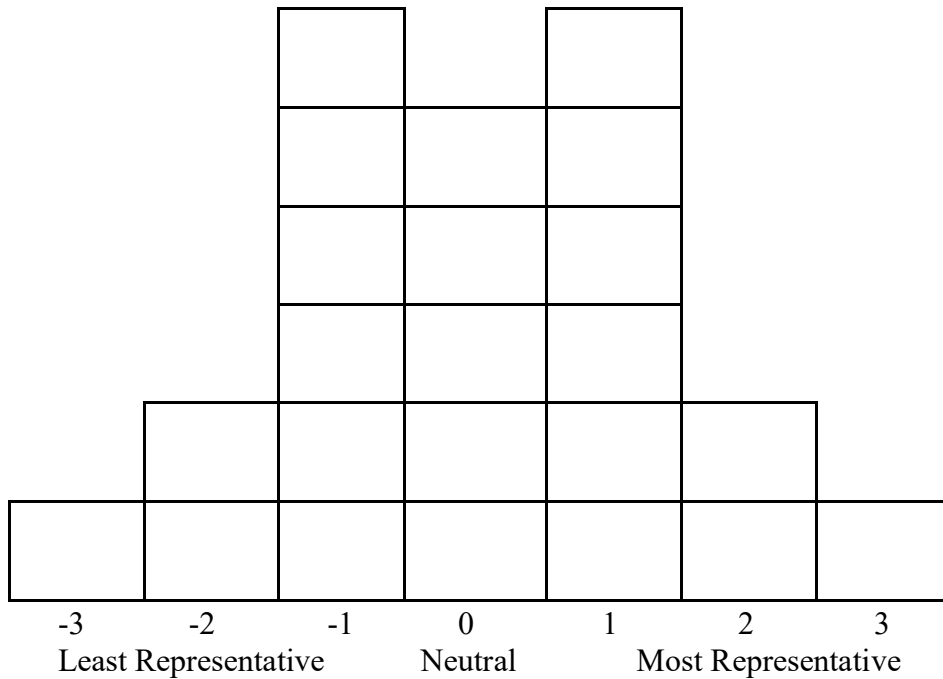
**Table 5. Group Characteristics for Discourse B – A Call for Action.**

Name	Loading Q Sorts	% Variance Explained	Eigenvalues
A Call for Action	8	12	2.4
Top 3 Priorities			Z-Scores
I value queer/trans visibility in the outdoor recreation industry.			1.6866
I value public land management initiatives to better the experiences of LGBTQ+ people in green spaces.			1.5001
I feel a strong urge or desire to visit national parks.			1.4042

**Table 8. Group Characteristics for Discourse C – Safety as a Concern.**

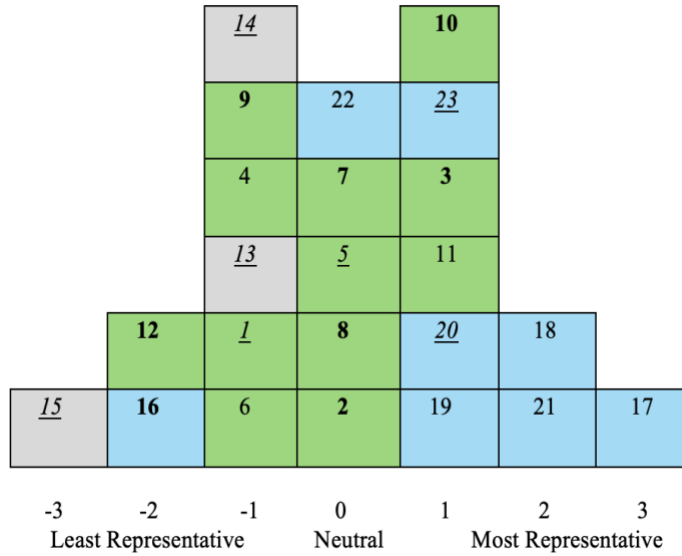
Name	Loading Q Sorts	% Variance Explained	Eigenvalues
Safety as a Concern	5	8	1.7
Top 3 Priorities			Z-Scores
I feel like I belong in nature/green spaces.			2.4237
I feel a strong urge or desire to visit national parks.			1.1285
I visit or would visit green spaces for “queer only” purposes or events such as places where LGBTQ+ individuals historically congregate outdoors, pride events in parks, etc.			1.0942

**Figure 2. Q board distribution of which participants sorted statements upon.**

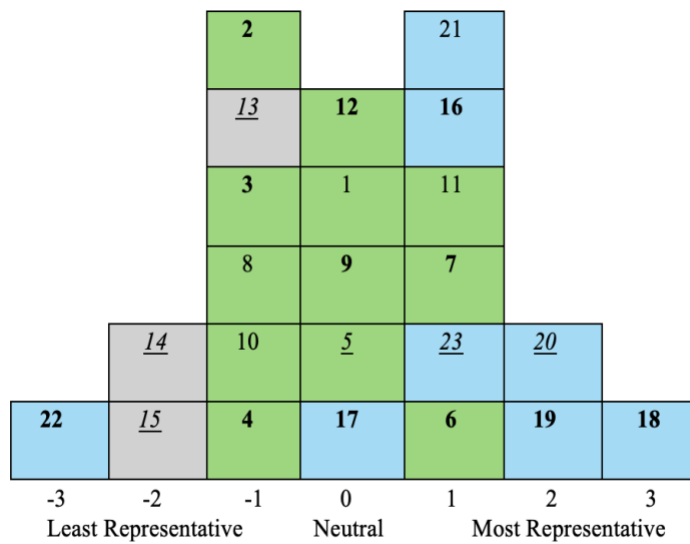


**Figure 3. Distribution of statements for the three discourses A. Strong Sense of Belonging, B. A Call for action, and C Safety as a Concern. Green boxes represent constitutes of accessibility around safety, blue boxes represent constitutes of accessibility around belongingness, and gray represent constitutes of accessibility around political action. Numbers in bold are distinguishing statements, numbers italicized and underlined are consensus statements.**

**Discourse A – Strong Sense of Belonging: Distribution of Statements**



**Discourse B – A Call for Action: Distribution of Statements**



### Discourse C – Safety as a Concern: Distribution of Statements

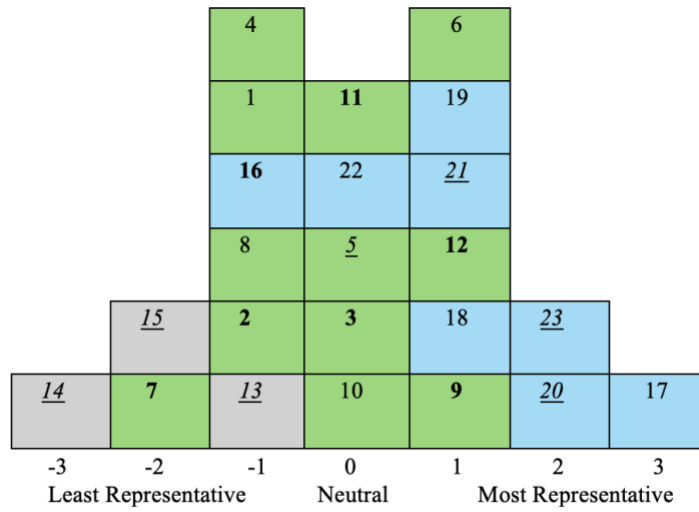
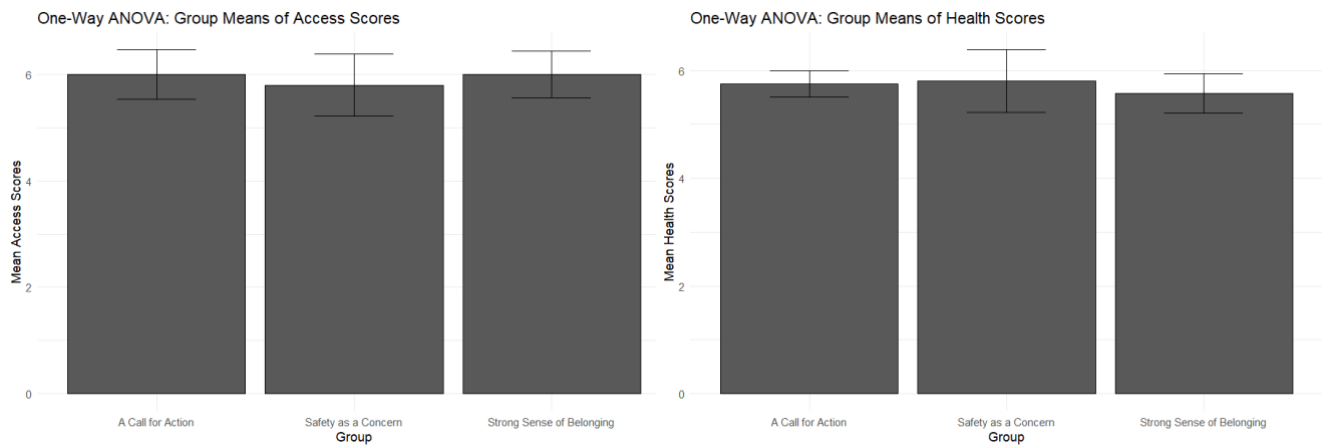


Figure 6. Group means of Access to nature and self evaluation of health.



**Table 3. Distinguishing Statements for Discourse 1 – Strong Sense of Belonging.**

No	Statement
3	City parks are inclusive spaces for LGBTQ+ people.
10	I am comfortable presenting as visibly LGBTQ+ in green spaces.
2	National parks are inclusive spaces for LGBTQ+ people.
8	Seeing or engaging with a park worker such as a park ranger would make me feel safe.
7	I code switch or would feel the need to code switch when passing another person on a trail.
9	When considering visiting green space I would do preliminary research to determine how safe it will be for me.
16	Nature/Green spaces feel like they are designated as a straight space.

**Table 4. Distinguishing Statements for Discourse 2 – A Call for Action.**

No	Statement
18	I value queer/trans visibility in the outdoor recreation industry.
19	I value public land management initiatives to better the experiences of LGBTQ+ people in green spaces.
6	I would rather visit a green space with a group instead of going alone.
7	I code switch or would feel the need to code switch when passing another person on a trail.
16	Nature/Green spaces feel like they are designated as a straight space.
17	I feel like I belong in nature/green spaces.
9	When considering visiting green space I would do preliminary research to determine how safe it will be for me.

**Table 6. Distinguishing Statements for Discourse 3 – Safety as a Concern.**

No	Statement
9	When considering visiting green space I would do preliminary research to determine how safe it will be for me.
12	I carry or would carry some type of self-defense tool (pepper spray, knife, firearm, etc) to keep myself safe in green spaces.
3	City parks are inclusive spaces for LGBTQ+ people.
11	I would rather recreate in a green space that is in a "blue" region of the state.
2	National parks are inclusive spaces for LGBTQ+ people.
16	Nature/Green spaces feel like they are designated as a straight space.
7	I code switch or would feel the need to code switch when passing another person on a trail.

**Table 1: Q set statements and associated theme of accessibility concern. After conducting the literature review to develop the Q set statements we grouped the statements into three themes. The themes were safety, political action, and belongingness. The themes of the Q set reflected the discourses represented among the participants.**

Statement	Theme of accessibility concern: Safety
<ol style="list-style-type: none"> <li>1. The presence or idea of encountering other individuals on a trail makes me feel unsafe.</li> <li>2. National parks are inclusive spaces for LGBTQ+ people.</li> <li>3. City parks are inclusive spaces for LGBTQ+ people.</li> <li>4. City parks would be safer than wilderness areas for me to visit.</li> <li>5. Less populated parks and green spaces could offer more in terms of safety.</li> <li>6. I would rather visit a green space with a group instead of going alone.</li> <li>7. I code switch or would feel the need to code switch when passing another person on a trail.</li> <li>8. Seeing or engaging with a park worker such as a park ranger would make me feel safe.</li> <li>9. When considering visiting green space I would do preliminary research to determine how safe it will be for me.</li> <li>10. I am comfortable presenting as visibly LGBTQ+ in green spaces.</li> <li>11. I would rather recreate in a green space that is in a “blue” region of the state.</li> <li>12. I carry or would carry some type of self-defense tool (pepper spray, knife, firearm, etc) to keep myself safe in green spaces.</li> </ol>	
Statement	Theme of accessibility concern : Political Action
<ol style="list-style-type: none"> <li>13. I am aware that land management organizations such as the National Park Service or the Department of Fish and Wildlife are noticeably working towards making public green spaces more equitable for all.</li> <li>14. The fear of encountering wild animals when using green spaces deters me from visiting.</li> <li>15. The fear of injuring myself when using green spaces deters me from visiting.</li> </ol>	
Statement	Theme of accessibility concern: Belongingness
<ol style="list-style-type: none"> <li>16. Nature/Green spaces feel like they are designated as a straight space.</li> <li>17. I feel like I belong in nature/green spaces.</li> <li>18. I value queer/trans visibility in the outdoor recreation industry.</li> <li>19. I value public land management initiatives to better the experiences of LGBTQ+ people in green spaces.</li> <li>20. I feel a strong urge or desire to visit national parks.</li> <li>21. I feel a strong urge or desire to visit urban or city parks.</li> <li>22. The National Park Service or other federal/state organizations are competent with LGBTQ+ concerns.</li> <li>23. I visit or would visit green spaces for “queer only” purposes or events such as places where LGBTQ+ individuals historically congregate outdoors, pride events in parks, etc.</li> </ol>	

## Discussion

Scholarship in environmental justice has predominately focused on race and ethnicity as well as socio-economic class (Stewart, 2014). While important, this focus has resulted in a dearth of research on environmental injustices experienced by LGBTQ+ individuals (Alexander et al., 2024). The relative absence of researched focused on LGBTQ+ individuals reflects a general pattern of heteronormativity within environmental studies (Alexander et al., 2024) which heretofore have generally not invested in an understanding of how sexual orientation and gender identity intersect with environmental injustice (Stewart, 2014). The results of this study highlight the unique challenges faced by LGBTQ+ individuals in accessing the many and diverse benefits provided by urban and rural natural areas. This work reinforces the conclusion of (Pearsall and Pierce, 2017) that environmental equity and justice frameworks that overlook the oppression experienced by LGBTQ+ populations, especially in urban settings, are insufficient.

While some recent research on the issues of LGBTQ+ experiences in environmental spaces has been conducted, the shortage of work on LGBTQ+ experiences remains a common theme in the field of environmental science. Pulido (2017) raises awareness of to the critical need of adopting intersectional frameworks that prioritize the many diverse dimensions of identity in the realm of environmental risk. Although, most of the environmental justice research remains focused on other marginalized identities, the unique vulnerabilities of LGBTQ+ identified individuals including feelings of exclusion and safety concerns remain ignored.

Incorporating LGBTQ+ perspectives into all aspects of environmental research is not only equitable but can also aid in identifying deficits in research concerning environmental wellbeing. (Pellow, 2016). Research by Oswin (2020) provides evidence on how incorporating marginalized communities in environmental decision-making significantly influences more equitable and long-term outcomes and solutions. Partnership with LGBTQ+ populations in decision making processes not only identifies existing deficits but also enforces positive outcomes within environmental justice initiatives. My research contributes to the field of environmental justice by identifying three discourses of LGBTQ+ individuals when using green spaces which provides insights into their shared experiences. By understanding what LGBTQ+ individuals are experiencing we can better understand what is needed to improve green spaces to ensure that they are equitable and safe places for all to enjoy.

The results from my study show that some LGBTQ+ individuals experience a positive sense of belonging in green spaces. Similarly, African American individuals can also find a strong sense of belonging in green spaces and have considered them as sanctuary where they can find spiritual meaning, and even build community (Sills, 2010). While African American individuals can experience a strong sense of belonging in green space it is important to emphasize that BIPOC individuals face many barriers that can void a sense of belonging, especially in newly developed or gentrified green spaces (Jelks, Jennings, & Rigolon, 2021). While LGBTQ+ individuals are participating in the environmental justice movement, as the A Call for Action discourse shows, the Environmental Justice movement has historically been spearheaded by BIPOC communities (Agyeman et al., 2016; Taylor, 2011). (Brinkley & Wagner, 2022) found that when examining communities responsible for leading environmental justice initiatives in California cities, only

28% were white. Current studies have not evaluated the engagement of LGBTQ+ individuals within the environmental justice literature so further research will need to be done, although my findings suggest that there could be a significant engagement among the LGBTQ+ community. Safety concerns while using green space for BIPOC communities is well-documented issue (Kanav and Kumar, 2024) which mirrors the Safety as a Concern discourse. The fear of experiencing crime or discrimination can be enough to deter BIPOC communities from using green spaces all together (Robinson, Robertson, Curtis, Darko, & Jones, 2023). My results have helped to extend our understanding of EJ beyond that what has been shown in other minoritized communities, specifically around what LGBTQ+ individuals fear when using green spaces. It was not a fear of wild or injury that was a barrier to accessing green space among LGBTQ+ individuals in this study, rather it was concern that other people they encounter would harm them due to their sexual or gender identity.

Many of the findings in this study reinforce our general understanding of injustices facing this the LGBTQ+ community. LGBTQ+ individuals have advocated for their rights from inclusive health care to marriage equality and have been responsible for leading their own civil rights movement (Doan, 2019). Much of the LGBTQ+ rights movement has been focused on empowering those with intersectional identities and working to dismantle barriers to political engagement (Smith, 2018). LGBTQ+ individuals struggle with a social and ecological sense of belonging among community, interpersonal, and individual settings due social exclusion, which can negatively impact mental health and well-being (Matsick, Sullivan, Todd, et al., 2024). Despite similarities to many of the broader issues confronting LGBTQ+ communities, access to green space provides some unique challenges. Participants reported shared concerns around

feeling included in environmental oriented activities such as birding and other forms of outdoor recreation. Participants also reported the desire to use less populated parks so that they can be left alone to experience nature with a partner without judgment from others. Participants expressed that they would prefer to visit a park with other individuals but for queer-focused events or activities.

It is well documented that woman prefer to visit public green spaces less than men due to concerns around their wellbeing and safety (Sundquist et al., 2011) Woman experience higher rates of harassment in public green spaces compared to other public spaces and security is the most significant factor in their decision to visit or not (Sadeghi et al., 2023). The highest rates of rapes and assault on woman happen in public green spaces highlighting the extreme safety concern that woman face when using green space (Basu A, Jaising I, Collective L, 2005). A study by (Sadeghi et al., 2023) found that to establish a healthy public green space woman prioritize safety and security, compatibility with behavioral patterns, liberty, and identity.

While solving the issue of LGBTQ+ exclusion in green space a difficult task, we can begin by identifying solutions to some of the issues that participants highlighted as most important.

Participants reported in multiple ways that they feel as if parks do not care about them, neglect to include them in decision making, or do not act upon the inclusive initiatives that they propose.

One way that land management organizations can mitigate this is by incorporating inclusive decision-making tools into the framework of their programs. The “Tree of Participation” framework introduces a model that is intended to help ensure inclusive decision-making is a critical component in the way organizations function (Bell & Reed, 2008). The framework provides a model that is both structured and flexible in the sense that it can be applied across a

broad range of contexts and offers different forms of engagement (Bell & Reed, 2008). This ensures that all voices including those who are the most marginalized can contribute equally fostering a stronger sense of empowerment (Bell & Reed, 2008). Incorporating LGBTQ+ individuals into the decision-making process can also help address the broad range of safety concerns that participants shared. Critically inclusive environments that include active participation from community members into decision making process can help marginalized individuals feel safe and benefits their overall well-being (Meyer et al., 2021). Legal protections such as polices that protect LGBTQ+ individuals from violence and discrimination are essential for helping LGBTQ+ individuals feel safe in any public setting while actively reducing experiences of discrimination (Meyer et al., 2021), (Eschliman, Adames, & Rosen, 2023).

In January 2025, President Donald Trump signed Executive Order 14151: *Ending Radical and Wasteful Government DEI Programs and Preferencing* (2025, January 2025). [ENDING RADICAL AND WASTEFUL GOVERNMENT DEI PROGRAMS] Federal Register, n.d.) This executive order eliminated existing environmental justice (EJ) initiatives across all federal agencies, for example (National Science and Technology Council, Environmental Justice Subcommittee. (2024). Environmental Justice Science, Data, and Research Plan., n.d.). The Environmental Justice Science, Data, and Research Plan included many different government agencies including but not limited to the Environmental Protection Agency (EPA) , National Institutes of Health (NIH), Department of Energy (DOE), Department of Transportation (DOT), U.S. Department of Agriculture (USDA), and National Aeronautics and Space Administration (NASA). The key goals of the plan were to enhance equitable data collection and analysis, improve decision making, engage in community involvement, support collaboration and

partnerships, and address disparities among marginalized groups. While working to ensure that green spaces are equitable for LGBTQ+ individuals will be more difficult under the Trump administration, there are still rich opportunities to make progress by working with state governments, non-government organizations, and the private sector. In 2021 Washington State passed the Healthy Environment for All Act (HEAL) (Washington State Department of Ecology. (n.d.)). The act directly supports making green spaces more equitable for LGBTQ+ individuals by advocating “for equitably investing in marginalized groups who have been historically excluded from the environmental justice movement. The law works to incorporate environmental justice into strategic plans, develop metrics to measure progress on key environmental justice goals, Develop and implement a community engagement plan, and incorporates environmental justice into budget development processes and in funding and grant decisions”.

This research sets the stage for additional work that can further illuminate the ways in which government, NGOs and the private sector can improve access to nature for LGBTQ+ individuals. Q Methodology is ideal for uncovering the diverse discourses in a group of individuals; however, it is inappropriate to extrapolate results from Q methodology studies to a larger group (Barry & Proops, 1999). Thus, further work using methods such as surveys will be useful for examining larger sample sizes, capturing broader experiences, and focusing on those with intersectional identities which may be useful to managers as they seek to implement policies to further enhance inclusivity in green spaces.

## **Conclusion**

The findings of this study highlight the complexities of LGBTQ+ individuals' access to green spaces, revealing a spectrum of experiences shaped by safety concerns, institutional trust, and the

desire for inclusivity. These findings contribute to the broader discourse on environmental justice by expanding its scope beyond race and socioeconomic status to include LGBTQ+ individuals, a group historically marginalized in environmental research. Policies that prioritize visibility, active community engagement, and safety measures—such as LGBTQ+-inclusive programming and staff training—are essential in making outdoor spaces more equitable. By centering LGBTQ+ experiences in discussions of environmental justice, this research paves the way for a more inclusive and equitable approach to green space accessibility. The National Park Service has long recognized the LGBTQ+ community and their associations within the lands that the NPS manages (LGBTQ+ History in National Parks, n.d.). The National Park Service recently changed the land description for one of the most historical monuments involved in the LGBTQ+ movements on their website. The page has been stripped of any mention of transgender individuals and the “LGBT” has been changed to “LGB” (Juliana Kim, 2025) further intentionally excluding transgender people from green spaces. Further research should investigate the harm caused when a land management organization intentionally excludes members of the LGBTQ+ community. It is also important to further investigate the differences in experiences of those who hold different identities under the LGBTQ+ umbrella as certain populations could be experiencing specific issues.

## Appendix 1: Definitions

Pansexual refers to any person who experiences sexual or romantic attraction to others regardless of their gender or sexual orientation. Pansexual reflects the idea that sexual attraction is not limited by the traditional binary understanding of gender and sexual orientation (Budge, Adelson, & Howard, 2013).

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