

AN EXPLORATION OF THE ROLE
OF WALK LEADER IN THE
NATIONAL PARKS OF THE UNITED
KINGDOM AND THE UNITED
STATES

J. E. Hubner
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AN EXPLORATION OF THE ROLE OF WALK LEADER IN THE NATIONAL PARKS OF THE UNITED KINGDOM AND THE UNITED STATES

Janet Hubner

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requirements of the University of the West of England,
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This research programme was carried out in
collaboration with Exmoor, Dartmoor, Brecon Beacons,
Snowdonia, Broads, Pembrokeshire Coast, and North
York Moors Park Authorities in the United Kingdom and
with Yosemite, Kings Canyon, Sequoia, Crater Lake,
and Lassen Volcanic National Parks in the United
States.

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Abstract

This project compares the self-described roles of volunteer and staff walk leaders in the national park systems of the United Kingdom and the United States. Transcripts of oral interviews were tabulated for common thematic elements until saturation was reached. While the two park systems differ widely in land use policy, leaders in both countries felt strong connection to the land and encouraged visitors to find enjoyment in nature. There was little evidence that volunteer walk leaders identify with the role of a science communicator.

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Table of Contents

Figures and Tables	6
1. Introduction	7
2. Literature Review	10
2.1 Volunteering	10
2.2 Identity	11
2.3 Interpretation	12
2.4 Tourism	14
2.5 Place	15
3. Methodology and Methods	17
3.1 Methodologies	17
3.2 Methods	18
3.3 The Analytical Method	21
4. Results	24
4.1 Demographics	25
4.2 Themes	29
5. Discussion	38
5.1 Discussion of Demographics	38
5.2 Discussion of Themes	38
5.3 Reflection on the Successes and Limitations of this Research	41
6. Conclusions and Recommendations	42
7. References	43
8. Appendices	59
Word Count - 9,991	

Figures and Tables

Figure 1. Concept Map	24
Table 1. Distribution of participants into groups	25
Figure 2. Walk leader positions	27
Figure 3. Mean time connected to park	28
Figure 4. Number of participants with connection time less than ten years	28
Figure 5. Mean length of staff employment	29

1. Introduction

The aim of this research is an exploration of the role of guide, or walk leader, in the national parks of the United Kingdom (UK) and the United States (US). This includes the following objectives: to explore the context in which this communication takes place; to find out who leads walks; how they do it, why they do it, and whether, or to what degree, walk leaders identify as science communicators.

Because this research takes place in the national parks of the UK and the US, it is important to understand the different models under which national parks are organised. The two systems have different histories, management, land ownership, and staffing roles.

The UK parks were established in 1949 with the passage of the National Parks and Access to the Countryside Act (Parker and Ravenscroft, 1999; Ramblers.org, 2019). UK parks are based on the modern multifunctional model, with a complex mandate to conserve and enhance natural beauty, wildlife, and cultural heritage of the area as well as to promote the sustainable use, enjoyment, and sustainable development (Eagles, et al., 2011). They often include smaller areas that are further protected, given special titles, and are managed by English Nature or The Countryside Agency. Most of the land within the park is privately owned, inhabited, and cultivated. A walker's 'right to pass' is seen as a landholder's gift to the community, and since that right could be revoked, this threat to access is part of the reason why the Rambler's Association actively promotes National Parks in the UK (Ramblers.org, 2019).

In 1951 the Peak District became the first English National Park. There are now 15 National Park Authorities in the UK. Each National Park is administered by its own authority. Each authority is an independent body that has little regulatory power of its own and works with other local authorities (National Parks UK, 2019). As an example, the breconbeacons.org website includes 14 towns and villages in its list of

places to visit. One of these is Talgarth, a town within the National Park boundaries. While in Talgarth, this researcher was part of a group walk. During the walk, walkers discussed the complex processes required to obtain building permits. Within Talgarth, multiple agencies have to approve building plans.

National parks in the US began with Yellowstone in 1872. Most parks in the western US, including; Sequoia, Kings Canyon, Lassen Volcanic, and Crater Lake, are in the Yellowstone model – protectionist and exclusionary. When these parks were established, the land was described as scenic, but useless for development (Runte, 1987). The US government ignored native peoples' use of the land, ejected them, and placed it under federal ownership. There is one overarching management agency, the National Park Service, established in 1916. The public ownership of the land in the national park system of the US promotes a sense of permanence, implying that a walker will always be welcome on any path.

The participants of this research led group walks in national parks. These leaders included park staff, park volunteers, staff and volunteers working for a park support organization, and volunteers with walking festivals and of walking groups. Park staff leading walks in the UK were rangers, wardens, and educators. Since interpretive programs in the parks of the US began in 1920, (Runte, 1987) park staff leading walks in the US were uniformly called interpreters or rangers. Staff for support organizations in both countries had various titles, as did volunteers.

When visiting a national park in the US, there is an entrance station where fees are collected, and park information is distributed. Included in that information packet is a schedule of guided walks and talks being presented in the park. During this research, the US parks visited listed multiple events, including several no-cost ranger-led activities offered each day. Crater Lake National Park had limited access to trails due to a deeper than usual snow-pack and hazard trees in need of removal. In spite of these limitations, there were three or four listed events each day in early July. On the Sunday this researcher visited Yosemite Valley, there were seven free

events offered by the National Park Service, and four free events offered by a private contractor. Additionally, there were events offered in six other areas of the park.

In the UK, there are no entrance stations or user fees collected by park authorities. There are fewer walks listed on the nationalparks.uk, beacons-npa.gov.uk, or breconbeacon.org websites than on comparable sites for US parks. As in the US, walks in the UK are offered by a variety of people and organizations both free and for a fee. One Sunday this researcher was in Brecon Beacons, and the only event listed was the Talgarth Walking Festival. There were several walks available, they were all-day commitments, and each walk had a fee.

Accommodations and transportation are also different in the two systems. Accommodations in the UK can be found in the towns that are inside the parks - from tent camping to luxury accommodations. Although US parks often include a small number of privately-owned inholdings, most of the accommodations within any park are campsites. Trains and bus systems connect towns and cities within UK national parks. Still, public transportation can limit access to walks. In contrast, it is never possible to travel to Kings Canyon or Lassen Volcanic national parks via public transit. There is only one daily bus from Klamath Falls to Crater Lake National Park and transit to both Sequoia and Yosemite is limited. Car travel is part of the culture of the US National Parks, and has been since the 1920's (Runte,1987).

2. Literature Review

Because this research explores the role of walk leader from the perspectives of the people who lead walks in national parks, the preparatory reading covered a wide variety of theoretical areas. These ranged from volunteering research to identity, connection to place, tourism, park interpretation and management, informal education, and science communication.

2.1 Volunteering

Volunteering research is relevant to this study because approximately half of the participants were volunteer walk leaders. Gronlund et al. (2011) claim that the UK and the US are both countries with high levels of volunteer participation, and that in most countries of the Western world, the aging population has resulted in an expectation of volunteering after retirement. According to Measham and Barnett (2009), adults in the UK and the US volunteer at similar rates, (48% and 44%). Education, age, leisure time, and income are correlated with, and are consistent predictors of, volunteer activity. Haflett (2015) described the demographics of volunteers in the parks and national trust areas of the UK as usually white, middle class, and having a fair amount of cultural capital. According to the Corporation for National and Community Service (2019), this pattern is repeated in the US. Volunteer walk leaders interviewed in this research demonstrate the various categories of motivation for volunteering - contributing to a community, social contact, personal development, and personal interest (Measham and Barnett, 2008; Asah, Lenentine, and Blahna, 2014). Although Measham and Barnett (2009) found that most of their volunteers identified a kind of learning that was the result of their volunteering, self-education was not a primary motivator. Instead, volunteers identified the primary benefit of their role as social or psychological. That value was cited almost 20 times more than environmental benefits. This is in line with Haflett's

(2015) claim that most volunteering is in the form of service to a recreational organisation.

2.2 Identity

Identity is created through complex interactions between people, cultures, and places. In this study, the participants identify as either from the UK or from the US. In turn, one's identity impacts the way one behaves and that person's views of nature, science, and communication (Evelly et al., 2008). Volunteering plays an important role in the development of identity (Lu, and Schuett, 2014; Dresner, Handelman, Braun, and Rollwagen-Bollens, 2015). The volunteer participants of this research lead walks in their leisure time, an important factor in the construction of personal identity (Darby, 2000). The more an individual is involved in an association, the more one's identity has an attachment to a specific setting. Walking socially, and in valued and symbolic landscapes such as national parks, creates a sense of superiority (Darby, 2000). Volunteering with parks, environmental organisations, and outdoor groups promotes an identity that one is a steward of place (Hungerford and Volk, 1990; Kyle, Graefe, Manning, and Bacon, 2003).

Walking groups shape identities in that groups construct a community of belonging. Religious reformers have tried to include walking as part of their identity: that walking in nature is a moral choice that promotes fellowship (Darby, 2000). Belonging to the Ramblers or a Meet-Up Group impacts one's identity because the members have shared knowledge, a shared understanding of 'common sense' while on a walk, shared communication practices, and a perception that they share a 'way of life' (Kim, 2007; Murphy and McCormick, 2008). Identity builds on the emotional significance of belonging to a group (Kim, 2007). Walking groups occasionally cross

classes, but rarely mix ethnicities (Darby, 2000). Identity research shows that there are significant barriers to outdoor recreation due to a person's race, ethnicity, socioeconomic standing, and gender (Bower, 2016). Women and minorities are underrepresented. The identity research of women walkers in a wilderness shows they are in search of multiple benefits: escape, challenge, new opportunities, relationships, and a connection with nature (Beeco, Hallo, Baldwin, and McGuire, 2011). That search for connection is in line with Falk's (2005) assertion that most individuals in the developed world connect part of their identity to a concern for the environment.

Walk leaders prepare for their role. That preparation may include some level of research, demonstrating that walk leaders are participating in free-choice learning that seems to satisfy a personal sense of identity (Falk, 2005). Guided walks are group activities. DiEnno and Thompson (2013) found that the benefits of contact with nature significantly increased if there were activities, when compared with walking in nature alone. Informal education, such as is offered in a park, can foster science identity (Schon, 2015). Two topics addressed during nature studies - climate change and evolution - are deeply involved with identity in the US (Schoerning, 2018).

2.3 Interpretation

Interpretation and identity theory intersect in the Hunter's (2015) research. Early personal memories are fundamental to building a person's identity of outdoor educator or naturalist. Naturalists hope to generate positive affective memories like their own, memories that will help visitors connect to a place and encourage return visits, and memories that will make visitors into stewards of that place.

Best practice for interpreters and environmental educators includes: the idea that behaviours, facts, concepts, feelings, and attitudes are all interconnected (Falk, 2005); using both the external physical world and social experience; creating

learning experiences that can be personalized; sharing a positive message that provokes cognitive processing and uses persuasive communication; evoking interest and awareness of an issue; allowing individuals to come to his or her own conclusion (Powell et al., 2018 and Aizen, 1992). Behavioural change theory, (BCT) applies to interpretation in that it limits the goals of any one intervention (Powell, et al., 2018). BCT states that there are multiple forces acting together that direct behaviours, and that both education and persuasive communications are only minor contributing factors.

Parks provide a place-based opportunity to inform and engage the public about issues including care of the environment, preserving resources, social change, and the country's history (Espinoza, 2016). The practice of good interpretation in parks includes organizing the presentation around a theme that is clearly illustrated, organized well, and follows Tilden's (1977) principles of story-telling. This practice makes communication relevant; tailoring the message to the audience and provoking the audience to want to do something (Stern and Powell, 2013). When interpreters are excited about their program and strive to connect visitors to nature, then programs can enhance visitor's experience, increase visitor knowledge, foster appreciation of a place, and promote environmental stewardship (Stern and Powell, 2013). Lumber, Richardson, and Sheffield, (2017) found that a connection to nature is best made via contact, emotion, meaning, and compassion, and that an intervention was significantly more effective when those components are included in a walk. Guided hikes are correlated with greater communion with nature and greater personal development (Beeco, Hallo, Baldwin, and McGuire, 2011). Interpreters who have a primary goal to increase the knowledge of the audience achieved a lower satisfaction score than the interpreters who had a primary goal of changing the audience in some other way (Stern and Powell, 2013). In the same study, it was found that the more knowledge the interpreter had about the resource, the more confidence they expressed, and that confidence did correlate with visitor satisfaction.

This research uses the theory of planned behaviour (TPB) model to focus on the factors that correlate with the guide's engagement practices. Dudo and Besley (2016) used TPB to examine the objectives of the scientist when conducting science communication. Yuan, Besley, and Dudo (2019) used TPB to ground their methods when evaluating how communication scholars view scientists' public engagement. If culture impacts attitudes, and science communication interventions include behaviours over which the guides have control, then TPB suggests that the behaviours of the guides should vary by culture (Boston University, 2019).

2.4 Tourism

When people visit a protected area, there are several possible benefits to the visitor: recreation as well as spiritual, cultural, educational, and aesthetic growth (West, Igoe, and Brockington, 2006). Tour guides sell the simplicity of a visit to a national park and imply that the people who live near or visit a national park are superior (Darby, 2000). Tubb (2003) promotes the idea that interpretation can help achieve sustainable development of tourism by promoting knowledge gain, changing attitudes, and modifying behaviour. Her research in Dartmoor National Park found that interpreters could encourage visitors to see the impact of their behaviour on the natural environment. Tubb proposes that the UK National Parks should be using effective interpretation as a way to manage tourism in general and contribute to the sustainability of tourism. Simply presenting information on a placard is not enough. Visitors need to be encouraged and motivated to engage in learning. By engaging in the social situation of a guided walk and in conversation with the interpreter, visitors to parks will be emotionally stimulated and that should provoke engagement and mindfulness (Tubb, 2003).

Going to a national park can satisfy the need to discover more about the world, as well as the need for relaxation, enjoyment, and fulfilment (Brody et al., 2002; Heimlich et al., 2004). As stated by Falk, (2005) people make a choice to continue to learn outside of school, a situation he calls free-choice learning. Because many

people feel excluded from science, that they are 'not good at science', or that some science topics contradict their religious beliefs, the approach used to communicate science is critical (Schoerning, 2018). Schoerning's research suggests an informal and conversational style of sharing science, this 'no-conflict' style of science communication strictly avoids debate about issues. Knowing that science is politicized in the US, science communicators there are trained to avoid emotional debate, practice 'in-group signalling' and practice emotional awareness (Schoerning, 2018).

2.5 Place

The research of Simmons-Cormany (2014) looked at the factors that contribute to a sense of place and the impact that has on identity, claiming that both vary with the length of time one has been a resident. People develop different relationships with, and evaluations of, that place (Simmons-Cormany, 2014). Gooch (2003), in researching volunteer behaviour found that the attachment to place is a driver of environmental volunteerism and is also motivated by a need to develop one's understanding of a place. Length of residence is positively correlated with the value placed on the presence of protected open space in the community (Nyaupane, 2011). When discussing sense of place, participants value wildlife, local culture, and other attributes that make one location unique to an individual (Simmons-Cormany, 2014).

Parks are protected areas, and that impacts place identity and the lives of the people in and around them. Giving an area a name and a boundary impacts one's connection to that place (West, Igoe, and Brockington, 2006). Protected areas become the way people identify a place they call 'nature'. Protected areas and their boundaries can also determine one's identity – is the individual a part of the group welcomed in the protected area or is the individual somehow excluded? (West, Igoe, and Brockington, 2006).

Walking groups create an attachment to place, even for visitors to the group and the place (Darby, 2000; McCabe, and Stokoe, 2004). Park interpreters are challenged to connect their audience to place (Turek, 2006; Sobel, 2004; Zarki, 2004; Beck & Cable, 2002, and Brochu & Merriman, 2002). Tourism in protected areas can lead to commodification of the environment. If that tourism offers employment, then the value of the environment is dependent on the consumption of the environment by the visitors. People's uses of and understandings of a protected area may be simplified as it becomes 'a resource' rather than their home. Tourism can be an incentive to promote the protection of an area, but it can grow to such a level that it is detrimental and decreases the value of and connection to a place (Tubb, 2003).

3. Methodology and Methods

3.1 Methodologies

Methodologies are based on underlying philosophies (a system of values to which a person adheres) and epistemologies (understandings of what can constitute knowledge, or what can be known) (Huntington, 2000; Fazey et al., 2006). This research takes an interpretivist perspective, with the researcher constructing meaning from the data (Blair, 2015). Operating within an interpretivist paradigm, the researcher acknowledges that there is a significant relationship between the subject of study and the researcher (Bettis and Gregson, 2001). The subject of this study is the role of the walk leader in a national park. This research is an attempt to understand and model the factors that influence the way this role is lived. Generating a theory is expected in all grounded theory research (Corbin, 2017; Bazeley, 2016; and Otkay, 2012).

Grounded theory began in 1967 with the work of Glaser and Straus (Otkay, 2012). This type of qualitative research is based on searching for patterns and making comparisons (Bazeley, 2016). In grounded theory research, participants are encouraged to reflect and explain what an experience means to them. Grounded theory also supports the search for links between the goals and products of the walk leaders, and the cultures of the two different national park systems. Leading a walk is not a simple behaviour and was not expected to correlate with a simple label. Walk leaders have complex and variable pathways leading to their positions. Prior to this research, there was no model that could predict the goals of a walk leader based on the country in which the walk takes place or on the staff/volunteer role of the leader.

This research takes a grounded theory approach in its analysis of a phenomenon (Strauss and Corbin, 1994; Marks and Yardley, 2011). The subjective experience of

the leader during a walk will be used to deduce the social and psychological processes that lead to a guide's goals, communications and identity (Gibbs, 2010; Corbin and Strauss, 2008; Wisker, 2008).

3.2 Methods

This research is based on semi-structured interviews with walk leaders who are willing to describe their experience during a walk. The interviews began with a few basic demographic questions: the participant's roles, age, marital status, education, length of time working or walking in the park and distance between home and the park. These were followed by the open-ended prompt, "How did today's walk make you feel?" After the second walk, it became clear that some interviews would not happen on the same day as the walk and that question was modified appropriately. The interview continued with "Please tell me about our walk. What were your objectives for the walk? How did you prepare for the walk? and How did you decide what to include on the walk?" If the answers to these questions were quite short, the participant was encouraged to elaborate on a comment or goal with a prompt such as, "You mentioned the army training area in Dartmoor. Were you expecting that part of the walk to raise any issues?" After discussing a walk, the next part of the interview was presented as sets of questions. The first pair asked the participant to reflect on the role of walk leader, "Do you think being a walk leader impacts you in any way?" and "How do you think your life impacts the way you lead walks?" These were sometimes supported by the question "What have you learned or what has changed because of leading walks?" The second set of paired questions asked the participant to evaluate the importance of the role and of the park in their life. Interviews were expected to encourage participants to talk freely about the experience of leading a walk (Marks and Yardley, 2011). Semi-structured interviews allow for flexibility to follow up on new ideas, probe with additional questions, and investigate motives and feelings related to the leader's role, identity, and connection to place. This openness is part of grounded theory research.

After developing the interview tool, (see appendix) the next steps were searches for walking opportunities in the UK. Walks taking place within a national park were found on various park websites, walking festival websites, and walking group websites. Park research included access to the over-arching site, nationalparks.uk as well as each park website. Park websites gave the researcher access to a contact within each park. Requests for further information about guided walks in the park were sent to each of the parks that the researcher planned to visit; Brecon Beacons, Pembrokeshire Coast, Snowdonia, Peak District, Lake District, North York Moors, Dartmoor, and Exmoor. Park websites included links to walking festivals planned for their region. Walking festivals then led to contact with walking groups participating in the festival.

If a walk was offered to the public, no notification was necessary before attending. Walks with groups, or those that were part of walking festivals, required advance commitment. When joining a walk, and at the walk leader's convenience, the researcher introduced herself and described the research project. Leaders were each given a copy of the informed consent agreement and a cover letter which included a description of the research and the researcher's contact information (see appendix). If the leader consented to participate, an interview was scheduled.

Conducting research in a national park in the US requires an application to conduct research in each park visited. Research permits were granted by Crater Lake, Kings Canyon, Lassen Volcanic, Sequoia, and Yosemite National Parks (see appendix). Research into walking opportunities in those parks also began with an internet search of the National Park website, nps.gov, which led to the websites of support organizations such as The National Park Foundation and various "Friends of " groups. Internet searches did not find any walking festivals in the accessible parks.

A search for walking groups led to 'meet-up' websites for groups based in Fresno, Visalia, and Redding, California. Once the researcher arrived in a US park, it was also necessary to speak with a lead ranger who could let staff members know that the investigator had permission to interview staff and that staff were given permission to participate in this research.

Grounded theory research starts with interview data which is transcribed and coded in a process called constant comparison (Bazely, 2016; Guest, 2011; and Marks, and Yardley, 2011). Transcripts become the data source as they are examined and evaluated (Beeco, Hallo, Baldwin, and McGuire, 2011). Like Beeco et al. (2011), the researcher attempted to build relationships and establish trust by participating in the hikes, allowing for an authentic account of the participant's response to a walk. This is part of the sensitivity required of a qualitative researcher as described by Liamputtong (2010).

Based on the multiple suggestions of Guest, Bunce, and Johnson (2006) for the number of interviews required to reach saturation, a goal was set - to interview 25 participants from each country. Transportation limited the researcher's ability to access walks. In the UK, public transportation to meeting places was often limited or unavailable. In the US, walks were often offered at similar times in separate parts of a park. In response to this limitation, the snowball method was used to contact additional participants. Walk leaders were asked for help contacting walk leaders from other groups who were then contacted by email with a request for a phone interview. If the researcher had not been on a walk with the participant, then the interview needed minor modification; after collecting the demographic information, the participant was asked for the date of their latest walk and that date was used to identify the walk being discussed.

The methods used by other researchers in this area include theoretical sampling (Marks and Yardley, 2011; Yader, 2011). As predicted by Guest, Bunce, and Johnson, (2006) this exploratory research was not able to systematically collect data to support the hypotheses. Culture may explain why theoretical sampling was problematic. The balance between volunteer and staff leaders is quite different in the two countries. Instead of attaining an equal number of participants from each of the sub-groups (volunteer and staff) being investigated, the primary focus of data collection was seeking saturation, that point when no new codes are added to the data set (Glaser and Strauss, 1967).

The ethical issues that might have been confronted during this research included harm to the participant if a traumatic walk was recalled during the interview. To reduce the chance that this could happen, questions were focused on one walk. The relationship of the researcher to the participant was respectful, recognizing the skills and knowledge of place exhibited by the leader. The researcher was culturally sensitive, wearing and using walking gear. By participating in the group, she became what Banks (1998) calls an 'indigenous outsider' native to walking, but not a resident or employee of the park. Note that interviews were not held in a traditional venue for research, but on the trail-side or by phone from the leader's home.

3.3 Analytical method

The analysis began listening to a recording of the interview. The researcher used an Olympus voice recorder and transcribed recordings verbatim, with the aid of the online tool, otranscribe.com. This tool allows the user to repeat short sections of the audio and always moves back in time when audio is re-started. To check the transcription, each segment of the audio was accessed several times. Some transcripts include question marks in place of words or phrases that could not be identified.

Coding of the transcripts was based on many models (DeCuir-Gunby, Marshall, and McCulloch, 2011; Blair, 2015; Lynch 2000; Faherty, 2010; Fefer, et al., 2018; and Skjott Linneberg, and Korsgaard, 2019). Coding was an iterative process (Saldana, 2013). An initial set of codes and their definitions was generated based on the prompts. As coding proceeded, codes generated by the vocabulary in the transcripts were added. Codes were based on meanings, some codes relating to single phrases within a sentence and some codes being labels that applied to entire paragraphs. The code book for this research included three components: code name, definition explaining inclusion and exclusion criteria, and examples (DeCuir-Gunby, Marshall, and McCulloch, 2011).

Transcripts were read and re-read, coding each one four times, reviewing the quotes used in the code book, comparing the phrases being tagged with the same code, and evaluating the links between codes. The thoughtfulness required of this kind of data analysis is evidenced by maintaining a record of the thinking that led to the decisions that were made (Blair, 2015). Coding was done manually with pens of several colors. Manual coding generates a more intimate knowledge of interviews than would be possible if a software package had been used (Blair, 2015).

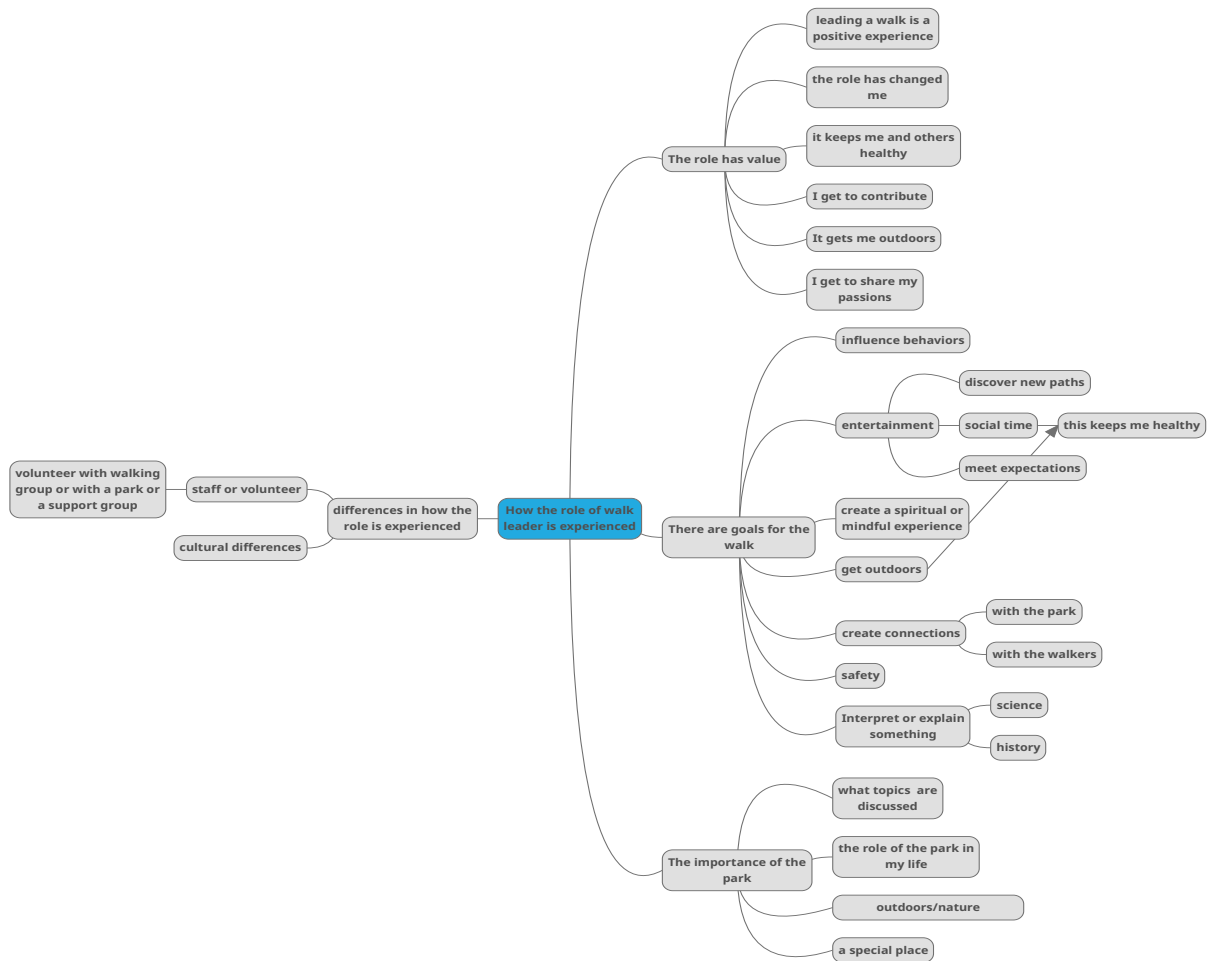
Although Zhao, Liu, and Deng (2015) claim that there is no evidence that coding is ever truly reliable, one form of analysis was a count of the number of participants with each code from each independent coding pass. The count became a comparison of the iterations of coding - how many of the codes were reliably applied, which codes varied most in number, and whether there was a change in the code book that would explain a significant change in number (ten or more).

Changes in the code book included instances when codes were combined, and others when codes were divided into separate component codes. As the research progressed, some initial codes were eliminated due to the growing clarity of themes, and the questions this research was able to answer (Layder, 2011). Further analysis included searching for distinctive codes, in that they are either commonly found or that they are rarely found. Code patterns of the sub-groups were compared. Analysis also included a search for the relationships between themes (Saldana, 2018).

4. Results

The results of this study are shown in two sections. The first section presents the demographics of the participants. The second section presents the emerging themes in three blocks. The first block includes the reasons why participants valued the role of walk leader. The second block discusses the importance of the park in the life of a walk leader. The third block discusses goals the leaders hoped to accomplish during a walk. The concept map below (Figure 1) guided the organization of the themes.

Figure 1 – Concept Map



4.1 Demographics

The distribution of UK and US participants into the staff and volunteer groups is presented in Table 1.

Table 1 – Distribution of participants

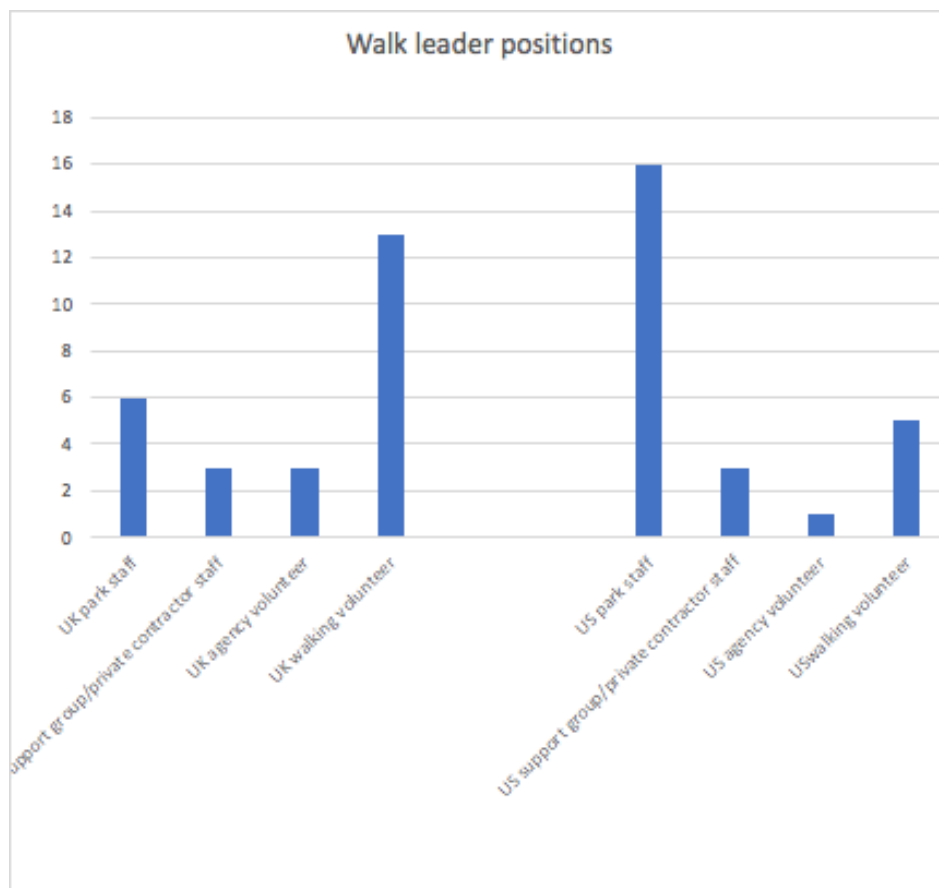
UK interview	UK paid staff	UK volunteer	UK group
1	y		park
2	y		support/festival
3			club/festival
4	y		park
5		y	club/festival
6		y	club/festival
7		y	club
8		y	festival
9		y	festival
10		y	support
11	y		support
12		y	park
13	y		park
14		y	club/festival
15		y	festival
16		y	festival
17		y	festival
18		y	club/festival
19		y	support
20	y		support
21		y	club/festival
22		y	festival/park
23	y		park
24	y		park/festival
25	y		park
	9 total staff	16 total volunteers	25 total leaders
	6 park	2 park	8 park
	0 private contractor	0 private	0 private
	3 support group	2 support	5 support
			7 club
			14 festival

US interview	US paid staff	US volunteer	US group
1	y		park
2	y		park
3	y		park
4	y		park
5	y		support
6		y	club
7		y	park
8	y		park
9		y	club
10	y		park
11	y		park
12	y		park
13		y	club
14		y	club
15		y	club
16	y		park
17	y		park
18	y		park
19	y		park
20	y		park
21	y		park
22	y		park
23	y		private
24	y		park
25	y		private
	19 total staff	6 total volunteers	25 total leaders
	17 park	1 park	18 park
	2 private	0 private	2 private
	1 support group	0 support	1 support
			5 club
			0 festival

Twenty-five leaders were interviewed in each country. In the UK, nine leaders (36%) were staff. In the US, 19 (76%) were staff. Staff positions include leaders who are working for a park, a private contractor offering services within the park, or an

agency or support organization. Volunteer positions include those working for the park, for a support organization, for a walking festival, or for a recreational walking club. (See figures 1 and 2)

Figure 2 - Walk leader positions



Notice the disparity between numbers of volunteer and staff walk leaders in the two countries. In the UK, fourteen participants (56%) mention leading walks for festivals and eleven of the sixteen volunteer leaders (69%) either mention walking festivals as additional walking opportunities or are focused on a walk given during a walking festival. None of the US volunteers were participating in a walking festival or mentioned that role during the interview.

Although the participants in this study have an equal range of time associated with their park, from one year to a lifetime of visits, the length of time the leaders had spent in the parks differed in the two countries. (Figures 3, 4, and 5)

Figure 3 - Mean time connected to the park

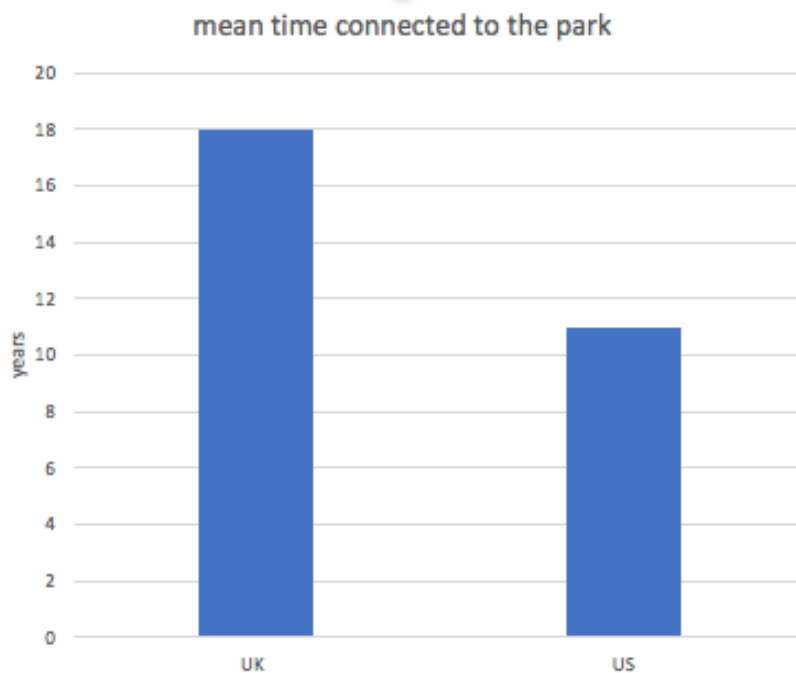


Figure 4 - Number of participants with connection time less than ten years

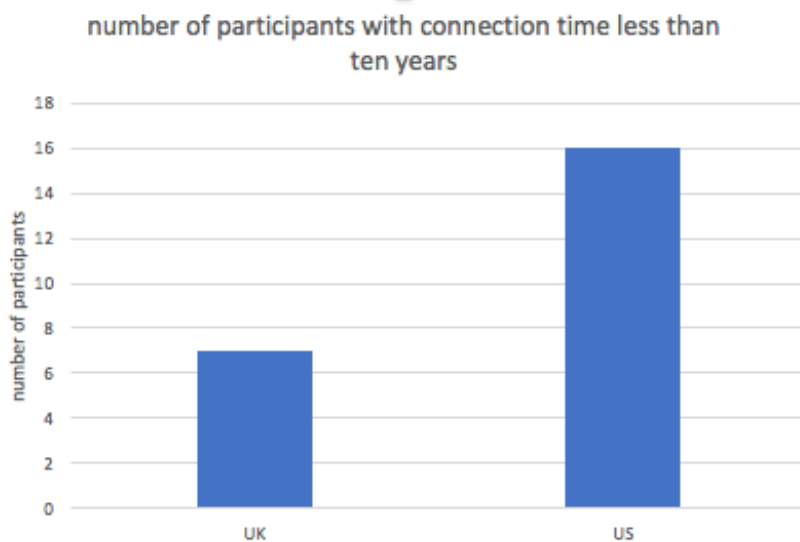
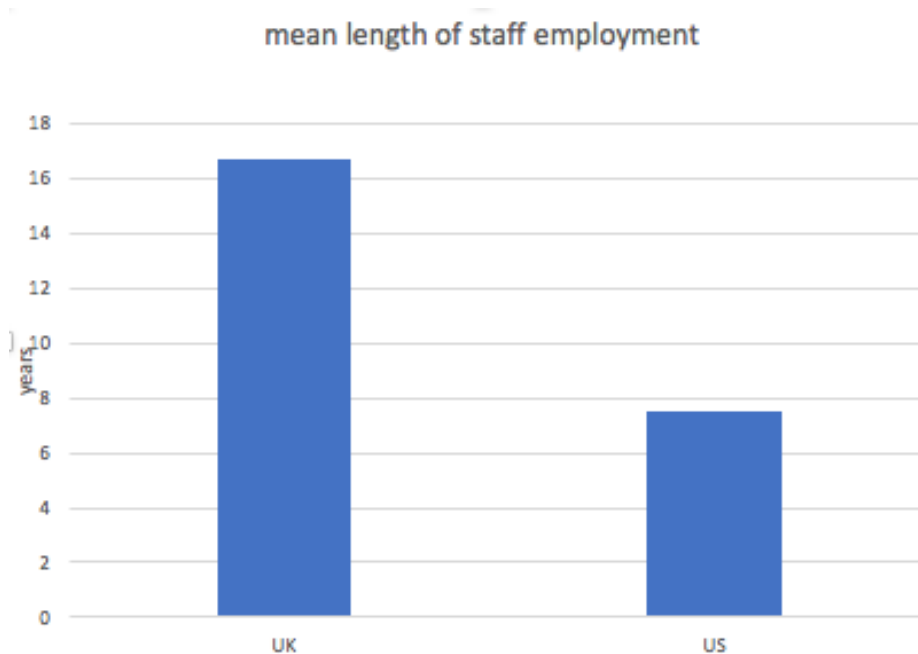


Figure 5 - Mean length of staff employment



Participants had a longer connection with their park in the UK than in the US. The mean time was 18 years in the UK and 10 years in the US. The US participants are twice as likely as the UK participants to have a connection with their park lasting less than ten years. The US staff have a mean time of employment that is about half that of the UK park staff. In both countries, leaders with a relationship of one year or less with a park were rare, (UK = 1, US = 2) and in all cases were staff.

4.2 Themes

Three categories of themes emerged as a result of constant comparison of codes: those addressing the goals of the walk; the walk leaders' evaluation of their connection to the park; and the walk leaders' evaluation of the role of walk leader.

4.2.a Evaluating of the role of walk leader

Universally, the role of walk leader was seen as a positive experience. The preliminary expression of this theme was the positive evaluation all leaders gave of

the walk we were discussing. For example, US6-V said, "Well, I had a good, satisfying trip. When I say satisfying, I do get a kind of feeling of positive accomplishment. I feel like I've done something virtuous. There is something good. I've got a little glow on. It makes me happy, I suppose." Both staff and volunteer leaders mentioned that even when a walk leader was not looking forward to the role, the walk itself always seemed to produce that positive experience. UK and US staff members refer to this change. US1-S said, "We all have our days when we don't want to go out there, and this was one of them. But then I saw that there was a big group. So, I just got started. In the end, it was pretty good. This was a good audience. There were good questions, and everybody dealt with the mud." A volunteer from the UK (UK5-V) said, "The night before you might be thinking, 'Oh I wish I hadn't put my name down for this. I am not sure we're really going to go.' But when you come back, everybody says, 'What a great walk, really enjoyed that - nice of you to order the sunshine.' Or something like that. So, you do get a lot of satisfaction out of it."

Another reason why all types of leaders value their role derives from the health benefits of walking. Leaders and the people who join them benefit from the walk, especially walking in the outdoors. As explained by UK23-S, "We want them to take away something about health, mental health, behaviour in the outdoors. I think it is important for mental health really. I want them to recognise how they may benefit, individually, when they are outdoors...the calm natural environment." and US23-S "It makes me pay attention to my basic human needs, my health, I make sure I get enough water, I get enough sleep, I make sure I get enough exercise." Being outdoors is another positive aspect of the role mentioned by participants in all subgroups. Staff members were glad to get out of the office and glad to see people 'out in the countryside'. As US8-S said, "It ties together the healthy forest and how being connected to nature keeps us healthy. I give them the stats and we talk about how it does that." Volunteers are likely to mention some aspect of that outdoor experience. UK3-V said, "I love the openness of Dartmoor. I love the quietness. I love the wilderness."

Included in the health benefits of walking, leaders mentioned the value of mindfulness, which was as likely to be found in the US as the UK and among staff and volunteers. For example, UK8-V said, "People may not believe me, but I really want to give people a chance. I want to give people that moment of being. Of being mindful."

The health benefit of friendships is more associated with the role of volunteer for a walking club than with any other role. This is true of the leaders in both the UK and the US. US14-V said, "It's important because we've made a lot of friends. If you have read about what folks in our age group need to be doing, it's to be socially engaged and to stay physically active and to take care of yourself." Interestingly, one staff participant, US8-S, claimed that the park provided the same opportunities to build 'social connectedness'.

Another aspect that made leaders describe their role as valuable was that they saw it as a way to contribute to their group or to their community. Participants from all subgroups rarely, but were equally likely, to mention some sort of service to their community as part of the motivation to lead a walk. This was expressed as paying forward, paying back, or wanting to be helpful. US18-S said, "I try to be helpful to people - to people outside of work, and I feel that personality trait comes back into exactly what I do as well."

Staff were more likely than the volunteers to evaluate the role positively based on affinity with the work. In the words of US2-S, "I've definitely found my niche." and US5-S, "I feel so lucky that my work and my life go together so comfortably and happily."

The idea that the role has changed the leader in some positive way was only occasionally cited as a reason to value the role. Several leaders claimed that the role had not impacted their identity or changed them personally. This was in spite of

a code from the same leaders describing something they had learned during a walk. When a participant claimed that their role had not changed them in any way, it seemed to be attributed to age and wealth of prior experience - "You're just using old skills in a new way" (US14-V). The leaders who identified a change included increased confidence, overcoming a fear of public speaking, becoming more open to opposing views, and increased patience.

4.2.b Evaluating the importance of the park

The participants in this study focused on three differing ways the park impacted their role. The park is the landscape that determines the topics that leaders prepare to share and the places where the leaders plan to stop. Volunteer leaders commonly use the terms landscape, views, and beauty when explaining where they led a walk. For example, UK14-V said, "The key is the sheer spectacle and the wonderful scenery." Staff also talk about the beauty one can see on a walk. One of the park staff in Yosemite (US3-S) is a relatively well-known artist. He spoke of the "dramatically visual changing perspectives on Half Dome". When referring to what is visible on the walk, staff in both park systems mentioned 'telling the story' but that there had to be 'something there to tie the story to.' (UK25-S). The same idea, that the leader would only plan to present topics that had an obvious connection to the walk, and that the leader would plan to stop in particular places because of what is visible in the park, was also expressed by volunteers.

Another aspect of the value of a park is the presence of something unique. For example: "Crater Lake provides all of the water for the entire region. So, everyone is basically, including myself, dependent on the park." (US22-S); "To help the visitors understand how rare and amazing the sequoias are." (US12-S); and "I want the visitors to understand a bit more about the special qualities of the national park." (UK13-S).

Volunteer leaders were less likely to make a remark about the park's uniqueness, and more likely to evaluate a park highly because of the park's importance in their lives as expressed here - "Yeah, my soul is there, that's where I belong." (UK6-V). Some staff evaluated parks in general. Again, from UK13-S, "I think the park is a fantastic asset and something we need to be looking after. So, yeah, it is important." Other staff sounded more like the volunteers, "My gosh, this is the centre of my universe." (US5-S).

Even after explaining life-long connections to the park and how that has impacted their identity, not all walk leaders evaluated the park as the most important place in their lives. This kind of ambivalent answer was equally likely from staff of both countries and from the volunteers in the US. For example, UK1-S said, "this place is part of my childhood memories" but concludes this evaluation with "I have discovered that other national parks make me happy too." An example from US16-S, "I've been hiking the Sierra Nevada since I was a very young child, with my parents. I live up here." This participant also included comments about being connected to other places; "So, yes, Yosemite is an important part of my life, but it is definitely not the most important part of my life." Four of the five volunteer leaders who gave walks in Yosemite had a long-term relationship with the park, yet they claimed connections with other places and valued those places equally or more highly. For example, US9-V said, "I'd like to spend more time up there, but it is too crowded for me. If I had my druthers I would go to some other parks that were less crowded."

4.2.c Goals for a walk

All walk leaders felt that they had something to share. The most common goal of walk leaders was to increase the visitors' understanding of the park where the walk took place. This sub-theme has two sub-categories: understand the science of the place and understand the history of the place. Neither topic was brought up in

isolation. As discussed earlier, they were connected to the sights viewed on the walk. This quote from UK25-S highlights that structure: "I will be talking about the physical aspects of the landscape... Some stories might not be easy to tell because there's nothing to see. It might be an interesting story, but if there's nothing there to tie the story to, it's not the best to tell." One UK volunteer focused solely on the planting of trees as a solution to climate change. In his words, "I just wanted, I just wanted to spread the word, about trees and carbon." Even that goal was tied to an understanding of the park, as the walk had included his tree nursery.

The sub-category, understand the science of this place, is one of the three most frequent codes. In both countries, understand the science is more common than the other sub-category, understand the history. Understand the history was far more common in the UK than in the US. Although staff in the US parks did sometimes mention history, it was a common code in both staff and volunteer interviews in the UK. Half of the UK volunteers mention sharing history as a goal. As one UK volunteer (UK5-V) put it, "I give my knowledge of the moor, my enthusiasm for history. Wherever I walk, I have masses of information. Everywhere has got, you know, England has a great deal of history."

Although understanding this place was important to both volunteer and staff walk leaders, the proportions are not identical. All paid staff mentioned understanding the science or natural history that can be shared during a walk, while only some of the volunteer participants had the same objective. Some of those same volunteers cited a goal of getting out into nature, even mentioning some of the plants or animals they might see, but not connecting identification of species with any component of science. Volunteer participants were far more likely to associate nature with beauty than with science. In the US, the only volunteer walk leader with a clear goal to share science was also the only volunteer for the park in which he was leading a walk.

Staff might mention stewardship or explaining something about their agency, but volunteers rarely mentioned explaining or supporting an agency. Understanding this place was expressed as an understanding of the landscape, not as a goal to understand the UK National Park Authority or the US National Park Service. Five of the six US walk leader volunteers interviewed were leading walks for a club. They have the same role in their community as the walk leaders who are part of a Ramblers group in the UK. The presence of the army training area in Dartmoor National Park was mentioned by the volunteers leading walks there, but only as a limit on the days they could walk through that area, not something that needed to be explained or which was a cause of concern. The UK volunteers who did mention an agency were either working for a support group or had additional roles with their park.

Another common goal was described as creating a connection to the park. Connection was described in association with the codes of beauty, appreciation, share, inspire, and emotion. Several of those codes were always in the top half of the goal codes in both countries. One of these codes was always in the top five in the UK and in the top three in the US. As an example, US22-S said, "So, there is some more intimate or emotional things for connecting people to the land that they are in as well as the scientific stuff. The story gives people another depth of connection, besides a scientific level, perception."

In both countries, volunteer leaders were the group most likely to mention personal interest as the driver behind the goals set for a walk. UK18-V said "I did double check a few facts from the route, around Betys-Coed with the zinc mine. So, there is a 7-volume work on mines, which I actually have." US staff also mentioned personal interest as one of their freedoms when designing a program. One ranger (US8-S) said, "Each park ranger has creative license to create the kind of program they want to create. We all have the same objective in mind, ... but we each have a different avenue on how we get there." Staff from both countries mentioned meeting the

expectations of the visitors, but the UK Park Authority participants were most likely to focused on the group they were addressing and meeting their needs.

Having a goal that might be described with the words entertainment, enjoy, pleasure and get outdoors, were among the top five frequently found codes in both countries and in staff and volunteer transcripts. Although US7-V bridled at the idea that a walk was entertainment, "It isn't bungee jumping." That same leader said, "I try to amuse. It's been my experience that somebody that enjoys what they're doing and knows something about it is a pleasure." Other leaders also talked about the need to make a walk enjoyable, to speak dramatically, or to add 'funny bits'. "Primarily, I want them to have a nice time." is the way UK13-S phrased it. Walking group leaders from both countries included the idea of variety, views, and new paths as a part of their goal. Leaders explained that a level of discovery increased the enjoyment of the walkers, "... we try to devise a walk that is interesting...So there has to be variety. There have to be views. There have to be, you have to cross fields. Try and make it interesting." (UK21-V)

In both countries, the 'volunteer with a recreational group' identity correlates with a primary goal of just being outdoors on a walk. (UK = 69%, US = 67%). "I guess, to be able to go on the hike is my objective, I don't want to hike by myself. Belonging to the group enables me to hike more. It's usually considered not very safe to hike by yourself, or it's not very fun either." (US15-V). Similarly, those volunteers were more likely than staff to have a social objective for their walk. "...because obviously we talk a lot, we laugh a lot, so it's just a lovely shared experience." (UK3-V). Volunteers were far more likely to include the goal of discovery, (50% compared to 33%) it seems that their ability to decide where to walk and their freedom to explore the areas of the park is greater than that of the staff.

A surprise finding is the difference in frequency of safety as an objective. The only USNPS staff participant alluding to safety was the ranger leading a large group of Junior Rangers. Volunteer leaders often mentioned safety: "I'm mostly concerned

with taking care of the people in my group, that they have a good time, that they do well, that they're not injured." (US-13V). Other volunteer leaders explained that to lead a walk safely required preparation for the role - including walking the route prior to leading the walk, often referred to as 'going on a reekie'. This check for trail safety is linked to the idea of discovery and entertainment, which included the need to walk new paths as was usually mentioned by the same participants. The safety theme positively correlated with the length of a walk. Five of the six US volunteers include ideas associated with safety, the one exception being the volunteer who gave a 50-minute walk. In the UK, several of the volunteer leaders working with a support agency also gave shorter walks. They did not walk the trail prior to their presentation and did not include safety as a goal of the walk.

The walking group located in Fresno, California, included two volunteer leaders who claimed that there were very clear limits on what they could or should share during a walk. "We are a non-profit group with a governing board and bylaws. As a public benefitted association, we do not advocate for anybody. We keep it non-partisan on the trail." (US14-V). Both this leader, and US15-V identified their group as a 'non-profit' suggesting that should limit their communication goals

5. Discussion

As expected in grounded theory research, this discussion includes hypotheses (Corbin, 2017; Bazeley, 2016; and Otkay, 2012). The first hypothesis is based on the demographics of the participants, explaining the levels of volunteer participation. The hypotheses that follow attempt to explain the variation in the way themes were presented by differing groups of participants. The discussion concludes with a reflection on the success of the project.

5.1 Discussion of demographics

Volunteer rates in the two countries were expected to be approximately equal. This study did not find equal numbers of volunteer walk leaders in the parks of the UK and of the US. Instead, there were more than 2.5 times as many volunteers in the UK than in the US: 64% of the walk leaders in the UK were volunteers and only 24% of the walk leaders in the US were volunteers. The explanation seems to be a cultural difference. Noting that 13 of the 25 UK participants mentioned walking festivals and seven of the UK volunteers were connected to a walking group, walking groups and walking festivals are commonplace in the UK. They are rare in the US, where there are no walking festival associated walks and only five walking group leaders from two groups. Walking is a form of recreation, and volunteering research states that there are far more volunteers working for recreational groups than there are volunteers working for environmental groups or public agencies (Haflett, 2015). The research suggests that the US lacks opportunities for recreational walkers to volunteer.

5.2 Discussion of themes

All of the participants in this research had goals for their walks. Those goals became sub-themes in the analysis, but they differed based on the role and the individual. One component of that difference is the focus on choice. Park rangers in the US,

like the walking group volunteers, expressed that the primary motivator of the goals for their walk was personal choice. Linking the theme of choice with the theme of the importance of the park, the theory generated by this research is that the landscape of the park is the primary driver of goals for staff leading walks. Talking about the iconic views when on a walk at Yosemite's Glacier Point allowed one US staff member to talk about both geology and art. Talking about the mines when on a walk near Hay Tor allowed a UK staff member to talk about technology and geology. Both of these participants had a choice of what to present during their walk, but the choice is based on what is visible. The presence of, or lack of, visible historic objects in a park explains the rarity of history as a focus of US walk leaders - staff and volunteer. If one was visiting a US National Park that had more visible history, such as Theodore Roosevelt's home, Sagamore Hill, there would be a difference in the responses of both volunteer and staff walk leaders.

Choice is one of the components that gives the role its value. Volunteers choosing to walk as a form of recreation also chose the length, place, and time for their walk. These walk leaders chose the path that allowed them to share their passions, get the level of exercise they want, find companionship, discover new areas, be in the landscapes that inspire them, and spend as much time in conversation unrelated to the place as they desire. Recreational walk leaders usually chose to lead walks lasting for several hours. These long walks include time socializing and a more fluid dynamic as walkers spread out and re-collected at styles, turning points, or sites of interest. The length of a walk means differing demands upon fitness and preparedness. The length of the walk explains the need to focus on safety.

Staff and volunteers working for a park or for a support group working inside the park have a different walking culture than volunteers leading walks for festivals and walking groups. Staff-led walks are usually shorter and are advertised based on a theme. Most of the staff in US parks plan for walks of around 90 minutes and make several stops within that short time frame. The walk leader may have chosen the focus of the walk, but the attendees are not fellow walkers from the leader's social

group. This explains the emphasis on the goal to build some sort of understanding or connection to the park rather than find companionship.

Parks in both countries have complex mandates that include the idea of visitor enjoyment. Linking choice with mandate explains the variety of goals expressed by walk leaders. Participants from all groups mentioned enjoying the walk. Some included the idea of entertaining the walkers, or at least meeting their expectations. Both staff and volunteer leaders expressed the need to limit the science presented, fearing that science as a topic would disengage the visitors. The complexity of the environment and the varied reasons people visit parks explains the low impact the role has on the walk leader.

In both countries, the volunteers for a walking group focused on their membership in the group as their identity. Identity research explains that focus on belonging to the group and the consequent need to include all the walkers in any conversation. The different political cultures of the US and the UK can explain why participants in the US mentioned that they do not advocate or teach. Leaders in both countries mentioned some costs involved in running a group, but only the volunteers in the US commented on the tax status of their walking group as a limitation on what they might discuss during a walk.

The value of the park was not related to any of the subgroups. Two factors tended to explain the primacy of a park's value in the participant's life; the length of their association with the park and some significant memory associated with the park. The value of the role of walk leader was also disassociated from any subgroup. This is partly explained by the fact that no walk leader mentioned what they had learned as a change made to their lives. Instead, the changes mentioned were a greater understanding of people, greater confidence, or a change to their underlying motivations. These changes tended to correlate with being a younger walk leader.

5.3 Reflection on the successes and limitations of this research

The goal of this research was exploration. Given the limits imposed by geography and transportation, walking with a leader in seven of the fifteen UK National Parks and five of the 61 US National Parks, was a success. Although the participants varied in age, education, and role, saturation was achieved - there were no new codes presented by the last participants. True grounded theory research would have required more time than was available for this project. If more resources were available, walk leaders in other US parks should be contacted. Those parks would include ones that are closer to urban centres, have a greater historic relevance, or which included more residents, would have helped support or reject some of the claims made in this discussion.

6. Conclusions and Recommendations

National parks in both countries encourage the visitor to enjoy the park. Parks offer so many avenues of exploration that they do not limit the goals of a visitor or narrow the focus of a walk leader. There is no strong motivation for walk leaders to focus on science or become a science communicator. Exploiting the inspirational powers of the natural world to educate is supported by interpretation research, but the number of people making use of that inspiration is limited.

Parks should capitalize on the walk leaders conclusion that leading a walk is a positive experience, and that the role of walk leader has value. Sharing what walk leaders valued could attract more volunteers to work directly with parks. This would necessitate giving walk leaders the freedom to design their preferred walk: choosing the subjects discussed, as well as the length and difficulty of the walk. As a volunteer with the park, promoting the park and advocating for an understanding of the science of park management would no longer be a controversial subject for walk leaders.

National Parks in the UK seem to be missing an opportunity to use nature-based experiences to make science accessible and meaningful for the public. There are very few walks led by staff or volunteers working for an environmental agency associated with these parks. Park management would be supported and the problem of environmental degradation due to human activity would be made relevant to more park visitors if there were more such walk leaders (BBC, 2019).

Although first-person interpretation is more frequently found in the US than in the UK, this could be enhanced if US parks began to host walking festivals and actively encouraged walking groups in parks. Although some of these leaders may choose to focus on some aspect other than the science of the park environment, identity and place research implies that time spent in the park will develop deeper connections to the park.

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Appendices

1. Interview Tool

Date of guided walk

Place of guided walk

Interview date/type

Guide's demographic information:

- role - staff or volunteer?
- age -
- marital status -
- highest level of education -
- length of time working in this site -
- distance between site and home (or travel time) -

Interview Questions:

How did today's walk make you feel?

Please tell me about today's walk. What were your objectives for the walk?

How did you decide what to include on this walk?

Please describe your relationship with the walks you guide here in the park. Has your experience as a guide impacted your life? Do you think being a walk leader impacts you in any way? What have you learned or what has changed because of your role as guide? How do you think your life impacts the way you lead walks?

- How important is this place in your life?
- How important is your role here in your life as a whole?

2. Informed Consent

Informed Consent for Research Participation

The project:

This research is an exploration of the relationships between the people who lead walks in national parks and the science communication they do while leading the walk. This study is being conducted from March to November of 2019. Parks in the UK will be visited/contacted during April, May and early June. Parks in the US will be visited/contacted in June and July.

The Permits:

Crater Lake - CRLA-2019-SCI-0005

Lassen Volcanic - LAVO-2019-SCI-0028

Sequoia and Kings Canyon - SEKI-2019-SCI-0040

Yosemite - YOSE-2019-SCI-0047

Who is being invited to participate:

Guides who lead walks in the national parks of the United Kingdom (UK) and the United States (US) are invited to participate. Both park staff and volunteer guides will be contacted through park contacts, walking clubs, walking festivals, park support groups, and natural history associations.

What will be expected of you if you consent to participate:

If you consent to participate, I will interview you about your role as a walk leader.

Possible risk or disadvantages of participation:

Participation will take fifteen minutes to a half hour of your time.

What happens after the study ends:

This study is being conducted as a thesis project to complete my course at the University of the West of England. There will be a copy of my thesis held at the University. The thesis may be submitted for publication.

Confidentiality of data:

Copies of transcripts will be held in a locked cabinet, to which only I have the key.

Who is organizing and funding the research:

The researcher primarily funds this project. The Department of Applied Sciences at the University of the West of England offers modest financial support.

Opportunities to withdraw from the study:

You are welcome to withdraw from the study and no interview will take place.

If you are willing to participate, please contact me:

Janet Hubner

US contacts -

mobile phone: (559) 389-2013

land line: (559) 243-0734

email: Janet2.Hubner@live.uwe.ac.uk or janet.hubner@gmail.com

3. Cover Letter

June 5, 2019

Dear Yosemite Mountaineering School People,

I am a student at the University of the West of England. For my Master's thesis, I am researching the science communication that takes place during walks in national parks. My thesis is an exploration of the relationships between the guides, their interpretation

in the park, and the park itself. I will be comparing the interviews of guides who work in the UK and in the US.

I would like to interview members of your staff after they lead a walk. If any of your staff (volunteer or paid) would be willing to speak with me, I would appreciate making that contact and their gift of time. Please let me know if it will be possible to conduct any interviews, either while I am in the park or by phone at some other time.

If you need more information, my Supervisor for this project is Emma Weitkamp. she can be reached at: Emma.Weitkamp@uwe.ac.uk

My contact information is below.

Thank you for your help -

Janet

Janet Hubner
UK information -
phone: +44 785 279 7508
email: Janet2.Hubner@live.uwe.ac.uk
address: 6 Kendall Gardens
Bristol
BS16 4ND

US information -
phone: +1 559 243 0732
email: Janet2.Hubner@live.uwe.ac.uk
address: 623 East Yale Avenue
Fresno, CA
93704

alternate email: janet.hubner@gmail.com

4. Example Permit

 SCIENTIFIC RESEARCH AND COLLECTING PERMIT Grants permission in accordance with the attached general and special conditions United States Department of the Interior National Park Service Yosemite National Park	Study#: LAYO-00058 Permit#: LAYO-2019-SCI-0028 Start Date: Jun 29, 2019 Expiration Date: Jul 19, 2019 Comp Agreement#: _____ Optional Park Code: _____
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Name of principal investigator: Name: Janet Hubner Phone: 447853797508 Email: janet.hubner@gmail.com
Name of institution represented: University of the West of England
Additional investigators or key field assistants:
Study Title: Comparing science communication in national parks of the United Kingdom and the United States.
Purpose of study: This is an investigation of the science communicators working in national parks. The study investigates the relationships between science communication, culture and the paid or volunteer status of the guides leading walks in national parks. The findings of this study will broaden our understanding of the impact culture, identity, citizenship, and position title have on the production of science communication events and how those events impact the guides leading walks. This project is my thesis for a Masters' in Science Communication at the University of the West of England.
Subject/Discipline: Social Science
Locations authorized: Based on locations where there are guided walks or hikes
Transportation method to research site(s): vehicle from Fresno to park and then on foot to attend guided natural history walk
Collection of the following specimens or materials, quantities, and any limitations on collecting:
Name of repository for specimens or sample materials if applicable:
NPS General Conditions for Scientific Research and Collecting Permit (available at the NFRS HELP page) apply to this permit. The following specific conditions or restrictions, and any attached conditions, also apply to this permit: Coordinate interviews with Interpretation Division, kristi_neilson@nps.gov.

Recommended by park staff (name and title): <u>Michael McGinnis, Research Park Lead</u>	Reviewed by Collections Manager: Yes ☒ No ☐
Approved by park official: <u>Jason Richardson</u>	Date Approved: <u>6/10/19</u>
Title: Supervisory	

I Agree To All Conditions And Restrictions Of this Permit As Specified
(Not valid unless signed and dated by the principal investigator)

[Signature] 12 June, 2019
(Principal investigator's signature) (Date)

5. Example Transcript

US interview 2 - Demographic info

June 22, 2019

Yosemite

Interview after walk

staff but also volunteers

BS

5 seasons at site

minutes from seasonal home to start of walk

12 hours from winter home

Please tell me about today's walk. How did today's walk make you feel? What were your objectives for the walk? How did you decide what to do for this walk?

I feel like the walk was very informal. Considering we had only us, we didn't have any other visitors. Typically, my objectives for the Redwoods walk is to cater it to what my audience wants. We have a lot of flexibility with this program. It is two hours, so it is longer. There are a lot of different places that we can go. There are a lot of different things that we can do. So, typically I check with my audience and see what they're interested in. Some people want to go down to the river, some people are focused on wildlife, some people want to learn about the wildflowers. So, today because I supposedly have a plan to meet with the fire, fire department, so I planned to focus more on wildfires here in the park.

So, what do you find that people want from these walks?

I feel like, for this particular walk, people more want entertainment, paired with information. So, it will be like "We wanted to go to the river anyways, or we wanted to go on this hike so, why don't we do it with a ranger? Or have a ranger with us. So, and then I just talk about what we see along the way. And I answer any questions that they particularly have. But it's more, I feel like family groups, so it's more like entertain the kids, go down to the river, more hands on.

Did you have any specific park messages you wanted to share?

Um, I feel like it is important that people hear the messages that we're giving regarding wildfire and how we got to where we are at today. I feel like I usually share quite a bit about climate change in my wildfire programs, so I think that message is important to get out and share.

If that is an important message, is that a general piece of environmental information or is that specific to this place?

I think it's more general, but there are a lot of very specific examples in this place.

When you think about today's walk, would you describe how your life impacts what you did today?

My entire career has been focused around environmental education. I started more like working in zoos and aquariums. Working in education in that environment. Just developing those skills, presentation skills, over the years. I definitely didn't see myself doing this. This is not what I set out to do. Thinking about being a park ranger was not on my career goals, but I was working on environmental education. It was kind of more ex situ, right. I started volunteering with some national parks and I decided that I wanted to pursue education within the park. As my career. Kind of more in situ education instead of exsitu. Instead of pulling an animal out of the wild and saying let's look at it in a zoo or an aquarium or a museum, going out to the wild and being able to be fully immersed in nature with my visitors and sharing it that way. So, it's kind of evolved over time.

Has being a walk leader changed you?

Definitely, since coming here to the park, I've definitely found my niche. I really enjoy what I do. Some days after walks I cry because I'm so happy. Because of the interaction I have with people. Like, on a pretty regular basis. It definitely affects me. I feel very fulfilled in my work. Obviously, there are days that are draining, and being exposed to so many people on a regular basis does have an emotional toll, but for the most part I feel very fulfilled in what I do. Being able to share these things with others.

How would you value this place in your life?

It is the most important. Hands down.

How would you value your role as walk leader or guide?

It's very important to me. I am an advocate for our parks.

Are there other aspects of walking that you value?

Maybe not so much fitness, it's just an added bonus. It's not a driving factor though. Emotional health I think plays a large role in what I do. I kind of mentioned to you during the walk that this past winter was tough. Coming here, I started here on April 29th this year and it was just April 29th, April 29th, April 29th. I just needed to make it to April 29th because I feel like this is my place. this is my calling and being here brings me so much peace and wellbeing. This is my peace and happiness for sure.