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Traveling with a guide dog: Confidence, constraints and affective qualities of the human-guide dog relationship

Abstract

Guide dogs enhance the confidence of people with vision impairment (PwVI) and improve their everyday mobility, but they also present constraints to travel. This paper investigates the influence of the PwVI-guide dog relationship on travel behavior through a mixed method study of guide dog owners in the United Kingdom. Results from the quantitative analysis show that confidence to work the dog outside its normal environment has a significant positive effect on the number of overnight trips taken with the dog. Qualitative findings highlight the affective qualities of the relationship that influence change in travel behavior to accommodate guide dog limitations and well-being. This study expands our understanding of the diversity of interpersonal relations that influence accessible travel behavior and contributes to human-animal relations research in tourism.

Keywords

accessible tourism, guide dog, vision impairment, confidence, constraints, affective relationality

1. Introduction

There is considerable research on the experiences of people with vision impairment (PwVI) in the travel and tourism sector (Casey et al. 2013; Church et al. 2000; Crudden et al. 2016; Gallagher et al. 2011; Jones & Jain 2006; Low et al. 2020; Richards et al. 2010; Small et al. 2012; Wong 2018); yet the role of the guide dog has not been thoroughly examined (see Authors 2021a, 2021b). Guide dogs are a type of assistance dog trained to support PwVI to safely navigate past obstacles and hazards once given a directional command (Craigon et al. 2017). The trainability of dogs along with their sociability has facilitated greater mobility for PwVI within their local communities (Audrestch et al. 2015; Craigon et al. 2017; Gravrok et al. 2018; Hart 1995; Worth 2013). Additionally, guide dogs enhance their owners' feelings of confidence, as well as safety and self-esteem (Audrestch et al. 2015; Glenk et al. 2019; Lambert 1990; Lane et al. 1998; Rodriguez et al. 2019; Sanders 2000; Whitmarsh 2005). As a result, guide dogs are more than companion animals but are a crucial part of their owners' everyday mobilities. While previous research has developed our understanding of the PwVI-guide dog relationship in the context of everyday mobilities, little is known about the PwVI-guide dog relationship in a tourism context, which involves traveling outside one's normal environment. Thus, this study is driven by the broad question: How does the PwVI-guide dog relationship influence tourism travel behavior of PwVI?

Some research has addressed pet-related constraints in tourism (Carr 2017; Carr & Cohen 2009; Chen et al. 2014; Dotson et al., 2013; Hung et al. 2012, 2016; Ying et al. 2021). However, a guide dog is more than a pet. Despite instances of discrimination and denied access of guide dogs (Deville & Kastenholz 2018; Lloyd et al. 2008; Matsunaka & Koda 2008; Mesquita & Carneiro 2016; Authors 2021a, 2021b), they are recognized within most countries' disability legislation whereby reasonable accommodation entitles them to accompany their owners most places (Pond 1995). Moreover, as an "affective relationality" (Pemberton 2019), the PwVI-guide dog relationship functions as a cross-species interdependence (see Higgin 2012; Howell 2018; Taylor 2017; Wigget-Barnard & Steele 2008). It is built upon a complex set of affective qualities, including communications, emotional bonds and caring responsibilities, that support an evolving partnership (Higgin 2012; Howell 2018; Pemberton 2019; Rodriguez et al., 2019; Stevenson 2013). Nevertheless, it is important to acknowledge that a guide dogs' wayfinding abilities can be reduced in unfamiliar environments (Craigon et al. 2017), therefore potentially affecting confidence of both dog and PwVI in tourism contexts. Thus, as will be elaborated in this paper, PwVI confidence, potential constraints of the guide dog and the affective qualities of the relationship collectively influence tourism travel behavior of PwVI.

Working at the intersection of accessible tourism and human-animal relations, this research contributes to the burgeoning body of literature on the tourism behavior of people with disabilities (PwD). Further, it builds upon the more recent efforts to attend to the ways that animals add value to tourism through the work that they perform (Rickly & Kline 2021). Considering this intersection of accessibility and human-animal relations, we observe that the PwVI-guide dog relationship extends the companion species relationship (Haraway 2003, 2008) to a working partnership (Higgin 2012; Howell 2018; Pemberton 2019) that affects more than touristic experience but also travel decision-making and behavior.

The study was developed in collaboration with Guide Dogs, which is a working name of The Guide Dogs for the Blind Association – a British charitable organization that helps PwVI across the UK through the provision of guide dogs, as well as education, assistive services and training for assistive technologies. The study employed a mixed method approach consisting of a focus group, survey and interviews of guide dog owners in the UK. Additionally, readers will note the usage of “people with vision impairment” (PwVI) in this paper. While publications use different descriptors, such as visually impaired people (VIP), we adopt “people first” language that prefaces the individuality of PwD (Dunn & Andrews 2015). Further, we use “vision impairment” rather than “visual impairment” as our charity partners and research participants revealed that among this community “visual impairment” can have connotations suggesting impairment of a person’s appearance, whereas “vision impairment” relates specifically to sight abilities.

2. Conceptual background

2.1 Traveling with vision impairment and a guide dog

PwVI experience reduced confidence using public transport (Crudden et al. 2016; Jones & Jain 2006), and they are much less likely to travel outside of their everyday environments compared to people with other impairments (Small & Darcy 2010). This is further reduced for international travel (Kong & Loi 2017). The fear of missing information is a primary source of travel anxiety for PwVI (Poria et al. 2011; see also Golledge et al. 1997; Wong 2018).

PwVI use a variety of assistive technologies to access textual information (Azenkot & Lee 2013; Lam et al. 2020). When it comes to wayfinding, GPS-based technologies are increasingly integrated into mobile applications and smart technologies to aid navigation (Balachandran et al. 2003; Bhowmich & Hazarika 2017; Bosch & Gharaveis 2017; Gulati

2011; Low et al. 2020). However, these are most often used in conjunction with a guide dog or traditional assistive tools, such as long canes, as well as implementing the common practice of counting steps and memorizing routes (Wong 2018). There is evidence to suggest a guide dog is preferred over other mobility aids (Glenk et al. 2019; Mills 2017). The presence of a guide dog enhances the visibility of a person's impairment, alerting others that they might require reasonable accommodation (Mills 2017; Richards et al. 2010; Rodriguez et al. 2019; Worth 2013).

Importantly, research suggests that guide dogs provide many benefits to their owners beyond their training and task work. They encourage increased physical activity, offer companionship, specifically unconditional affection, as well as facilitating positive social encounters in public spaces (Eddy et al. 1988; Hart et al. 1987; Mader & Hart 1989; Sanders 2000; Steffens & Bergler 1998; Worth 2013). Guide dogs can provide a sense of safety, increase feelings of competence, control and confidence and act as a focus of care and concern (Audrestch et al. 2015; Glenk et al. 2019; Lambert 1990; Lane et al. 1998; Rodriguez et al. 2019; Sanders 2000; Whitmarsh 2005). These benefits are particularly important to counteract negative self and social perceptions for PwD that can lead to learned helplessness (Gravock et al. 2018; Sanders 2000).

The embodied nature of guiding fosters deep, emotional connections between PwVI and their guide dogs (Higgin 2012; Kwong & Bartholomew 2011; Richards et al. 2010; Stevenson 2013; Wigget-Barnard & Steele 2008), which has been characterized as an "affective relationality" (Pemberton 2019; see also Howell 2018). Guide dogs do not arrive as fully trained mobility agents. Following their institutional training they begin their person-specific learning to understand their owners' ways of communicating, while the person simultaneously learns the dog's personality and responsiveness. This is a process that Taylor (2017, 223) more vividly describes as "vulnerable, interdependent beings of different species learning to understand what the other needs." As such, it is an evolving relationship that is continually unfolding (Higgin 2012; Howell 2018; Pemberton 2019; Stevenson 2013; Wigget-Barnard & Steele 2008). While technically a working dog, guide dogs spend the majority of their time as companion dogs, further deepening the bond through play, domestic rituals and caregiving (Higgin 2012; Kwong & Bartholomew 2011; Wigget-Barnard & Steele 2008; Yarmolkevich 2017).

Despite these positives, caring responsibilities can present additional challenges for guide dog owners (Mills 2017; Rodriguez et al. 2019), and there are more reports of discrimination and access refusal when they are accompanied by a guide dog, particularly in transport,

visitor attractions and hospitality settings (Devile & Kastenholz 2018; Lloyd et al. 2008; Matsunaka & Koda 2008; Mesquita & Carneiro 2016; Authors 2021a, 2021b). Further signaling a lack of public awareness of the role of guide dogs and reasonable accommodation, it is common for people to interact with working guide dogs thereby distracting them from their tasks (Kuusisto 1998; Lloyd et al. 2008; Michalko 1999; Sanders 2000). Thus, compared to pet dogs (see Chen et al. 2014; Dotson et al. 2010; Hung et al. 2012, 2016; Ying et al., 2021), guide dogs can present unique constraints to travel for PwVI.

2.2 Accessible tourism: constraints and travel behavior

The rise of “tourism for all” advocacy organizations has led to calls for accessibility as an industry-wide imperative (Buhalis & Darcy 2011; see also Vila et al. 2015). The UNWTO (2015) states that everyone should have the opportunity to participate in tourism, regardless of economic, physical and/or social circumstances (see Michopoulou et al. 2015). Relatedly, Darcy (2006) posits the three values of accessible tourism – independence, equity and dignity – are of the utmost importance if the industry is to reduce the most common barriers and improve confidence amongst travelers. Although tourism is increasingly recognized as a social right (see McCabe & Diekmann 2015) contributing to quality of life (Dolnicar et al. 2012) and life satisfaction (Evcil 2018), accessibility challenges are prevalent and accessibility non-compliance is well-documented (Buhalis & Darcy 2011; Nyanjom et al. 2018). In particular, a one-size-fits-all approach focused on wheelchair access that overlooks disability diversity has been observed (Kong & Loi 2017; McKercher & Darcy 2018; Small et al. 2012; Tutuncu 2017; Authors 2021a, 2021b).

Barriers and constraints to accessing tourism can have significant implications for tourism behavior and experiential outcomes (see Cole et al. 2019; Darcy 1998, 2002, 2010; Darcy & Dickson 2009; Richards et al. 2010; Small et al. 2012; Smith 1987). Constraints Negotiation Theory (CNT) has been a prominent framework for assessing the consequences of barriers to leisure, recreation and tourism. According to CNT, constraints to participation are encountered and negotiated hierarchically: intrapersonal, interpersonal and structural (Crawford & Godbey 1987; Crawford et al. 1991; Nyaupane & Anderek 2008). Intrapersonal constraints are psychological, relating to personal preferences, attitudes and self-perception. Interpersonal constraints are social and thereby informed by relations with others such as travel companions and caring responsibilities. Structural constraints arise from factors such as time availability, financial circumstances and access needs. Importantly, these constraints are not exclusive to PwD, but are experienced by everyone. However, the ability to negotiate through constraints can be influenced by many factors. The “hierarchy of social privilege” assumption of CNT suggests that socio-economic situation, such as class, gender, race and

1 disability has an effect on the perception and experience of constraints, which subsequently
2 have an effect on participation (Crawford et al. 1991; see also Stodolska et al. 2020), but this
3 is an indirect effect whereby disability affects participation via the intervening variables (e.g.
4 the perception and experience of constraints).

5
6 Indeed, researchers have observed the relationship of disability to constraints negotiation in
7 a number of leisure and recreation situations. Hawkins et al. (1999) observe that for adults
8 with cognitive disabilities, interpersonal constraints are much stronger as a result of complex
9 caregiver relationships and reduced agency. Loucks-Atkinson and Mannell (2007) find that
10 for people with chronic pain disorders confidence in the use of negotiation resources affects
11 motivation, which subsequently affects participation. Relatedly, Lyu et al. (2013) identify
12 extraversion as a critical factor in the willingness of people with physical disabilities to
13 negotiate constraints. In terms of tourism, specifically, Lee et al. (2012) assess the mediating
14 effect of learned helplessness on the travel behavior of PwD. They posit that while PwD
15 might initially persevere against constraints, repeated encounters with constraints can
16 inevitably lead to loss of confidence and eventually capitulation (Lee et al. 2012; see also
17 Wen et al. 2020).

18
19 Research on the travel behavior of PwD is rather scarce. However, research that has been
20 conducted tends to support the above studies, for instance, suggesting that PwD travel at a
21 lower rate than the general public (Darcy 1998, 2002, 2010; Dwyer & Darcy 2008; Pagan
22 2012; Tutuncu 2017). Nearly 50 percent do not travel, or travel less frequently than they
23 would like, due to lack of reliable information, lack of funds and/or previous negative
24 experiences (Darcy 2010). More specifically, Dwyer and Darcy (2008) find that while similar
25 proportions of people with and without disabilities participate in day trips, tourists without
26 disabilities travel at a 21 percent higher rate in overnight stays and 52 percent higher rate in
27 overseas travel. Those who do not travel, or travel less often, would like to travel more but
28 they find travel environments to be disabling (Darcy 1998). Some studies suggest that
29 severity of impairment and degree of independence are significant determinants of how often
30 PwD travel (see Darcy 1998, 2002; Pagan 2012); however, we must take caution not to
31 emphasize the impairment above the individual. There is a serious gap in our understanding
32 about the interrelationships of the factors influencing travel behavior for PwD. Moreover,
33 PwD are not a uniform population, but their diversity must be acknowledged. Accordingly,
34 this paper considers PwVI, itself a diverse group, and the influence of their guide dogs on
35 tourism travel behavior.

36 37 *2.3 Conceptual framework: Guide dog owner confidence and travel behavior*

As the above literature indicates, the PwVI-guide dog relationship enhances confidence (Audrestch et al. 2015; Glenk et al. 2019; Lambert 1990; Lane et al. 1998; Rodriguez et al. 2019; Sanders 2000; Whitmarsh 2005), while presenting additional constraints (Kuusisto 1998; Lloyd et al. 2008; Michalko 1999; Mills 2017; Rodriguez et al. 2019; Sanders 2000). Thus, this paper considers the influence of confidence and constraints on travel behavior, with the focus on overnight trips away from home in order to capture the tourism context rather than trips taken during everyday life.

While most guide dog owners work their dogs in familiar environments on a daily/semi-daily basis, taking a guide dog outside its normal environment requires confidence in a number of factors. PwVI must be confident that their dog is able to work in unfamiliar environments, including guiding safely and maintaining focus in distracting spaces. Additionally, they need to be confident that the dog will be safe in the unfamiliar environment, that relief/spending areas are readily available and veterinary care can be accessed if needed. Considering these factors to traveling outside their normal environment, the following hypotheses have been developed:

1. *Hypothesis 1:* Confidence to work the dog safely outside its normal environment has a significant positive effect on the number of trips taken with the dog.
2. *Hypothesis 2:* Confidence to work the dog safely outside its normal environment has a significant negative effect on the preference to travel without the dog.
3. *Hypothesis 3:* Confidence to work the dog safely outside its normal environment has a significant negative effect on the preference to stay at home.
4. *Hypothesis 4:* Preference to travel without the dog has a significant negative effect on the number of trips taken with the dog.
5. *Hypothesis 5:* Preference to stay at home has a significant negative effect on the number of trips taken with the dog.

Three control variables are added to the conceptual framework due to their potential effect on travel behavior overall. Firstly, income is expected to have a positive effect on trips taken in line with the assumption that people with higher incomes travel more frequently (see Losada et al. 2016; McKercher & Darcy, 2018). Secondly, vision that supports mobility is included on the basis that respondents may be partially sighted and some vision is able to

support mobility. The effect on trips taken with the dog is uncertain. On the one hand, it may be easier to travel with the dog but on the other hand, the person may be less dependent on the dog. Thirdly, additional disability is included. The effect of this on trips taken with the dog is also uncertain because having an additional disability may present more constraining access requirements. However, the owner may also be relatively more dependent on the dog to assist with multiple impairments. The conceptual framework, which identifies key variables and linkages between them is illustrated in Fig. 1.

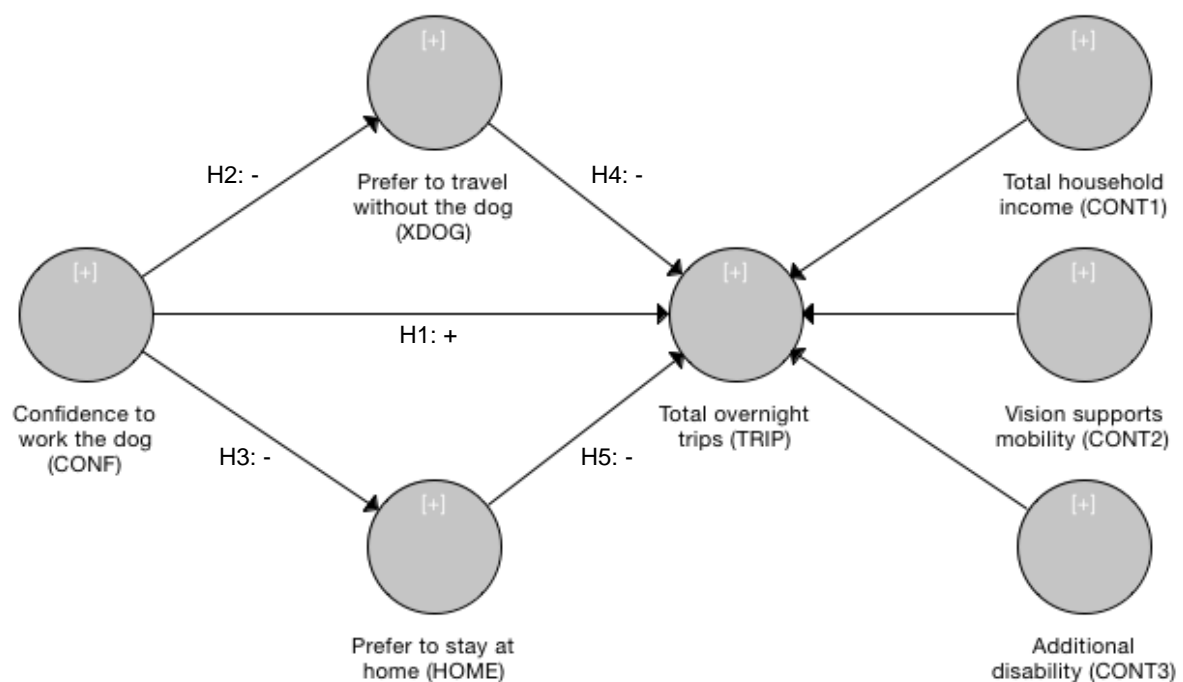


Fig. 1. Conceptual framework.

3. Methodology

To date, much of the research on disabilities and tourism constraints is quantitative, whereas studies specifically focusing on either the PwVI-guide dog relationship or PwVI experiences of tourism are predominantly qualitative. As a result, a mixed methods approach was employed in this study consisting of a focus group tested survey followed by semi-structured interviews. Trustworthiness of the findings was addressed through triangulation of data, methods and analysis (Decrop, 1999). In terms of positionality, it should be noted that none of the academic research team has vision impairment. As a result, it was imperative that we worked closely with Guide Dogs' Research Team, some of whom are vision-impaired and have a guide dog.

During collaboration with Guide Dogs, it was recommended that the quantitative approach should precede the qualitative because hypotheses had already been developed from the literature, but not yet validated in the context of the PwVI-guide dog relationship, which could be done using a survey. Additionally, it was suggested that the survey would be an effective recruitment tool for interview participants. Data from the survey would help to answer the hypotheses, while interviews would allow the researchers to probe deeper into the findings to capture the nuances of the PwVI-guide dog relationship in tourism contexts. Data collection was carried out February – August 2019, thus prior to the COVID-19 pandemic. At this time, there were about 2 million people living with sight loss in the UK, of which around 360,000 are registered as blind or partially sighted (NHS, 2020). Additionally, there were an estimated 5000 registered guide dogs working in the UK (Guide Dogs, 2020).

3.1 Survey

The online survey was developed in collaboration with Guide Dogs. It was pre-tested with a focus group of three guide dog owners, each with different levels of travel experience, and revised following their feedback. Specifically, the focus group advised on changes towards more common language used to describe caregivers, guide dog tasks and wayfinding tools/techniques. They also suggested additional potential barriers and challenges. The final survey questions and measurements used to create variables for the conceptual framework and hypotheses are listed in Table 1. It includes seven items of confidence (CONF) that were highlighted by the theoretical framework and focus group session as being important elements of confidence in working a guide dog outside of its normal environment. Preferences regarding traveling without the dog or preferring to stay at home were also highlighted by the focus group and included as variables XDOG and HOME respectively. Trips taken (TRIP) includes overnight trips in the UK and abroad. There are then three control variables for income (CONT1), vision (CONT2) and additional disability (CONT3).

Table 1. Survey questions and measurement.

Variable	Survey question and measurement
CONF	<i>Question:</i> In general, how confident do you feel that you could carry out the following tasks away from your normal environment with your guide dog? <i>Measurement:</i> 1 (not at all confident) to 5 (very confident)
CONF1	<i>Item:</i> Keeping my guide dog focused in distracting spaces
CONF2	<i>Item:</i> Being guided safely by my guide dog in unfamiliar places

CONF3	<i>Item:</i> Navigating in new environments
CONF4	<i>Item:</i> Finding relief areas for my dog in unfamiliar places
CONF5	<i>Item:</i> Finding relief areas for my dog when using transportation services
CONF6	<i>Item:</i> Keeping my guide dog safe in unfamiliar places
CONF7	<i>Item:</i> Obtaining veterinary care when away from home
XDOG	<p><i>Question:</i> When traveling away from home overnight, I prefer to travel without my guide dog</p> <p><i>Measurement:</i> 1 (strongly disagree) to 5 (strongly agree)</p>
HOME	<p><i>Question:</i> I prefer not to travel away from home overnight because I prefer to stay at home</p> <p><i>Measurement:</i> 1 (strongly disagree) to 5 (strongly agree)</p>
TRIP	<p>Combined response from two questions:</p> <p><i>Question 1:</i> How many overnight trips within the UK have you taken with your guide dog in the last 12 months?</p> <p><i>Measurement:</i> 1 (none), 2 (1 to 2 trips), 3 (3 to 5 trips), 4 (6 to 10 trips), 5 (11 to 15 trips), 6 (16 to 20 trips), 7 (21 trips or more)</p> <p><i>Question 2:</i> How many overnight trips abroad have you taken with your guide dog in the last 12 months?</p> <p><i>Measurement:</i> 1 (none), 2 (1 to 2 trips), 3 (3 to 5 trips), 4 (6 to 10 trips), 5 (11 to 15 trips), 6 (16 to 20 trips), 7 (21 trips or more)</p>
CONT1	<p><i>Question:</i> What is your total household income?</p> <p><i>Measurement:</i> 1 (£10,000 or less), 2 (£10,001 to £25,000), 3 (£25,001 to £50,000), 4 (£50,001 to £75,000), 5 (£75,001 to £100,000), 6 (more than £100,000)</p>
CONT2	<p><i>Question:</i> Do you have any vision? If yes, do you use that vision to assist in your mobility</p> <p><i>Measurement:</i> 1 (Yes), 0 (No)</p>
CONT3	<p><i>Question:</i> Do you have an additional disability?</p> <p><i>Measurement:</i> 1 (Yes), 0 (No)</p>

1

2

3 The survey was then designed in SurveyMonkey and assessed by the Guide Dogs'

4 accessibility team for compatibility with the most common screen-reading applications and

5 technologies. The online survey was distributed via Guide Dogs' communications team with

6 a link in an e-newsletter. The link remained open for six weeks. Despite passing Guide Dogs

7 compatibility assessment, the online survey did present difficulties for some screen-readers.

8 As a result, a telephone-based survey option was added whereby participants were talked

through the survey and their responses were entered into the SurveyMonkey platform by a research assistant. This technical problem might partially explain why 374 responses were received but only 244 were fully completed and valid for inclusion in the study.

Analysis relating to the conceptual framework (Fig. 1) was carried out using Smart PLS3 (Ringle et al. 2015). This is a software package for conducting Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS is a composite based form of SEM that is increasingly used in tourism research (Oom do Valle & Assaker 2016). It is capable of handling latent variables such as confidence (CONF) as well as observed variables such as overnight trips (TRIPS), preference to travel without the dog (XDOG) and preference to stay at home (HOME), and also the control variables: income (CONT1), vision (CONT2) and additional disability (CONT3). It can be used on relatively small sample sizes but should generally exceed a threshold of 100 (Assaker et al. 2012). The sample size of 244 for this study exceeds the recommended threshold.

Survey sample characteristics for the three control variables are provided in Table 2. Sixty-one percent reported a total annual household income of £25,000 or less. Seventy-three percent had some vision with 56 percent of those having vision that assists with their mobility. Almost 40 percent had an additional disability with a further 10 percent preferring not to say.

Table 2. Survey sample characteristics (N= 244).

Characteristic	Category	Frequency ¹	Valid percent
Household income	Less than £10,000	30	15.2
	£10,001-£25,000	90	45.5
	£25,001-£50,000	57	28.8
	£50,001-£75,000	13	6.6
	£75,001-£100,000	4	2.0
	More than £100,000	4	2.0
Some vision	Yes	177	72.5
	No	67	27.5
Vision assists mobility	Yes	137	56.1
	No	40	16.4
	No vision	67	27.5

Additional disability	Yes	90	36.9
	No	129	52.9
	Prefer not to say	24	10.2

¹ Missing values from some respondents mean that frequency does not always equal 244.

3.2 Interviews

To develop a richer understanding of the experience of traveling with a guide dog, a series of semi-structured interviews were conducted. Recruited through the survey, 144 participants agreed to be contacted. Interviewing continued until saturation was reached, resulting in a total of 27 interviews averaging 45 minutes in duration (see Table 3). A semi-structured design was used to allow for a conversational interview that enabled participants to tell their own stories in a relatively open manner. However, several prompts were used to ensure there was discussion of the extent of travel outside their normal environment with their guide dog, experiences during a recent overnight trip, and factors that encourage/discourage confidence to travel with their dog. Participants were also asked to state their age (to the nearest decade) and the total number of years with a guide dog (including details about any breaks between guide dogs). The majority also volunteered introductions of their guide dogs.

The interviews were conducted by telephone and were audio-recorded with permission from respondents for transcription and analysis purposes. To protect the participants' identity, anonymous identifiers replaced their names and the names of their guide dogs. Thematic analysis was applied to transcripts by two of the authors (Boyatzis 1998). This process was two-fold, using both deductive and inductive coding (see MacCarthy 2021). Because the broader project was concerned with guide dog owners' experiences of travel, including barriers to access, travel decision-making and behavior, and experiential dimensions, the coding process began with a deductive approach in order to situate the interview data within the core values of accessible tourism (independence, equity and dignity, as well as transport mode specific coding). This facilitated the development of briefing documents for Guide Dogs to support their training programs and industry and policy engagement. This was followed by an inductive coding process to identify additional themes relating more specifically to the PwVI-guide dog bond, dog's abilities/limitations, confidence factors, guide dog welfare, among others. This paper specifically focuses on the themes derived from inductive coding.

The interviewee characteristics are provided in Table 3. The average age of the interview participants was 49 years, with one interviewee in their 20s and two in their 70s. The average

years with a guide dog was 16 years. The longest time working with a guide dog was 42 years, and the shortest was 2 years.

Table 3. Interviewee characteristics.

Participant	Age in years (to the nearest decade)	Total years with a guide dog
1	60	37
2	30	17
3	60	39
4	60	22
5	50	14
6	50	6
7	70	10
8	50	7
9	60	35
10	20	10
11	40	4
12	60	21
13	50	2
14	30	14
15	50	12
16	40	25
17	30	6
18	30	3
19	60	11
20	60	42
21	60	9
22	50	18
23	50	14
24	60	21
25	70	5
26	40	10
27	50	30

4. Findings

4.1 Travel preferences

Overnight trip frequency with a guide dog is much higher for domestic versus foreign trips (Fig. 2). While 96 percent of respondents have taken a trip in the UK during the last 12 months (43 percent taking six or more trips), only 19 percent have taken a foreign trip (three percent taking six or more trips).

Those that take overnight trips abroad with their guide dog tend to be more frequent travelers overall. For instance, if domestic and foreign trip responses are added together (whereby a value of 0=none, 1=1-2 trips, 2=3-5 trips, 3=6-10 trips, 4=11-15 trips, 5=15-20 trips, 6=21+ trips), the average total for all respondents is 2.91 (equivalent to 6-10 trips when rounded up). For those that have been on a foreign trip it is 4.52 (15-20 trips) compared to 2.54 (6-10 trips) for those that have not, and the difference is significant (independent samples t-test: $t=4.628$, $p<.001$).

Similar to Darcy's (1998, 2010) work on PwD, the findings of this study suggest there is a strong preference for travel among PwVI (Fig. 3). However, there is an even stronger preference for the presence of a guide dog during that travel. Relatedly, previous research reports a preference for guide dogs over other mobility aids (Glenk et al. 2019; Mills 2017). This indicates the PwVI-guide dog relationship may be significant in tourism travel behavior.

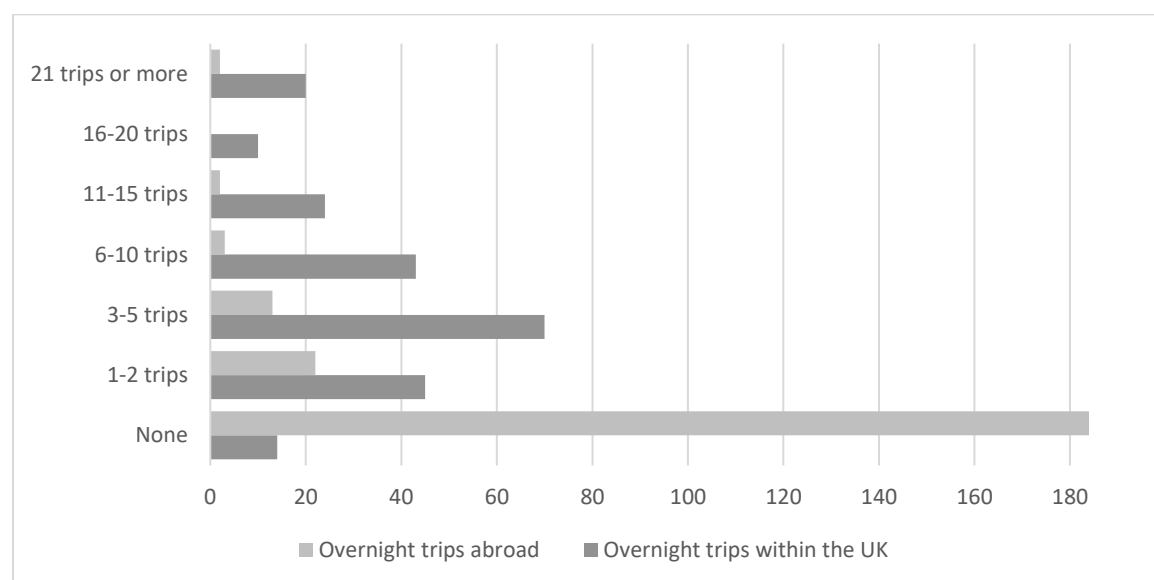


Fig. 2. Number of overnight trips taken with a guide dog in the UK or abroad during the last 12 months.

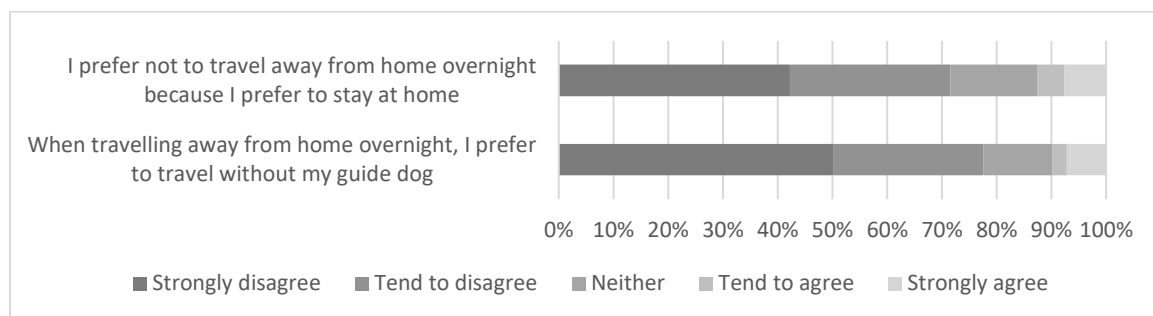


Fig. 3. Overnight travel preferences

4.2 Confidence and working a guide dog

Considering the importance of confidence as an outcome of the PwVI-guide dog relationship (Audrestch et al. 2015; Glenk et al. 2019; Lambert 1990; Lane et al. 1998; Rodriguez et al. 2019; Sanders 2000; Whitmarsh 2005), respondents were asked about key dimensions of working their guide dogs when in unfamiliar environments likely to be encountered during tourism activities (Fig. 4). The most common practices of working a guide dog elicited generally confident attitudes from respondents. However, they were less confident about finding relief areas for their dog and navigating new environments, which may constrain travel with their guide dog.

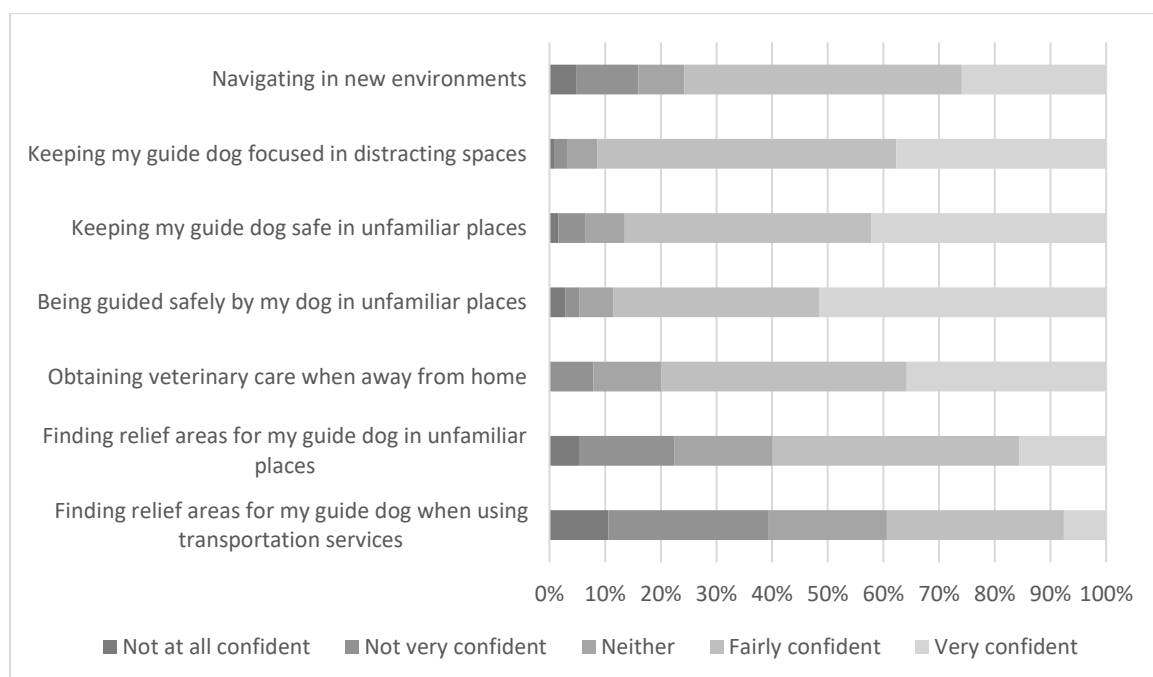


Fig. 4. Confidence in carrying out the following tasks away from your normal environment with a guide dog.

4.3 PwVI-guide dog relationship: Travel behavior

The conceptual model (Fig. 1) was tested using PLS-SEM. The measurement model was assessed in terms of internal consistency, reliability and convergent validity of the latent variable confidence (CONF). Collinearity of the inner model was also assessed to check that predictor variables are not linearly related. The recommended thresholds for reflective measurement models were based on Hair et al. (2017). In terms of reliability and validity, the loadings for items used to create the latent variable confidence (CONF) were checked by running the PLS algorithm to get the path coefficients. The analysis used 1000 iterations and selected casewise deletion for missing values. According to Hair et al. (2017), internal consistency reliability is generally accepted when Cronbach's Alpha and loadings of individual items are greater than 0.700, while for convergent validity, the Average Variance Explained (AVE) should be above 0.500. Items with loadings of 0.400 to 0.700 might be retained if doing so increases the AVE to above the recommended threshold of 0.500 without reducing Cronbach's alpha below 0.700.

One confidence item relating to veterinary care (CONF7) had a loading of 0.496. Deleting it increased AVE from 0.476 to 0.535 (above the recommended threshold of 0.500) and with a Cronbach's Alpha of 0.831 instead of 0.825 (above the recommended threshold of 0.700). It was therefore deleted from the structural model. Other items with loadings of less than 0.700 were retained because deleting them had little effect on the AVE. Collinearity of the inner model is assessed by variance inflation factors (VIF) – all of which are lower than the recommended maximum value of 5 (Hair et al. 2017). VIFs are not relevant for the outer model as those measures are reflective rather than formative. Table 4 provides a summary of the measurement model assessment for the latent variable confidence (CONF), along with descriptive statistics and VIFs for all variables included in the model.

Table 4. Descriptive statistics and measurement model assessment.

Variable	Descriptives		Collinearity VIF	Convergent validity		Internal consistency reliability	
	Mean	SD		Loading	AVE	Composite reliability	Cronbach's Alpha
CONF	-	-	1.055	-	0.535	0.872	0.831
CONF1	4.25	0.73	-	0.665	-	-	-
CONF2	4.32	0.91	-	0.855	-	-	-

CONF3	3.81	1.09	-	0.798	-	-	-
CONF4	3.48	1.11	-	0.747	-	-	-
CONF5	2.97	1.15	-	0.596	-	-	-
CONF6	4.20	0.89	-	0.699	-	-	-
XDOG	1.86	1.13	1.124	-	-	-	-
HOME	2.01	1.17	1.109	-	-	-	-
TRIP	2.91	1.96	-	-	-	-	-
CONT1	2.43	1.04	1.119	-	-	-	-
CONT2	0.56	0.50	1.027	-	-	-	-
CONT3	0.40	0.49	1.094	-	-	-	-

The structural model was then assessed using bootstrapping with 5000 subsamples to test the hypotheses. Bias-corrected and accelerated bootstrap was selected as the confidence interval method and casewise deletion was selected for missing values. Outer loadings, path coefficients and t-values for the structural model are shown in Fig. 5 while structural model assessment and results of the hypothesis testing are shown in Table 5.

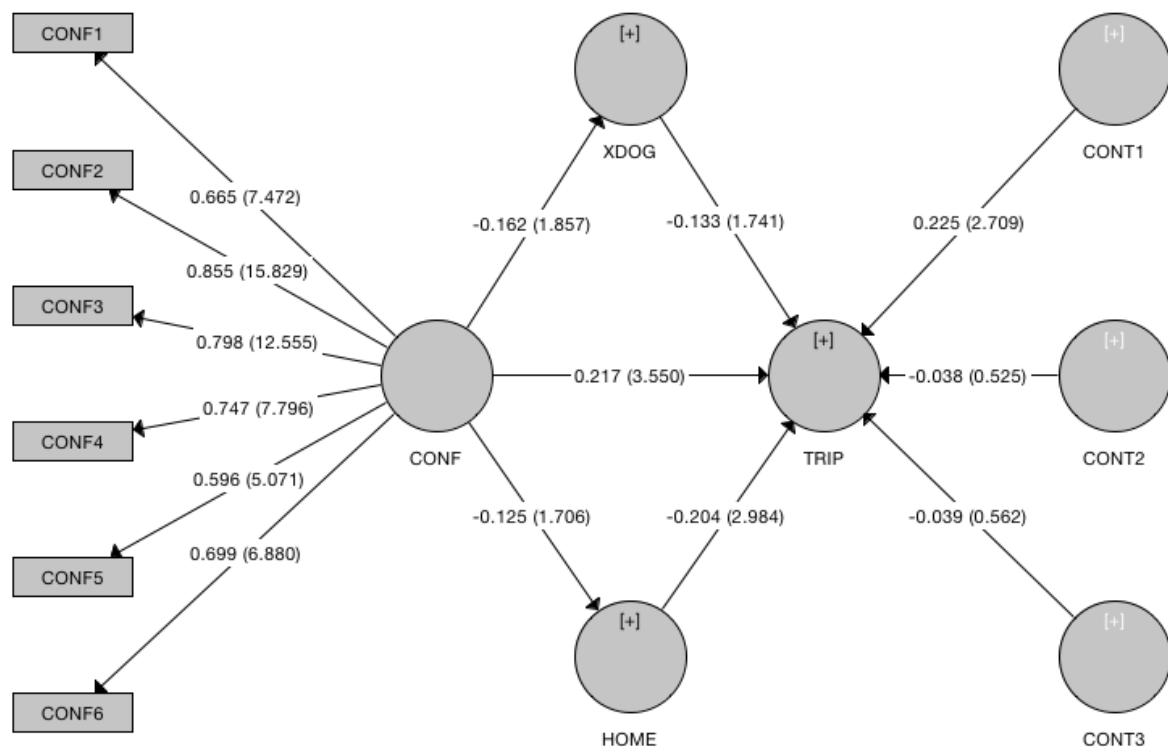


Fig. 5. Structural model with outer loadings, path coefficients and t-values.

Model fit is estimated by the standardized root mean residual (SRMR) with the recommended threshold being less than 0.080 (Henseler et al. 2016). The SRMR of 0.075 is therefore within the recommended threshold. H1 to H5 are accepted although H2, H3 and H4 are only accepted at a liberal 10 percent level. In addition, care should be taken in overstating the results because the effect sizes are generally weak (f^2 of 0.020 to <0.150) (Fig. 6). Regardless of whether they are significant or not, paths with f^2 values of below 0.020 (e.g. H3: Confidence \rightarrow Home) are generally considered as having no meaningful effect. It is worth noting the significant positive effect that income (CONT1) has on overnight trips taken (TRIP). This supports previous research which suggests that low income is a notable constraining factor in travel for PwD (McCabe 2009; McKercher & Darcy 2018).

Table 5. Structural model assessment and hypothesis testing.

Path	Coefficient	t-value	p-value	Hypothesis
Focal variables and hypotheses				
H1: CONF \rightarrow TRIP	0.217	3.599*	0.000	Accepted
H2: CONF \rightarrow XDOG	-0.162	1.859***	0.063	Partially accepted
H3: CONF \rightarrow HOME	-0.125	1.736***	0.083	Partially accepted
H4: XDOG \rightarrow TRIP	-0.133	1.757***	0.079	Partially accepted
H5: HOME \rightarrow TRIP	-0.204	3.006*	0.003	Accepted
[CONF*XDOG] \rightarrow TRIP	0.022	1.070 ^{ns}	0.285	
[CONF*HOME] \rightarrow TRIP	0.026	1.348 ^{ns}	0.178	
Control variables				
CONT1	0.225	2.713*	0.007	
CONT2	-0.038	0.518 ^{ns}	0.604	
CONT3	-0.039	0.554 ^{ns}	0.580	
R²	0.222			
Adjusted R²	0.190			
SRMR (estimated model)	0.075			

Note: p-value (ns = not significant, * $p < .010$, ** $p < .050$, *** $p < .100$), SRMR = standardized root mean residual.

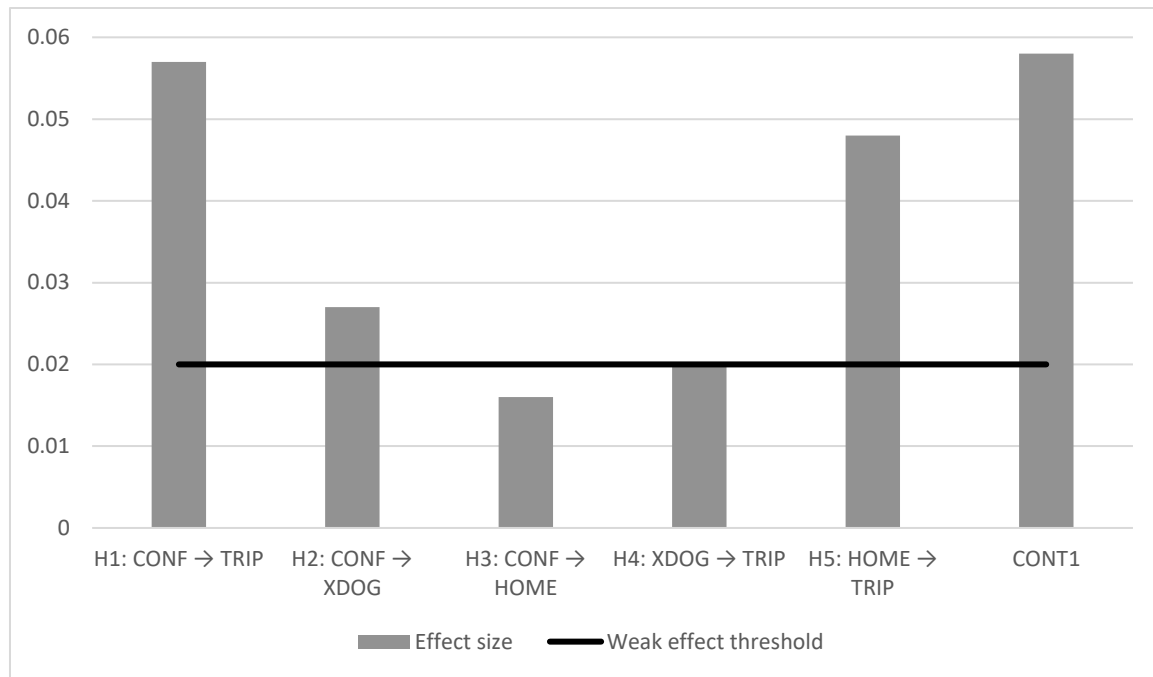


Fig. 6. Effect sizes (f^2) for significant effects.

Note: Threshold of 0.020 for a weak effect, 0.150 for moderate, 0.350 for strong.

4.4 PwVI-guide dog relationship: Travel confidence and constraints

While PLS-SEM analysis suggested a relationship between confidence to work a guide dog and travel behavior, qualitative findings provide further understanding of the nuances of the PwVI-guide dog relationship. According to the above results, Hypothesis 1: *Confidence to work the dog safely outside its normal environment has a significant positive effect on the number of trips taken with the dog* can be accepted. Similar themes were observed in the interview findings as participants often spoke in terms of confidence when discussing their travel behavior, be it in a positive or negative connotation. Several participants explained that their guide dog increased their confidence during travel more than other mobility aids. This included navigating new spaces and being guided safely.

“Without her I can’t leave the house, I don’t have the confidence [...] when I was in Dublin, I took my dog and yeah I got lost a few times but I had her, so I didn’t mind. [...] I probably wouldn’t have ventured as far anyway [with the long stick] because I wouldn’t have had that confidence.” (Participant 2)

“It certainly gave me a lot of independence to have a really well-trained guide dog that could cope with a city center. I could go to new areas. He was quite relaxed and really capable and that made a real difference to my confidence.” (Participant 16)

1
2 According the SEM analysis, Hypotheses 2: *Confidence to work the dog safely outside its*
3 *normal environment has a significant negative effect on the preference to travel without the*
4 *dog*, Hypothesis 3: *Confidence to work the dog safely outside its normal environment has a*
5 *significant negative effect on the preference to stay at home*, and Hypothesis 4: *Preference*
6 *to travel without the dog has a significant negative effect on the number of trips taken with*
7 *the dog* are only partially accepted. Further understanding as to why can be found in the
8 interviews.

9
10 Participants often spoke of the limitations of their guide dogs. While trained to navigate once
11 given a directional command (Craigon et al. 2017), they are reliant on their owner to
12 communicate adequate cues. Participants noted that this limits their dog's capabilities in
13 unfamiliar environments, adds responsibility to the PwVI and subsequently constrains their
14 travel behavior.

15
16 "It [the guide dog] will stop you banging into things [...] it can't work unless you give it
17 instructions [...] And if you can't support that dog through that process then it's going to
18 be very confused and wonder what the heck to do." (Participant 3)

19
20 "To go to Holland, to go to France, where you've got right-hand driver, I always
21 wondered how does the dog cope? Because they are your emergency mechanism if you
22 decide to cross the road when the bus is coming or whatever." (Participant 23)

23
24 "She would get worried and stressed and she as a guide dog, she wouldn't be of any
25 value to me [...] because she wouldn't understand where she's supposed to be going.
26 She very much likes her routines and the places she usually goes and if she goes to
27 somewhere new, she's not very good." (Participant 14)

28
29 While they feel a sense of dependence on their dog for safe guiding, they know their dog
30 relies on them as well. This causes some stress (see Rodriguez et al. 2019) and can affect
31 travel behavior, particularly when there are concerns about the guide dog's well-being. This
32 was especially noted in relation to relief areas, which can be difficult to locate in transit hubs:
33 rail stations, airports, and the like.

34
35 "If for example you were in an airport and your plane was delayed for a while you know,
36 I'm not confident [...] that there would be somewhere for the dog to go and have a wee if
37 he needed to." (Participant 6)

1
2 “Sometimes dogs like grass and therefore if there’s any grass around that tends to be
3 slightly easier. [...] But if you’re in a busy built-up area then that can be quite difficult as
4 well.” (Participant 21)

5
6 Finally, Hypothesis 5: *Preference to stay at home has a significant negative effect on the*
7 *number of trips taken with the dog* is accepted in the SEM model requiring the possibility of a
8 lack of desire for travel to be considered. This aspect of PwVI travel behavior was revealed
9 during the focus group, as participants spoke about friends who simply prefer to stay home
10 and to not travel away on overnight trips. This did not appear in the interview data, but
11 interviewees were specifically recruited to speak about their travel experiences with their
12 guide dog. As such, those who prefer to stay home and not travel may have been less
13 inclined to volunteer for an interview.

14 15 *4.5 PwVI-guide dog relationship: Travel decision-making*

16 Essential to understanding human-animal relations is not to examine humans and animals
17 separately, but how we live *together* (Haraway 2003, 2008). Higgin (2012, 74) explains that
18 the PwVI-guide dog relationship is a partnership that “develops *with* and *through* the
19 particular capabilities of each partner.” Indeed, our participants offered rich descriptions of
20 being a part of this partnership and navigating the dimensions of both dependence and
21 independence within it.

22
23 “At school they were very good at teaching me to be independent. What they didn’t really
24 give me any lessons on is how to be dependent but without it then detracting from my
25 own sort of personal self-worth [...] That’s an interesting sort of reverse side of getting a
26 guide dog because you want to be independent but you’re totally dependent on the dog”.
27 (Participant 21)

28
29 “As you work with it [guide dog] you find that the dog begins to get confidence from you
30 [...] and so roles are very much reversed at that point”. (Participant 23)

31
32 The PwVI-guide dog relationship is awash in affective qualities that are crucial to its success
33 as a partnership and makes the guide dog more than a pet. An affective quality is the ability
34 of an object or being to stimulate change in perception or behavior (Buda 2015). Pemberton
35 (2019) argues affective qualities of the PwVI-guide dog relationship are especially observed
36 in various forms of communication (vocal, gestures and tactile) between person and dog that
37 results in an interdependence, with each depending upon and caring for the other in specific

ways. It is this interdependence that supports greater independence for PwVI. The qualitative findings highlight how affective qualities of this relationship influence travel decision-making. Several participants noted a general feeling of ease when with their dogs, or anxiety when separated from them, suggesting affective qualities were as important as confidence in working their dogs.

“When we go on the plane [...] she’s just so good. She actually makes me feel better because I never used to be very good on a plane”. (Participant 5)

“We do occasionally leave her with friends or family [...] But I really miss her and I get a bit anxious.” (Participant 11)

Moreover, this demonstrates the various types of work that guide dogs perform. In addition to service work (Urbanik 2012), guide dogs also perform care work (protection, affection), communication work (non-verbal signals), and emotion work (bonding, relationships) (Coulter 2016). However, the PwVI-guide dog relationship is not built simply by the work and affective qualities of the dogs. Rather, as a partnership, the PwVI also must reciprocate care, nurturing and affection (Higgin 2012; Howell 2018; Kwong & Bartholomew 2011). Evidence from interviews suggests that decisions related to travel with or without a guide dog extend beyond assessing the value of their guide dog, but caring responsibilities and well-being of the guide dog are also factors.

In describing the extensive process of planning travel with their guide dog to assure its safety and comfort, Participant 19 explained, “My guide dog’s important, and he comes first and I come second.” Similarly, another participant described the ways that their guide dog’s well-being influences their decision-making related to destination choice and activities undertaken:

“Selecting [holiday destinations] with [guide dog] in mind as a member of the family [...] those kind of holidays where it’s not going to be too hot and there’s going to be things for her to do you know. We increasingly now go back to the same places or very similar places, where we know we’re going to have less problems. I would much prefer to be exploring new places every time but [...] we know what we’re getting.” (Participant 11)

Recognizing the work that their guide dogs perform, others explained their decisions to travel without their guide dogs is an act of care. There is an understanding of what affects their dogs, such as it being accustomed to routines and that when wearing its harness, it is in

1 working mode. By deciding to not have their guide dogs accompany them on holiday, the
2 guide dog gets its own leisure time, free from their work (see Carr, 2021).

3
4 “When I go away abroad I tend to leave [guide dog] so he gets a holiday as well. And I
5 think it’s important for him to have his own downtime, his own rest from being a working
6 dog”. (Participant 26)

7
8 “If I was going abroad I wouldn’t take the dog with me, I always feel my dog deserves a
9 holiday”. (Participant 4)

12 **5. Discussion**

13 Using a mixed method approach facilitated an investigation of various factors of the PwVI-
14 guide dog relationship that influence tourism travel behavior. From the survey, findings
15 indicated that the travel behavior of PwVI favors domestic versus foreign overnight trips and
16 there is a strong preference for the presence of a guide dog during travel (Fig. 3). However,
17 the confidence of working a guide dog in unfamiliar environments varies based on the task
18 (Fig. 4). These factors were incorporated into a conceptual model (Fig. 1) based on five
19 hypotheses related to tourism travel behavior, and all were supported through quantitative
20 assessment. Specifically, confidence to work a guide dog outside of its normal environment
21 has a significant positive effect on the number of overnight trips taken with the dog. This also
22 has a significant negative effect on guide dog owner preferences to stay at home and to
23 travel without their dog, which have significant negative effects of their own on the number of
24 overnight trips taken with the dog. However, income has the strongest effect on the number
25 of overnight trips taken, which is in line with common knowledge on how financial constraints
26 affect participation in tourism, and which is particularly observed for PwD and other
27 marginalized communities (see Losada et al. 2016; McKercher & Darcy 2018).

28
29 Analysis of the interviews that followed the survey revealed additional themes that add
30 insight to the conceptual model and nuance to understanding the influence of the PwVI-guide
31 dog relationship on tourism travel behavior. The themes of confidence and constraints were
32 often raised in the interviews, as were undertones of the significance of the affective qualities
33 of the relationship. Current research suggests a preference for guide dogs over other mobility
34 aids (Glenk et al. 2019; Mills 2017), and interview findings further suggest that for our
35 participants, their guide dogs enhanced their confidence during travel more than other
36 mobility aids. More specifically, participants indicated that they value the mere presence of

1 their guide dog during travel, as it can ease anxiety, and conversely, they can experience
2 heightened anxiety when separated from their guide dogs.

3
4 While the emotional bonds and embodied interdependence of PwVI and their guide dogs has
5 been well documented (Higgin 2012; Howell 2018; Kwong & Bartholomew 2011; Pemberton
6 2019; Richards et al. 2010; Stevenson 2013; Taylor 2017; Wigget-Barnard & Steele 2008),
7 this research extends this literature by evidencing the influence of this affective relationality
8 on the tourism travel behavior of PwVI. Understanding the limitations of their guide dogs in
9 unfamiliar environments, participants explained how this increases the dog's dependency,
10 creating additional responsibilities and stresses that can constrain decisions to travel
11 together. More broadly, participants take their guide dog's well-being into consideration so
12 that they will sometimes travel without their guide dog if the destination is ill-suited (for
13 instance, due to climate or stressful situations) or they feel their dog simply needs a break
14 from their guiding work. As a result, we also observe subtle changes in travel decision-
15 making and behavior made to negotiate these constraints and accommodate their guide
16 dog's, such as choosing more dog-friendly climates or returning to the same, or similar types,
17 of destinations.

18
19 Thus, this research also contributes to the growing body of literature on recreation and
20 leisure participation that suggests PwD experience higher interpersonal constraints (Hawkins
21 et al. 1999; Lee et al. 2012). While the literature has so far focused on human relationships,
22 such as family and carers, this paper extends the significance of interpersonal constraints to
23 non-human relationships. Research on travel with pets has also observed that interpersonal
24 constraints are the strongest (Chen et al. 2014; Hung et al. 2012, 2016; Ying et al. 2021), but
25 that work identifies concerns specifically relating to a pet as potentially disruptive of other
26 travelers and was not observed in this study. Chen et al. (2014) also suggest that pet specific
27 constraints and structural constraints are the easiest for pet owners to negotiate, while Chen
28 et al. (2014) and Ying et al. (2021) argue that pet attachment is the strongest influence on
29 willingness to negotiate pet-related constraints. This further evidences the distinct PwVI-
30 guide dog relationship as more than companion animal attachment, but a working
31 partnership supported by legal rights. So while constraints can never be fully eliminated, for
32 guide dog owners structural constraints often reflect discrimination.

33 34 35 **6. Conclusion**

36 By examining the influence of the PwVI-guide dog relationship on tourism travel behavior,
37 this paper is situated at the intersection of accessible tourism and human-animal relations.

1 As a result, it addresses two important research gaps. First, while the presence of a guide
2 dog is sometimes noted in research on PwVI in the travel and tourism sectors (Casey et al.
3 2013; Low et al. 2020; Richards et al. 2010; Small et al. 2012), the significance of the PwVI-
4 guide dog relationship has not been investigated (exceptions: Authors 2021a, 2021b).
5 Second, researchers who have recently turned attention to the varied work that animals
6 perform in tourism (Rickly & Kline, 2021) suggest that we look beyond animals as attractions
7 to the ways that encounters with animals in tourism contexts add value to tourism
8 experiences. Because the impact of guide dogs on the quality of life and everyday mobilities
9 of PwVI has been well-documented (Audrestch et al. 2015; Craigon et al. 2017; Glenk et al.
10 2019; Gravrok et al. 2018; Hart 1995; Lane et al. 1998; Rodriguez et al. 2019; Sanders 2000;
11 Whitmarsh 2005; Worth 2013), focusing on the PwVI-guide dog relationship in a tourism
12 context has been especially useful for addressing these gaps.

13
14 While compliance and discrimination legislation are different in each country, tourism
15 suppliers in destinations that recognize the reasonable accommodation of people with
16 assistance dogs already have a legal obligation to extend their services to guide dog owners.
17 Thus, this paper offers tourism suppliers a better understanding of the ways that guide dogs,
18 and arguably other assistance dogs, influence the travel decision-making and behavior of
19 PwD. Guide dogs are not simply pet dogs, and indeed as this paper demonstrates, the
20 constraints of travel with pet dogs (Chen et al. 2014; Ying et al. 2021) and guide dogs differ
21 considerably. The influence of this relationship extends beyond companionship, as the PwVI-
22 guide dog partnership is a working relationship and therefore will have more serious
23 implications for health, safety and well-being of both beings. PwVI confidence is affected by
24 the dog's presence and by both their own and their guide dog's working abilities in unfamiliar
25 environments. However, the limited abilities of guide dogs in unfamiliar environments,
26 additional caring responsibilities and concerns about well-being act as constraints for
27 traveling together. As a result, PwVI are sometimes willing to negotiate these constraints by
28 altering their travel plans to accommodate their guide dogs. Tourism suppliers must
29 recognize this affective relationality as a partnership, not simply a human traveling with a
30 dog, as part of their accessibility initiatives, most notably through greater availability of
31 assistance dogs services, including appropriate relief areas and enhanced staff training for
32 the various dimensions that support independence of PwD in destinations and transit hubs.
33 Relatedly, these findings and practical implications regarding the role of non-human
34 interpersonal constraints highlight the need for a more critical discussion of the core values
35 of accessible tourism as guiding the industry's practice: independence, equity and dignity
36 (Darcy & Dickson, 2009). Specifically for guide dog owners, the interdependence of the
37 PwVI-guide dog relationship supports greater independence in everyday life, as a result

1 independence in their tourism experiences does not always begin and end at the destination
2 or service provider but extends from their everyday life in relation to the constraints
3 encountered.

4
5 Yet, some limitations of this research are noteworthy and point toward future opportunities.
6 Considering the lack of research on assistance dogs in tourism activities (see Author 2018),
7 this project progressed in an exploratory manner that included multiple preliminary
8 conversations with Guide Dogs to identify potential factors influencing tourism travel
9 behavior. However, guide dogs are one type of assistance dog, with others trained to assist
10 with physical, emotional and cognitive impairments and to alert for hearing impairments and
11 medical response (Fine 2019). Thus, future research is encouraged to pay greater attention
12 to disability diversity in tourism research and the ways that human-animal relationships
13 intersect in tourism behavior.

14
15 Finally, this research took place prior to the COVID-19 pandemic, and as a result the data
16 were not influenced by the travel restrictions and perceptions of risk associated with travel.
17 Nevertheless, as the pandemic has further revealed the inequities of social support for the
18 most vulnerable in society, this is often listed as a lesson to learn in the "building back better"
19 of tourism recovery. This research highlights the necessity of considering the diversity of
20 disability in the recovery planning and implementation. A "one-size-fits-all" approach is not
21 tenable for an inclusive and resilient tourism industry. In relation to the PwVI-guide dog
22 relationship, specifically, early research suggests that guide dogs were a factor in the well-
23 being of PwVI during the COVID-19 lockdowns (Authors 2021c) thus further supporting the
24 need to understand the role of this relationship in pre- and post-pandemic travel behavior.

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