Abstract

Introduction: One of the greatest challenges guide dog handlers face after completing training is interference with their dogs' work, both from people and other dogs. The Seeing Eye surveyed its active guide dog handlers to gain a better understanding of the types and severity of interference they were currently experiencing, and to develop strategies to better equip handlers to deal with that interference.

Methods: For one month (October 2019), an online survey was made available to the 1761 active Seeing Eye handlers concerning the public interference they had experienced while working their dogs within the past five years. The survey questions were designed to elicit information about the types, frequency, and severity of interference handlers experience both from people and other dogs, as well as the settings in which the interference took place. Descriptive statistics were used to analyze the data.

Results: Eighty-nine percent of handlers had experienced people interfering with the work of their dogs at least occasionally by talking to them or making eye contact, and 78% had experienced interference from other dogs regularly. Interference from other dogs was usually non-aggressive, but 36% reported other dogs making aggressive physical contact with their dogs. Interference of all types mostly occurred in public places.

Discussion: A robust, multifaceted public awareness campaign will be necessary to address the persistent problem of interference with guide dog teams.

Implications For Practitioners: Many factors influence a person's decision about whether to work with a guide dog. This study provides practitioners with a more realistic picture of the challenges handlers are likely to face in their encounters with the public. Practitioners and guide dog schools

Interference with the work of guide dogs in public: a survey can use the information in the study to better equip and support guide dog handlers to proactively engage the public and manage interference when it does occur.

Key words: guide dog, interference, work, handler, public

Introduction

Guide dogs are trained to assist blind and visually impaired people with independent travel by performing functions such as avoiding obstacles; stopping at curbs and stairs; safely navigating across streets; traveling primarily in a straight line; and targeting specific locations or objects (Gaunet & Besse, 2019; Crudden et al., 2017; Franck et al., 2010). The dog's movements are communicated to the handler through the harness (Franck et al., 2010). The relationship between a guide dog and its handler has been described as revolving around communication, trust and interdependence (Craigon et al, 2017).

When a person or another dog interferes with a guide dog's work, the team's safety and independent travel can be compromised. The handler's focus must quickly shift from traveling safely to a destination to assessing the interference and its impact on their dog, with little or no vision to aid in this assessment (Kutsch, 2011). Sometimes the interference is very minor and the team can recover quickly, but in other cases the team's progress is interrupted or ended. In worst case scenarios, handlers must defend their dogs or themselves from attacks.

There is a small body of literature concerning the frequency and impact of dog attacks on guide dog handlers (Brooks et al., 2010; Godley and Gillard, 2011; Kutsch, 2011; Moxon et al., 2016). This literature has raised awareness about the significant implications of dog attacks on guide dogs and their handlers. There are also sources that highlight the positive impacts of public attention directed toward guide dog teams (International Guide Dog Federation, n.d.; Li et al.,

2019). However, there is a scarcity of literature on interference from humans and dogs that does not rise to the level of attack and may not be aggressive.

The Seeing Eye, Inc., a guide dog school founded in 1929 (Fishman, 2003), has long observed that a significant challenge guide dog handlers face after they complete training is interference with their dogs' work from people and other dogs. A 2011 survey of guide dog handlers in North America found that 44% of respondents in the United States experienced a dog attack and 58% of those respondents had their dogs attacked more than once; 83% of respondents had experienced aggressive interference by a dog; and most interference and attacks happened on a public sidewalk or right of way (Kutsch, 2011, p. 4).

As of 2021, a majority of states and some Canadian provinces have adopted laws intended to protect guide dogs from harm (The Seeing Eye, 2020). Nonetheless, observations and anecdotal evidence indicated that guide dog teams continued to experience interference from both people and dogs in a wide range of public settings, warranting further study of the problem. The goals of this study were to obtain current and comprehensive data about the types and severity of interference experienced by guide dog handlers and to develop strategies for combatting the interference.

Materials and Methods

Survey design

The authors designed a 54-question survey concerning the interference handlers who completed The Seeing Eye's training program had been experiencing from people and from other dogs.

The survey was entitled "Work Interference Survey" and the instructions encouraged handlers to take the survey regardless of whether they believed they had experienced interference while working their dogs and the type or severity of that interference. Skip logic in the survey allowed respondents to bypass questions that did not apply to them. The survey was designed this way to limit self-selection bias that would result if only handlers who experienced interference responded to the survey, but it was impossible to eliminate this potential bias entirely.

For some questions, respondents were required to choose between five possible responses on a Likert scale, ranging from "frequently" to "never" for questions about how often something had been experienced, or "not at all" to "very severely" for questions about the impact of an experience on the team's work. Other questions asked respondents to check boxes associated with specific statements if applicable to them and allowed respondents to choose more than one if applicable. Handlers were also given opportunities to provide additional comments.

The survey questions were divided into sections covering topics including demographics; interference from people; interference from dogs; aggressive physical contact; and laws and public education. The survey asked handlers to report on experiences they had had within the past five years. This helped ensure that respondents reported on experiences that occurred after the 2011 survey but gave respondents the opportunity to discuss their experiences of interference with multiple dogs if they began working with a subsequent dog during that time.

The Interference from People section was designed to elicit how frequently respondents were experiencing human interference, whether intended or unintended, regardless of the presence of dogs; what types of interference were most common; and where it was taking place. The survey defined interference from people as deliberately trying to get the dog's attention.

There were also questions about the public making unwanted observations concerning the appearance and handling of their dogs.

The Interference from Dogs section, on the other hand, was designed to obtain information about whether the interference involved non-aggressive or aggressive behavior on the part of other dogs; where the dogs were situated and whether they were attended or unattended; and in what type of setting the interference occurred. In the sections about interference from people or dogs, the focus was on the behavior of the people and dogs interfering with the team's work, not the behavior of the guide dog.

In the Aggressive Physical Contact section, questions were designed to elicit information about how respondents determined that aggressive physical contact had been made; what information they could determine about the dogs' injuries and what steps they took in response; the impact on their dogs' work; and whether they sought help from law enforcement or other sources.

Finally, the Laws and Public Education Section sought information on how knowledgeable respondents were about the laws that protected them as handlers. It also asked about how engaged they were in grass roots education and lobbying around issues related to interference and guide dog protection.

Once a draft of the survey had been created, it was piloted by four graduates of the Seeing Eye training program before it was launched, with minor clarifying changes made.

Survey administration

This study was approved by The Seeing Eye. Informed consent for all participants was obtained by having them go to a survey link or call in, read the introductory page, and access the

survey. The survey was made available to 1761 active Seeing Eye graduates. SurveyMonkey was used to administer the survey. The survey was available online from October 1 through October 31, 2019. Handlers were notified of the opportunity to participate by email and by automated phone message. Both messages offered handlers the opportunity to complete the survey by phone instead of online to keep technology from becoming a barrier to participation. Handlers who elected to take the survey by phone received a call from a trained volunteer who administered it and contemporaneously inputted the responses using SurveyMonkey. The same trained volunteer administered all phone surveys. Descriptive statistics were then used to summarize responses to the survey questions.

Results

The survey did not require respondents to answer all questions, therefore the authors have included the number of overall responses to each question when discussing the results.

Demographics

In total, 519 Seeing Eye graduates responded to the survey, including 129 who completed it by phone, giving a response rate of 29.5%. Of the 519 respondents, 474 lived in the U.S., 43 in Canada, one in the United Kingdom, and one in New Zealand.

Interference from People

The most common type of interference from the public reported by respondents was people talking to their dogs or directing other verbal or nonverbal contact toward their dogs (See Table 1). Of those who reported experiencing interference from other people, 89.4% (437/489)

experienced this type of interference at least occasionally. The anecdotal data showed that respondents experienced people making eye contact with their dogs or making other visual gestures to get their dogs' attention. Respondents also commented that people made noises such as whistling, kissing, calling to their dogs, and even barking sounds. These types of interference sometimes occurred at intersections. The second most common type of interference from people was petting, which 81.3% of respondents (386/487) reported experiencing at least occasionally. Multiple respondents commented that while talking to or petting their dogs, people made statements such as "I know I'm not supposed to, but I can't help myself."

In total, 66.1% of respondents (361/478) experienced people asking if their dogs were still training when the dog appeared excited or made a mistake and 68.5% of respondents (296/432) had been criticized for reprimanding their dogs for work errors. Respondents commented that they often spent time attempting to educate the public about the importance of not interfering with their dogs while they were working and that this undertaking became burdensome at times.

Interference from Dogs

The majority of respondents, 77.7% (403/519), experienced interference from other dogs at least occasionally. The most common types of interference were attempting to play, obstruction, growling, and barking. Chasing and lunging reportedly happened less often (See Table 2). For 78.7% of respondents (387/492), interference from leashed but uncontrolled dogs was a problem. **Six** respondents commented on issues with poorly controlled dogs on long leashes. Loose dogs interfered with 61.8% (304/492) of respondents' dogs while 60.8% (299/492) experienced interference from dogs behind a fence. Eight respondents also commented

Interference with the work of guide dogs in public: a survey on their experiences with interference from dogs barking out of stationary or moving cars, though the survey did not specifically ask about this context.

In total, 73.7% of respondents (361/490) reported encountering dog interference on public roads and sidewalks at least occasionally. In order of most frequent to least frequent, respondents encountered dog interference in stores, malls, hotels, restaurants and medical offices (See Table 3). The anecdotal data also showed interference in public parks, on mass transit, pet stores, and at veterinary offices. In their home areas, respondents experienced interference from other dogs most frequently in yards, relieving areas, and parking lots.

Only 6.3% of respondents (27 /428) reported their work with their dog being extremely affected by interference from other dogs. Encouragingly, 53.2% (228/428) reported interference from other dogs had slight or no effects on their dog's work.

Aggressive Physical Contact

Thirty-six percent (187/519) of respondents reported that their dogs were the victims of aggressive physical contact within the past 5 years. More than half (57.4% or 105/183) of aggressive encounters took place on a public sidewalk or roadway. According to 48.9% of respondents (87/178), the aggressor dog was loose and 38.8% (69/178) reported the aggressor dog was leashed but uncontrolled. Nearly half of respondents, (49.6%, or 88/177) were at least somewhat disoriented as a result of the encounter.

According to 64.2% (120/187) of respondents, the other dog jumped on their dogs, and 50.8% (95/187) found saliva on their dogs without broken skin. However, only 16.6% (31/187) of the dogs experiencing aggressive physical contact were reportedly bitten. This corresponded closely to the 17% (32/187) of respondents who reported taking their dogs to the vet after the

Interference with the work of guide dogs in public: a survey aggressive encounter. The majority of those who reported not taking their dogs to the vet (84.3% or 129/153) said they did not think their dog was injured.

Over half (54.9% or 101/184) of respondents reported that the aggressive encounter had no impact on their dog's work. However, 23.4% (43/184) said their dog became easily distracted by other dogs and 11.4% (21/184) said their dog became fearful of other dogs. Only 7.1% (13/184) said their dogs became aggressive toward other dogs. Five respondents (2.7%) said their dogs were permanently unable to work and had to be retired.

Only 28.4% (54/187) of respondents reported the encounter to law enforcement. Over half of those who chose not to report the encounter did so because they believed their dog's injuries were not severe enough to warrant it. Other common reasons were an inability to identify the dog's owner and a belief that law enforcement would not take appropriate action. In the open-ended comment section concerning reasons for not reporting, one respondent stated, "Dog on dog attacks or incidents are not taken seriously in the area in which I live. Even when my prior guide was severely attacked, law-enforcement stated that the worst the other owner would endure was a small fine. Not to mention that I could not identify the owner as they fled after the attack. We still have some way to go regarding guide dog protection laws."

Of those who did report the encounter, just over half were satisfied with the response they received. Only 16 of the 54 responded "yes" to the question about whether law enforcement knew about applicable guide dog protection laws where the encounter took place, and the remaining 38 responses were divided evenly between "no" and "not sure".

Laws and Public Education

The majority of those who responded to the survey (80.5% or 418/519) reported that they had attempted to educate the public about issues related to guide dog teams. Not all respondents provided further information about their public education efforts. Of those who did, 58.6% (228/389) made presentations or conducted outreach events. In the anecdotal data, respondents also said they educated people one on one when interference took place. Forty-three percent (223/519) of respondents reported that they knew there were guide dog protection laws where they live[d] and 49% (259/519) were not sure.

Discussion

The results show that guide dog teams experience a significant amount of interference from people and other dogs. The biggest problems are occurring on sidewalks and roadways and in public places. The results also suggest that the general public does not understand the myriad ways they can interfere with a guide dog team even if the interference is unintentional. The most common types of interference reported by respondents did not involve physical contact and were sometimes subtle. Respondents were slightly more likely to experience people talking to their dogs or making eye contact than they were to have their dogs petted. Most respondents did not specifically state how they knew people were making eye contact with their dogs, but one respondent said a sighted companion informed them of the behavior. The least common type of interference respondents experienced was people feeding or attempting to feed their dogs, which is arguably one of the most direct ways a person can get a dog's attention. Thus, it appears that the less overt the interference was, the more pervasive it was. This finding is particularly troubling because subtle forms of interference can be harder to detect and address with little or no vision. A handler may sense that interference is occurring but not be quite sure what type of interference it is.

The public's observations about the behavior of handlers and their guide dogs suggest that people often do not have an accurate understanding of how the partnership between a guide dog and a handler works. Perhaps this is not surprising, given the results of a survey of American adults which found that more than two thirds of respondents had no or only minimal exposure to assistance dogs in public settings in the year preceding the survey (Schoenfeld-Tacher et al, 2017). They may not realize that both members of the team play a willing and active role in the partnership and have clear expectations of one another (Pemberton, 2019).

The results concerning interference from other dogs are significant because of what they reveal about how those dogs are being managed by people responsible for them. The interference was intrusive but did not always rise to the level of being aggressive. The biggest problem for guide dog teams stemmed from leashed but uncontrolled dogs, which indicates that people tend to overestimate their ability to manage their dogs on leash.

A majority of respondents reported that their dogs did not experience aggressive physical contact as that term was defined for purposes of the survey, but the number of incidents is still too high. Loose dogs were reported to be the biggest problem causing aggressive physical contact followed by leashed but uncontrolled dogs. Conversely, leashed but uncontrolled dogs were a bigger problem than loose dogs in situations where interference did not necessarily result in aggressive physical contact. These findings serve as a reminder of how compliance with leash laws can keep a disastrous physical encounter between dogs from happening, even if a person's control over their leashed dog is less than ideal.

The data indicate that respondents took proactive steps concerning the treatment of their dogs' injuries, as the percentage of people who took their dogs to the vet was consistent with the percentage of the dogs reportedly injured. This was lower than the proportion of attacks on

guide dogs in the UK which required veterinary attention (41%) in a retrospective study of such attacks reported to Guide Dogs UK (Brooks et al, 2010). The greater proportion in the UK study could relate to attacks which required veterinary attention being more likely to be reported to the school, especially as Guide Dogs UK pays for veterinary treatment of all their working guide dogs. Most respondents who did not take their dogs to the vet reported not doing so because they did not think their dogs were injured.

It is encouraging that over half of those involved in an aggressive encounter said the encounter had no impact on their dogs' work. This result may speak to the mental stability of the dogs in question. It is concerning that almost a quarter of respondents found that their dogs subsequently became distracted by other dogs as a result of the encounter. The number of dogs which had to be retired as a result of an aggressive encounter was a similar proportion to that reported in the most recent Guide Dogs UK retrospective survey, in which 3% of guide dogs (13 of 430) had to be retired after being attacked by another dog (Moxon et al, 2016). Although this is a relatively low number, it is too high given the resources necessary to create and maintain guide dog partnerships not to mention the impact on the welfare of the dog and the social and emotional well-being of the guide dog handler

The findings demonstrate that respondents generally did not think contacting law enforcement was an effective way to deal with an aggressive encounter. The data on whether law enforcement officers were familiar with guide dog protection laws was inconclusive. The most likely reason is that respondents were not in a position to accurately assess the knowledge of law enforcement in this area. Half of the survey respondents were themselves uncertain of whether there are guide dog protection laws where they live.

Limitations

To protect the privacy of respondents, the authors did not ask for personal information such as age or sex. This meant it was not possible to state how representative a sample those responding to the survey were to the handlers surveyed.

An additional limitation of the study was the use of a Likert scale ranging from "never" to "very frequently" for some questions. Upon further consideration, a scale using numerical values from one to five would have reduced the potential for varied and subjective interpretations of the meanings of answer choices such as "frequently". The study may also have benefited from follow-up interviews with a subgroup of the respondents to further expound upon survey responses. Finally, this survey did not specifically explore the emotional impact of interference on guide dog handlers as individuals because the goal was to examine the effects on the team's work as a whole. However, respondents did report on the emotional toll interference takes on them, which indicates further study of the issue is warranted.

Implications for Practitioners

A recent study concluded that guide dog handlers experience less stress associated with pedestrian travel than cane users, in part because they may be more experienced and sophisticated travelers (Crudden et al., 2017). However, Crudden et al also noted that managing the stress of independent travel can place a greater cognitive burden on visually impaired people than on their sighted counterparts. Orientation and mobility specialists counseling consumers about their options for mobility aids may or may not have significant experience providing services to people with guide dogs and may not have had opportunities to observe interference and its impact on a team's work. Practitioners can use this study to gain a more concrete and realistic perspective on

the various types of aggressive and non-aggressive interference handlers face while working their dogs and how it can contribute to the cognitive burdens they experience related to independent travel. That said, the study findings should not be used to discourage orientation and mobility specialists from recommending guide dog mobility when appropriate, but it can help them better support their guide dog handler consumers and understand their perspectives.

Guide dog schools can use the study to empower their consumers by developing and widely disseminating educational tools specifically targeted at different audiences such as handlers, law enforcement, and members of the public at large. Schools should consider holding periodic webinars for handlers about topics related to work interference and dealing with the public that can be attended live and recorded. Schools might also consider creating a portfolio of outreach materials that handlers can use and customize to self-advocate by reaching out to their local law enforcement personnel and elected officials about guide dog protection laws and the risks work interference poses to guide dog teams. The materials could contain a general template letter about the importance of enforcing guide dog protection laws with a copy of the statute for the applicable state or province and key findings from the study.

Future Research

As stated in the limitations section, this study did not specifically explore the psychological and emotional impact interference and aggressive encounters had on respondents. There has been some study specifically focused on the emotional impact of attacks on guide dog handlers (Brooks et al., 2010; Godley and Gillard, 2011), but there is no literature on the emotional impact of other types of work interference on handlers. The final question of the survey that was the subject of this study asked respondents to provide their contact information if they wished to do so. The Seeing Eye should consider conducting a follow-up survey made available to those respondents who both

volunteered their contact information and discussed the emotional or psychological impacts of interference or aggressive encounters in their responses to the open-ended questions. This subgroup of respondents would likely be more inclined to respond to an additional short survey than would the original pool of respondents. The Seeing Eye should consider using the findings to develop the most effective and feasible ways to support handlers who experience lasting emotional or psychological impact as a result of work interference.

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Table1: Types of interference from people

How frequently do you and your dog experience the following types of interference from other people?	Number of respondents	Very frequently: % (N)	Frequently: % (N)	Occasionally: % (N)	Rarely: % (N)	Never: % (N)
People petting your dog	487	10.3 (50)	27.1 (132)	43.9 (214)	15.6 (76)	3.1 (15)
People talking to your dog or directing other verbal or nonverbal contact toward your dog	489	26.2 (128)	34.6 (169)	28.6 (140)	9.4 (46)	1.2 (6)
People honking their horns at you and your dog at street crossings	500	1.4 (7)	4.4 (22)	20.6 (103)	42.2 (211)	31.4 (157)
People touching you and your dog and/or holding your dog's harness or leash	510	2.2 (11)	8.0 (41)	28.4 (145)	35.5 (181)	25.9 (132)
People feeding or attempting to feed your dog	507	0.4 (2)	3.4 (17)	16.6 (84)	44.2 (224)	35.5 (180)

Table 2: Types of interference from dogs

How frequently do you and your dog experience the following types of interference from other dogs	Number of respondents	Very frequently: % (N)	Frequently: % (N)	Occasionally: % (N)	Rarely: % (N)	Never: % (N)
Other dogs trying to socialize with your dog in some way, e.g. sniffing or trying to play	486	7.2 (35)	24.5 (119)	43.4 (211)	21.8 (106)	3.1 (15)
Other dogs obstructing the path of you and your dog	494	3.8 (19)	10.9 (54)	35.4 (175)	28.1 (139)	21.7 (107)
Other dogs growling or barking at your dog in close proximity	491	8.8 (43)	25.9 (127)	38.9 (191)	23.0 (113)	3.5 (17)
Other dogs chasing or lunging at your dog	491	2.4 (12)	7.9 (39)	28.3 (139)	40.7 (200)	20.6 (101)

Table 3: Indoor locations of interference from dogs

How	Number of	Very	Frequently:	Occasionally:	Rarely:	Never:
frequently	respondents	frequently:	% (N)	% (N)	% (N)	% (N)
do you and		% (N)				
your dog						
experience						
interference						
from other						
dogs inside						
the						
following						
public						
places:						
Stores	485	1.9 (9)	9.5 (46)	26.6 (129)	34.0	28.0
					(165)	(136)
Restaurants	479	0.2(1)	3.5 (17)	13.8 (66)	35.3	47.2
					(169)	(226)
Malls	484	2.3 (11)	4.3 (21)	16.5 (80)	34.9	41.9
					(169)	(203)
Hotels	475	0.6(3)	1.9 (9)	18.9 (90)	32.2	46.3
					(153)	(220)
Medical	481	0.6(3)	1.7 (8)	10.8 (52)	22.7	64.2
offices					(109)	(309)