

## Obstacles and anticipated problems associated with acquiring assistance dogs, as expressed by Japanese people with physical disabilities

Mariko Yamamoto<sup>1,2</sup>, Lynette A. Hart<sup>1</sup>, Mitsuaki Ohta<sup>2</sup>,  
Koji Matsumoto<sup>2</sup>, Nobuyo Ohtani<sup>2</sup>

<sup>1</sup>School of Veterinary Medicine, University of California, Davis, U.S.A.

<sup>2</sup>Department of Veterinary Science, Azabu University, JAPAN

In western countries, such as the United States and the United Kingdom, many people with disabilities benefit from the help their assistance dogs provide. In contrast, assistance dogs have not become widespread in Japan. This study explores the perspectives of Japanese people with disabilities, including the obstacles they have experienced when considering acquiring an assistance dog. A paper-based questionnaire was used to investigate the experiences of people with orthopedic, hearing, or visual disabilities. The results showed that a minority of participants with orthopedic (13.9%), hearing (31.6%), or visual (16.0%) disabilities hoped to live with an assistance dog. Younger people (18-59 years of age) hoped to have one more often than older people (over 60 years of age), which was related to their frequency of going out of the house. Younger people were more active in going outside regularly; older women were the least active. People with orthopedic disabilities were less active than those with other disabilities. Younger people were also more experienced in keeping dogs, and liked playing with them more. Younger women showed the greatest interest in living with an assistance dog, and older women the least interest; targeting information and encouragement to younger women may be most productive for placing dogs. Among people who did not hope to acquire an assistance dog, 6.1-11.6% of them felt sorry for dogs that are required to go through training, and 8.3-16.1% of them answered that they hated dogs. Our results indicated that Japanese are influenced by cultural, historical, and environmental contexts, and are not yet fully familiar with and accepting of the concepts of working dogs that are typical in the western countries. Most of the participants who hoped to live with an assistance dog had not actually applied for one. They gave the following reasons: there were inevitable negative aspects of living with dogs and sources of information, training systems, and policies by the governments and/or assistance dog organizations were cumbersome and inconvenient. The overall strategies to provide assistance dogs to people with disabilities need to be more accessible and accommodate the specific needs of the people who have disabilities.

*Keywords:* assistance dogs, disabilities, Japan, ages, gender, cultural contexts

Direct correspondence to Mariko Yamamoto, Vet Med PHR, University of California, Davis,  
1089 Veterinary Medicine Drive, 3207 VM3B, Davis, CA 95616, Phone 530-752-2181,  
[maryamamoto@ucdavis.edu](mailto:maryamamoto@ucdavis.edu) or [mariko\\_yamamoto@hotmail.co.jp](mailto:mariko_yamamoto@hotmail.co.jp)

## Background

Studies in human-animal interactions have shown that companion animals provide great benefits for humans, physiologically, and psychosocially (Barker & Wolen, 2008; Friedmann & Son, 2009). These benefits also are documented for assistance dogs and their human partners; the psychosocial benefits are well studied (Hart, Zasloff, & Benfatto, 1996; Fairman & Huebner, 2000; Whitmarsh, 2005; Winkle, Crowe, & Hendrix, 2012). Many people acquiring an assistance dog expect to receive those psychosocial benefits as well as the functional support. The tasks assistance dogs provide their human partners vary: such as, but not limited to, avoiding obstacles or stopping at curbs or street corners in guide dogs; alerting to required sounds around the partners, such as door bell, fax, kitchen timer, alarm clock, or smoke alarms in hearing dogs; picking up dropped items, retrieving things out of reach, supporting walking, standing up from chair or bed, assisting when his/her partner falls over, and turning on and off switches in mobility service dogs. Assistance dogs receive specific training to support their partners and also are required to behave well in public and with other people and animals. They have public access in many countries, accompanying their human partners everywhere and supporting them. The uses of assistance dogs and the range of disabilities the dogs support are expanding dramatically, especially in the U.S.

However, experts in some countries have expressed concern that assistance dogs are not fully utilized by people who might benefit from them (Whitmarsh, 2005; Gaunet & Milliet, 2010). Whitmarsh (2005) reported that “there is an apparent discrepancy between the actual number of guide dog owners and the proportion of visually impaired people who might benefit from a guide dog” (p.27). This situation is especially noticeable in Japan where there are

relatively few assistance dogs despite a large dog population (11.5 million; Japan Pet Food Association, 2013). A survey study among the general population living with or without a pet (n = 1,939) reported that 72.5% of the respondents had positive perceptions toward keeping a pet, and the respondents answered that pet-keeping is good because “it brings an affluent and peaceful life” (61.4%), “family gets harmonious” (55.3%), and “it helps children to grow up spiritually rich” (47.2%) (Cabinet Office, 2010). With high interest towards companion animals (dogs) in Japan, one might expect that a large number of people would be interested in living with an assistance dog. But the mismatch between favorable attitudes towards companion animals and the small number of assistance dogs has not been well studied in Japan.

### *Governmental initiatives for assistance dogs in Japan*

In 2002, the Act on Assistance Dogs for Physically Disabled Persons was issued to promote independence and participation in society for people living with service dogs, hearing dogs, and guide dogs, specifically for people with mobility, hearing, and visual disabilities (Ministry of Health, Labour and Welfare, 2011). This law assures public access for people with assistance dogs, and stipulates the involvement of human medical professionals as appropriate and the requirement for qualification by designated organizations, such as rehabilitation centers and assistance dog training organizations, when people with disabilities pair with an assistance dog. The designated organizations qualify a team of the person with disabilities and his/her assistance dog which has been trained by a service or hearing dog organization, or a designated guide dog training organization by the National Public Safety Commission. Confirmation is also required that the person accompanying his/her

assistance dog does not create problems for other persons. The dog must be able to behave, and the person must control the dog adequately in public. Importantly, the government provides financial benefits to assistance dog organizations for a limited number of assistance dogs that they have trained for people with certain severity levels of disabilities who are able to supervise their assistance dogs. These governmental initiatives are unique and innovative. While helpful to the people with disabilities who succeed in qualifying for a dog, these initiatives also serve as a filter for limiting who can acquire an assistance dog. These limiting governmental initiatives could somewhat account for the low numbers of assistance dogs: 66 service dogs, 53 hearing dogs (January, 2014), and 1013 guide dogs (March, 2013, Ministry of Health, Labour and Welfare, 2014). The numbers of service dogs and hearing dogs have not substantially increased since just before the law was issued 10 years ago (26 service dogs and 19 hearing dogs in August, 2002, National Federation of All Japan Guide Dog Training Institutions, 2002).

This study explores the reasons that people in Japan with disabilities give for not acquiring assistance dogs even though many might benefit from them. We investigated the perceptions and experiences of people with disabilities regarding assistance dogs in Japan: whether they hope to live with an assistance dog, and, if so, what has prevented them from acquiring one.

## Methods

In order to qualify for an assistance dog in Japan, the prospective partner needs to be over 18 years of age and possess a Physical Disabled Person's Certificate. Thus, this study targeted people over 18 years of age with orthopedic (OD), hearing (HD), or visual (VD) disabilities and possessing the certificate.

According to the Act on Welfare of Physically Disabled Persons (Ministry of Health,

Labour and Welfare, 2012), "orthopedic disabilities" are lasting significant dysfunctions of upper-limb, lower-limb, or trunk. For this study, the organizations mentioned below for groups of VD and HD were chosen as they specifically work for these types of disabilities, and have affiliated organizations across the country. In the case of OD, there are no country-wide organizations working solely for OD. We chose the Councils of Social Welfare, which work for people with OD, as a part of their services.

The participants with orthopedic disabilities were recruited from the Councils of Social Welfare throughout Japan. The Councils are located in each prefecture and municipality: there are 47 prefectures and about 1,700 municipalities in Japan, and two Councils were randomly chosen from each of 47 prefectures. In each case, the researcher called the office of the Council of Social Welfare and explained the outline of the survey. If the organization was interested in the survey, the researcher sent the detailed information and the procedures for the survey. After sending the documents, the researcher called each Council and confirmed the agreement to cooperate in this study. Thirty-nine out of the 94 Councils agreed to participate in this research. The surveys were sent to each of these cooperating Councils, and they distributed the survey to their members who have orthopedic disabilities. The completed surveys were gathered by the Council which then sent back the collected surveys to the researcher. Surveys that had any unanswered items were not used for the analysis. Eight hundred and two questionnaires were distributed and there were 381 (response rate: 47.5%) completed surveys.

The participants with hearing disabilities were recruited through the 107 organizations affiliated with the Japan Federation of the Deaf or All Japan Association of Hard of Hearing and Late-Deafened People. Fifty-one out of 107

organizations cooperated in this study. One thousand fifty questionnaires were distributed and 405 surveys were complete (response rate: 38.6%).

The participants with visual disabilities were recruited through the 61 organizations affiliated with the Japan Federation of the Blind. Fifty-two out of 61 organizations cooperated in this research. In this group, three types of questionnaires were prepared: text with enlarged characters, e-mail, and Braille. The questionnaire was translated into Braille by a confraternity which translates governmental documents such as magazines into Braille. The Braille was then back-translated into Japanese, and the validity of the translated Braille was checked by the author. Four hundred and seventy-nine questionnaires with enlarged characters and 428 questionnaires with Braille were distributed: the valid surveys were 149 (31.1%) and 103 (24.1%), respectively. In addition, 36 surveys were collected through e-mail. In total, 288 surveys were complete.

The questionnaire consisted of 3 parts with 13 questions in total: part 1 asked demographic information of the participants, such as their age, gender, disabilities, and frequency of going out of the house; part 2 asked about dogs, such as general perspectives on dogs and experiences with keeping a dog; part 3 asked about assistance dogs, including participants' knowledge of assistance dogs, experiences of seeing assistance dogs in action, perspectives on assistance dogs, and hopes for having an assistance dog. Those participants who hoped to live with an assistance dog were asked to list the reasons why they did not yet have an assistance dog: this was the only open-ended question in parts 2 and 3. A pilot study was conducted for 65 participants with OD, 33 with HD, and 56 with VD. After further discussions and modifications to make it concise and valid, the final version of the questionnaire was created.

This study followed the Ethical Code of the Japanese Psychological Association. In addition to each cooperating organization granting permission to participate, the informed consent of participants to use their responses was given at the time of the completion of the survey. To assure confidentiality, signatures were not included. In the survey introduction, all respondents were informed of the research aims, the use of the acquired data which was solely for research purposes, and also that the survey participation was anonymous and voluntary.

The Chi-square test (with Bonferroni correction) was used for the statistical analyses, using the statistical program OMS Statcel2 (2<sup>nd</sup> ed., 2004, OMS Publishing, Saitama, Japan). Also, the responses in the open-ended question in part 3 were analyzed using thematic content analysis (Anderson, 2007).

## Results

The distributions of participants' ages, genders, and their frequencies of going out of the house are shown in Table 1, as well as their certified levels of disabilities set by the government for those with hearing or visual disabilities. The lower numbers indicate more severe disabilities (Okuno, 1998). In people with VD, the older participants had more severe disabilities than the younger participants. People with OD were asked to describe their primary disability. Because the question about the disability was open-ended, some people with OD responded with the cause of the disability and others listed their affected body parts for the disabilities. Thus, the causes and the affected body parts were listed separately (Table 2). According to Whitmarsh's study (2005), groups of working age people and retirees had some differences in perceptions towards guide dogs. Hence, our results are divided in two age groups at 60-years-old, which was the official retirement age set by the government until

March 2013: younger group (Y: 18-59 years) and older group (O: 60 or more years) (Table 3). In addition to the differences in ages, the differences between the genders, which are consistent over the three groups of disabilities, are also shown in tables.

In the frequencies of going out among participants with HD and VD, a much higher proportion of the younger participants answered that they went out of the house every day, compared with the older participants. However, the people with OD went out of the house less in both the younger and older groups. Also, older females had the lowest frequency of going out of the house among the age/gender groups for all three groups of disabilities.

A majority of participants with each disability had experienced keeping a dog: 66.1% (OD); 62.0% (HD); and 51.7% (VD). The Chi-square test (with Bonferroni correction) was used to investigate the significance of relations between age groups ( $p < 0.05$ ) or disability groups ( $p < 0.0166$ ) and the acquired information. Younger people lived with a dog at the time of answering this questionnaire significantly more often than older people ( $\chi^2 = 3.84$ ,  $p < 0.01$ ). Only a few participants with VD lived with a dog, which was significantly fewer than participants with OD ( $p < 0.01$ ) and HD ( $p < 0.01$ ). A strong majority of participants had a favorable perspective on companion dogs (OD: 78.5%; HD: 84.7%; VD: 81.3%, Table 4). Younger people stated, "I can play with them," more than older people as a favorable reason for companion dogs ( $p < 0.01$ ). Also, the younger people selected, "I feel relaxed when with them," more often than the older participants did ( $p < 0.05$ ). In contrast, older people answered, "They become a watchdog," more than the younger people ( $p < 0.01$ ).

A majority of participants had knowledge of assistance dogs: participants who chose "Yes, I know very much," or "Yes, I know," were 78.5% (OD), 92.8% (HD), and 87.2% (VD).

Participants who had experienced seeing working assistance dogs were: 49.6% (OD), 77.5% (HD), and 75.2% (VD). A very strong majority of participants with various disabilities had a favorable perspective of assistance dogs (OD: 89.0%; HD: 95.8%; VD: 89.9%, Table 4). Among the participants who had an unfavorable perspective of assistance dogs, 18 out of 29 people with VD (62.1%) chose as explanations for an unfavorable perspective, "They are hard to care for," significantly more often than did people with HD (17.6%, 3 out of 17) ( $p < 0.01$ ). The prospect of caring for a dog is a large obstacle for 69.8% of those with VD not hoping for an assistance dog, more than with other disabilities. Participants with OD (50.0%, 21 out of 42) also chose this obstacle more than participants with HD, but it was not significant.

A minority of participants hoped to have an assistance dog in the future (OD: 13.9%; HD: 31.6%; VD: 16.0%). Among people with all three groups of disabilities, the older women had the least interest in living with an assistance dog. When participants explained their desire to have an assistance dog, besides the functional support, more than half of the participants chose, "For psychological support" (OD: 71.7%; HD: 50.0%; VD: 65.2%). Table 5 shows participants' explanations for not hoping to have an assistance dog. "They are hard to care for," was the main reason for disinterest, and it was more frequently chosen among the older participants as a whole compared to younger participants ( $p < 0.01$ ). Also, the older people with VD chose the challenges of care significantly more than any other age/disabilities group ( $p < 0.01$ ). Interestingly, 8.3% to 16.1% of the participants with various disabilities chose "I hate dogs," and 6.1% to 11.6% of them chose "I feel sorry for dogs that are made go through training" to explain their disinterest.

Among the participants who hoped to have an assistance dog, 147 (OD:  $n = 37$ ; HD:  $n = 69$ ; VD:  $n = 41$ ) had specific reasons for not having

one yet, which they explained. Besides the responses from the people with VD who were on the waiting lists ( $n = 4$ ) or deciding whether to get another guide dog after losing their previous guide dog ( $n = 2$ ), four main themes (I, II, III, and IV) were identified from a thematic content analysis (Table 6).

### *I. No need to acquire an assistance dog yet*

Participants who could manage to live by themselves or had resources for assistance, such as their family members, felt they did not require assistance dogs right away. Younger people and people who go out of the house frequently (more than 4 days a week) particularly answered they could manage to live by themselves (younger-14%, older-8%; frequent outings-14%, non-frequent outings-9%). Also, females, younger people, and people who had not kept a dog more often answered they had sufficient resources for assistance (male-5%, female-14%; younger-13%, older-4%; dog-ownership-8%, no dog-ownership-17%).

### *II. Problems and/or anxiety with having a dog*

The responsibility of taking care of a dog was the main issue in problems and/or anxiety about having a dog. Respondents stated, “It is hard to take care of a dog,” and “I cannot live with an assistance dog because I cannot take care of a dog by myself.” The first comment was common in every group, whereas the second comment was specifically frequent among people with OD. These answers were more often provided from older people and people who did not go outside of the house frequently (younger-9%, older-19%; frequent outings-8%, non-frequent outings-23%). In addition, older people more often than younger people mentioned “limited space in the house” (younger-4%, older-13%).

### *III. Scarce information on assistance dogs*

Participants had scarce or inaccurate information on assistance dogs for five topics. (1.) Some participants had very limited understanding of the actual roles of assistance dogs. Some thought that assistance dogs were only for people with VD, and some people with HD mentioned their anxiety at leaving a dog alone when they leave home. (2.) Participants with OD and VD mentioned that the level (severity) of their disabilities was not serious enough to meet the eligibility criterion to acquire an assistance dog. (3.) Some people did not know that the law protects assistance dogs’ public access, including housing. (4.) Some did not know the procedure on how to apply for assistance dogs, especially for service dogs or hearing dogs. The limited knowledge of the law and procedure for applying for an assistance dog was more common in younger people than older people (law: younger-13%, older-2%; procedure: younger-5%, older-0%). (5.) Two participants were concerned about the limited understandings of assistance dogs among the public.

### *IV. The current situation of requirements and process for acquiring an assistance dog*

The duration required for team training when partnering with a guide dog, and the insufficient numbers of available assistance dogs concerned some participants. Responses included “Team training takes too long to participate in,” and “The team training seems hard for me,” or “Because of the lack of assistance dogs, they should be offered to people who need the dogs immediately,” and “I think it’s impossible to have one because the number is so few.” Concern about challenges with team training was raised only by men between 53-65 years old. Also, “Limited availability of assistance dogs,” was raised only by people who had kept a dog.

## Discussion

In our study, lower proportions of our participants hoped to acquire an assistance dog (OD: 13.9%, HD: 31.6% and VD: 16.0%) when compared with the results from two studies in the U.K. and the U.S. Forty percent of British people with VD hoped to live with a guide dog (Whitmarsh, 2005), and 30% of veterans with spinal injuries were interested in obtaining a service dog (Brashear & Rintala, 2007). These differences are consistent with the lesser involvement within Japan for other aspects of human-animal interactions, such as animal-assisted activities and animal-assisted therapy; none of these areas are well developed in Japan compared to the U.S. or European countries (Iwahashi, Waga, & Ohta, 2007), despite a large pet dog population. However, the low numbers in Japan do not reflect negative perceptions towards assistance dogs or lack of awareness of assistance dogs. A majority of participants had knowledge of assistance dogs and favorable perceptions towards assistance dogs.

### *Japanese cultural contexts*

Contextual factors such as religion and familial patterns affect the experiences of the human-animal bond within a culture (Blazina, Boyraz, & Shen-Miller, 2011). Our outcomes are shaped by the Japanese cultural contexts. One possible reason for the limited interest in assistance dogs is that Japanese may not be yet fully familiar with the concepts of working dogs. Until the early twentieth century, usually dogs were on the loose without their owners, and practical assistance was not expected. Circumstances included various neighbors feeding dogs that just stayed in the neighborhood (Shimura, 2009). There were even professional hunters. For example, some of the hunters called “Matagi” used dogs who were ancestors of Akita Inu, but they were a fairly limited, special population (Oki, 2012). Thus,

working dogs were not common for the general population. In 1950 the Rabies Prevention Act was issued, and it stipulated that dogs should be leashed in areas where rabies was present. Only recently, in the late 1990s, the importance of training for friendly and highly socialized dogs was recognized (Tomizawa, 1997).

Adding to the historical context in Japan, many Japanese people have specific attitudes toward dogs that perhaps would be less typical in the U.S. or Europe. As shown in Table 5, quite a few people, both younger and older, felt sorry for dogs that are required to go through training. Similarly, Japanese people traditionally avoid controlling and surgically altering animals, an attitude that stems from olden times (Ishida, et al., 2004). The Japanese attitudes toward animals are considered to be affected by the syncretism of two influential religions, Shinto with Buddhism, despite their seemingly contradictory beliefs. According to Shinto, spirits live in nature, including animals, plants, and stones, and these spirits (Kami) are worshipped. Also, in the Buddhist belief termed metempsychosis, a human can be reincarnated as a non-human animal and vice versa. Thus, Japanese are naturally connected with animals and as equals (Hamano, 2013).

Even though a great majority of the participants had favorable perceptions towards assistance dogs, about one tenth of people who do not hope to acquire an assistance dog chose, “I hate dogs” as a reason for their disinterest in having one. These rates were slightly higher in the older group than the younger group. As mentioned above, training pet dogs was uncommon until the 1990s, and until then, the dog’s tendency as a watchdog was preferred (Tomizawa, 1997). This was confirmed in our study: the older participants chose, “They become a watchdog,” as a favorable attribute of companion dogs more than the younger participants. On the other hand, younger people chose psychological benefits from dogs such as,

“I feel relaxed when with them,” and, “I can play with a dog,” more often than the older people. This suggests that people’s expectations of dogs are gradually changing with the times. Still, the low numbers of Japanese people, especially older people, hoping to acquire an assistance dog may relate to these cultural and historical backgrounds.

Another context which may highly relate to the lower interest in living with an assistance dog is the limited spaces of housing and public places. The density of population is quite high in Japan (338 people/km<sup>2</sup>) compared to some other countries having more assistance dogs: U.S. (32), U.K. (257), Germany (229), France (115) (United Nations Statistics Division, 2011). Moreover, 61% of the land in Japan is covered by mountains (Statistics Bureau, Ministry of Internal Affairs and Communications, 2013), resulting in a much higher density of population in cities and smaller dwellings in Japan (Ministry of Land, Infrastructure, Transport and Tourism, 2005). Not surprisingly, small pet dogs have more popularity than large dogs in Japan, and the top ten breeds registered at the Japan Kennel Club in 2011 were all small, the largest being Shiba Inu or French Bulldog (Japan Kennel Club, 2012). People may hesitate to live with an assistance dog because most, especially guide dogs and service dogs, are large breeds.

A cross-national study of attitudes toward people with disabilities in Japan, U.S., and Germany (Cabinet Office, 2009) showed that Japanese had less understanding and awareness of the needs of people with disabilities. More Japanese (44.6%) thought it was not discriminating to offer no special arrangements for people with disabilities, such as installing a slope or disabled-accessible restroom, preparing Braille translated handouts, or having a sign language interpreter at a conference (U.S.: 28.5%; Germany 32.5%). Japanese answered that they were hyperaware of people having any kind of disabilities (Japan: 60.7%; U.S.: 7.2%;

Germany: 6.3%). Also, only 46.1% of Japanese believed that people with disabilities took a proactive stance for their participation in society (U.S.: 84.6%; Germany: 80.5%). The public attitudes toward people with disabilities may make it difficult for them to fully participate in society, and they may actually lose vigor and initiative compared to people with disabilities in other countries. As a result, the general interest among people with disabilities for living with an assistance dog can be lower than in other countries.

#### *Ages and disabilities*

The limited interest in acquiring assistance dogs in Japan may be influenced by the specific characteristics of participants in the various studies, especially their ages and disabilities, including the levels of severity of the disabilities (Whitmarsh, 2005), whether the disability is congenital or acquired (National Federation of All Japan Guide Dog Training Institutions, 2011), and whether the disability is progressive or static (Collins, et al., 2006). Not surprisingly, the older group showed less interest in living with an assistance dog compared with the younger group. The participants in the older group went out of the house less frequently than the participants in the younger group. In particular, older females showed the lowest frequency of going out of the house. Some studies focused on the general population of elderly people in Japan also reported that elderly females went out of the house less than elderly males (Shimada, et al., 2006; Ueya & Koyama, 2011). Related to the frequency of going out of the house, older females showed the lowest interest in living with an assistance dog. Also, the older group felt that dogs are hard to care for more often than the participants in the younger group.

In addition to age, the disabilities also influenced the participants’ frequency of going out of the house and their thoughts that dogs are



hard to care for. People with OD and VD went out of the house less frequently than those with HD and more often stated, “They are hard to care for,” as a reason for not hoping to have an assistance dog. These differences are understandable because orthopedic and visual disabilities directly affect the daily physical activities and locomotion, similar to having an aging body which is more likely to be associated with progressive disabilities. It may be that people think they have to satisfy the physical needs of assistance dogs by themselves or they do not feel comfortable to ask others for additional support in taking care of their assistance dogs. Thus, people who participate in society and are more confident about their health are more likely to hope to live with an assistance dog. Somewhat surprisingly, the younger people with OD lived with a companion dog even more than people with HD. It is difficult to give a good reason for this, but people with OD might choose to live with a dog for specific benefits such as companionship or exercise, or their family members could be influencing them to live with a dog.

#### *Importance of psychological supports*

Similar to the explanations and reasons for acquiring an assistance dog reported by people who did not yet have an assistance dog in other studies (Hart, Zasloff, & Benfatto, 1995; Rintala, Sachs-Ericsson, & Hart, 2002; Whitmarsh, 2005), our participants also answered that they expect “psychological support” from assistance dogs as well as functional support. People creating robots for human support have gained ideas from assistance dogs and are applying them to the development of guide-dog-like robots (Ogawa, Sagayama, & Tobita, 2009; Saegusa, et al., 2011) and service-dog-like robots by Toyota (Asahi Shimbun Company, 2012). However, as these results showed, for people who choose assistance dogs, having them “be dogs” is

important as well as gaining help from them performing the service tasks. Hart (1995) explains that dogs are uniquely special to people because they provide their owners unconditional affection, loyalty, and devotion, and people can play with and touch them. These traits do not exist with the current human support robots that are focusing on providing functional support.

#### *Obstacles and anticipated problems associated with acquiring assistance dogs*

We found that most people do not hope to acquire an assistance dog. However, considering the numbers of Japanese people with disabilities (OD: 1.75 million; HD: 276 thousand; VD: 301 thousand, Ministry of Health, Labour, and Welfare, 2008), the rates acquired from this research indicate many people would be interested in living with an assistance dog. However, only 4 people with VD had actually applied for a guide dog and were on the waiting list.

#### *I. No need to acquire an assistance dog yet*

When they were asked to explain why they did not already live with an assistance dog, some people expressed that they did not need to hurry to acquire an assistance dog, but would in the future. Others expressed several concerns or problems in living with a dog and/or acquiring an assistance dog.

#### *II. Problems and/or anxiety with having a dog*

Assistance dogs assist in some parts of the daily lives of their human partners; at the same time they need to be cared for by people, as with pet dogs. This is part of living with a dog and for some people it is the down side of acquiring an assistance dog (Hart, Zasloff, & Benfatto, 1995; Sachs-Ericsson, Hansen, & Fitzgerald, 2002). People with OD showed particular anxiety when thinking of caring for a dog. Choosing an assistance dog is a great challenge for those who do not have abundant support from others, as

finding someone to help with care could pose a great problem. Older people and people who seldom go outside of their house more often had anxiety and concerns for taking care of assistance dogs. People who lack confidence about their health may have a greater concern about taking care of a dog.

In addition to the care required for dogs, having a dog can be expensive. The Japanese assistance dog organizations provide assistance dogs at no or low cost for people with disabilities. Yet, taking care of a service dog costs about 2.1 million yen (about \$22,000 equivalent) for an estimated working life time (8 years in this study), including food and medical care that are required to manage a dog (Shirota, et al., 2007). The cost-effectiveness of using assistance dogs versus the costs for human assistance or other assistive devices is little studied and with inconsistent results (Allen & Blascovich, 1996; Fairman & Huebner, 2000). Investigating the substantive cost effectiveness of assistance dogs would help clarify the impacts of assistance dogs on the lives of people with disabilities and their families.

The limited space in housing was one of the most often raised challenges among people having interests in living with an assistance dog, and was especially mentioned by older people. Most had not kept a dog inside a house when they were young, so they may over- or underestimate the amount of space a dog requires.

As already mentioned, Japanese people tend to prefer small rather than large dogs. Even in the U.S., the number of small pet dogs is increasing (Packaged Fact, 2012), probably due to the ease of care and travel and the housing issues. The large-bodied guide dogs are known to cause problems with space in New Zealand public areas (Lloyd, Grow, Stafford, & Budge, 2008). Of course, small dogs are not adequate for people requiring functional support involving significant power or height, but for others a

small-bodied assistance dog may be adequate and more convenient.

### *III. Scarce information on assistance dogs*

Some participants, including younger people, misunderstood the roles of assistance dogs, or had little knowledge of the assistance dog law or the process to acquire an assistance dog. Disseminating information on assistance dogs to younger people should be considered as younger people were most interested in living with an assistance dog. In addition, some people thought that their limited disabilities did not satisfy the required criteria. Similarly, Whitmarsh (2005) reported that the most common reason for non-guide dog owners not applying for a guide dog was their belief that you need to be totally blind to qualify for a guide dog. The Japanese law allowing assistance dogs is broadly inclusive for people with disabilities. However, the economic provisions for funding trainers pertain only to placement with people who have severe levels of disabilities. These governmental benefits are paid to the training organizations, only for people with a certain severity level of disability. Also, even people who do not use the governmental benefit are assessed by a designated corporation. Thus, someone who is considered to be ineligible to live with an assistance dog by those organizations has no way to acquire an assistance dog. Even some people with an adequate level of disabilities mentioned that they did not satisfy the criteria to apply for an assistance dog. This indicates that people with disabilities prejudge their eligibility for acquiring an assistance dog without fully researching the question.

### *IV. The current situation of requirements and process for acquiring an assistance dog*

Concerns related to team training from some people with VD show that the guide dog team training system lacks flexibility to fit each

person's life style. Taking time off from work to participate in team training is a big challenge, because nearly half of working people with VD are self-employed, including specialist jobs common among people with VD such as acupuncture, massage, finger pressure, and moxa treatment (Ministry of Health, Labour, and Welfare, 2008). Fukui (2008) recommends that Japanese guide dog organizations bring in regional staffs to provide home-visit services and reduce the cost, as with some leading organizations in the U.S. or the U.K. Such a training system is based more on accommodating people with disabilities and their needs.

Another important issue in Japan was the low rate of producing assistance dogs and the prevalent belief of limited availability of dogs. The total number of assistance dogs produced in the fiscal year (between April 2012 and March 2013) from all assistance dog organizations (service dogs: 27 organizations, hearing dogs: 24 organizations, guide dogs: 10 organizations, in 2014) was indeed very small: 13 for service dogs, 15 for hearing dogs, and 125 for guide dogs (National Federation of All Japan Guide Dog Training Institutions, 2013; Ministry of Health, Labour, and Welfare, 2014). However, it was also reported more than 10 years ago that 67.3% of guide dog partners acquired their dogs in Japan within 1 year after applying (Nippon Foundation, 1998). Moreover, few people in Japan apply for assistance dogs (Nippon Foundation, 1998; Mainichi Newspapers, 2000; Asahi Shimbun Company, 2001; Yomiuri Shimbun, 2001; Mainichi Newspapers, 2011). The difficulty of acquiring an assistance dog is commonly exaggerated, making people hesitate to apply for an assistance dog.

Our study had some limitations. We had low response rates with the disseminated questionnaires, and as shown in Table 1 and 2, the demographics of our participants differ when compared with the estimated societal

demographic: our participants with OD and HD were younger, and those with HD and VD had more severe levels of disabilities; and there were more people with cerebral palsy.

This study showed that younger people had the strongest interest in living with an assistance dog. Concerning the severity of disabilities, levels 1 or 2 in HD, and level 1 in VD are the required criteria, which most municipal governments endorse, to apply for an assistance dog with governmental benefits provided. Therefore, our sample may have been biased toward people who are dog and assistance dog-friendly or who are aware of assistance dogs as an alternative or supplemental way to live more independently. Also, we reached the intended population indirectly through the disabilities-related organizations. Thus, low response rates may have occurred not only from the subjects themselves but also from the representative organizations. In addition, our sampling method did not recruit people who did not belong to or were not related to those organizations, and our sample may not represent the population with disabilities as a whole. However, our results were consistent with two previous survey studies among people with visual disabilities which showed similar percentages of people interested in living with a guide dog (18.8% and 17.0%, Nippon Foundation, 1998; National Federation of All Japan Guide Dog Training Institutions, 2011). Another limitation is that we did not recruit people without disabilities as a control group. People without disabilities could help inform on the underlying cultural views of assistance dogs.

In conclusion, this research showed that few people are interested in living with an assistance dog, a view likely affected by the Japanese cultural and historical contexts. The actual number of people who apply for an assistance dog is even more limited. One inevitable challenge for anyone acquiring a dog is the legal requirement to provide all care for

the dog. Another problem is that the training systems, support, and information on assistance dogs are not created to be convenient for people with disabilities. As assistance dogs serve people with disabilities, the overall strategies to make assistance dogs more accessible should be focused on them. In recent years, other Asian countries such as South Korea, Taiwan, and China have begun training assistance dogs. Because they have similar cultural and environmental contexts to Japan compared to western countries, what Japanese have learned about assistance dogs will be useful in those countries, and vice-versa.

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**Table 1.** The demographics of the participants: their age, gender, and levels of disabilities, and their extent of going out of the house

		Orthopedic disabilities		Hearing disabilities		Visual disabilities	
		n (%)	[%]*	n (%)	[%]*	n (%)	[%]*
Age	18-59 yr	195 (51.2)	[26.7]	297 (73.3)	[20.6]	133 (46.2)	[47.2]
	> 60 yr	186 (48.8)	[73.3]	108 (26.7)	[79.2]	155 (53.8)	[52.8]
Gender	Male	191		227		147	
	Female	190		178		141	
		30.8		71.4		35.4	
Frequency of going out of the house (%)	Everyday	Y: 33.2 M: 39.8 F: 26.8	O: 27.8 M: 39.8 F: 16.1	Y: 79.1 M: 80.0 F: 78.0	O: 50.0 M: 58.1 F: 39.1	Y: 51.9 M: 50.0 F: 53.7	O: 21.3 M: 28.4 F: 13.5
	4-6 days/week	Y: 25.0 M: 25.5 F: 24.7	O: 22.5 M: 24.7 F: 20.4	Y: 13.5 M: 10.3 F: 17.4	O: 28.7 M: 22.6 F: 37.0	Y: 20.3 M: 16.7 F: 23.9	O: 19.4 M: 17.3 F: 21.6
	1-3 days/week	Y: 36.7 M: 31.6 F: 42.3	O: 43.3 M: 28.0 F: 59.1	Y: 6.4 M: 7.9 F: 4.5	O: 20.4 M: 17.7 F: 23.9	Y: 24.8 M: 30.3 F: 19.4	O: 54.8 M: 48.1 F: 62.2
	Seldom	Y: 4.6 M: 3.1 F: 6.2	O: 5.9 M: 7.5 F: 4.3	Y: 1.0 M: 1.8 F: 0.0	O: 0.9 M: 1.6 F: 0.0	Y: 3.0 M: 3.0 F: 3.0	O: 4.5 M: 6.2 F: 2.7
				n (%)	[%]*	n (%)	[%]*
Certified grade of disabilities	1	—		5 (1.2 Y: 1.3 O: 0.9)	[4.4]	227 (78.8 Y: 72.2 O: 84.5)	[35.5]
	2	—		315 (77.8 Y: 80.1 O: 71.3)	[28.3]	44 (15.3 Y: 15.8 O: 14.8)	[36.5]
	3	—		45 (11.1 Y: 12.1 O: 8.3)	[21.3]	9 (3.1 Y: 6.0 O: 0.6)	[6.1]
	4	—		23 (5.7 Y: 3.4 O: 12.0)	[14.5]	2 (0.7 Y: 1.5 O: 0.0)	[9.4]
	5	—		0 (0.0)	[0.9]	4 (1.4 Y: 3.0 O: 0.0)	[10.3]
	6	—		17 (4.2 Y: 3.0 O: 7.4)	[22.4]	2 (0.7 Y: 1.5 O: 0.0)	[8.4]

Each abbreviation indicates: Y (younger group); O (older group); M (male); F (female).

\*These percentages show demographics of age and levels of disability for people with disabilities as obtained from a national survey that did not mention gender (Ministry of Health, Labour and Welfare, 2008).



**Table 2.** Causes of disabilities or affected body parts among participants with orthopedic disabilities.

<b>People with orthopedic disabilities</b>				
		n	%	[%]*
Causes n = 224	Cerebrovascular accident/ Cranial nerve disease/ Cerebral contusion	87	22.8	[18.1]
	Cerebral palsy	69	18.1	[2.4]
	Bone and joint disease	35	9.2	[13.3]
	Spinal cord injury/spine injury	25	6.6	[3.1]
	Poliomyelitis	19	5.0	[2.8]
	Amputation of one or some parts of body	15	3.9	[9.6]
	Rheumatism	14	3.7	[5.3]
	Progressive muscular atrophy	3	0.8	[1.1]
	Others	20	5.2	[10.8]
Affected body parts n = 94	Lower limb	52	24.7	Unknown [43.1]
	Four limbs	18		
	Upper limb	12		
	Body trunk	12		
Total		381	—	—

\*These percentages show demographics of people with orthopedic disabilities as obtained from a national survey (Ministry of Health, Labour, and Welfare, 2008).

**Table 3.** Participants’ experiences and perspectives on dogs, and for younger and older groups, expressed in percentages.

	Orthopedic disabilities (n = 381)	Hearing disabilities (n = 405)	Visual disabilities (n = 288)
Have kept a dog	66.1 ( Y: 62.1 O: 70.4 )	62.0 ( Y: 59.9 O: 67.6 )	51.7 ( Y: 56.4 O: 47.7 )
Currently live with a dog	18.6 ( Y: 24.1 O: 12.9 )	18.5 ( Y: 19.2 O: 16.7 )	6.3 ( Y: 9.0 O: 3.9 )
Have favorable perspective on companion dogs	78.5 ( Y: 81.0 O: 75.8 )	84.7 ( Y: 84.8 O: 84.3 )	81.3 ( Y: 86.5 O: 76.8 )
Have knowledge of assistance dogs	78.5 ( Y: 76.9 O: 80.1 )	92.8 ( Y: 94.3 O: 88.9 )	87.2 ( Y: 88.7 O: 85.9 )
Have seen working assistance dogs	49.6 ( Y: 46.2 O: 53.2 )	77.5 ( Y: 76.4 O: 80.6 )	75.2 ( Y: 78.9 O: 72.3 )
Have favorable perspectives on assistance dogs	89.0 ( Y: 88.7 O: 89.2 )	95.8 ( Y: 96.3 O: 94.4 )	89.9 ( Y: 91.0 O: 89.0 )
Have unfavorable perspectives on assistance dogs	11.0 ( Y: 11.3 O: 10.8 )	4.2 ( Y: 3.7 O: 5.6 )	10.1 ( Y: 9.0 O: 10.1 )
"They are hard to care for" *	50.0 ( Y: 31.8 O: 70.0 )	17.6 ( Y: 18.2 O: 16.7 )	74.1 ( Y: 72.2 O: 75.0 )
Hope to have an assistance dog in the future	13.9 ( Y: 17.9 O: 9.7 ) M: 18.4 M: 10.8 F: 17.5 F: 8.6	31.6 ( Y: 33.0 O: 27.8 ) M: 29.7 M: 29.0 F: 37.1 F: 26.1	16.0 ( Y: 20.3 O: 12.3 ) M: 18.2 M: 17.3 F: 22.2 F: 6.8
"For psychological support" **	71.7 ( Y: 71.4 O: 72.2 )	50.0 ( Y: 52.0 O: 43.3 )	65.2 ( Y: 74.1 O: 52.6 )

Each abbreviation indicates: Y (younger group); O (older group); M (male); F (female).

\* Sample sizes are: 42 (Y: 22, O: 20) for orthopedic disabilities (OD); 17 (Y: 11, O: 16) for hearing disabilities (HD); 29 (Y: 12, O: 17) for visual disabilities (VD).

\*\* Sample sizes are: 53 (Y: 35, O: 18) for OD; 128 (Y: 98, O: 30) for HD; 46 (Y: 27, O: 19) for VD.

**Table 4.** Participants’ explanations for favorable opinions of dogs and assistance dogs, expressed as percentages, and including multiple responses.

Explanations for favorable opinions	Orthopedic disabilities		Hearing disabilities		Visual disabilities	
	Dogs (n = 299)	Assistance Dogs (n = 339)	Dogs (n = 343)	Assistance Dogs (n = 388)	Dogs (n = 234)	Assistance Dogs (n = 259)
<b>They are clever</b>	55.9 ( Y: 51.3 O: 61.0 )	75.2 ( Y: 72.3 O: 78.3 )	50.4 ( Y: 48.4 O: 56.0 )	69.1 ( Y: 69.6 O: 67.6 )	76.1 ( Y: 77.4 O: 74.8 )	82.6 ( Y: 86.0 O: 75.9 )
<b>They become a watchdog</b>	44.5 ( Y: 41.1 O: 48.2 )	26.8 ( Y: 20.2 O: 33.7 )	38.2 ( Y: 31.7 O: 56.0 )	23.2 ( Y: 20.6 O: 30.4 )	39.3 ( Y: 36.5 O: 42.0 )	20.1 ( Y: 14.0 O: 24.1 )
<b>I feel relaxed when with them</b>	64.9 ( Y: 67.7 O: 61.7 )	49.3 ( Y: 48.6 O: 50.0 )	60.6 ( Y: 65.9 O: 46.2 )	36.9 ( Y: 37.4 O: 35.3 )	71.8 ( Y: 72.2 O: 71.4 )	55.2 ( Y: 60.3 O: 48.3 )
<b>I can play with them</b>	41.1 ( Y: 51.3 O: 29.8 )	23.0 ( Y: 24.3 O: 21.7 )	47.5 ( Y: 50.0 O: 40.7 )	15.2 ( Y: 15.4 O: 14.7 )	41.9 ( Y: 44.3 O: 39.5 )	25.9 ( Y: 22.3 O: 27.6 )
<b>They support me mentally</b>	36.1 ( Y: 36.7 O: 35.5 )	43.4 ( Y: 42.8 O: 44.0 )	37.9 ( Y: 40.9 O: 29.7 )	47.4 ( Y: 51.7 O: 35.3 )	42.7 ( Y: 47.0 O: 38.7 )	53.3 ( Y: 57.9 O: 46.9 )
<b>Walking with them is cool</b>	4.7 ( Y: 5.1 O: 4.3 )	3.5 ( Y: 3.5 O: 3.6 )	13.1 ( Y: 11.9 O: 16.5 )	5.2 ( Y: 5.2 O: 4.9 )	8.1 ( Y: 1.7 O: 14.3 )	7.7 ( Y: 2.5 O: 11.7 )
<b>They take care of me</b>	—	59.0 ( Y: 67.6 O: 50.0 )	—	72.4 ( Y: 77.3 O: 58.8 )	—	64.9 ( Y: 69.4 O: 57.9 )
<b>Other</b>	8.4 ( Y: 10.1 O: 6.4 )	3.2 ( Y: 4.0 O: 2.4 )	8.5 ( Y: 7.1 O: 12.1 )	4.9 ( Y: 3.5 O: 8.8 )	7.3 ( Y: 7.8 O: 6.7 )	4.6 ( Y: 3.3 O: 5.5 )

Each abbreviation indicates: Y (younger group); O (older group).

**Table 5.** Participants' explanations for not hoping to acquire an assistance dog, expressed as percentages, and including multiple responses.

	Orthopedic disabilities	Hearing disabilities	Visual disabilities
Explanations for not hoping to acquire an Assistance Dog	n = 328	n = 277	n = 242
<b>They are hard to care for</b>	48.2 ( Y: 41.9 O: 54.2 )	38.6 ( Y: 35.2 O: 47.4 )	69.8 ( Y: 54.7 O: 81.6 )
<b>I don't want to be taken care of by a dog</b>	4.3 ( Y: 3.8 O: 4.8 )	6.9 ( Y: 6.0 O: 9.0 )	13.2 ( Y: 16.0 O: 11.0 )
<b>People support me</b>	19.8 ( Y: 22.5 O: 17.3 )	13.7 ( Y: 14.6 O: 11.5 )	31.4 ( Y: 28.3 O: 33.8 )
<b>I hate dogs</b>	9.5 ( Y: 8.8 O: 10.1 )	8.3 ( Y: 8.0 O: 9.0 )	16.1 ( Y: 14.2 O: 17.6 )
<b>Dogs are a burden on my life</b>	6.4 ( Y: 6.3 O: 6.5 )	27.8 ( Y: 26.1 O: 32.1 )	22.3 ( Y: 17.9 O: 25.7 )
<b>I feel sorry for dogs that are made to go through training</b>	7.6 ( Y: 7.5 O: 7.7 )	6.1 ( Y: 6.0 O: 6.4 )	11.6 ( Y: 11.3 O: 11.8 )
<b>I don't want to go out with a dog</b>	2.7 ( Y: 3.8 O: 1.8 )	2.2 ( Y: 2.5 O: 1.3 )	6.2 ( Y: 5.7 O: 6.6 )
<b>The place I live does not allow me to keep a dog</b>	7.9 ( Y: 8.8 O: 7.1 )	13.0 ( Y: 14.6 O: 9.0 )	11.6 ( Y: 16.0 O: 8.1 )
<b>Other</b>	33.8 ( Y: 39.4 O: 28.6 )	31.8 ( Y: 34.2 O: 25.6 )	28.5 ( Y: 35.8 O: 22.8 )

Each abbreviation indicates: Y (younger group); O (older group).

**Table 6.** Explanations given by participants who answered, “I hope to have an assistance dog,” for why they had not yet acquired an assistance dog.

	<b>Orthopedic disabilities (n = 37)</b>	<b>Hearing disabilities (n = 69)</b>	<b>Visual disabilities (n = 41)</b>
<b>I. No need to acquire an assistance dog yet</b>			
1. Able to manage to live by myself	7	9	6
2. Have resources for assistance	4	11	3
3. Would use as alternative assistance if the situation changes	4	6	1
4. Not needing one and it is ok with a pet dog now	1	1	0
<b>II. Problems and/or anxiety with having a dog</b>			
1. Responsibility to take care of a dog	8	5	7
2. Financial problem	4	5	1
3. Limited space in the house	5	3	3
4. Concerns for own health and age	0	2	2
5. Family related concerns	1	1	5
6. Have pet dog(s)	0	4	1
<b>III. Scarce information on assistance dogs</b>			
1. Misunderstanding and/or little understanding of assistance dogs	4	8	0
2. Qualifying level of disabilities	1	0	3
3. Limited knowledge of the law	6	10	1
4. Procedure for acquiring an assistance dog	3	3	0
5. Public views towards assistance dogs	0	2	0
<b>IV. The current situation of requirements and process for acquiring an assistance dog</b>			
1. Challenges with team training	0	0	6
2. Limited availability of assistance dogs	2	11	1
3. Needed by people with more severe disabilities	1	3	0