The Complexities of Guide Dog Partnerships: Why Some Go Wrong and the Impact of a Failed Relationship on the Owner

Chantelle Whelan, BSc (Hons) MSc

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Dedication

This thesis is dedicated to Foxy and Tigger Whelan. Foxy I am forever grateful for the time I shared with you. You taught to me to ‘be more dog’ and remain lovingly in my heart. My baby Tigger, you continue to teach me about the strength of the bond that can exist across species.

Abstract

Guide dogs assist visually impaired individuals with their mobility, as well as conferring social and psychological benefits to the owner. Whilst a guide dog typically works for five to six years, approximately 15-20% are retired within three years of qualification for health or behavioural reasons. This is referred to as premature retirement. The majority of premature retirements are due to behavioural problems in the dog. Whilst several studies have investigated traits indicative of guide dog qualification, there has been little research into predictors of partnership success post qualification. There is published research documenting how the end of a guide dog partnership is a distressing time for the owner. It has been suggested that owners of dogs that are retired prematurely are more at risk of experiencing distress during this time. The aims of this thesis were to explore the possible causes of an unsuccessful guide dog partnership and the impact premature retirement can have on guide dog owners (GDOs).

Three separate studies were conducted to meet these aims. In Study One, semi-structured interviews were conducted with thirteen visually impaired people that had experienced premature retirement of a guide dog. The interviews explored various aspects of their relationship with their dog and how the retirement affected their lives. Thematic analysis identified three common themes across participants. The first theme, 'Owner-Dog Relationship' described the relationship the owners had with their dog, with a clear distinction between the working relationship and the dog as a pet. For many, although they enjoyed the relationship they had with their dog when not working together, difficulties arose when using the dog as a guide. The second theme was 'Loss', whereby participants described grieving the loss of the dog as a pet from their lives. The final theme was 'well-being', focusing on how the retirement affected participant's emotional and physical health. Almost all participants reported a limitation in their mobility due to the retirement. Uncertainty and regret over the decision to have the dog retire was also felt by owners, impacting further on their well-being.

For the second study, six of the partnerships from Study One, were investigated further through in-depth case studies. In each case, the puppy walker and re-homer were interviewed about the partnership and the dog. Standardised reports made by guide dog staff on the dog's behaviour and the working partnership were collected. The owner, puppy walker and re-homer accounts, as well as the Guide Dogs staff reports were analysed and compared, to form conclusions on causes of retirement for each case. Cross case analysis was then

used to highlight themes across cases. The findings highlighted the complex nature of the partnership, and the need for compatibility between the two in their work, as well as their social and home environments. When an incompatibility in any of these areas impacted the working relationship, this ultimately led to the breakdown of the partnership.

Study Three explored some of the factors that may predict guide dog partnership success. Possible risk factors for unsuccessful partnerships were identified from observations of Guide Dogs, a literature review and the results of Studies One and Two. These risk factors were used to generate seven hypotheses on the predictability of guide dog partnership success. The hypotheses were tested on retrospective data from 4,504 guide dog partnerships that qualified between January 2009 and September 2014. Logistic regression analyses were used to test the effect of a range of variables on partnership success. GDOs that had previously experienced an unsuccessful partnership were more likely to have an unsuccessful partnership in the future. However, first time GDOs were more likely to have a successful partnership.

This multidisciplinary research project highlights the importance of acknowledging both the owner and dog in human-dog dyads, the highly complex nature of the human-animal bond and factors that are specific to working partnerships with visually impaired owners. Both the working relationship, as well as the personal bond with the dog are of importance in the success of a guide dog partnership. These findings can help identify GDOs and partnerships that may be at risk of having a short working life, and may help with future matching of guide dog partnerships. These can also be applied to other assistance dogs and matching dogs from animal shelters to new homes. This is the first study to describe the impact of premature retirement on GDOs. It has highlighted the negative impact premature retirement can have on a GDO’s quality of life and the importance of providing appropriate emotional support.

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Contents

Abbreviations

GDO – Guide dog owner (a blind or partially sighted person who has qualified to work with a guide dog)

ET – Early training (the first stage of formal guide dog training following puppy walking)

AT – Advanced training (the second stage of formal guide dog training following early training)

PW – Puppy walker (a volunteer who raises a potential guide dog in their home, between the ages of six weeks and 12 to 14 months)

PTSup – Puppy Training Supervisor (a dog's allocated handler and supervisor with Guide Dogs during puppy walking)

GDT – Guide Dog Trainer (dog's allocated handler and supervisor within Guide Dogs during early training)

GDMI – Guide Dog Mobility Instructor (dog and guide dog owner's allocated handler and supervisor within Guide Dogs during advanced training and post qualification)

RO – Re-homing Officer (Guide Dogs staff member responsible for re-homing ex guide dogs)

CAS - Canine Assessment Summary (Behavioural assessment of the dog conducted throughout puppy walking and early and advanced training)

HAI – Human – Animal Interactions (any interactions, both directly and indirectly, that take place between human and non-human animals)

HAB – Human-Animal Bond (a mutually beneficial and dynamic relationship between people and animals that is influenced by behaviours that are essential to the health and well-being of both (American Veterinary Medical Association, 2014))

Glossary of terms

Below is a list of terms used in this thesis, in conjunction with their operational definition (listed in alphabetical order).

Assistance dog – A dog that helps disabled people with practical tasks

Client - A blind or partially sighted person who uses at least one service provided by Guide Dogs

Client Circumstances – A withdrawal reason pertaining to events involving the guide dog owner rendering them unable to continue with the partnership

Guide Dogs – The UK charity Guide Dogs (the use of 'guide dogs' without capitalisation refers to a dog that acts as a guide for a blind or partially sighted person)

Health – A withdrawal reason pertaining to the health of the dog rendering it unable to continue guiding work

Premature retirement – A guide dog partnership dissolves within three years post qualification resulting in the guide dog ceasing guiding work

Retirement – A guide dog ceases guiding work due to old age

Spend – The act of a guide dog defecating (usually done on command)

Successful partnership – A guide dog partnership that works for three years or more

Temperament – A withdrawal reason pertaining to the behaviour of the dog rendering it unable to continue to work with the partnership

Unsuccessful partnership – A guide dog partnership that works for less than three years in which the withdrawal reason specified by Guide Dogs is 'Temperament' or 'Client Circumstances'

Withdrawal – The subtraction of a guide dog from its current partnership at any time prior to retirement

Withdrawal reason – The official reason recorded by Guide Dogs for the cessation of a guide dog partnership (categories include ‘Health’, ‘Temperament’ and ‘Client Circumstances’)

Chapter 1 – Introduction

This first introductory chapter provides an overview of the Guide Dogs charity and the research being carried out in collaboration with the University of Nottingham. Chapter Two provides a review of the current literature on the interactions between humans and companion animals, guide dog owners (GDO), dog behaviour and the impact of premature retirement. Chapter Three addresses the project rationale and describes the various methods used in this thesis. The three research studies are then described in Chapters Four to Six. Finally, the thesis concludes in Chapter Seven, with a general discussion to draw together all the research findings and their impacts.

In this chapter, a brief history of Guide Dogs, is given. This section begins with a brief history of how guide dogs have developed from the dogs depicted in early drawings during the first century, to the modern day systematically trained guide dogs seen today. Following this, the process guide dogs typically go through, from birth to retirement will be outlined. This is based on observations of Guide Dogs made by the researcher prior to starting the studies that make up the bulk of this research. A vignette is used to illustrate the journey of a guide dog. Finally a description of the wider research that contextualises the work detailed in this thesis is provided.

1.1 Guide Dogs

Guide dogs are assistance dogs that guide blind and partially sighted people. Assistance dogs help disabled individuals with a number of practical tasks, such as opening and closing doors. They are widely used, with over 7,000 disabled individuals living in the UK relying on one (ADUK). Guide dogs are one of the most recognised assistance dogs. Evidence of dogs being used as guides dates back to the first century AD (International Guide Dog Federation, 2013), where engravings and paintings showed men, usually beggars or musicians being led by small dogs on flexible leads (Fishman, 2003). This is in stark contrast to the guide dogs seen today, where larger dog breeds, such as Labrador Retrievers, wear specialised harnesses when leading their owner.

1.1.1 History of Guide Dogs

The first systematic training of dogs to guide blind and partially sighted people was introduced in a hospital for the blind in Paris in 1780 (International Guide Dog Federation, 2013). However, the emergence of modern day guide dog training is thought to have come about during the first world war, when a German doctor trained dogs en masse to assist blinded soldiers (International Guide Dog Federation, 2013).

Guide dog training was launched internationally by Dorothy Harrison Eustis. She established a breeding and training kennel in Switzerland, for dogs to assist in the army, police and custom service. She then spent some time in a guide dog training school in Potsdam, Germany. Dorothy went on to open guide dog training schools in Switzerland (L'Oeil qui Voit) and the USA (The Seeing Eye School) in 1929 (Fishman, 2003). These schools paved the way for the many guide dog training schools around the world today, with 82 member organisations of the International Guide Dog Federation (IGDF) in 2012.

In comparison to the early depictions of small breeds of guide dog, larger breeds are generally favoured today. The most common breeds currently used are German Shepherds, Labrador and Golden Retrievers; breeds such as Boxers, Dobermans and Norwegian Elkhounds have also been used (Fishman, 2003). The original flexible leads have been replaced by harnesses, which provide the person being guided a better feel for the movements of the dog, and therefore improve the guiding experience. Over time, laws have been put in place to allow guide dogs to travel on most modes of transport and enter public buildings such as restaurants and shops (Fishman, 2003). For example, section 168(2) of the Equality Act 2010, states that taxi and mini cab drivers are required to accept an assistance dog accompanying a disabled person at no extra charge (Equality Act, 2010).

In 1931, Muriel Crooke and Rosamund Bond heard about Dorothy Eustis' work and a trainer from the USA was sent to the UK. This led to the first British guide dog being trained (International Guide Dog Federation, 2013). The Guide Dogs for the Blind Association (Guide Dogs) was subsequently founded in 1934 (International Guide Dog Federation, 2013). Guide Dogs originally purchased dogs to train as guides, but then set up a breeding programme during the 1960's and opened a breeding centre at Tollgate House in Leamington in 1970. Guide Dogs is now the largest breeder and trainer of working dogs in the world (Guide Dogs, 2014).

Today the average working life of a guide dog is 5-6 years and there are over 4,600 guide dog owners (GDO) in the UK (Guide Dogs, 2014). Guide Dogs are responsible for around 7,800 dogs in total and currently produce over 800 new guide dog partnerships per year. Over 1,300 guide dog puppies are bred each year, and the work done by this organisation is totally dependent on public donations. It currently costs £5 per day to support each working partnership and the cost of a guide dog throughout its lifetime is about £50,000. The organisation's mission statement is to ensure that blind and partially sighted individuals enjoy the same freedom of movement as everyone else (Guide Dogs, 2014).

1.2 The journey to becoming a guide dog

To begin this project, the researcher undertook observations at Guide Dogs in order to familiarise themselves with the organisation. This constituted three weeks of intensive participant observation, followed by intermittent observation days for specific activities / events, resulting in approximately four weeks of observation in total. This phase of the research included observations of potential guide dogs, Guide Dogs staff and volunteers, un-structured interviews with Guide Dogs staff and volunteers and a review of various Guide Dogs documentation. A comprehensive description of the methods used for this piece of work can be found in Chapter Three. The diagram and vignette below provide an overview of the various processes that are involved in managing potential and working guide dogs, based on the observations carried out.

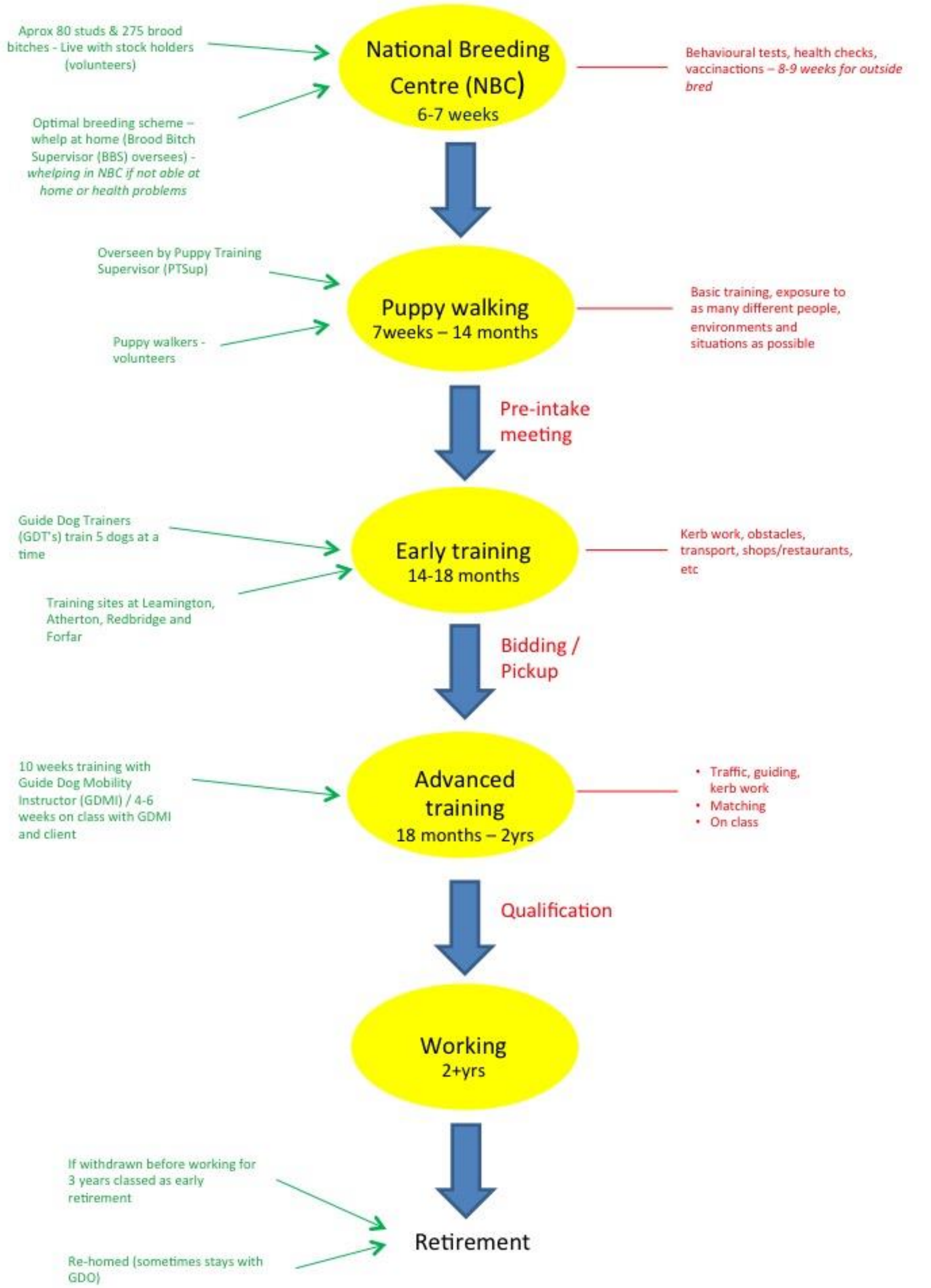

Figure 1 - A diagram showing the typical path of a guide dog within Guide Dogs from birth to the end of its working life

1.2.1 Background

Shaman is a yellow Labrador Retriever, who is on his way to becoming a guide dog for Guide Dogs. Bred from Chloe and Rex, who have lineage going back five generations in Guide Dogs, he was classed as ‘Possible Breeding Stock’ (PBS) and so it was hoped that he would go on to be a stud dog for Guide Dogs. This was decided against when one of Shaman’s littermates, Clara, developed epilepsy. As Shaman had no health problems and showed a suitable temperament for a guide dog in his 8-month review, it was decided that he would be trained to be a guide dog. Chloe’s holder is 60 years old and she did not feel that she was able to whelp Chloe at home, therefore Shaman was born at the National Breeding Centre (NBC) and stayed there until he was 7 weeks old, when he was taken to Derby to live with his puppy walker (PW) Liz.

Guide Dogs currently breed around 1,300 puppies per year. Within the breeding programme there are approximately 275 brood bitches and 80 stud dogs. Dogs are selected based on their health and temperament and information on the lineage of these dogs goes back several generations. Before a puppy is born they are classed as PBS and reviews are carried out at 8 months and again at 18 months to determine if the dog’s health and temperament meet the breeding standards. This includes monitoring the health and temperament of its siblings.

Whelping usually occurs at the home of the Brood Bitch Holder (BBH), as this enables the puppies to be exposed to the home environment from an early age. If there are any health complications or the BBH is unable to have the whelping at their home, whelping takes place at the NBC, with staff monitoring the bitch and the offspring 24 hours a day.

The puppies come into the NBC at 6 weeks of age, where they stay for a week before being taken to a PW. During this week they receive health checks, get their vaccinations and undergo Puppy Profiling Assessments (PPA’s), which assess the temperament of the puppies.

1.2.2 A day in the life of puppy walking

Shaman is now 9 months old; he is very much a part of Liz’s family, which includes Liz’s husband Spencer and their teenage son Nathan. Liz is also a BBH and so Sabrina, another yellow Labrador also lives in the house. Sabrina had a litter of 7 puppies six weeks ago and the puppies are being picked up by Tracey, a Brood Bitch Supervisor (BBS) today to be taken to the NBC.

Liz loves being a PW and BBH, however she gets very attached to the dogs and so has decided to be out whilst the puppies are taken. Liz and Shaman go out, leaving Spencer to handover the puppies.

Shaman is extremely excited as he and Liz leave the house; ever since the puppies were born, he has been taken out on his walks by Spencer, who is fond of Shaman, but does not fuss over him the way Liz does. Liz and Shaman go to the local park where Shaman is allowed a free run. Shaman is a very intelligent dog and has a lot of energy, he bounds across the grass as soon as Liz gives him the go ahead. After an initial couple of stints around the grass perimeter, he comes over to Liz to signal he would like to play with his tug toy. They play fetch for about 10 minutes, until Liz sees another dog coming over to the area they are in. She immediately calls Shaman over to her as she knows that whilst Shaman is a well-behaved dog, he can become very excitable when he sees other dogs. Shaman hasn't seen the other dog yet, but he does not come to Liz straight away; this is the first time he has been out with her in a few weeks and doesn't want it to end so soon. After a minute's hesitation, he is enticed back with a titbit. Once he is back on the lead he finally notices the other dog, he is very curious but Liz manages to keep his attention on her and they head out of the park.

Their next destination is the town centre, where Liz can while away a couple of hours and Shaman can get some practice being in the shops. As it is a weekday, the shops are relatively quiet. Shaman is interested in all the people and smells around him, and Liz often has to stop to draw his attention back to her and walk in a straight line. There are a few people that are a bit apprehensive of seeing a dog in a shop, but most of the staff know them and they don't come across any difficulty in being allowed to enter. Many passers-by come over to pet the 'guide dog in training' as stated on his coat, and by the end of the excursion Shaman's attention span is waning, so they head home.

With the puppies gone, Sabrina is quite subdued but seems grateful to finally get a proper rest. Liz has a bite to eat and does some housework, then at about 5pm takes both Shaman and Sabrina to the park for another free run. Both dogs enjoy themselves, they have not had a chance to play together for weeks and they burn off a lot of energy. Liz then takes the dogs to a friend's house, who has a 9 year old daughter who loves to play with the dogs. Shaman enjoys being cuddled by the girl, and falls asleep shortly after arriving home.

Future guide dogs as well as PBS live with a PW from 7 weeks of age until about 14 months. It is the responsibility of the PW to expose the puppy to as many different people, environments and situations during that time as possible. Whilst the puppy is with the PW they will get basic training, for example commands and walking on the lead. A Puppy Training Supervisor (PTSup) makes visits to see the puppy and the PW, when they will check the dog's health and welfare, go through any issues the PW may have and support the PW in training the dog. Some of the main aspects a PW will cover with the dog are being around different people (including children); being around animals, e.g. pets; going in shops, restaurants, etc; traveling on public transport; free-running and learning to relieve itself (spend) on command. Whilst dogs bred within Guide Dogs have been selected for certain temperamental *traits, they are still dogs and therefore exhibit normal dog behaviour, e.g. excitement during play and when distracted by other dogs/people. The PWs are trained to recognise these behaviours and how to deal with them when training the puppy. The puppies often gain experience in being part of a family, and these initial stages of the puppies training encourage interactions with humans. The puppies also form bonds with their walker as well as others in the family; helping pave the way for a bond to form with the dog and its owner once it becomes a guide. The PTSup makes monthly reports on the health and behaviour of the puppy that are referred to in later training, and used to help match the dog to a client.*

1.2.3 A day in the life of early training

Shaman is now 16 months and is living at the Atherton training site. He was quite unsettled when he first arrived as he had built a strong bond with Liz, and the staff considered having him stay with a boarder. However, he settled down and is now in a good routine in the kennels. Shaman wakes up at about 7am anticipating his morning feed. At 7.30 he is given his breakfast and then the kennel staff let him out into the concrete run for him to relieve himself, (referred to as spending within Guide Dogs), whilst the kennels are swept and mopped. He has quite a good spending routine and has been dry every night since his third night in kennels. At about 8.30 he is then taken to the grooming table by Kirsty, one of the kennel staff, to do his physical checks and grooming. Shaman enjoys being groomed and sits obediently once it is finished in anticipation of getting his teeth cleaned with a tasty toothpaste.

At 10am Shaman is taken out to the van by his trainer, Rachel. Four other dogs also come along and they are taken to the local town centre. Shaman is the third dog taken out of the van for this training session. Rachel knows that he is active and can get bored quite easily, so by being third he does not spend too much time before or after training in the van. Shaman was spent before being put in the van so Rachel does not worry about him spending on the walk, therefore she decides that she will take him to the post office to get him used to waiting in queues. On the way to the post office they travel through the town centre. Shaman is very attentive, stopping for mums with buggies to pass, sitting and awaiting further instruction at kerbs and directing Rachel around shop signage on the pavement. There is quite a long queue in the post office. For the first 5 minutes Shaman waits patiently in line. As they near the front of the queue, Rachel can see that Shaman is starting to get distracted by what is going on in the store; however he manages to stay focused on the task and they complete their post office trip successfully. When they get back to the van, Rachel gives Shaman a lot of praise and he plays with a tug toy.

Back at the training site, Rachel takes Shaman to spend again; he is then taken up to the trainer’s office, where he stays until it is time for his next training session. The Senior Guide Dog Trainer (GDT) decided that it would be beneficial for Shaman to stay in the office during the day, as he is likely to get bored in kennels because he is an intelligent dog in need of a lot of mental stimulation. At 2pm Shaman goes for his next training session with Rachel, this time they go on a train journey. Shaman often went on trains during puppy walking and is familiar with the process. Rachel is currently working on Shaman being able to direct her to an empty seat and help her avoid obstacles on the train. Shaman correctly identifies an empty seat and takes Rachel to it. However, he is slightly distracted by a crying baby, so does not pay as much attention to the task as Rachel would like. This is something they will continue to work on.

Shaman stays in the office until 6pm, then is taken back to kennels. He has his evening feed at 7pm and spends. He stays in kennels until 9.45pm when the late runners take him out to spend once more for the day.

From approximately 14 months, future guide dogs go into early training (ET). At this point they leave the PW to go to one of the training sites, where they stay for about 16-18 weeks until they are signed off by a Senior GDT. Prior to commencing ET each dog is reviewed in a Pre Intake Meeting (PIM), where GDT's will discuss the health and temperament of the dog to decide if the dog is ready to advance in their training.

Each GDT is in charge of training 5 dogs at a time, all of which may be at different stages of their training. In ET, the basic training learnt during puppy walking is built upon, with dogs learning to sit or stand at the curb until told to move on by the instructor; learning left and right commands; and improving their concentration in shops and on transport. The dogs are also taught to consider their trainer's 'space' as well as their own when avoiding obstacles.

The dogs stay in kennels during this period, unless they are not able to settle and are boarded during this time. The kennel staff conduct daily physical checks of the dogs and groom them to ensure the health of the dog is monitored and to get the dog used to being handled. This also helps cement some of the experience of interacting with humans and forming bonds that the dog would have become familiar with during puppy walking. A vet also checks the dogs once a week. The spending routine of the dog is also worked on to ensure the dog can have clean nights and walks. The kennels are manned from early morning to the late evening to ensure that all the work needed to care for the dogs is carried out e.g. feeding, spending, attention and grooming. Kennel staff and trainers are responsible for overseeing interactions between the dogs, and making sure the dogs are getting enough stimulation both mentally and physically. If a dog's behaviour is too disruptive for kennels or its mental stimulation needs are not met, the dogs are often kept in the offices between training.

1.2.4 A day in the life of on-class training

After 10 weeks of advanced training (AT) with his Guide Dog Mobility Instructor (GDMI) - Fiona, during which he stayed in kennels; Shaman is 21 months and is currently living in a hotel in Nottingham with his new owner Richard. Richard is 27 years old and is partially sighted having lost a lot of his vision three years ago due to Glaucoma. Shaman is Richard's first guide dog and having had little experience with dogs in the past, was quite apprehensive when first meeting Shaman. However, they both have a brisk walking speed and seem to be well matched so far. It has been two weeks since Shaman and Richard began training together and a bond is already beginning to form between them. Richard has found himself becoming more confident in praising and talking to Shaman when they are in public, having been quite self-conscious to begin with. Shaman seems to have picked up on Richard's lack of ease around him and has kept his behaviour controlled.

Shaman and Richard are picked up by Fiona along with two other owners and dogs that are also training, and takes them to Victoria shopping centre. Here they will get the chance to use stairs with and without handrails, lifts and practice judgement of space. Shaman has matured a great deal throughout his training; however he still has a tendency to get bored quite quickly, so Richard and Shaman are the first ones to go round the shopping centre. Fiona feels that Shaman and Richard have reached the stage where she no longer needs to walk next to them giving a commentary, and so walks a few paces behind, giving small directions here and there. On the upper floor of the centre there is a large open space in the middle of one section where demonstrations are often given. Shaman stays to the right of the space without entering it as Fiona had hoped. He stops at the top of both sets of stairs, waiting for Richard to signal that he is ready to move on, and then keeps a steady pace as they descend. There are a couple of shops that take Shaman's interest, which begins to draw them slightly off-course. Richard gives Shaman a slight correction. As he is inexperienced with dogs he is not used to being firm, so Fiona reminds him to be more forceful in his commands. Once they have finished their walk around the shopping centre, Fiona takes Richard and Shaman to a café to have a coffee whilst she carries on the training with the other owners and dogs. Shaman directs Richard around the tables to a free chair near the back and obediently lies next to it once Richard is settled. Once the other owners have finished, they all have lunch. When it is time to move on, Shaman is up and ready to go. He was getting slightly restless having been in one place for a while and though having the company of the humans and dogs kept him occupied, he is eager to face the next challenge.

The afternoon is spent working on the detection of traffic. Shaman has done this in ET and a few times with Fiona prior to training with Richard. This is the second time he is doing this task with his new owner. Being an intelligent dog, Shaman quickly picked up that when crossing a road he should not follow the command to move off if a car is approaching. Having swiftly understood that this rule also applies with Richard in his last session, Fiona is confident to stay a few steps behind the two after the first couple of times Sabrina (another GDMI) drives on the road Richard is crossing. As is often the case when Shaman is given a mentally stimulating task, he does well and Richard is feeling very proud by the time they get back to the hotel that evening. The pair go out for a short walk near the hotel. Richard has lost the sense of nervousness he used to get before going out with Shaman, and notices his pace is quicker as well as losing the slightly hunched posture he had developed when using the cane.

Once guide dogs have been signed off by the Senior GDT, they are deemed as ready to start AT with a GDMI. Each training site hold viewing days, where Mobility Team Managers (MTM) from the surrounding mobility teams come to look at any dogs that are ready for AT. The MTMs have a list of potential GDOs waiting for a dog in their area, so often look for dogs that will suit those on their list. Once the viewing is done, the MTMs bid for the dogs they want. The list of all potential owners is done in order of priority, with those that have been waiting longer being a high priority, as well as those that have had a dog previously and are awaiting another one.

Guide dogs enter AT at about 18 months, where they spend 10 weeks with a GDMI before spending another 4-6 weeks with both the GDMI and their new owner. Each GDMI trains 3-4 dogs at a time. All the dogs start their training at the same time and are housed in kennels as with ET. During the first 10 weeks, the GDMIs build on what was learnt in ET. They also carry out training that requires a higher level of skill e.g. teaching the dogs not to walk out into oncoming traffic even if their owner is giving the command to cross. The time spent with the owner is referred to as on-class training. The GDOs usually stay in a hotel during this time, although some stay at home if there are special circumstances. The dogs no longer stay in kennels during on-class training, instead staying with their new owner, whether in the hotel or at the owner's home.

During on-class training the GDMI trains both the owner and the dog on how to work together. The dog is of a standard that means the work mainly needed is to make sure it is responding to its new owner in the same way as it did for the GDMI. The owner, depending on how much experience they have had with guide dogs in the past, is taught the commands, how to handle the dog and positioning whilst walking with the dog on harness in various situations. As well as training on working together, the GDMI also offers advice and support for any other queries regarding the dog, and owning a dog in general that the owner may have.

Once the GDMI feels that the pair are safe to work together unattended and the owner is competent at handling the dog, the MTM observes the pair on a certain route/s. If the MTM feels that the pair are safe to work together, they are qualified to start working together without their GDMI. On-class training finishes once the pair qualify and the dog goes to live with its new owner.

1.3 A day in the life of a working guide dog

Shaman and Richard have been working together for over four years now. Shaman is 6 years old and Richard often refers to him as his best friend. Up until recently, the pair lived near to Richard's work in Nottingham city centre. They now live a bit further out and commute into the city centre. Shaman accompanies Richard to work during the week, and most weekends they go for long walks in the peak district with Richard's friend Danny.

It's 8am and time for Richard and Shaman to head off to work. They walk to the local bus stop where they can get one bus straight to the city centre. There are some road works en route, so Shaman directs Richard around the pedestrian path that has been created. Having done so much together, the pair are in tune and respond to each other's body language effortlessly when working together. Therefore, the road works pose little challenge for them. Once on the bus, Shaman directs Richard to an empty seat and squeezes himself into a gap in front of the seat so as to keep out of the way of other passengers. There are a few regulars on the bus who know the pair and Shaman wags his tail as he gets his routine morning praise from his 'friends'. Once off the bus, the pair charge through the city centre to Richard's office. Richard laughs to himself at the speed of Shaman. Richard has always been a fast walker, so Shaman being so full of energy was a good match for him. However, Richard and his girlfriend Claire have recently had a baby boy, Logan, so with the lack of sleep Richard has had lately, he's finding it difficult to keep up with his usual pace.

They arrive at the office at 9am. Shaman sits by Richard's desk, while he settles down. Shortly after, the receptionist comes to fetch Shaman so he can sit at reception with her and be kept 'entertained' by the staff and visitors coming and going from the office. At lunch, Richard and Shaman go for a walk to Victoria park, so that Shaman can spend and stretch his legs.

After work, Richard decides to go to the woods close to where he lives. With the arrival of the baby it's been a few weeks since Richard and Shaman have been on one of their walks in the Peak District. To make sure Shaman gets his exercise and doesn't feel neglected, they have been coming here once a week after work for a nice long stretch of 'play-time'. They wander around the woods for a while. They go off path and Shaman directs Richard smoothly around the trees and any fallen logs etc. in their path. After about half an hour they come to a clearing, where Shaman is let off his lead for a free run. Another dog walker arrives in the clearing a little while later and Shaman plays with the dog whilst Richard and the owner have a chat. Once it gets to 7pm, Richard decides he better get back home, and he calls Shaman over. Although Shaman is enjoying his time playing with his new friend he obeys Richard and comes over to have his lead and harness put back on. They say goodbye and head back home.

Once back home Shaman goes to say hello to Claire and the baby. He’s very curious about this new little ‘creature’ in the house, but senses that he is to be calm and quiet when around it, so he sits at Claire’s feet for a pat on the head then goes to the kitchen for his dinner. Later on, Shaman sits at Richard’s feet as he and Claire sit on the sofa to watch some TV before bed. Once in bed he lays on the floor right next to the bed on Richard’s side, as close to his friend as possible.

When matching a guide dog to a potential client, the GDMI takes several factors into consideration. Throughout puppy walking and training, reports are made on the dog’s progress, health and temperament. Based on these reports and their own experience with the dog, the GDMI must ensure that the dog suits the lifestyle of the client as well as the workload expected of them and the walking speed of the client. For example, a client that has a full time job and is very active would not suit a dog that tires easily. A taller person would be better suited to a larger breed of dog and someone with allergies may be better off with a breed that doesn’t shed as much fur, like a poodle. It would not be ideal for someone living in a busy urban environment to be matched with a timid dog.

Once the guide dog and its owner have qualified, the GDMI visits the pair to make sure everything is going smoothly, and to attend to any queries or concerns the owner may have. These visits are frequent in the weeks post-qualification, with a minimum of four visits within the first three weeks. During these initial visits the GDMI helps the new team to learn different routes the pair are likely to use. The visits are then six, sixteen and twenty-four weeks after the last visit. After this, the routine visits go down to one every other year, with a check-up phone call on the year the visit is not made. This continues until the dog reaches 8 years old, at which point visits are made every 6 months. Owners can also make requests to have non-routine visits from their GDMI at any point.

A guide dog and its owner usually build a relationship within the first year of working together. They get to know how to read each other’s body language and how to live with each other. As a lot of GDOs may not have had a dog before, this time is also used to adjust to the responsibilities and activities that go with having a dog. If an owner’s lifestyle is changed, the dog also needs to be taken into consideration, i.e. how this may affect their training, etc. A lot of guide dogs go to work with their owners; this is also an area where adjustments may need to be made. The workload of the dog will differ significantly based on the amount of sight loss and the lifestyle of the owner.

1.3.1 A day in the life of a retired guide Dog

Shaman is now 12 years old, and is living with his old PW Liz again, having retired from being a working guide dog about two years ago. Although he was quite subdued and somewhat out of character for a couple of weeks after being rehomed, he soon became familiar with Liz and Spencer again, and resumed his spot in the living room that he used to occupy as a puppy. Liz was delighted to be offered the chance to take Shaman back, she was very close to him and missed him when he left for training. Liz and Richard kept in contact whilst Shaman was working, and she often joked that Shaman was just ‘on loan’ to Richard for a while. Richard would have liked to keep Shaman after he retired, but felt that although Shaman had slowed down quite a bit with age, he wouldn’t get enough attention and stimulation being a pet dog, with both Richard and Claire working.

After breakfast, Liz takes Shaman to the park. They head to a bench near an area of open grass and Shaman gets quite confused when Liz sits down without letting him off the lead. He sits down rather agitated after a couple of minutes. A short while later Shaman jumps up and nearly pulls the lead out of Liz’s hand! Approaching them is Richard with his new guide dog, Buffy, and his son Logan who is now 6 years old. Buffy is extremely curious and has a good sniff at Shaman but allows him to jump up on Richard to ‘say hello’. Once he has finished his greeting he finally turns his attention to Buffy. They had met once before last time Richard visited, and quickly sniff each other to get re-acquainted. Shaman and Buffy are then let off their leads to have a play on the open grass with Logan. They run around chasing each other for about 5 minutes, before Shaman starts to get tired and lies down next to Richard content to watch 4-year-old Buffy carry on the game. Logan, who also finds it hard to keep up with Buffy sits with Shaman giving him lots of cuddles.

Later that evening Shaman cuddles up on the sofa with Liz and Spencer, now that he is a pet dog Liz can spoil him as much as she wants and lets him on the furniture. Shaman drifts off to sleep after another relaxing day of retirement.

Once a guide dog is unable to carry on with its work, they are retired, i.e. they become a pet dog and no longer carry out their guiding work. The owners are usually offered the chance to keep the dog on; they can get another guide dog to work with them if they want, with their previous dog being a pet. If this isn’t feasible for the owner the dog will be re-homed. In the first instance, the owner can recommend friends or family that would like to have the dog. Next, the PW of the dog or any boarders that the dog has stayed with are asked. If none of these people are suitable, there is usually a waiting list of people that would like to re-home a retired guide dog. Guide Dogs will always check the suitability of the person hoping to take the dog to ensure the dog’s welfare is not compromised.

It is quite common for owners of guide dogs to contact the dog’s PW when they get the dog. This relationship is then sometimes maintained with the PW visiting the dog with the owner whilst it is working and vice-versa once the dog has retired.

1.4 The University of Nottingham Guide Dogs research team

This project is one of many being conducted on guide dogs at the University of Nottingham. The university houses a research group that conduct research on guide dog health and behaviour. This includes topics such as the genetic basis of guide dog behaviour (Evans et al., 2015), obesity in guide dogs, and a five-year epidemiological study on guide dog behaviour (Asher et al., 2013, Harvey, 2014, Harvey et al., 2015, Harvey et al., 2016a, Harvey et al., 2016b). In addition to these, there have been two studies focusing on premature retirement of guide dogs. The first is an epidemiological study exploring the health (Caron-Lormier et al., 2016a) and behavioural (Caron-Lormier et al., 2016b) causes of premature retirement. The other used case studies of guide dogs that were prematurely retired for behavioural reasons (Audretsch, 2013). These studies have produced descriptive data on premature retirement at Guide Dogs, which has been used as a basis for the current project. According to (Caron-Lormier et al., 2016b), approximately 17% of guide dogs that have qualified and are matched with a visually impaired owner are withdrawn for behavioural reasons. (Audretsch, 2013) conducted descriptive analysis on the withdrawal reasons given for guide dogs prematurely retired between 2010-2012. This was then followed up on data for 2013 as part of this project. Figure 2 illustrates this data over the four years.

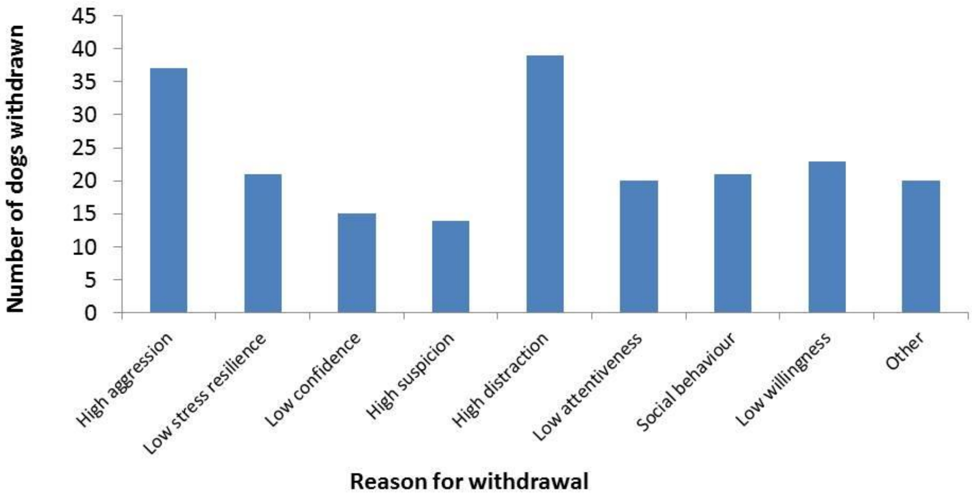

Figure 2 - Withdrawal reasons given by Guide Dogs for guide dogs withdrawn within three years post qualification in the years 2010-2013

This chapter has set the scene for the remainder of the thesis by giving an overview of Guide Dogs. The next chapter will delve deeper into the guide dog partnership and premature retirement of guide dogs by giving a review of the relevant literature.

Chapter 2 – The guide dog partnership

In this chapter, a review of the literature surrounding guide dog partnerships and premature retirement is given. It is split into four sections: 1) Human-Companion animal interactions; 2) Guide dog owners; 3) Guide dogs; 4) Impact of premature retirement. In the first section, research carried out on the benefits companion animals are thought to bestow on humans; the Human-Animal Bond (HAB); and assistance and service dogs is described. The guide dog owner (GDO) section reviews the literature on the psychosocial effects of visual impairment and the intricacies of working and living with a guide dog. Section three describes the current literature on dog behaviour before focusing on guide dog behaviour and then the behavioural problems dogs can exhibit and the ramifications of this for both pet and guide dogs. The final section outlines research related to the impact that premature retirement may have on GDOs. This covers the impact on their physical and mental health and bereavement.

2.1 Human-Companion animal interactions

The domestication of animals by humans began approximately 12,000 years ago (Serpell, 1986). Dogs (*Canis lupus familiaris)* are thought to be the first domesticated species, having descended from wolves (*Canis lupus)* that had been tamed by hunter-gatherers (Serpell, 1995a). It is speculated that an alliance was formed between wolf and hunter-gatherer populations as they shared hunting ground (Sablin and Khlopachev, 2002). This initial interaction between human and non-human animals extended to other species such as sheep (*Ovis aries)* and goats (*Capra aegagrus hircus)*, with the introduction of farming and agriculture (Serpell, 1986).

The domestication of non-human animals has led to a disconnect between humans and nature, with humans often being regarded as superior to other living things. This is unsurprising given the advantages of utilising animals to our gain. As well as being used in agriculture, animals are widely utilised for transport, research and sport. This use of animals as tools has led to welfare implications for the animal kingdom, it has been suggested that standards of living for many species is sub-standard. However, there is burgeoning evidence that closer relationships between humans and animals may bestow a number of benefits to humans. By recognising the benefits of human-animal relationships, the view of animals as mere tools may begin to change, with the interrelatedness of humans and animals becoming more prominent in our views of the animal kingdom.

There is currently some discrepancy in the terminology used in Human-Animal Interaction (HAI) research. Whilst many define HAI (and similar terms) as being beneficial to both humans and animals, the research to-date does not justify this statement. Therefore for the purposes of this review, the term Human-Companion animal Interactions is defined as interactions between people and companion animals (those kept as pets or which have frequent one-to-one involvement with a particular person, e.g. horses). There are no assumptions whether these interactions are positive or negative.

This section will cover literature on three areas related to Human-Companion animal interactions; the alleged benefits that humans gain from these interactions, the bond that can form between them as a result of these interactions, and assistance/service dogs. The benefits of interacting with companion animals come in many forms. Described in this section is the work performed by them (in particular dogs), companionship derived from their company, an increase in social interactions as a result of their presence, improved physical and mental health and as a therapeutic tool. The Human-Animal Bond (HAB) is then discussed by describing the current theoretical underpinnings of the bond and how this relates to attachment theory, the measures used to assess the depth of the bond and how characteristics of the human and animal can affect the bond. Finally, an overview of assistance and service dogs as well as the relationships they share with their owners is provided.

2.1.1 Benefits to humans

2.1.1.1 Working dogs

A number of animals are utilised in a working capacity. Horses (*Equus ferus caballus)*, donkeys (*Equus africanus asinus)*, mules (*Equus asinus x Equus caballus)*, camels (*Camelus)* and elephants (*Elephantidae)* are used as a means of transport, with humans riding on the animas back. Animals are also used to carry goods and to pull mobile devices such as carts and sleds. One of the animals used a great deal in a working capacity are dogs. They are also often used on farms for herding sheep and cattle. Dogs are used in search and rescue, using the dogs heightened sense of smell to help find a missing person and someone that may be trapped or has drowned.

Dog’s detection skills are also employed to help locate items such as explosives and wildlife. Additionally, detection dogs can be used in a medical capacity. Medical Detection Dogs are kept as companion animals by people with medical conditions with symptoms that can be detected by the dog prior to their onset. The dog is trained to give a specific cue to the handler to warn them. For example, low blood sugar levels in a diabetic person or an oncoming seizure in someone with epilepsy (Wells et al., 2008). It has recently come to light that dogs are able to detect cancer volatiles from humans (Willis et al., 2004). Thus assistance in early cancer diagnosis could be a further role of medical detection dogs in the future.

Medical Detection Dogs are one of many types of assistance/service dogs. These types of working dogs are well known in the general public. Other examples include guide dogs, dogs that assist disabled individuals, hearing dogs, support dogs and psychological assistance dogs (Assitance Dogs International, 2013). Some of the duties performed by assistance/service dogs include aiding mobility; helping their handler with daily tasks around the house e.g. opening and shutting doors; alerting them to various stimuli, e.g. a smoke alarm; and reminding them to take medication. These dogs are discussed in more detail in a later section.

Dogs are also utilised by the police and military. Their roles include locating narcotics, people, weapons and explosives, as well as in an attack capacity. Other working roles performed by dogs include: hunting, pulling sleds, guarding and tracking.

2.1.1.2 Companionship

Whilst they are often used in a working capacity, dogs and other animals, are also often regarded as part of a human family (whether they ‘work’ or not) (Charles and Davies, 2008). Qualitative studies by Charles (2014) and Power (2008) have demonstrated how living in proximity to non-human animals have changed the dynamics of the species divide. Participant’s descriptions of their relationships with animals, as part of the Mass Observation Project highlighted how their pets agency and the closeness they shared with them made them members of the family (Charles, 2014). Agency was also mentioned in diary entries and interviews with dog owners, as a way in which the dogs were regarded as part of the family (Power, 2008). These studies are examples of the sociological construct of a post-human family, in which the boundaries between humans and nonhuman animals are blurred (Charles, 2016). This blurring of the human-animal divide is discussed by Fox (2006), who conducted an ethnographic study of pet-owning households. There was often ambiguity over the pet as a person versus a possession, which raises issues in the pet-human relationship as these two roles are negotiated in everyday life. Fox (2006) found that the extent of this ambiguity differed depending on the species of animal. For example, reptiles tended to be less ‘human’ than other species like dogs. A similar observation was made by Wilkie (2012), in observations of the human-animal relationships that exist among farm and lab animals. The perception of animals as ‘people’ tended to be more prevalent in some relationships when the animal was singled out as a friend or pet.

A pet is defined as ‘A domestic or tamed animal or bird kept for companionship or pleasure’ (Oxford University Press, 2013). As alluded to in this definition, companionship is often a factor when deciding to acquire a pet (Enders-Slegers, 2000b, Gilbey et al., 2007) and pets are often referred to as companion animals. These animals often provide similar companionship as that provided by other humans, i.e. time spent with and shared experiences (Sanders, 1999). In fact it can be argued that lack of judgement experienced when interacting with animals as well as the alleviation of pressure to conform to societal rules and maintain verbal communication may make companion animals a more appealing choice of companion compared to other human company (Katcher and Beck, 1983a, Zilcha-Mano et al., 2011a). Irvine (2004) discusses how animals enable a sense of self in humans, by creating a ‘self-other’ paradigm. Humans are able to share experiences with animals, such as intentions, emotion and attention. This reinforces the idea of animals as an ‘other’, which in turn helps to shape our own identity.

A feeling of companionship with companion animals has been demonstrated in various studies of the relationship between humans and companion animals (Katcher and Beck, 1983a). Pets are often referred to as a friend (Hirschman, 1994, Serpell, 1995a), and in family structures are often cited as being closer to individuals than other human members of the family (Katcher and Beck, 1983a). Although it makes sense that companionship would be derived from companion animals, studies that have explored this have produced differing results. Some research has found companion animals can alleviate loneliness in elderly populations. A qualitative study of 96 participants in the Netherlands explored the meaning elderly people ascribe to their relationships with pets (Enders-Slegers, 2000a). Participants felt that owning a pet decreased loneliness. Similar results were found in a randomised control trial study of 45 residents of a nursing home (Banks and Banks, 2002). Participants who received Animal Assisted Therapy (AAT) gave significantly lower ratings of loneliness on the UCLA-Loneliness scale, than those who did not receive AAT. However, a longitudinal study of 59 people considering acquiring a pet from a re-homing centre in the UK found no difference in levels of loneliness on the UCLA-Loneliness scale between those who had acquired a pet compared to those that hadn’t six months later (Gilbey et al., 2007). It was suggested by the authors of this study that the effect of decreased loneliness by companion animals found in other studies may be present in certain groups of people e.g. elderly individuals. This concurs with the results of other studies that have found this effect in particular groups of people. For example, in a qualitative study by Slatter et al. (2012), homeless pet owners described their pets as providing companionship and friendship in semi-structured interviews on their pet. In another qualitative study employing secondary analysis of previous in-depth interview data, Ryan and Ziebland (2015) found that carers and people suffering from long term health conditions derived companionship from their pets. In an internet survey looking at the socio-demographic variables and depressive symptoms of 2,439 respondents, unmarried women who owned a pet had the lowest depressive symptoms, whilst unmarried men who owned a pet had the highest (Tower and Nokota, 2006). Whilst this wasn't directly measuring loneliness and companionship, it illustrates the difference that pet ownership may have depending on various socio-demographic factors. It should be noted that the methods used in studies on the effect of companion animals on companionship and loneliness lack uniformity at present. For example, the study carried out by Banks and Banks (2002) was a Randomised Control Trial (RCT) and looked specifically at the effect of AAT on loneliness whereas Gilbey et al. (2007) measured loneliness before and after pet acquisition. Therefore, the conflicting results of these studies may be due to differences in the methods used and the populations under investigation. Additionally, many are retrospective cross sectional studies where it is possible that consistency bias may be a factor, as participants are relying on their memory and may be positively influenced by the relationship they have with their animals at present. Further longitudinal RCTs comparing various groups and different pets would strengthen evidence and confirm findings.

2.1.1.3 Social facilitation

Research undertaken also suggests that companion animals may reduce loneliness in their owners in a range of ways beyond companionship. Mugford and M'Comisky (1975, cited in Katcher and Beck (1983a), pg. 38) coined the phrase 'social lubricant' in describing the phenomenon whereby pets seem to facilitate social interactions between their owners and other people. It has been observed that dog owners have more social interactions when out with their dogs compared to when walking the same routes alone (Messent, 1983, cited in (Katcher and Beck, 1983b). To test the effect of this further, McNicholas and Collis (2000) repeated the experiment by having the experimenter take a dog that was trained not to elicit attention from passers-by to places not routinely used as a dog walking route, such as at work and when running errands. In addition, alterations to the physical appearance of the experimenter were made. Despite these changes to the original study, they found that the experimenter still engaged in more social interactions when accompanied by the dog. The social interactions observed by McNicholas and Collis (2000) were often verbal and the increase in social interactions carried on to subsequent interactions even in the absence of the dog. This was found to be the case in a qualitative study of 26 dog owners living in apartments in Australia, who completed a five day photographic diary followed by a semi-structured interview exploring the underlying mechanisms of the social facilitation of dogs (Power, 2013). From the description of how their dogs led to human friendships, dog owners made friends with other dog owners by chatting to them in parks whilst their dogs played off lead. This then led to social get-togethers between the owners, followed on by friendships exclusive of their dogs. Power (2013) also found that the personality of the dog had an impact on social facilitation. Dogs that exhibited puppy like behaviour or were particularly well behaved tended to elicit attention, whereas dogs that were anxious sometimes made it harder for their owners to speak to others. In a study by Wells (2004), the amount of social interactions that took place between an experimenter and members of the public was compared between various conditions. These included being accompanied by three different dogs that varied in age and breed. More social interactions were observed when a Labrador was used compared to a Rottweiler. The studies by Power (2013) and Wells (2004) suggest that dog characteristics can have an effect on social facilitation for their owner. This highlights other areas that can be explored. For example, further investigation into the effect of temperament and breed could be carried out, as well as the size of the dog. It should be noted that the studies described here have tended to focus on dogs and therefore the ‘social lubricant’ effect cannot yet be extended to other companion animals.

It is thought that companion animals have the potential to act as a social catalyst for their owners due to the positive influence that animals seem to have on the social perception of humans that interact with animals. For example, when 213 university students were asked to rate people in drawings on various characteristics, the people in drawings that contained animals tended to be rated more positively than those not accompanied by animals (Friedmann and Lockwood, 1991). Those in the company of animals were seen as being more generous, friendly, intelligent and affluent. There are thought to be two mechanisms by which this comes about, firstly that animals are seen as attractive themselves, thereby making their owner or the human with them as being more interesting; and secondly, people form more positive ideas of the human due to the fact that they are interacting with the animal (Katcher and Beck, 1983a).

2.1.1.4 Health

In a seminal study, Friedmann et al. (1980) compared the survival rate of 92 patients with a diagnosis of Myocardial infarction or angina pectoris over a period of one year. They found that pet ownership had a positive correlation with survival rate. A number of studies that followed have found that interactions with animals seem to bring about physical and psychological benefits to health. In a national survey study, 1,011 Australian residents were asked about the impact of pets on the community and their health (Headey, 1999). Owners of a cat or dog made less visits to the doctor and took less medication. In a review of the physical and cardiovascular influences of companion animals on human health, Friedmann et al. (2000) found studies suggest both observing and interacting with animals lowers blood pressure and heart rate (Podberscek et al., 2000). 32 pet owners aged 50 and over with mildly elevated blood pressure had their Ambulatory Blood Pressure (ABP) monitored over three days and completed a diary, which documented the presence or absence of their pet (Friedmann et al., 2013). There was a decrease in blood pressure when in the presence of cats and dogs. This study demonstrated that the effect of animals on blood pressure is seen outside of a laboratory setting. A scientific statement from the American Heart Association based on a review of the current evidence on the effect of pet ownership on cardiovascular risk found that a positive relationship has been reported between pet ownership and reactivity to stress (Levine et al., 2013). A review on the influence of pets on blood pressure reported that an enhanced sense of well-being is often cited in those who own companion animals (Allen, 2003). Companion animals can also have a secondary effect on human health, through increasing physical activity e.g. walking a dog, which in turn can have an effect on health outcomes such as obesity (Levine et al., 2013, Ryan and Ziebland, 2015).

Although there has been a significant body of research that suggests companion animals bestow health benefits to their owners, it should be noted that these findings are far from conclusive. The results from these studies are varied with some finding effects and others finding none. There have also been a number of differences in the methods used in these studies, with many having a number of limitations; therefore caution should be taken when interpreting these results. The confines of these studies should not take away from the wealth of results that suggest a relationship between pet ownership and health; instead more research is needed in a standardised format. Levine et al. (2013) concluded that pet ownership may play a role in the reduction of cardiovascular risk, although the reduction of these risks should not be the primary purpose for pet acquisition.

Many overlapping theories have been suggested to explain the mechanisms behind the alleged positive effect of pet ownership on health. McNicholas et al. (1995 cited in Lane et al. (1998), pg. 51) argued that there are three pathways by which this effect can occur: 1) Non-causal – this pathway suggests that individuals who are more likely to own pets coincidentally also possess certain characteristics that correlate with better health. This suggests that it is these other characteristics, not pet ownership that influences health. 2) Indirect association – this pathway suggests that health is improved in pet owners as a result of a better sense of well-being as a consequence of their pet's effect on their lifestyle, e.g. more social affiliations or an increase in physical activity from caring for the pet, such as dog walking. 3) Direct causal association – this pathway suggests that pets provide comfort, reduce loneliness and offer companionship, which improves health. The second and third pathways fit in with the biopsychosocial model for health, put forward by Friedmann et al. (2012) (see Figure 3). Another hypothesis that has been put forward to explain the positive effects of animal interaction on human health is the biophilia hypothesis (Kellert and Wilson, 1995). This explanation posits that humans have an innate need to connect with the natural environment. Interacting with animals helps to fulfil this need and therefore has a positive effect on human health. If examined in detail this is probably explained by the biopsychosocial model for health referenced above.

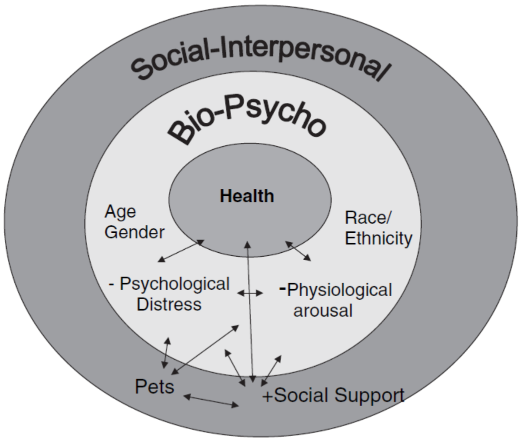

Figure 3 - Biopsychosocial model of health reproduced from (Friedmann et al., 2012). This model explores how pets can influence their owner's social support, both by being a support themselves and acting as a catalyst for other human social support. This in turn effects psychological aspects such as loneliness, which influences physiological arousal (i.e. reactivity to stress), thereby affecting overall health.

2.1.1.5 Therapy

The effect that animals can have as objects of support for people has led to animals and, in particular, dogs being used in therapeutic settings. The use of animals as a therapeutic tool dates back to the 9th century, when animals were used as part of rehabilitation of disabled people in Belgium and mentally ill people in York (Blazina et al., 2011). Florence Nightingale also reported the presence of small animals improved the mood of her patients (Johnson, 2012). However, it was a child psychologist called Boris Levinson in 1964 who first started studying 'pet therapy', after noticing that an uncommunicative patient began interacting with his dog (Blazina et al., 2011). This use of animals in a health care setting is now referred to as Animal Assisted Intervention (AAI). There are two main types of AAI used, these are Animals Assisted Activities (AAA), this describes the process by which animals interact with individuals with no particular aims; and Animal Assisted Therapy (AAT) whereby there is a goal to be reached for the patient (Johnson, 2012).

AAI has been used as a way of alleviating pain in hospitalised patients (e.g. Braun et al. (2009)); in patients with mental illness (e.g. Lang et al. (2010)); in children with developmental disorders (e.g. Bass et al. (2009)); for residents in long-term care facilities (e.g. Le Roux and Kemp (2009)); and psychotherapy (e.g. Zilcha-Mano et al. (2011b). Although the majority of AAT is carried out with dogs, various other animals have been used including cats *Felis catus* (Barak et al., 2001), guinea pigs *Cavia porcellus* (O'Haire et al., 2013) and dolphins *Tursiops* (Breitenbach et al., 2009).

AAI is thought to work through the mechanisms described in the previous sections, i.e. non-judgemental companionship, as a social lubricant, enhancing well-being and reducing reactivity to stress. In a therapeutic setting the animal is used to assist rapport building between the patient and the therapist and act as a catalyst for emotion (Blazina et al., 2011). It can also act as a teacher, e.g. social skills (Blazina et al., 2011). Zilcha-Mano et al. (2011b) put forward a model of AAT based on Bowlby’s attachment theory (Bowlby, 1969, Bowlby, 1982). This model describes how in the therapeutic process, the patient often has anxiety surrounding the attachment figures in their life, and this may get transferred to the therapist. According to Zilcha-Mano et al. (2011b), an animal can overcome this as their attention is constant and they give unconditional affection, giving the patient the security that they need in order to explore their emotions.

Although there has been an increase in the number of studies in this area, with the general consensus that AAI has positive results, there is still a long way to go before this conclusion can be made. The studies carried out thus far have lacked a uniform methodological approach, which makes it difficult to compare between studies. For example, AAA and AAT are often used interchangeably. It is important to define exactly what type of AAI is being carried out in order to gain a proper understanding of its impact (Chur-Hansen et al., 2014).

The benefits described in this section highlight the relationships that can be shared between human and non-human animals. They are often cited in the literature in an area growing in popularity looking at the bond between the two.

2.1.2 Human-Animal Bond

2.1.2.1 Attachment

The HAB has been described as ‘a mutually beneficial and dynamic relationship between people and animals that is influenced by behaviours that are essential to the health and well-being of both’ (American Veterinary Medical Association, 2014). As in the model put forward by Zilcha-Mano et al. (2011a), theories of attachment are often used in an effort to explain the underlying mechanisms of the HAB. In fact, HAB is quite often simply referred to as attachment. However, as the HAB also encompasses the alleged benefits experienced by both parties as a result of the HAI, the term ‘attachment’ is used to describe one facet and possible underlying mechanism of the HAB in this review. Bowlby's theory of attachment (Bowlby, 1969, Bowlby, 1982) describes the formation of attachment figures through interaction with others, primarily caregivers, though this has been extended to other relationships throughout the lifespan. Bowlby's theory of attachment (1969/1982) stemmed from work on animal imprinting and maternal deprivation carried out by Tinbergen (1951), Hinde (1963), Lorenz (1957) and Harlow (1953). The formation of attachments is thought to be an evolutionary mechanism whereby offspring elicit caregiving behaviours from their parents to ensure survival (Taggart, 2010). Attachment figures are characterised by four functions: 1) 'proximity maintenance' – a desire to be near the figure; 2) 'safe haven' – provides comfort and support; 3) 'secure base' – the figure increases the person's sense of security, allowing them to explore and develop; 4) 'separation distress' – the person feels distress when separated from the figure. According to Ainsworth (1989) a distinction should be made between 'affectional' bonds and 'attachment' bonds. Whilst affectional bonds can be attachment bonds, an attachment bond is defined by the presence of the secure base function.

There are examples of how animals can fulfil each of the four attachment figure functions, giving credence that humans can form attachment bonds with animals as well as other humans. 'Proximity maintenance' is illustrated in human-pet relationships by the feelings of companionship exhibited, i.e. enjoying the pet's presence (Kurdek, 2008). As discussed above, the presence of a pet dog often appears to negate feelings of loneliness in certain vulnerable groups e.g. elderly (Banks and Banks, 2002). The desire to be near their dog has also led some homeless people to refuse sheltered accommodation and/or housing if they are not allowed to bring their dog (Rhoades et al., 2015). In relation to the second function of an attachment figure, 'safe haven', dog owners rated their dogs on questionnaire items measuring this function higher than various other attachment figures (Kurdek, 2009). It has been argued that it is this function along with 'secure base' that helps facilitate the therapy process in AAT (Zilcha-Mano et al., 2011b). By the perceived unconditional love of the pet to person receiving therapy, they are able to feel secure that the pet won't leave them. Dog owners also describe their dogs as being highly dependable, another way in which they fulfil the role of a 'secure base' (Bonas et al., 2000). Finally grief that is experienced due to the death of a pet can be compared to that of a human loss, demonstrating 'separation distress' (Field et al., 2009).

There has also been evidence to suggest that humans can fulfil these functions for animals. Prato-Previde et al. (2003) found dogs that took part in the ASST sought contact with their owner after being separated from them, suggesting 'proximity maintenance'. During these reunion episodes, and when in physical contact, the dog's vision orientation was often towards their owner. In contrast, visual orientation was towards the stranger during play or when attempts were made to interact with the dog. The authors interpreted these findings as being demonstrative of 'safe haven'. The dogs also showed distress when left in the room with the stranger, demonstrating 'separation distress'. Finally they found that the dogs tended to engage in social play with the stranger more when the owner was present, suggesting they used the owner as a 'secure base'.

The Bowlby-Ainsworth theory of attachment (Bowlby, 1969; Ainsworth, 1973) dominates current understanding of human developmental psychology. However it is not the only theory that has been put forward, for example the learning (Dollard & Miller, 1950) and evolutionary (Chisholm, 1996) theories of attachment. Studies on attachment between human and animals has focused on Bowlby-Ainsworth's theory. To investigate how attachment relates to the HAB more thoroughly other theories of attachment should be explored. It may be that one of these provides a better framework for the attachment between a human and animal. It may also be that animals form attachments in a completely different way to humans and therefore would not fit any of the current theories.

2.1.2.2 Measures

A number of measures have been constructed to measure the HAB between pets and their owners. As previously mentioned, HAB is often referred to as attachment, so many of the measures developed relate to pet-owner attachment. The majority of these measures are questionnaire based, whereby the owner of the pet (or in some cases the parent of a child who interacts with the pet) rates various statements on likert scales. These statements cover areas such as time spent with the pet, enjoyment from being with the pet and companionship with the pet; for example 'Quite often I confide in my pet'. Two of the most used measures are the Lexington Attachment to Pets Scale (LAPS) (Johnson et al., 1992) and the Pet Attitude Scale – Modified (PAS-M) (Munsell et al., 2004). Although popular in use, these measures focus on the owner's attachment to the pet. This does not take into account the two-way process of a relationship and therefore fails to acknowledge the attachment of the dog to the owner. This is addressed in some measures, for example the Dog Attachment Questionnaire (DAQ) (Archer and Ireland, 2011), the Monash Dog Owner Relationship Scale (MDORS) (Dwyer et al., 2006) and a multidimensional assessment of quality of life (QOL) and the HAB of companion dogs (Schneider et al., 2010). Whilst these measures showed promising results in their development, they have yet to be validated. They are also specific to owner-dog relationships, thereby limiting their applicability to other pet-owner dyads.

A limitation of these kinds of questionnaire-based measures is that the information on the bond is being attained solely from the owner. Measuring the behaviour of the pet is another way in which the HAB can be measured, for example the Ainsworth Strange Situation Test (ASST). This test was first developed to test the degree of attachment of a child to his/her mother, however it has since been adapted to look at attachment in other species (Mariti et al., 2013). The ASST involves the subject under investigation spending time in a room with its attachment figure and a stranger. The attachment figure subsequently leaves the room and the behaviour of the subject is observed. Behaviours such as attention orientation to the door the attachment figure exited through are an indication of a stronger attachment, whereas play behaviour is an indication of a weaker attachment. The ASST is designed to specifically distinguish between an affectional bond and an attachment bond as described by Ainsworth (1989).

This test has been used in a number of studies on the bond between humans and dogs (Topál et al., 1998, Prato-Previde et al., 2003, Palestrini et al., 2005, Palmer and Custance, 2008, Mariti et al., 2013). These studies have found that the behaviour of dogs during the ASST seems to mimic that of human infants and chimpanzees, exhibiting behaviours indicative of the dogs using their owners as a secure base (Prato-Previde et al., 2003, Palmer and Custance, 2008). This suggests that dogs form attachments to their owners in the same way that children do to their parents (Topál et al., 1998).

Mariti et al. (2013) asked owners to fill in the LAPS as well as conducting an ASST with the dogs. Although both measures suggested high levels of attachment, there was no statistical analysis done to compare the LAPS scores with the ASST observations. It would be useful to compare these in future studies. Another avenue that could be explored in measuring the HAB, is through physiological parameters. In a study by Odendaal and Meintjes (2003), neurophysiological parameters such as blood pressure, oxytocin and endorphin levels were affected in both humans and dogs after interacting in a positive manner. The physical effects of human-animal interactions who share a bond versus those that don’t have not been compared. There may be differences in the effect depending on how bonded the pair are, and this in turn may be another measure of the HAB. In a review on attachment and bonding between humans and dogs, Payne et al. (2015) suggested that human behaviour be coded as well as dog behaviour during the ASST, as the owner's behaviour has been shown to have an effect on the dog's when taking part in the test. The authors argue that analysing the behaviour of both members of the dyad can offer further insights into the human-dog relationship.

2.1.2.3 Human/animal characteristics

Measures of attachment are often used in research looking into both human and animal characteristics that may influence levels of attachment between the two. Some of the human characteristics studied are personality traits, demographic variables and history with animals. Studies on human personality and how it relates to pet attachment lack a uniform approach. In a survey study by Bagley and Gonsman (2005), 163 participants completed the LAPS and the Keirsey Four Types Sorter, which determines if a person is an 'idealist', 'guardian', 'artisan' or 'rational'. 'Idealist' pet owners had the strongest attachments to their pets. 'Idealists' are described as being ethical, empathic and trusting in their intuition. This mirrors findings of another survey study, in which 3,413 dog owners who completed the Pet Attitude Scale (PAS) and the Animal Empathy Scale were found to have more positive attitudes to animals if they had higher levels of empathy (Ellingsen et al., 2010). A similar result was found in 128 children aged 8-14 years who completed the PAS and the Bryant Index of Empathy, where attitudes to pets and empathy were positively correlated (Daly and Morton, 2006). Another study on personality and pet preferences found levels of dominance and aggression in humans correlated with pet preference, however these differed depending on the gender of the human and the type of animal (Kidd & Kidd, 1980, cited in Bagley and Gonsman (2005)). Payne et al. (2015) found that owners high in 'neuroticism' as described by the Big Five personality framework (McCrae and Costa, 1985) tend to have poorer dog handling abilities than those lower in this trait. However, they also found that these partnerships have been perceived as more friendly and the owners view their dog as partners more often than those with low 'neuroticism'. Payne et al. (2015) suggest that this personality trait, although a negative attribute for dog training may provide a better standard of caring for the dog.

Gender differences seem to be more established, with a general agreement that females tend to have more positive attitudes towards animals (Ellingsen et al., 2010). This would explain the finding by New Jr et al. (2000) who found that males were more likely to relinquish pets to shelters than females in a survey study of people that had relinquished pets to shelters. Living arrangements also seem to have an effect on pet attachment. In a study with 104 dog-owner dyads, dogs belonging to owners who lived alone showed higher attachment levels in the ASST (Marinelli et al., 2007). In addition participants without children had scored higher on the LAPS. Finally it has also been found in a number of studies that individuals with previous experience of having pets tend to have stronger subsequent bonds with pets (Marinelli et al., 2007) and more positive attitudes to animals (Marinelli et al., 2007, Daly and Morton, 2009, Ellingsen et al., 2010).

As would be expected, characteristics of the pet are also important in the bond with their owner, however there have been relatively few studies carried out in this area. Serpell (1983) conducted semi-structured interviews with dog owners to establish attributes of their dogs that were important to them. Subsequently, another group of dog owners were asked to rate where their current dog and their ‘ideal’ dog would be on a likert scale for each of the attributes identified by the first group. This group rated expressiveness, enjoyment of walks, loyalty/affection, welcoming behaviour and attentiveness highly for both their own dog and their ‘ideal’ dog with little variations between owners. It was therefore surmised that these attributes were most important to the relationship between these owners and their dogs. Marinelli et al. (2007) found attachment levels to be lower between owners of pure breed dogs compared to mixed breeds, however New Jr et al. (2000) found that mixed breed dogs were more likely to be relinquished. Further research is needed in this area and as the HAB involves two parties, it may be beneficial to see how characteristics of both humans and animals interact in relation to attachment levels.

This section has outlined research exploring the HAB and where further investigation is warranted. The HAB appears to be a major factor in many relationships between humans and companion animals. One example of this is in assistance and service dog partnerships.

2.1.3 Assistance/service dogs

As is apparent from earlier sections, the most common animal cited in the HAB literature is the dog. As previously mentioned, dogs carry out a number of working roles, however to date, there has been little research carried out into the relationship between these and the humans they work with/for. Although most studies have focused on the behavioural characteristics of the dogs, there have been a few studies on the relationships between police and military dogs and their handlers. One study investigated the relationship between 303 military dogs and their handlers by asking the handlers to complete a questionnaire on their relationship with their dog, as well as the dog’s behaviour and personality (Lefebvre et al., 2007). Handlers whose dogs lived with them reported that their dogs were more obedient, had less incidences of biting people and showed less indicators of poor welfare than those whose dogs lived in the military kennels. An ethnographic study of dogs and their owners/handlers highlighted the dichotomy in the perception of police dogs by their handlers (Sanders, 1999). On the one hand, the dogs are a tool used in their work; however they are also their 'partner' with a strong bond between the two. As there is scant research on the relationships between working dogs and their handlers, it is yet to be discovered if this type of dichotomy exists in other working dog relationships.

Assistance/Service dogs are usually paired with one individual and through their mutual work, a strong bond is often formed between the owner/handler and the dog (Lane et al., 1998, Sanders, 1999). Consequently, these dogs provide a good example of how the HAB can bring about benefits for both human and non-human animals. The relationship between assistance/service dogs and their handlers/owners has come under investigation. These dogs have been found to provide their handlers with benefits beyond their working role. Physical disabilities often lead to social isolation as able bodied individuals are unsure of how to react to those with disabilities (Eddy et al., 1988, Hart et al., 1996, Shyne et al., 2012). This is exhibited through increased physical distance, reduced eye contact and feelings of awkwardness and guilt when interacting with them (Eddy et al., 1988, Hart et al., 1996, Lane et al., 1998, Shyne et al., 2012). The social facilitation that pet dogs provide to their owners has also been exhibited in assistance dogs (Eddy et al., 1988, Allen and Blascovich, 1996, Hart et al., 1996, Lane et al., 1998, Guest et al., 2006), thus helping to negate this detachment from society. The 'social lubricant' effect of assistance dogs is regarded as a particularly useful attribute in the use of these dogs with Autistic children. Autism Spectrum Disorder (ASD) is a developmental disorder, often characterised by limited social skills, with individuals failing to read social cues and struggling to communicate with others (APA, 2000). It has been argued that by mediating social interactions between ASD children and others e.g. drawing attention away from linguistic communication, assistance dogs can be an invaluable tool to facilitate social interactions for these children (Solomon, 2010). The positive effect on the social interactions of these individuals has also been reported to go beyond brief social interactions with some reporting they formed lasting friendships. Three quarters of participants who owned a service dog reported having an increase in friends since acquiring their dog in the study by Lane et al. (1998).

Other ways in which assistance dogs provide benefits to their handlers is altering perceptions of those with disabilities. For example, disabled individuals reported that able bodied individuals were often condescending when speaking to them; however they reported that this changed when they were with their assistance dogs (Lane et al., 1998). It was speculated by the authors that this could be due to a change in perception of physically disabled people from the prime focus being their disability to their dog handling skills. In focus groups involving 65 dog owners, participants felt their dogs provided them with safety, security and protection (Knight and Edwards, 2008). According to a review of research on assistance dogs, assistance dog users have also reported feeling safer in the company of their dogs (Sachs-Ericsson et al., 2002). Rintala (2008) interviewed 33 people with a mobility or hearing impairment whilst on the waiting list for an assistance dog and again six months later. Participants who had received a hearing dog prior to the follow up interview reported safety to be the most important aspect of owning a hearing dog. In another longitudinal study, participants reported that their assistance dogs provided companionship and reduced levels of loneliness (Guest et al., 2006). In this study participants with a hearing impairment completed a survey on their mood, health and problems faced due to their disability at five time points, starting with their assessment to receive an assistance dog through to 14 months after acquiring the dog. However, it should be noted that as with the data on pets, there are conflicting results with some studies finding no difference in loneliness ratings between owners of assistance dogs and controls (Gilbey, 2003, cited in Guest et al. (2006), pg. 259). It is also possible, with positive results more likely to be published, that there may be more unpublished studies where no difference was found.

The work performed by these dogs also enables their handlers to do things and go places they may not have been able or had the courage to do before. They will also often be less reliant on human carers (Allen and Blascovich, 1996, Guest et al., 2006) and these two in combination give a greater sense of independence and freedom to the owner. In a randomised controlled trial of 48 wheelchair users who had either acquired an assistance dog or were on the waiting list for one, Allen and Blascovich (1996) found that those with a dog had improved self-esteem and a higher internal locus of control. Rintala (2008) also found that individuals with a hearing dog reported being less dependent on others compared to those still on the waiting list for a dog. In comparison to the findings from these studies, there have been others that have found no significant differences in self-esteem between people with and without assistance dogs (Sachs-Ericsson et al., 2002).

These studies had small sample sizes, which may explain the lack of significant findings but these inconclusive results should be considered.

Finally quality of life and psychosocial well-being also seem to be improved as a result of an assistance dog (Allen and Blascovich, 1996, Collins et al., 2006, Shintani et al., 2010). It has been suggested that this improvement is an indirect effect of the benefits described in this section. However, it has also been argued that psychological characteristics of people who acquire assistance dogs may vary to those who don't before acquisition e.g. (Sachs-Ericsson et al., 2002). Therefore to look further into this claim, comparison groups that match participants on these variables should be used in future studies.

It should be noted that whilst the research cited here indicates a number of benefits to owners of assistance dogs, reviews of the literature to date reveal that the methods used in the studies conducted in this area are not rigorous enough (Sachs-Ericsson et al., 2002, Winkle et al., 2012). It has been suggested that future research should focus less on retrospective studies with individuals on a waiting list for an assistance dog as the comparison group and more on longitudinal studies spanning more than six months in which various characteristics are matched between the control group and the one under investigation (Sachs-Ericsson et al., 2002). It is also important to ensure the benefits derived from assistance dogs are not merely those that are gained from having a bond with a companion animal. To overcome this it has been suggested that studies employing a control group of disabled individuals who own a pet dog should be compared to those with an assistance dog (Collins et al., 2006).

This section has described the current evidence on the way in which humans and companion animals interact. The consequences of these interactions, as well as the close relationships that can be formed, and how this can be put into practice in the form of assistance/service dogs have also been explored. Whilst definitions of the HAB suggest that both parties benefit from this relationship, the evidence for this is inconclusive. The majority of research has concentrated on the benefits derived by humans as opposed to animals; and the human focused studies are inconsistent in their results and methodologies. In addition, there are potential problems with the current theory and measures used in research on the HAB. Further exploration of the role of attachment bonds in the HAB and measures of individual relationships from a dyadic perspective are required going forward. This is integral to get a comprehensive understanding of the relationships that exist between humans and companion animals. It will also help to understand the effect these interactions have on the animals. The evidence described in this section illustrates how animals can be beneficial to humans in a multitude of ways. As a result humans are becoming more and more dependent on these interactions. Whilst it is hoped that an acknowledgement of this dependency will bring about a respect and care of other species, it may also promote the idea of animals as human commodities. This in turn can have detrimental effects on animal welfare. Human behaviour has a huge impact on animal welfare and it is of vital importance that this is considered as our lives become more entwined with animals through our reliance on them. The next section will give an overview of a unique human – animal relationship, guide dogs for humans with visual impairments.

2.2 Guide dog owners

Almost two million people in the UK have a visual impairment and it is predicted that this will rise to nearly four million by 2050 (RNIB, 2013). As with other physical disabilities, visual impairment is more common in older age groups (GOV.UK, 2014). One in five people aged 75 years and over are affected by sight loss (RNIB, 2013). This increases to one in two people at 90 years and over. The most common cause of sight loss is Age-Related Macular Degeneration (RNIB, 2013).

Some of the aids used by individuals with a visual impairment include sighted guides and canes. There are three types of cane including symbol canes that let others know of the disability; guide canes that are held out in front of the body to find obstacles; and long canes that are rolled or tapped from side to side on the ground to find obstacles. Electronic Travel Aids (ETA) have also gained popularity over recent years (Kumar et al., 2011). Another form of mobility aid for visually impaired individuals are guide dogs. Approximately 4,800 people with a visual impairment own a guide dog (Guide Dogs, 2014). In a survey conducted by Guide Dogs in 2006 it was found that about 80% of GDOs are aged between 35 and 74 years.

In this section an overview of experiences of people with a visual impairment will be given. This will include some of the experiences of living with a visual impairment at various stages throughout the lifespan, how individuals adjust to the disability and how they are affected socially. It will then go on to discuss the relationship between a visually impaired person and a guide dog. A description of the way a guide dog partnership works will be given, followed by an overview of how a guide dog compares to other forms of mobility aid and finally what may have an effect on the compatibility between a guide dog and its owner.

2.2.1 The psychosocial effects of visual impairment

2.2.1.1 Experience of living with a visual impairment

2.2.1.1.1 Children / young people living with a visual impairment

The number of children under 16 years of age with a visual impairment is relatively low (Gilbert and Foster, 2001). However for those that do live with a visual impairment, the disability can have a major impact on education. In a survey study of 250 visually impaired adults, those that had acquired a visual impairment during childhood cited a lack of public awareness as a key issue in visually impaired children's education (Pavey et al., 2008) . This study also found that those participants that had received specialist education attained higher levels of qualification and subsequently those with higher qualification levels tended to be employed at the time of interview. A more positive experience of specialist education was also reported in a study Rosenblum (2007), where ten visually impaired adolescents and their best friend were interviewed on their experiences of visual impairment. These two findings suggest a positive impact of educational interventions on visually impaired individuals. In a study on the effects of visual impairment on children aged seven as part of a longitudinal cohort study, children with visual impairments as well as their parent and teachers reported lower school performance in areas such as reading and maths (Harris et al., 2012). This may fit in with other findings that visually impaired children have a better school experience when receiving educational interventions, however the type of school attended by these children was not reported.

The physical fitness of visually impaired children/young people has also been found to be lower than that of sighted individuals. Visually impaired children who took part in a fitness test had a lower overall pass rate than sighted children (Lieberman and McHugh, 2001). This fits in with the self-reported lower levels of physical activity by visually impaired children, who described doing no regular weekly physical activities and no physical activities outside of school (Harris et al., 2012).

A loss of vision often impacts the ability to carry out many daily activities. This can cause those with vision loss to depend more on others, often resulting in a loss of independence (Wang et al., 1999). This was felt to be of particular concern to adolescents with visual impairments who experienced a lack of independence compared to their peers (Rosenblum, 2007). A survey by Keil and Keil (2003) found that 50% of visually impaired children from 0 to 16 years of age had at least one additional disability. This high occurrence of concurrent problems alongside visual impairment serves to further the difficulties in carrying out daily living tasks.

2.2.1.1.2 Working age adults living with a visual impairment

The inability to perform everyday tasks has also been reported to be a source of embarrassment by adults with a visual impairment (Corcoran et al., 2005). One of the other main areas that is affected in this group is employment. Unemployment is faced by approximately two thirds of visually impaired individuals of working age in the UK (RNIB, 2013), which can lead to financial problems. However, it should be noted that this is based on a review of people who are registered as blind or partially sighted. Therefore those with a visual impairment who are not registered have not been accounted for. In a survey looking at the needs associated with vision loss, Gold and Simson (2005) found that participants reported a number of issues that they felt contributed to low levels of employment in this group. These included a lack of willingness in employers to employ visually impaired individuals, as well as a lack of understanding of their disability. This was also found by Pavey et al. (2008) and Gold et al. (2005), where participants described employers as having negative attitudes to visual impairment. Participants from Gold and Simson (2005)’s study also reported having lost their job due to their visual impairment, discrimination and having few opportunities to advance when they did have a job. A lack of public transport to get to and from work was also cited as a limitation to employment. Transport has been highlighted as a barrier to employment in a number of studies (Corcoran et al., 2005, Gold et al., 2005, Pavey et al., 2008). Participants in a qualitative study by Corcoran et al. (2005) cited a problem both with the signage of transport, e.g. inability to see bus numbers and the amount of public transport available in rural areas. Other factors that have been attributed to causing difficulty in this group’s access to employment include a difficulty in finding out about jobs, a lack of appropriate jobs, restricted access to specialist equipment and a lack of public awareness (Gold et al., 2005, Pavey et al., 2008).

2.2.1.1.3 Older adults living with a visual impairment

As mentioned above, visual impairments are more common in older age groups. This in conjunction with other physical ailments often encountered, make this group particularly vulnerable. A survey by Cherry et al. (1992) on the self-reported needs of older visually impaired individuals highlights transportation as another barrier to independence. Participants stated that they could not go everywhere that they wanted as public transport was inadequate. Details on what aspects of public transport were deemed inadequate were not described. However this still suggests that transportation needs not only interfere with employment in visually impaired individuals as discussed above but in other areas of their lives. In a survey study on quality of life, 106 people with age related macular degeneration reported a range of other ways in which their life is affected by their visual impairment (Hassell et al., 2006). These included the ability to read, recognising people and participating in activities such as watching TV and visiting friends and family.

2.2.1.2 Adjusting to visual impairment

Evidence suggests that people who acquire a visual impairment often have difficulties in adjusting to the disability (Karlsson, 1998). A longitudinal study by Fitzgerald et al. (1987) suggests the full impact of a visual impairment may not take effect straight away, but may actually take many months for the individual to fully appreciate the reality of their disability.

Depression is often found in people who have recently lost their sight (Dodds, 1993). This may be as a result of a decreased self-esteem due to difficulty in carrying out remedial tasks and a negative view of blindness by society. In a qualitative study exploring the role of a guide dog in adjusting to a visual impairment, Banham (2000) also found that participants spoke about their loss of independence and the inability to carry out tasks they could do before acquiring a visual impairment. In addition, they spoke about feeling depressed, hopeless and having suicidal feelings.

There have been three models put forward on disabilities, in which visual impairments can be understood. The medical model, also termed ‘personal tragedy model’ views a disability as an abnormality of the body’s structure or appearance (impairment), a reduced ability to perform day-to-day tasks (disability) and a social disadvantage (handicap) (WHO, 1980). It has been argued that this view of disability can exclude those with disabilities from society; individualising the visual impairment. Thus the social model was put forward. This model views disability as a collective identity and aims to change the view of disability from a ‘personal tragedy’ to a more positive view that can allow for a different perspective on life (Swain and French, 2000).

Finally psychological models of disability aim to identify why there are individual differences in adjusting to disability, for example differences in personality or socialisation (Banham, 2000).

Jackson et al. (1998) looked at how levels of hope can affect the ability to carry out functional activities in the home environment and psychosocial adjustment to the disability (functional ability). They found that higher levels of hope as well as the type of coping style used were related to higher levels of functional ability. Dodds (1993) also argued that attributional style and coping style may affect how an individual adjusts to visual impairment. Dodds et al. (1991) found that individuals who had recently lost their sight tended to follow certain schemas that affected how well they adjusted to their visual impairment. People who were less accepting of their sight loss also tended to be depressed, anxious, have low self-esteem, have an external rather than an internal locus of control, have low self-efficacy and hold negative attitudes towards blind people. Banham (2000) found that people spoke about two different types of coping strategy in adjusting to their visual impairment. ‘Avoiding’ whereby they avoided certain activities and tried to conceal their visual impairment. Whilst other people employed ‘active’ coping by forcing themselves to do things, learning to live with the impairment and getting support from others. However they did not investigate how this related to adjustment to a visual impairment.

2.2.1.3 Social inclusion

2.2.1.3.1 Social inclusion and general disabilities

In a report on social mobility and social inclusion in people with a disability (both intellectual and physical), social inclusion is described as being restricted in four main ways: 1) Increased risk of poverty and material hardship; 2) Reduced employment; 3) Less involvement in political activities; and 4) Restricted social networks (Emerson et al., 2009). By using six years of data from the Living in Ireland Survey, Gannon and Nolan (2007) found that disability tended to predict lower income, a higher chance of poverty and less social participation. This concurs with themes identified in the study by Banham (2000), where participants often spoke about unemployment, a restricted social life, problems talking to sighted people and feeling stigmatised as a result of their impairment.

In a study by Kleck et al. (1968) participants took part in a figure-placement task where they were asked to place a small rectangle representing themselves on a horizontal line with another rectangle representing various identities at the top. Participants placed the rectangle representing themselves at a greater distance to the rectangle at the top of the line when it was assigned an identity of a person who had some sort of stigma attached to them e.g. an epileptic or blind person. These findings are put into context by a quantitative survey study carried out by Fichten et al. (1991) who explored the feelings of non-disabled university students on interacting with disabled students. Participants reported feeling less at ease and comfortable around disabled students compared to non-disabled students. In describing their thoughts over interacting with disabled students, participants expressed feelings of pity for them, expecting them to be experiencing negative feelings as a consequence of their disability. They also worried about what the disabled student may think of them, for example 'I hope he doesn't think I pity him.'

2.2.1.3.2 Social inclusion and visual impairment

In a study by Kef et al. (2000), 315 Dutch visually impaired adolescents completed questionnaires on their social networks. When comparing their sample to that of another study of adolescents without a visual impairment, they found that those with a visual impairment had a smaller average size of network and received less social support. This study also found that social networks had a significant impact on the well-being of the participants. Participant's in Rosenblum (2007)'s study reported feeling excluded from their peers at school and that they had been teased as a result of their disability. Many of the visually impaired participants felt that their best friends were also marginalised at school for different reasons and said that this was often the case when making friends with their peers. Rosenblum (2007)'s study also highlighted that specialist education enabled students to meet others with visual impairment and whilst for some who did not enjoy this experience, for others it was a valuable way to make friends. As the sample size was relatively small, caution should be taken in generalising these findings to this population. In a narrative review of the social behaviour of visually impaired students, Salleh and Zainal (2010) highlighted that specialist education can help ensure that children learn the social skills that most children pick up at an early age through observation. Parents and teachers in the study by Harris et al. (2012) reported that a number of the children were bullied at school. Parents also reported that their children did not like school. Although Harris et al. (2012) did not find a difference in the ability to make friends and join in activities with other children between children with visual impairments and sighted children they found that children with a visual impairment and at least one other disability reported finding this more difficult. Similar results were found in a longitudinal study on playmate preferences in mainstream preschool classes that consisted of both disabled and not disabled children (Diamond et al., 1993). In this study children without a disability were asked to rate their classmates on how much they liked them and to choose three ‘best friends’ out of the children in their class. Children with disabilities obtained lower ‘liking’ scores and were chosen as best friends less than classmates without disabilities. These studies demonstrate the impact of visual impairment on social inclusion in children. Social inclusion is also an issue in older people with a visual impairment.

Verstraten et al. (2005) found that over half of elderly clients at a vision loss rehabilitation centre were lonely when the Loneliness Scale (De Jong Gierveld and Van Tilburg, 1999) was carried out. People in this study that were lonely also reported lower social support, were less able to adapt to their disability and had higher levels of depression. However, it should be noted that loneliness has been found to be more prevalent in older age groups (Wenger and Burholt, 2004) therefore loneliness may not be specific to older visually impaired individuals. Verstraten et al. (2005) speculated that loneliness and low levels of social support may result in a reduced ability to adapt to vision loss and feelings of depression, however as this was a cross sectional study, inferences cannot be drawn on cause-effect in this instance. It should also be noted that the reporting of the results in this study did not include all the relevant information to get a clear picture of the results, therefore findings from this study should be treated with caution. In a UK based study, Percival and Hanson (2005) gained insights from 400 elderly people with sight loss through questionnaires, in-depth interviews and focus groups. The study highlighted how isolated participants felt due to a lack of social contact. Many spoke of the lack of mental stimulation that they had and that they subsequently became depressed.

The various ways in which visual impairment can affect people have been described in this section. The next section will focus on individuals who decide to acquire a guide dog, and how these can help to overcome some of the issues described above.

2.2.2 Dog-owner relationship

2.2.2.1 How the partnership works

The work involved in a guide dog partnership is very complex. It requires a unique way of working together, which is made up of co-operation and the ability of both the dog and owner to pick up on and respond to subtle cues from their partner. In his account of his own experience of owning a guide dog, Michalko (1999) describes the unique working relationship that GDOs have with their dogs. He details the concentration put in by both parties when working. Both attend to the surrounding environment with the dog additionally focusing on their owner's voice commands and hand signals, at the same time as the owner responds to the subtle movements of the dog in its harness. Michalko (1999) describes how his identity became inextricably linked with his guide dog in a way that he had never experienced in a human relationship, stating that a guide dog partnership is a unique relationship that can never be fully understood by non-GDOs. A close inspection of the co-operation that exists between guide dogs and their owners was carried out by Naderi et al. (2001) by recording the various actions used and the frequency of initiations of these actions by the dog and owner. They found that different types of actions were initiated by the dog and owner. For example owners initiated starting to walk and slowing down more often, whereas dogs initiated avoidance of obstacles and stopping more often. On the whole, the number of initiations made by each were quite evenly distributed. This highlights the way in which leadership is transferred between the dog and owner, with the other following and helps to illustrate how the guide dog partnership works as a unit. Naderi et al. (2001) carried out these observations with guide dog partnerships that had been together for at least a year therefore the development of this co-operation is unclear. It would be beneficial to observe these interactions over a longer period starting when the partnership is first formed to see how this co-operation forms. When speaking about the working relationship they shared with their guide dog, participants in the study by Banham (2000) described having trust in their dog and how they had a partnership with their dog.

There are two key elements to the relationship between a GDO and their dog. Whilst a visually impaired owner and their guide dog are predominantly known for the working relationship described above, the guide dog lives with its owner adding another dimension to the relationship. The two share a similar relationship to that of pet dogs and their owners whilst not working, whereby the GDO is required to feed the dog, arrange for it to relieve itself, get adequate rest and play, and give affection. The dog also needs to integrate into the owner's home, which can sometimes include other family members and pets.

Research suggests that guide dogs seem to form a bond with their visually impaired owner, stronger than that formed with humans they share relationships with prior to qualifying as guide dogs (Valsecchi et al., 2010). Valsecchi et al. (2010) observed 17 guide dogs undertaking the ASST at three different times. The first was conducted during puppy walking with the PW acting as the 'owner'; the second during training with their trainer acting as the 'owner'; and the third one year post qualification with their visually impaired owner acting as the 'owner'. During the third trial the dogs stayed oriented to the door and ignored the stranger when the 'owner' vacated the room, contrary to the first two trials. They also increased the amount of time in physical contact with the 'owner' in the third trial. Owners also seem to form a strong attachment to the guide dog. Participants mentioned being closer to their guide dog than pet dogs when describing their relationship with their guide dog (Banham, 2000). They also described their guide dog as being a good friend, a child and a member of the family. These roles fit in with the close bond that was described, whereby participants spoke about how their guide dog sought proximity to them and gave them unconditional love. In addition they voiced a concern for the dog's welfare, missing the dog when it wasn't around and being in tune with their dog. Hauser et al. (2014) interviewed 12 GDOs on their experiences of working with a guide dog and observed them interacting with their dogs. They concluded that the strong bond that develops between a guide dog and its owner seems to originate from the working partnership. This develops through the great amount of time spent together, the trust that is built through their work and the gratitude felt for the improvements in their life as a result of the work. This strong bond was also mentioned in a study by Sanders (2000), whose participants spoke of how their identity was inextricably linked to their guide dog. Whilst this was often seen as a positive some did not like that they felt obliged to keep up a good appearance for their guide dog organisation and the unwanted attention often obtained from members of the public. It appears as though the multiple elements that go into a successful guide dog partnership enable a strong mutual bond to form between the two.

2.2.2.2 Guide dogs versus other mobility aids

Whilst other forms of mobility aid are commonly used by those with visual impairments, they do not seem to offer the same quality of experience as that with a guide dog. Banham (2000) suggested that people decide to acquire a guide dog as a result of not adjusting satisfactorily with the aid of a cane and/or professional services. Some of the views expressed by participants in that study were that the use of a cane adds to the stigma of having a visual impairment and that they are difficult to use, requiring a great deal of concentration whilst often still bumping into objects and walking at a slower pace. In the study by Hauser et al. (2014), participants stated that canes require more concentration and energy on the part of the individual compared to using a guide dog. Some owners in the Banham (2000) study also reported the added benefits of the social contact that guide dogs facilitate as well as added confidence. Visually impaired individuals often face the decision of using a mobility aid such as a cane, which makes their disability more conspicuous, or concealing their disability from the general public. The former introduces the risk of associated stigma, whilst the latter may jeopardise the individual’s safety as well as making them ‘invisible’ to others. Whilst the presence of a guide dog advertises the impairment of the individual, it also serves to change their identity as illustrated in an account by Michalko (1999) on his experiences of owning a guide dog. In this account, Michalko (1999) describes how acquiring a guide dog changed his individual identity to that of a dyadic one, where he is seen as one with his guide dog. He describes how this allowed an opportunity to educate others on both visual impairment and guide dogs, opened up new social relationships to him and enabled him to feel more at ease with his impairment. Some research suggests that when an individual is seen interacting with an animal, they are perceived in a more positive light (Katcher and Beck, 1983a). This may occur with GDOs. GDOs may also be given more esteem by others, as they may be perceived as a caretaker and in command of the dog as suggested by Lane et al. (1998). Furthermore, the independence gained through the dog’s role as a mobility aid can lessen sympathy from others thereby increasing self-esteem (Zee, 1983, Sanders, 1999). Zee (1983) also reported better physiological health brought about by the exercise of being with the dog and a feeling of safety and self-actualisation by the ability to do more activities. All of these were mentioned in the account by Michalko (1999), as well as the non-judgemental attitude of the dog. Research using a questionnaire to explore the characteristics of 90 GDOs compared to 90 visually impaired individuals who used other low vision aids, suggests that there are significant differences between these groups (Jackson et al., 1994). GDOs tend to be younger, have had a visual impairment from a younger age and are more severely impaired than those who use a low vision aid. Guide dogs seem to offer benefits not derived from other forms of mobility aids such as increasing confidence and helping improve social contact with others.

As discussed earlier, companion animals and assistance dogs in particular confer a number of other benefits to their owners; this is also demonstrated in guide dog partnerships. The study carried out by Jackson et al. (1994) found GDOs to have less concurrent health problems, to have reported an increase in the ability to use their other senses and to be able to manage better than visually impaired individuals using other mobility aids. Whilst these may be attributed to the use of a guide dog, it should be noted that this may also be linked to the fact that the GDOs in this study were found to be younger than the control group. Therefore it would make sense that they would have less health problems and may have contributed to their perception of being able to manage well. Their improved ability to use their other senses may be linked to the fact that the GDOs reported having a more severe visual impairment to the control group. In light of this, other studies have also suggested a positive psychological and social change as a result of owning a guide dog. In an ethnographic study looking at the effect guide dogs have on their owner's sense of identity, Sanders (2000) found that GDOs spoke of the negative impact a visual impairment had on their self-esteem. They were often pitied by others and made to feel helpless. Having a guide dog gave them back some of the control they felt they had lost, thus increasing their confidence and helping to remedy this. In a study by Whitmarsh (2005), which involved a telephone questionnaire that was completed by both owners and non-owners of guide dogs, some of the benefits of guide dog ownership were discussed. GDOs reported having increased mobility, independence, confidence and social affiliations with their dogs as well as companionship being derived from their dog. However it should be noted that the GDOs in this study were younger, had higher rates of paid employment, were less likely to live alone and less likely to have additional disabilities than non-owners. These demographic factors of the sample may have had an impact on these results. Banham (2000), in a grounded theory study, formulated a model on how guide dogs help individuals to adjust to visual impairment. Interviews were conducted with first time GDOs that had worked with their dogs for at least three months. The model formulated in this study suggests that although there are some difficulties in the intensity of training with the dog, individuals generally regard it as a positive experience. Once working with the dog, GDOs enjoy an improvement in mood and quality of life, as well as increased independence and better relations with others. However there were also some negative aspects of owning a guide dog that should be considered. Whilst participants reported having more independence with a guide dog, there are some added restrictions that come with accompanying a dog. Although public places are obliged to allow assistance dogs entry to their premises in the UK (Equality Act, 2010), many GDOs still encounter difficulties on entering some places with their guide dog. Some owners also spoke about the intrusion of people when out with their guide dog, stating that their dog was often distracted by unwanted attention from others. In addition, anticipating the loss of their guide dog when it became too old to work was a concern for some. Whilst there are some drawbacks to owning a guide dog, on the whole the psychosocial benefits that they bestow make them more than just a mobility aid.

2.2.2.3 Guide dog and owner compatibility

As previously mentioned, a guide dog lives with their owner and acts as more than other forms of mobility tools. It is therefore imperative that the dog and owner are compatible. There is weak evidence to suggest that dogs and humans can be matched based on personality traits. The ASPCA (The American Society for the Prevention of Cruelty to Animals) employs a personality matching system for those considering adopting a dog, however this has not been tested scientifically (Curb et al., 2013). There is difficulty in measuring traits that exist in both humans and animals (Ley et al., 2008). Curb et al. (2013) developed a questionnaire on dog and owner personality traits and pet satisfaction. Using a sample of 88 dog owners, they found that whilst a general match of personality traits between dogs and their owners did not correlate with satisfaction felt by the owner, a few traits did. Owners that were similar to their dogs when it came to sharing possessions, enjoyment of running outside, engagement in destructive activity and getting along with peers were more satisfied with their dog. However the participants in the study were all either involved in animal care or worked/studied at the university where the research was carried out. A more representative sample of different dog owners and types of partnership would need to be tested before making any assumptions about this work. Payne et al. (2015) suggested that dogs owned by people high in neuroticism showed a lower performance in task acquisition, training and following commands. Owners high in neuroticism also tended to be viewed better socially and their dogs had lower salivary cortisol concentrations. Therefore it may be that dogs that require a lot of training or a specific style of handling would be better suited to someone low in neuroticism, whilst an anxious or timid dog may be better placed with an owner high in neuroticism.

An exploratory study of the match between a guide dog and owner made use of a focus group and survey of GDOs on their guide dog partnerships (Lloyd, 2004). One of the main issues cited by participants was the importance of the non-working side of the relationship. Owners felt that this component of the relationship was as important as the working side and two of the top most cited reasons for an unsuccessful partnership were when the dog wasn't well socialised and when the lifestyle of the owner clashed with the dog's personality. They also felt that the bond between the owner and dog was imperative to a successful partnership. Other elements they described as being important were the owner's commitment to making the partnership work, how well trained and consistent the dog was in its work, the amount of remaining vision the owner had, their previous experience of being responsible for a pet and the compatibility between the dog and owner both behaviourally and physically. One of the outcomes of the study was a compatibility scale to measure matching success.

There are a number of negative consequences of visual impairment described in this section, including lower employment and qualification levels, problems with social inclusion and depression. Evidence suggests that owning a guide can help alleviate some of these issues. The dog enables the owner to gain some of the independence and freedom they may have lost due to their disability, can facilitate social interactions and can increase their general health and well-being through these benefits. Whilst research on guide dog partnerships has identified the complexity of the relationship, there is still further work required to investigate the intricacies of the relationship and what factors make a guide dog partnership compatible or not. To do this it is vital that the partnership be explored from both sides, i.e. the owner and dog. This section has provided an overview of some of the problems encountered by GDOs and how a guide dog partnership can help them. The following section will focus on the guide dog.

2.3 Guide dogs

The main role of a guide dog is to aid a visually impaired person in keeping safe when outside of the house (Guide Dogs, 2014). Some of the specific tasks a guide dog carries out include guiding their owner around obstacles such as road works, locating objectives, e.g. button for a lift, assisting their owners on public transport, stopping at kerbs and disobeying any command from their owner that may put them in danger. The most well-known example of the latter is not to cross a road if there is oncoming traffic even when given the command to walk forward by their owner. By carrying out these duties a guide dog helps to enable their owner to get to their destination safely. To train a dog to the required standard to carry out guiding work, a rigorous training schedule is adhered to which harnesses various elements of dog behaviour.

This section describes the current literature on guide dog behaviour. It commences with an outline of the development of behaviour in dogs throughout the lifespan and the various factors that can affect this. Next, a focus is placed on behaviour specific to guide dogs and what behaviour is considered to be important for guiding work. Finally some of the problems encountered in the dog-owner relationship and the consequences of these are explored. This includes various behavioural issues seen in dogs and the circumstances that surround relinquishment of a pet dog and withdrawal of a guide dog.

2.3.1 General dog behaviour

The domestic dog is one of thirty-eight species in the Canidae family (Serpell, 1995a). Although there is speculation over the ancestral routes of the domestic dog, it is thought to have originated from various species of wolf, leading to the variety of dog breeds seen today (Sablin and Khlopachev, 2002). Currently there is debate on the exact way that wolves became domesticated, however most theories tend to suggest that the domestic dog came about through wolves and hunter-gatherers hunting for food in close proximity to each other thereby developing a cooperative relationship (Case, 1999). A change in hunting strategy during the Mesolithic period, going from short distance attacks to long-distance shooting with arrows would have strengthened this relationship, with humans using the dogs to track and retrieve game (Serpell, 1995a). Wolves are pack animals that interact and form close bonds with the members of their family. Dogs still have this characteristic and it is this co-operative nature that enables them to work in an assistance role for humans. In order to understand how a dog carries out the role of both an assistance and pet dog, it is important to have knowledge of general dog behaviour and how this can be modified. The rest of this section covers the literature to date on what is known about dog behaviour and how it is modified.

The behavioural development of the dog is divided into five phases: 1) the neonatal period, 2) the transitional period, 3) the socialisation period, 4) the juvenile period, 5) the adult period (Thorne, 1992). The neonatal period occurs from birth to two weeks of age, when the puppy is completely dependent on its mother, has limited or no socialisation outside of the nest, and the majority of time is spent feeding and sleeping (Scott et al., 1974). The transitional period occurs for one week following on from the neonatal period. This period is characterised by rapid physical development in the puppy, with the eyes and ear canals opening. It begins to respond to sudden loud noises by exhibiting a startle response and it is able to stand and walk at this point (Case, 1999). This then leads on to the socialisation period, often referred to as the ‘critical period’, which takes place from three to twelve weeks of age (Scott et al., 1974). It is termed the ‘critical period’ due to the importance of this time in the puppy’s life for developing social relationships in later life. This is the period when the puppy first starts to explore its surroundings and socialise with other animals outside of the nest. It has been suggested that inadequate socialisation with both dogs and humans during this period results in problems forming social relationships in later life. This was demonstrated by Scott and Fuller (1965) when puppies that were raised in isolation from their mother and littermates during this period went on to be fearful of other dogs. Puppies that were raised in isolation from humans showed similar fear towards humans later on. During this socialisation period, the puppy begins to explore its environment and becomes involved in social play; this enables it to learn about social rank through dominance and submission (Lindsay, 2000). The puppy also begins to eat solid food at this point enabling the mother to leave it for longer periods and it has been suggested that this phase is the optimal time to separate the puppy from the bitch, for example if purchasing the dog as a pet. Scott and Fuller (1965) reported puppies taken away from their mother and littermates before or after the critical period exhibited more fear with a human handler compared to those taken during the critical period. The juvenile (or secondary socialisation) period takes place from the end of the socialisation period until sexual maturity (Case, 1999). During this period the puppy begins to learn about context specific appropriate behaviour and explore wider environments. Complex tasks generally cannot be taught during this period due to a short attention span and excitability in the puppy (Thorne, 1992). Once a dog has reached sexual maturity, it has entered the adult period. Sexual maturity usually occurs at about 1 year of age, however this varies between breeds. Once in the adult period, although the dog is physiologically fully developed it continues to develop its social behaviours (Case, 1999).

A combination of different factors can influence behaviour in dogs but there are three main areas: 1) genetics/breed 2) biological 3) environment. There have been several studies on the effect of genetics on dog behaviour and temperament, in particular on traits of working dogs (Goddard and Beilharz, 1983, Serpell, 1995a, Turcsán et al., 2011, Evans et al., 2015). These have shown that breeds differ in their behaviour, and it has been suggested that behavioural phenotypes are influenced by multiple genes (Thorne, 1992). Biological mechanisms are factors that influence behaviour through hormones and neurotransmitters. For example it has been suggested that testosterone and serotonin have an effect on aggressive behaviour in dogs (Haug, 2008). The environment can have a major influence on behaviour, particularly relating to socialisation during the critical period. This can be affected by socialisation with the mother and litter mates, as well as people and other animals. Wilsson (1984) examined the behaviour of German Shepherd dams towards their offspring from three to seven weeks of age, and reported that certain behaviours exhibited by the mother correlated with later behaviour in the puppies: puppies that were licked or nibbled more during this time spent less time interacting with humans when evaluated at 56 days of age. Strandberg et al. (2005) found that litter mates actually have a bigger influence on the puppy's behaviour than the mother. Thorne (1992) suggested that this effect of littermates comes about through puppies observing their sibling's reactions to make new discoveries and avoid aversive stimuli. The examples given here demonstrate how behaviour can be influenced separately by genetics, biology and environment. However most behaviour is a lot more complex than this and is influenced by a combination of all three.

Beginning in the socialisation period, when the puppy begins to interact with its environment, the puppy's senses start to develop. The use of its senses is heavily relied on throughout its life. The domestic dog's sense of smell is highly developed and is used a great deal in communicating. Raised Leg Urination (RLU) is often used to mark a location with their scent in order to communicate to conspecifics that this is their territory and dogs often over-mark i.e. mark an area previously marked by another dog (Serpell, 1995a). The use of scent marking by urination is also used to determine when a bitch is in oestrus, during which time the female dog urinates more than usual. Another way in which dogs communicate via olfaction is through general body odours emitted by various glands in the body. Unfamiliar dogs often sniff the face and anal region of the other upon meeting (Case, 1999). Visual communication is also used, with facial features such as ear position, body posture and the tail being used to communicate with conspecifics as well as humans (Thorne, 1992). Finally vocal communication is used, with barks, grunts, growls and whimpering/whining often elicited. These methods of communicating can have a variety of meanings and are usually context dependent (Serpell, 1995a).

The existence of personality traits in animals has received some attention in the literature and it has been suggested that there are certain personality traits found in dogs (Svartberg, 2002, Hsu and Serpell, 2003, Svartberg, 2005). Personality has be defined as behavioural characteristics in an individual that stay constant over time and context in humans (Eysenk, 2004).There have been many terms used to describe personality in the animal literature including temperament and behavioural characteristic. For the purposes of this review, the term personality will be used to encompass these varying terms. The CBARQ, developed by Hsu and Serpell (2003) is a questionnaire designed to be completed by owners as a way of assessing behaviour and personality traits of their pet dogs. Eleven traits were found from this questionnaire including stranger-directed aggression, owner-directed aggression, stranger-directed fear, non-social fear, dog directed fear or aggression separation-related behaviour, attachment or attention seeking behaviour, trainability, chasing, excitability and pain sensitivity. Svartberg (2005) made use of the CBARQ to compare the scores of dogs that had previously taken part in behavioural testing with traits observed by the dog's owners in the home environment. He found that attitude towards strangers, non-social fearfulness and interest in playing with humans were all traits highlighted by both the behavioural tests and the CBARQ. In this study, it was also found that most traits related to an overarching 'boldness' trait. A modified version of the CBARQ was also used by Harvey (2014) to investigate the presence of personality traits in potential guide dogs. Consistent behavioural differences in eight separate traits were detected, namely Distractibility; Trainability; General Anxiety; Excitability; Animal Chase; Body Sensitivity; Animal Chase; Adaptability and Energy Level. These studies suggest that there are stable personality traits in domestic dogs that are consistent across time and context, however it should be noted that although the CBARQ has been found to be valid and reliable, the fact that it is completed by owners may introduce some inaccuracies to the data. The length of ownership and the owner's relationship to the dog are examples of confounding effects when completing the questionnaire. It has been found that human factors may have an effect on how they perceive animal behaviour, for example Meyer et al. (2014) found that levels of empathy had an effect on the perception of aggression in dogs. It has also been suggested that the best way to measure personality in animals is to make use of both observations and knowledge of those familiar with the animal (Highfill et al., 2010).

Knowledge of dog behaviour, as described above, is used in training guide dogs. The next section outlines research that has been carried out on behavioural traits that are well suited to guiding work.

2.3.2 Guide dog behaviour

There have been a number of studies looking specifically at guide dog behaviour, in particular what traits make a successful guide dog and vice-versa. The CBARQ (described above) has also been found to be predictive of guide dog success, with puppies that obtain more favourable scores when filled out by PWs (volunteers who look after the dog for the first year of its life) being more successful in later qualification (Duffy and Serpell, 2012). Aggression and fear are both factors measured by the CBARQ. These two traits have been found to be predictive of guide dog success in other studies. Harvey (2014) compared dog scores on questionnaires completed by the dog's PW and at five, eight and twelve months of age to their later outcome in training. They found scores of general anxiety to be predictive of dog's withdrawal from training due to behaviour. A recent study on behavioural testing of puppies found that behavioural testing of puppies at 6-8 weeks of age can predict later guide dog success (Asher et al., 2013). During the tests the puppy's reaction to exposure to a series of stimuli was recorded. It was suggested that these tests may be more indicative of a puppy's socialisation with humans, their motivation to follow human commands and how wary they are of potential danger. Both research studies concur that fearfulness is predictive of guide dog outcome, similar to findings in other studies (Gazzano et al., 2008, Duffy and Serpell, 2012), however the study by Asher et al. (2013) also highlights the importance of the interaction between the dog and handler.

Distraction is another trait that is identified in a number of studies as being a possible predictor of guide dog qualification. Kobayashi et al. (2013) compared behavioural scores from questionnaires completed by guide dog PWs at five months of age with trainer assessments of the dogs' distraction at 15 months of age. Distraction was also compared to the dog's qualification outcome. Low distraction levels as identified by PWs correlated with distraction points when assessed by trainers, which suggests that this is a consistent trait over time. Dogs that were assessed as having low distraction levels during training were also more likely to qualify as a guide dog. This is similar to findings of two other studies. A battery of temperament tests of 43 potential guide dogs at 6 and 14 months of age found distraction to be predictive of qualification (Batt et al., 2008). Mizukoshi et al. (2008) compared observations of guide dog training of eight potential guide dogs every two weeks from the beginning of their training for twelve weeks to qualification outcome. Dogs that qualified demonstrated less distraction during training than those that did not. However it should be noted that these two studies had relatively low sample sizes, therefore these results should be interpreted with caution. Distraction was also found to be important in studies that assessed dogs later in training. Arata et al. (2010) also found that distraction was the main predictor of guide dog qualification when Guide Dog Trainers (GDT)s completed questionnaires on potential guide dogs three months prior to the decision to qualify. Sensitivity, docility, aggression and animal interest were also found to predict subsequent success or failure to qualify in this study.

These studies have used a number of different methods to ascertain what traits are indicative of a successful guide dog. There seems to be consensus that fearfulness, aggression and distraction are predictive of this success, research should now focus on the best way to implement these behavioural tests in guide dog schools. It should be noted that a 'successful' guide dog is deemed to be a dog that qualifies to work as a guide dog in these studies. However, 55 guide dogs were withdrawn due to behavioural reasons from Guide Dogs in 2013, therefore qualifying does not mean that the dog will become a successful guide dog. It also suggests that there are other factors involved in what constitutes a 'good' guide dog, therefore more attention should be paid to the predictive nature of these tests in long term working life.

As suggested above, the behaviour of the dog in a guide dog partnerships is not the only factor that needs to be considered. Instead the relationship as a whole should be examined. The following section describes the various problems that can occur in dog-human relationships.

2.3.3 When things go wrong in the dog-human relationship

2.3.3.1 Dog behavioural problems

Genetics/breed, biology and the environment are the three main factors that influence dog behaviour. This can include both appropriate behaviour, but also potentially problematic behaviour. Certain problematic behaviours may be associated with particular breeds and inadequate socialisation during the critical period is thought to be a key factor in some 'problem behaviours' exhibited by dogs. There are a number of different problem behaviours identified across studies. Aggression is commonly cited in these studies. For example, aggression was the most commonly reported behavioural problem in an animal behaviour clinic in the USA over an eleven year period

(Bamberger and Houpt, 2006). In a survey of dog owners in Melbourne, Australia, overexcitement, jumping up on and rushing at people and excessive barking were the most commonly reported behavioural problems (Kobelt et al., 2003). However, the authors noted that when three problems related to aggression (rushing at people/dogs, biting and growling) were combined as one factor, this became the third most common complaint. Therefore there seems to be a consensus that aggression is a prominent behavioural problem in pet dogs.

There are mixed results on which breeds most commonly exhibit aggressive behaviour. Most studies have based prevalence of breeds on the distribution of breeds in dogs that are taken to behavioural clinics for aggression. This will be a biased population, and therefore cannot be used to extrapolate to the general dog population. To overcome this bias, Fatjo et al. (2007) compared the breeds of dogs presenting with aggression at a clinic in Spain with the proportion of breeds found in the population of this geographical area; English Cocker Spaniels and Catalan Sheepdogs were over- represented within the population presenting with aggression to the clinic. This is the only study to date that has taken this approach. Although this study identifies the breeds most commonly exhibiting aggressive behaviour in this specific location, it may not be representative of other populations in other countries or regions. Sherman et al. (1996) studied the characteristics of dogs that were reported to have exhibited aggression towards other dogs over a ten-year period at the Cornell University Animal Behaviour Clinic. They suggested that there were two types of aggression: aggression between dogs that lived together was a result of a desire for dominance, whereas aggression between dogs that did not live together was territorial. The attribution of aggression in dogs to dominance in this study has been assigned as the cause of aggression in many cases and research studies, however more recently this diagnosis of dominant aggression has lost credence. It is now understood that the social groupings in canids are more complex and that the use of the term ‘dominance’ is misleading (Bradshaw et al., 2009). This change in the understanding in the etiology of aggressive behaviour in dogs was reflected in a decrease in the number of ‘dominance aggression’ diagnoses seen at an animal behaviour clinic at the University of Cornell from 1991 to 2001 (Bamberger and Houpt, 2006). This study found that dogs that presented with aggressive behaviour often exhibited anxious and fearful behaviour as well, supporting the notion that many forms of aggression are motivated by fear (Bowen and Heath, 2005). Aggression is an example of how behaviour is influenced by a combination of genetics, biology and environment.

Whilst there are a number of factors that can lead to aggressive behaviour in dogs, the most common cause seems to be fear. Fear is also a factor in another major behavioural problem seen in dogs, separation anxiety. This disorder is characterised by destruction of household items, elimination, increased vocalisation and restlessness when dogs are left alone or are separated from their owner (Sherman and Mills, 2008). Whilst separation anxiety is thought to be due to an over-attachment to a person, the behaviours that characterise this disorder are often seen as a result of other factors, for example loneliness or boredom (Bowen and Heath, 2005). As the behaviours themselves lead to problems in the dog-owner relationship, the term separation related behaviours (SRB) will be used for the remainder of this chapter. In a study by Takeuchi et al. (2001), all dogs presenting with dominance-related aggression, aggression to strangers and separation anxiety at Cornell University Animal Behaviour Clinic over a four year period were studied. SRB occurred more often in males, mixed breeds, older dogs and those that lived in an apartment rather than a house and in an urban environment rather than a rural one. A study by Bamberger and Houpt (2006) reviewed the records of dogs taken to a behavioural clinic over a ten year period. Similar to the study by Takeuchi et al. (2001), SRB occurred most often in cross or mixed breeds, however there were also high prevalence rates in Dalmatians and Beagles. Palestrini et al. (2010) studied dogs that were reported to exhibit SRB using video recording of the dogs when left alone at home and calculated the duration and frequency of behaviours. Dogs exhibited many behaviours indicative of anxiety, such as excessive vocalisation. When a factor analysis was performed on all of the behaviours, they fell into three categories: 1) Distress, 2) Active / Inactive, 3) Anxiety. Owners of these dogs were also asked to complete questionnaires on their dog’s history, characteristics and environment, and they often reported their dogs to have ‘phobias’. These results tend to suggest that SRB may be a symptom of a more generally anxious dog rather than an anxiety specifically over separation with an attachment figure. Parthasarathy and Crowell-Davis (2006) compared attachment of pet dogs with and without SRB to their owners in an ASST. Dogs with SRB did not differ in their level of attachment to those without SRB. Storengen et al. (2014) conducted a descriptive analysis of dog clinical records from a behavioural clinic in Norway over a three-year period. They found that dogs presenting with SRB were also reported to exhibit other anxious behaviour. Together these findings suggest that attachment is not the main issue for these dogs. It may be that there is a genetic influence predisposing these dogs to a more anxious disposition.

There are a variety of other behavioural problems reported by owners; the severity of the problem depends on the impact of the behaviour on their owner. The root of these problems are usually found in a lack of opportunity to expend energy, attention-seeking and anxiety (Bowen and Heath, 2005). Some of these problems include excessive vocalisation; destructiveness e.g. chewing furniture; over activity; consumptive problems, such as coprohagia; jumping up on people and refusing to get off furniture. These problems are often exacerbated by inappropriate methods employed by owners to overcome them, such as using punishment when the root of the problem is anxiety. There has also been a suggestion that hyperactivity in dogs may be related to ADHD in human children (Vas et al., 2007). In a survey study of 254 dogs in Melbourne, Australia, Kobelt et al. (2003) found that households that included children as residents had lower reporting of excitement related behavioural problems, and that spending less time with the dog correlated with more excitement related behavioural problems. These findings may be explained by the fact that the children living in the house would spend more time with the dog, whereas the adult members do not have the time. Kobelt et al. (2003) also found a higher incidence of behavioural problems were reported by first time dog owners, in dogs that went on less walks and in dogs that didn’t obey commands. The obeying of commands may relate to the quality of the relationship between the owner and dog, suggesting that this relationship may play a part in behavioural problems in pet dogs. The effect of owners and others in the household on dogs’ behaviour is another example of how the environment can influence behavioural problems in the dog.

The relationship between an owner and its dog, and how the dog is handled by the owner have been found to affect the behaviour of dogs. This includes the attentional state of the handlers (Call et al., 2003, Schwab and Huber, 2006), the use of rewards vs punishments (Haverbeke et al., 2008) and the training (Jagoe and Serpell, 1996, Bennett and Rohlf, 2007). Schwab and Huber (2006) compared the obedience of 16 dogs when their owner was engaged in five different activities and the dog’s favourite food was placed at a distance of 1.5 metres from the dog. Dogs disobeyed their owner’s command to stay lying down more often when the owner left the room, compared to when the owner looked at the dog. Similar results were obtained by Call et al. (2003), who compared obedience levels of 12 dogs when instructed to take or leave food by their owners who subsequently stayed or left the room. Dogs retrieved the food significantly less when their owner stayed in the room after forbidding them to take the food compared to when the owner left the room. These studies demonstrate the ability of dogs to decipher the attentional state of their handler, which in turn alters their behaviour. Haverbeke et al. (2008) studied the use of rewards vs punishments in military working dogs by comparing the performance of 33 military dog-handler teams on eight obedience and five protection exercises, similar to those used in military dog training. They found that both dogs and handlers had a better performance when rewards were used in training as opposed to punishments, the use of punishments decreased the dog's attention to the task at hand and the dogs exhibited a lower body posture. Training also has an important role in the exhibition of behavioural problems in dogs. In a study by Jagoe and Serpell (1996), owners of 737 dogs completed a questionnaire on their interactions with their dog, their reason for acquiring a dog and their past history of dog ownership. They found that owners reported less aggression, SRB, overexcitement and disobedience when dogs had received obedience training. Similar results were obtained when 413 dog owners were asked to complete a questionnaire on their interactions with their dog and the dog's behaviour (Bennett and Rohlf, 2007). Owners that had lower levels of training engagement with their dogs also reported that their dogs were more disobedient, aggressive, nervous, anxious and more likely to bark excessively. Interestingly owners who reported higher levels of training engagement also took part in more shared activities with their dog, with the level of training engagement being predictive of the number of shared activities. This demonstrates the importance of the relationship between the dog and owner as opposed to just the type of handling used. The number of shared activities of the dog and owner also related to the perception of behavioural problems in the dog, leading the authors to conclude that an owner's perception of their dog's behaviour may be influenced by how much they interact with the dog (Bennett and Rohlf, 2007). This was supported in a survey study of 690 dog owners in Australia by McGreevy and Masters (2008), who showed that dogs that engaged in more games with their owners were also found to exhibit less SRB.

Dog behaviour has been looked at in relation to the level of attachment between the dog and its owner. Serpell (1996) compared owner's self-reported attachment levels to their dogs with their dog's behaviour. Those that had a high attachment to their dog perceived their dog to be more intelligent and were closer to their 'ideal' dog than those that were moderately attached. Instead of dog behaviour being influenced by the level of attachment between the dog and its owner, this suggests that the owner's relationship with the dog influences their perception of the dog's behaviour. This may explain why there was no difference found in task performance of guide dogs in relation to their level of attachment to their owner (Naderi et al., 2002). This study used the ASST to measure attachment. Both the ASST and the task carried out were rated by the researcher and therefore were not influenced by the perception of the owner.

2.3.3.2 Pet dog relinquishment

Behavioural problems can have a significant impact on a dog-owner dyad. This includes the stress and impact for the owner as a direct result of inappropriate behaviours, as well as the effect on the welfare of the dog. Behavioural problems can lead the owner to decide to relinquish the dog. Large numbers of pets are relinquished to shelters and those that cannot be rehomed may be euthanized due to lack of space and resources.

Behavioural problems are the most common reason for owners to relinquish their dogs (DiGiacomo et al., 1998, Weng et al., 2006). The most common behavioural problems cited as a reason for pet relinquishment include aggression (DiGiacomo et al., 1998, Scarlett et al., 2002, Segurson et al., 2005), house soiling, excessive barking, destructive behaviour, fearfulness and over activity (New Jr et al., 2000, Scarlett et al., 2002, Segurson et al., 2005, Weng et al., 2006).

Whilst behavioural problems are the most cited reasons for dog relinquishment, research suggests that there are a number of factors which may be involved, including the age of the dog when it was acquired and where and under what circumstances the dog was acquired under (DiGiacomo et al., 1998, New Jr et al., 2000, Weng et al., 2006). Weng et al. (2006) surveyed 295 dog owners in a study exploring unsuccessful dog ownership. They found that people who acquired their dogs because of the physical appearance of the dog were more likely to relinquish their dog. In comparing the various sources that owners acquired their dog from, New Jr et al. (2000) found that dogs obtained from friends, shelters and pet shops were also more likely to relinquish their dogs. A qualitative study using interviews with dog relinquishers explored some of the motivations behind the processes, and found that participants were often not intending to acquire a dog (DiGiacomo et al., 1998). Combined together, these studies suggest that the risk of relinquishment is higher in owners who have not put adequate thought and consideration into the decision to acquire a dog. This is supported by another study where interviews were conducted with people who had relinquished cats and dogs to a shelter. When asked what advice they would give to others to ensure they avoided relinquishment, participants spoke about taking longer to make the decision to adopt an animal (Shore, 2005). As with the expression of behaviour in dogs, the decision to relinquish may also be influenced by the relationship between the dog and owner. This is logical as many of the relinquishments relate to behaviour, however there is also evidence that this extends further to how people view their animal within their household. People who regarded their dog as a pet or their property were more likely to relinquish their dog than those who regarded them as a member of the family (Weng et al., 2006). Relinquishers also said that they did not feel that their dog's personality suited them, and conflicting lifestyle needs influenced their decision to relinquish their dog (DiGiacomo et al., 1998). Finally previous experience of relinquishing a pet has also been found to increase the chances of dog relinquishment (Weng et al., 2006) as well as problems with the dog and other pets (Shore, 2005). The reasons for pet relinquishment are quite complex; whilst genetics / breed, biology and environment are the main influences on behavioural problems in the dog, this is not the only reason for dog relinquishment. It appears as though the decision to relinquish a dog has more to do with the relationship between the dog and owner.

2.3.3.3 Guide dog withdrawal

Guide dogs undergo rigorous selection, training and assessment before beginning work with their owners, however according to records at Guide Dogs there are still approximately 20% of guide dogs withdrawn from working with their owner within the first three years post qualification (premature retirement). The majority of these dogs are withdrawn for behavioural reasons or problems with the dog-owner partnership. To date, there has been limited research on the reasons for the withdrawal of guide dogs. However, there may be some similarities between guide dog withdrawal and pet dog relinquishment. Aggression is one of the leading causes of pet dog relinquishment. This is consistent with a study investigating the reasons for guide dog withdrawal three years post qualification (Audretsch, 2013). Descriptive analysis of Guide Dogs records between 2010 to 2012 found aggression was one of the most common reasons cited for withdrawal. The proportion of the guide dog population that is withdrawn is similar to the proportion of pet dogs relinquished and both tend to occur at similar ages (Weng et al., 2006).

The relationship between the dog and owner also seems to be important in deciding to withdraw a guide dog. In the study by Lloyd (2004), exploring the match between a guide dog and owner, a mismatch in the dog and owner's personalities was one of the main reasons cited for guide dog withdrawal. This fits with a main theme in pet relinquishment around the human-dog relationship. However, there were also factors specific to guide dogs working role, for example problems in carrying out specific guiding tasks and distractions while working were also identified as reasons for an unsuccessful partnership by Lloyd (2004). The guide dog population therefore has some specific differences to the pet dog population, but some of the themes around behavioural problems and the human-dog relationship are similar to the general dog population.

Despite a wide range of literature on the development of and influences on dog behaviour, there remains some ambiguity over the reasons for problem behaviours in dogs. Whilst more research is needed in this area, there is growing recognition of the influence of humans on dog behaviour, how the owner perceives the dog and its behaviour, and the consequences of this. Guide dog behaviour has also been extensively studied, but to date, research has focused on the predictability of behaviours on qualification. It is clear that this is not the final end point, and performance and success requires further investigation. Both pet relinquishment and guide dog withdrawal are of major concern, as they impact both the dog and owner, and have implications for the dog's welfare. Whilst current research shows some interesting similarities between these populations relatively little research has been carried out on premature retirement of guide dogs. This may have benefits both to guide dogs, but also for the wider dog population. With the growing evidence of the owner's influence on dog behaviour and the outcome of a dog-owner partnership, research focused on the owner's perceptions of behaviour and their relationship with the dog is important as it has the potential to be influenced or changed in the future. The next section will explore how guide dog withdrawal can affect the owner after the partnership has dissolved.

2.4 Impact of premature retirement

The average working life of a guide ranges from six to seven years (Guide Dogs, 2014). Guide dogs are retired from work when the demands of the job are perceived to be too great for them to carry out, usually as a result of old age. However approximately 20% of guide dogs are retired within three years of qualifying (Caron-Lormier et al., 2016a). The retirement of a guide dog has been shown to have a severe impact on the well-being of owners and evidence suggests that this impact is greatest when the dog is withdrawn earlier than expected (Nicholson et al., 1995b). To date there is scant research on the impact of early retirement on GDOs. This section will outline the current literature in this area, including the physical and psychological impact on owners. The similarities between early retirement of guide dogs and bereavement will also be described.

2.4.1 Health and well-being

The end of a guide dog partnership is a distressing time for most GDOs. There is little literature on the impact of guide dog retirement on the health and well-being of owners, in particular on early retirement. A study conducted by Nicholson et al. (1995b) explored the reaction of 59 GDOs reactions to and feelings towards the end of a guide dog partnership. The effect on the health and well-being of these owners was measured using the Goldberg General Health Questionnaire (GHQ-28) (Goldberg and Hillier, 2009), with higher scores being indicative of poorer health and well-being. The owners in this study had owned dogs that had died (nine owners), were retired due to old age (35 owners) or were withdrawn due to behavioural issues with the dog or the partnership not working out (15 owners). Owners whose dogs had died or were withdrawn scored higher on the GHQ-28 than those whose dogs were retired due to old age. Owners that had dogs that were taken back to Guide Dogs to be rehomed also scored higher on these measures and these three groups were labelled as a vulnerable group. Further analysis found that this vulnerable group had significantly higher scores on all sub sections of the GHQ-28. This group’s scores were also more likely to be in excess of 4-6; this range is labelled as the threshold in indicating the likelihood of clinical illness in a normal population. The findings of Nicholson et al. (1995b) could be explained in light of the research on the impact of pet and assistance/service dogs on health, described in the first section of this review. Owning a pet or assistance/service dog seems to have a positive impact on health, therefore retirement of a guide dog may have a negative impact on the health of the owner.

The study by Nicholson et al. (1995b) and evidence of the positive effect of owning pets suggest there may be a negative impact on GDOs physical health due to premature retirement. The next section explores the potential consequences of this event on their mental health.

2.4.2 Psychological

There were three main conclusions drawn from the study by Nicholson et al. (1995b) on the end of guide dog partnerships. These were as follows: 1) the foundation of a successful working partnership between a guide dog and its owner is a combination of an affectionate bond and the trust between the two; 2) the end of a guide dog partnership is seen by GDOs as a transition to adjust to the end of one relationship and the acceptance of committing to a new one; 3) GDOs often vary in their reaction to the end of a partnership, with some finding it an extremely distressing time whilst others not particularly affected. There were also findings on how Guide Dogs can improve their services in this area. GDOs felt they need as much support at the end of a partnership as they do in building a relationship in a new partnership. Owners also reported that they perceived Guide Dogs as being more focused on the practical aspects of mobility than the emotional and psychological consequences of guide dog ownership.

Owners in the study by Nicholson et al. (1995b) whose dogs had died or were withdrawn also exhibited higher levels of anger and guilt. From qualitative analysis of open questions used in this survey, owners of withdrawn dogs tended to blame themselves, felt feelings of failure, tried very hard to sustain the relationship and when there were successive failed relationships started to question their suitability to guide dog ownership. The feelings of distress exhibited by owners that had dogs withdrawn came as a surprise to the authors, having expected these owners to feel relief; however it seems that these owners are most in need of support. In addition, these partnerships often ended unexpectedly, a lot of owners were not involved in the decision to withdraw and did not have contact with the dog after withdrawal. These were all found to make it more likely that the owner would be in need of support at the end of the partnership.

A qualitative study using Grounded Theory to explore the experiences of people who had relinquished pet dogs, put forward a theory of ‘protective-restoring to maintain self-integrity in the face of a self-disturbing experience’ (Edwards, 2012). According to this theory, pet relinquishment results in both cognitive and emotional distress in the relinquisher and can challenge their ‘sense of integrity’. This is due to a number of factors surrounding pet relinquishment including feelings of failure, a sense of loss, on-going concern for the dog post relinquishment and a crisis of conscience. It also describes the social negativity surrounding pet relinquishment and the culpability felt by the relinquisher in making the decision to relinquish the animal. The relationship shared between a guide dog versus a pet dog and its owner may differ. However there may still be similarities in the experiences of pet relinquishers and GDOs that decide to give up their guide dog.

The studies described in this section suggest that the psychological impact of premature retirement may be complex, with a variety of factors influencing the owner's emotional and mental state. The next section focuses on potential issues arising from the loss of a guide dog that is withdrawn.

2.4.3 Bereavement

It has been demonstrated that the grief experienced due to the loss of an animal is similar to that of the loss of a human (Field et al., 2009). This grief has been so severe in some cases, that therapy was needed in order to function after the death of a companion animal (Katcher and Beck, 1983a). Whilst premature retirement is not the result of the death of a guide dog, it could be argued that the owner may feel a sense of bereavement due to the loss of the dog in their life. In the survey by Nicholson et al. (1995b) owners described the end of a guide dog partnership as being similar to the death of a human. Nicholson et al. (1995b) explored the emotional reaction of participants using the Grief Rating Scale (GRS). The GRS is based on questions on the reaction to the death of a pet in an unpublished study. As with the GHQ-28, owners that had owned dogs that had died or were withdrawn scored higher on the GRS. Additionally all grief symptoms scores on the GRS were higher in the vulnerable group. In a study by Kwong and Bartholomew (2011), 25 assistance dog owners in Canada were interviewed about their relationship with and the loss of their most recent assistance dog. Participants reported extreme grief over the loss of their dog, whether due to death or retirement, and often worried about the dog's well-being. This concern for the dog was suggested to be indicative of the participant's caregiver role for the dog. Some participants felt the loss compared to that of a parent losing a child.

An added feature of bereavement over the death and/or relinquishment of a companion animal is the lack of understanding and empathy often experienced by individuals who suffer this type of loss (Davis et al., 2003). In a qualitative study of 18 pet owners, Redmalm (2015), found that participants would often attempt to downplay the significance of their pets in their lives whilst also describing their grief over the loss of the pet. The desire to minimise grief may be heightened in cases of relinquishment as the pet has not died, therefore adding to the feeling of not being able to show their grief. GDOs also expressed a sense of disenfranchised grief at the end of a partnership as they felt that their feelings of grief were not taken seriously (Nicholson et al., 1995b). Many owners in this study even felt that staff at Guide Dogs were not sympathetic to this and were dismissive of their feelings.

To date, there have been no studies that have focused exclusively on the impact of premature retirement of guide dogs on their owners. However, research on guide dog retirement in general, pet dog relinquishment and death of pets suggests that premature retirement may have a detrimental effect on the physical, mental and emotional well-being of owners.

2.5 Conclusion

The literature on Human-Companion animal interactions provides some good insights into how humans and companion animals live and work alongside each other. There are many benefits that seem to be gained by humans from these animals and ideally this can help improve companion animal welfare. A noticeable trend in studies in this area is the focus on either humans or the animals, with little concentrating on both. As this is a two-way relationship, it would be beneficial to carry out research that does not focus on one or the other, but looks at both parties in conjunction. This would allow the exploration of the interrelatedness of the two and individual differences that may exist between relationships. It would also provide opportunities to investigate the role of attachment bonds in these relationships and test the claims made of the mutually beneficial role of the HAB as it is currently defined.

Research on the numerous effects that visual impairment can have, provides an understanding of the many challenges faced by people with this disability. It can also help in the recognition of the value of a guide dog. There have been studies and accounts that detail the way a visually impaired person and guide dog work together. However, there is still a gap in knowledge when it comes to identifying how well a partnership will work. Preliminary research on guide dog partnership success along with current research on pet dog relinquishment offer some insights into this but a further examination of guide dog partnership success is required.

Guide dogs are one of the most recognised examples of working dogs and how companion animals can benefit humans. The development of dog behaviour and how it is impacted by genetics, biology and the environment is well documented and helps in understanding the behaviour of guide dogs. Whilst there have been a number of studies on factors that contribute to the success of a dog in qualifying as a working guide dog, to date these factors have not been explored in the dogs working life post qualification. Using what is known about pet dog relinquishment may be a good starting point for this, as it shares a number of similarities to guide dog withdrawal post qualification.

There has been very little research exploring the impact that guide dog retirement can have on an owner and none focusing exclusively on premature retirement. Based on studies of pet relinquishment and general guide dog retirement, premature guide dog retirement can have a significant impact on the physical and mental health of an owner. To verify this, research focusing on premature retirement of guide dogs is needed. This may also shed light on other ways in which this population may be affected by their dog's retirement. For example, the loss of other benefits conferred by assistance dogs such as social facilitation. There have been no studies exploring this to date. To understand the full impact premature retirement can have on an owner and how to best support them it is important that this is investigated.

This thesis aims to fill some of the gaps identified in this literature review by exploring the causes of premature retirement and the subsequent impact this can have on the GDO. The next chapter describes these aims in more detail and outlines the methods used to meet them.

Chapter 3 – Methods

3.1 Introduction

This project adopted a mixed methods approach in order to explore the research questions under investigation. This chapter sets out the research questions under investigation in this study. Following this, the epistemological stance undertaken is described. An account of the various qualitative methods used in each study is then given. For each method, a description of the background to the method, as well as its various uses and purposes will be given. A brief discussion on the use of mixed methods in research follows this. Finally, considerations of reflexivity that may reflect on the project are described.

3.2 Study Rationale, Aims and Objectives

Data gathered by Guide Dogs shows that approximately 15-20% of guide dogs are retired from their current partnership within three years post qualification (Caron-Lormier et al., 2016a, Caron-Lormier et al., 2016b). When investigated it was discovered that the majority of these premature retirements were due to behavioural problems with the dog or client-related issues. With the training of a guide dog costing approximately £35,000 (Guide Dogs, 2014), this figure was worrying considering the working life of these dogs is shortened by about five years. To add to this concern, a study by Nicholson et al. (1995a) suggested that guide dog owners (GDO)s that had experienced premature retirement (as opposed to retirement due to the old age of a dog) were more at risk of experiencing a negative impact as a result of the retirement. Therefore in addition to the financial burden, premature retirement may have a detrimental effect on the welfare of the owner.

This is backed up by the literature on human-animal interactions, which outlines the benefits bestowed upon people with disabilities who acquire assistance dogs (Sachs-Ericsson et al., 2002, Audrestch et al., 2015). The sudden loss of these benefits may be detrimental to the person. A unique bond also seems to develop between guide dogs and their owners (Sanders, 1999). This in conjunction with the bereavement found to be experienced by people over the loss of animals close to them (Morley and Fook, 2005) suggest this may be a particularly harrowing experience.

Therefore this project aimed to answer two research questions:

1. What are the factors leading to the early (within three years post qualification) breakdown of a guide dog partnership (excluding health problems)?
2. What are the impacts of premature retirement on guide dog owners?

To answer these questions the project had the following objectives:

- To find out what guide dog owners that had experienced premature retirement thought caused the breakdown of their partnership
- To compare the perceptions of guide dog owners with those of the puppy walker and re-homer involved in the partnership and records kept about the owner and dog
- To test the predictability of factors identified by observations of Guide Dogs, a literature review and the previous two objectives of partnership success
- To find out how guide dog owners that had experienced premature retirement felt the experience affected them

3.3 Epistemology

There is some ambiguity in the literature on the classification of epistemology and ontology in relation to scientific research. For the purposes of this project, the categorisations most popularly described in the social scientific literature will be used. The two dominating ontological (the nature of what is being studied) positions are objectivism and constructionism (Bryman, 2012). Objectivism argues that social phenomena are external to social actors and cannot be influenced by them. Whereas a constructivist position asserts that social phenomena are produced by and continually influenced by social actors. The two dominating epistemological (how knowledge is studied or acquired) positions are positivism and interpretivism (Bryman, 2012). Positivism promotes the use of methods used in the natural sciences to study social phenomena. Interpretivism, on the other hand, takes into account the subjective meaning of social action. Whilst objectivism and positivism are usually seen as linked and separate from, and apposing to constructionism and interpretivism, the lines between these epistemological and ontological standpoints are often blurred. For example, I concur with some of the elements of a positivist epistemology. The first research question for this project assumes that there are factors that can influence guide dog partnership success, which can be studied. However, I also align with the ontological stance of constructionism that the interviews I undertook are social interactions and therefore the data generated was constructed by myself and the participants. Based on these views, I would label my own epistemological and ontological stance as a realist. I subscribe to the notion that there is a ‘reality’ that can be measured, however the study of this reality is co-constructed between the researcher and participant.

3.4 Qualitative methods employed

A range of qualitative research techniques were employed in this project. This section will outline the methods used and provide a description of the method. As this project contains three pieces of work that made use of qualitative techniques, an overview of the methods used in each piece of work is provided here.

- Journey to becoming a guide dog (see Chapter One)
    - Observations
    - Vignette to present analysis
- Study One ‘A qualitative study on the experiences of guide dog owners who have experienced premature retirement’ (Chapter Four):
    - Interviews
    - Thematic analysis
- Study Two ‘Six in-depth case studies of unsuccessful guide dog partnerships’ (Chapter Five):
    - Case study

3.4.1 Observations

Observations of Guide Dogs were carried out in order to gain an understanding of the organisation, including the process that a dog goes through to become a working guide dog. This observation period also helped to direct the literature review and subsequent studies within the project, in particular the interviews carried out in Study One.

Throughout this time, field notes were kept on direct observations, quotes, insights and interpretations of the researcher. There were documents outlining the various procedures, terminology and stages of training undertaken within Guide Dogs, which could have enabled the researcher to become familiar with the organisation and process just through reading these. First hand observation was chosen instead as it allowed a better understanding of the culture of Guide

Dogs, how processes were actually implemented, and to hear the views of those involved in it. It was also decided that observations alongside unstructured interviews would allow a more realistic view of Guide Dogs compared to set semi-structured interviews with a select group of people from the organisation.

A number of the methods used throughout this observational study meet the requirements of an ethnographic methodology (Bryman, 2012). However the period of time spent in the field was relatively short, thereby not allowing the time for the researcher to become immersed in the social group under investigation (Jeffrey and Troman, 2004). Therefore this study is being described as an observational study that made use of ethnographic methods. As described by (Punch, 2013), many social science studies have borrowed ethnographic methods and utilised them in conjunction with other types of methodology.

As with an ethnographic methodology, a naturalistic epistemological stance was drawn upon to guide the research. This epistemological stance draws on the *verstehen* tradition, which focuses on understanding and is embedded in interpretive analysis, which is seen throughout the wider research project. In order to gain an understanding of how Guide Dogs is organised and functions, it was deemed important to glean the thoughts and understandings of those close to the organisation. This would allow the researcher to build specific theoretical understandings and research questions for the next phase of the research, when guide dog owners' experiences of early retirement would be the focus. To get an accurate reflection of these opinions and understandings, ethnographic methods were used in the following ways. The routine daily activities of staff and volunteers were investigated to ascertain the cultural meanings in Guide Dogs as a group. All observations were made within Guide Dogs working environment, thereby maintaining a naturalistic setting. Although there were research questions and a design set up for the work prior to the study starting, the investigations were led by those being observed, so that the priorities of those in the organisation were the focus of the research. A holistic view was held, so that whilst the main focus of the research was on the aspects the researcher felt might impact on early retirement, no information was regarded as inconsequential, as it could be deemed as important at a later date or provide context. Finally, the researcher was as reflexive as possible, keeping in mind their own views, education and experiences and how these may affect their interpretation of observations.

The observational study of Guide Dogs consisted of five visits to the National Breeding Centre (NBC). During these visits, observations were made of behavioural assessments of puppies and potential breeding stock. Un-structured interviews were carried out with Canine

Research Associates, the Head of Canine Services, the Head of Breeding Programme, the Breeding Selection Supervisor and the NBC Manager. One of the visits was spent shadowing a Brood Bitch Supervisor and one visit allowed the opportunity to sit in on a Breeding Review Meeting, where the breeding stock is discussed. There were also five visits made to the Leamington Training Site. These visits included observations of daily dog husbandry in the kennels and early training of potential guide dogs. Un-structured interviews were carried out with the Guide Dog Training Site Manager, the Dog Care & Welfare Manager, a Senior Guide Dog Trainer and the Engagement Manager. Two of these visits were spent shadowing a Puppy Training Supervisor and one was an opportunity to sit in on a Pre-Intake Meeting, where the puppies due to begin early training are discussed. Four visits were made to the Nottingham Mobility Team. This allowed observations of advanced training of potential guide dogs, the bidding process of dogs that are ready to move from early to advanced training, the matching of potential guide dogs to clients on the waiting list and on-class training. Un-structured interviews were carried out with various Guide Dog Mobility Instructors and the Mobility Team Manager. One visit was made to the Atherton Training Site where the viewing of dogs ready for advanced training was observed. Finally two visits were made to the Norwich Mobility Team where two Guide Dog Mobility Instructors were shadowed. In addition to the observations conducted at Guide Dogs' sites, the researcher also familiarised themselves with the team of researchers at the University of Nottingham undertaking other Guide Dogs' funded projects.

The observations made at Guide Dogs gave the researcher the opportunity to become familiar with the charity, including the culture, staff structure and language used within the organisation. The journey that a dog takes to become a guide dog was also clarified (see Figure 1). In addition to the familiarisation with Guide Dogs and the training that a dog undertakes this study was also used to inform the next phase of research, where guide dog owners that have experienced premature retirement would be interviewed. In the various discussions with staff and volunteers at Guide Dogs as well as the observations of the different practices, three key areas were identified as warranting further exploration during the next phase of research. These were as follows:

1. Expectations – Many Guide Dog staff were of the opinion that guide dog owners may have unrealistic expectations of the duties their guide dog will carry out and the way it will behave. If owners enter into the partnership with certain expectations and these are not met, this may put a strain on the partnership and cause problems.

2. Bond – It was also a commonly held belief among Guide Dog staff that for a guide dog partnership to be successful, a bond needs to have formed between the dog and owner. Some also suggested that if the bond has not formed within the first year of a partnership, it will not form at all.
3. Support – It became apparent through the observations that clients came from a variety of different backgrounds with differences in their experience with dogs and their home life. With these major differences between clients it is safe to assume that they will have varying needs in the type and amount of support they receive with their dog. This support can be from either Guide Dogs or friends and family. It is of interest if those who have experienced premature retirement felt they received adequate support, both before and after the retirement.

3.4.2 Vignette

Vignettes are used in a variety of ways in research. They are often used during data collection to aid responses e.g. as a scenario within a questionnaire, for participants to put research questions into context (Finch, 1987). However, they can also be used as a way of presenting data. Wareing (2010a) and Wareing (2010b) used this approach to present data gathered from a set of interviews on work-based learning. They described their use of vignettes as “a means of distilling data arising from participant interviews using a ‘fact-fiction’ narrative form in order to tell a story.”

Vignettes were used to illustrate the findings of the observations of Guide Dogs (see Chapter One), which helped the researcher to develop a more in-depth analysis of the data, as mentioned by Wareing (2010a). It also gave examples and context to the reader. This method of presenting data, enables the voices of the participants to be heard and can be a clearer representation of findings, in comparison to a traditional summary of the themes identified by the researcher.

3.4.3 Interviews

Interviews were used to collect data in Studies One and Two. The main aim of Study One was to explore the opinions and experiences of GDOs who had experienced premature retirement. There are a number of possible methods that could have been employed, including one to one interviews (unstructured, semi-structured and structured), focus groups and surveys. This study aimed to gain an in-depth understanding of the experiences of GDOs, which requires a level of detail not usually obtained from surveys, where limited answers are often provided. Survey questions tend to be closed, leaving little room for the participant to describe what is important to them, as opposed to what has been asked. Therefore this method may be better suited to a deductive approach to research, where theory is used to design the survey. An inductive approach was important so that participants’ accounts would be, as far as possible, a conversation with a purpose, exploring what they took from their experiences. Therefore, surveys were not used for this study. A structured interview was also not used as, like surveys, this would involve a deductive approach to data collection, and would make certain assumptions about participants’ experiences. An unstructured interview would allow the participant to have the most control over the direction of the interview (Corbin and Morse, 2003). However, it was deemed necessary to have some structure in order to cover areas identified during the observations of Guide Dogs, therefore an unstructured interview was not used. Both semi-structured interviews and focus groups were considered to be the most appropriate for the type of accounts desired. The topic under investigation has the potential to raise some distressing emotions for participants. It was reasoned that semi-structured interviews would minimise the presence of other people when exploring these sensitive topics. Therefore semi-structured interviews were selected as the most appropriate method for the purposes of this study. Study Two required comparisons of the account given by GDOs in Study One to other people involved in the guide dog partnership. To maintain consistency between accounts semi-structured interviews were also used to collect data in Study Two.

Studies One and Two employed telephone interviews as opposed to the face-to-face interviews most commonly used in qualitative research. The decision to use this format was made predominantly for pragmatic reasons. The remainder of this section will outline some of the differences in telephone and face-to-face interviews and the positive and negative aspects of both.

Telephone interviews are less time and financially consuming as they eradicate the need for travel and possible accommodation (Irvine, 2010). Furthermore, the safety of the researcher is not a possible issue as it could be in face-to-face interviews (Wilson et al., 1998). Telephone interviews can sometimes be better at eliciting responses, as some participants feel more comfortable in divulging personal information without the interviewer being physically present (Chapple, 1999). For the person carrying out the interview, it may be easier to make notes as they do not need to attend to the possible concerns of the interviewee on what they are writing (Irvine, 2010). Irvine (2010) also made the point that it may be easier to take breaks during a telephone interview, for example to get a drink or if the interviewee becomes emotional.

Another advantage of telephone interviewing is ‘pseudanonymity’, meaning that interviewees are less likely to be influenced by characteristics of their interviewer, such as age and ethnicity (Wilson et al., 1998, Glogowska et al., 2011). It has also been argued that as phones are now used a great deal it is a more valid method as people are more comfortable on the phone than they may have been in the past (Chapple, 1999).

Negatives aspects to telephone interviews have also been identified, for example without the use of facial and body expressions there may be misinterpretations made (Chapple, 1999). Therefore both the interviewer and respondent rely heavily on the tone of voice of the other. However, some of these aspects may not be as salient when interviewing partially sighted or blind people, who may already rely more on the tone of the voice of the other and not be able to pick up visual cues in the same way as a sighted person. It can also be harder to build a rapport with the interviewee during telephone interviews (Glogowska et al., 2011), which is an essential facet in the interview process. Irvine (2010) described her experiences of often gaining more information from interviewees once the interview had finished. This rarely happens with telephone interviews as the opportunity usually arises during post-interview chat, which is less common in telephone interviews. The respondent may be more prone to distractions (Glogowska et al., 2011), for example doing something else, as the interviewer cannot see them. Similarly, the interviewer may also be more prone to distractions. In relaying her personal experience of telephone interviews, Irvine (2010) describes that whilst it can be easier to take notes during an interview it can also be easier to lose focus.

Response rates are often thought to be lower in telephone interviews compared to face-face interviews (De Vaus, 2013). Studies that have compared the use of the two methods have not encountered this (Wilson et al., 1998). Some studies comparing telephone interviews to face-to-face ones have found no difference in the length of the interviews (Wilson et al., 1998), while others, such as Irvine (2010), found telephone interviews to be shorter. She commented that although they were shorter, the data still covered all the relevant research aims and that face-to-face interviews may give more in-depth data rather than more data in general. It is also useful to think about the sample and how familiar or unfamiliar the participants may be with using telephones when deciding to use this method (Glogowska et al., 2011). Studies that have used telephone interviews often emphasise that they had previously sent information about their study before calling participants so as not to ‘cold call’ (Irvine, 2010).

It should also be noted that it was a possibility for the interviews to be conducted via video call e.g. Skype. This may have ruled out some of the limitations of telephone interviews, whilst retaining the financial and time efficiency. However, this method was decided against due to the use of vision by many of the participants in the study. It was speculated that as the participants had a visual impairment, the visual cues may not be as important to them when speaking to others. Therefore, participants may not be familiar with, or have easy access to the equipment needed to have a video call. To avoid this potential complication, this method of interviewing was not used.

3.4.4 Thematic analysis

Thematic analysis describes the process by which a researcher identifies themes and patterns in a dataset. Often, this type of analysis was incorporated into many types of qualitative methodologies e.g. Grounded Theory and Interpretative Phenomenological Analysis, but not identified as a method in itself. Braun and Clarke (2006) coined the term ‘thematic analysis’ as a method separate to other methodologies that employ themes as part of their analysis. Thematic analysis is a method as opposed to a methodology, and therefore contrary to qualitative methodologies it is not attached to any specific epistemology (Braun and Clarke, 2006). Therefore the researcher is free to employ any epistemological stance when using thematic analysis. This method is also flexible in the type of research question asked, data used, sample size and how it is applied to data (Braun and Clarke, 2013). There are four varieties of thematic analysis: 1) Inductive – a bottom-up approach; 2) Theoretical – guided by an existing theory or theoretical concepts; 3) Experiential – a focus on the participant’s viewpoint; 4) Constructionist – a focus on how topics are constructed and how accounts construct the world.

The telephone interviews with GDOs explored GDOs’ views on their relationship with the retired dog, what led to the retirement and the impact it had on them. The research was exploratory in nature and it was important that a descriptive approach to analysis was utilised. The themes generated through thematic analysis focus primarily on the content of the data, i.e. what is actually said (Braun and Clarke, 2006). Therefore this type of analysis was chosen over other analytic methods that require more interpretation, e.g. Interpretative Phenomenological Analysis (Smith and Osborn, 2007). An inductive approach was taken to allow for common themes across all interviews to emerge and thus provided some generalisability to the findings. This was considered a positive in this early exploratory study.

3.4.5 Case studies

3.4.5.1 What is a case study?

Study Two employed case studies in order to conduct an in-depth exploration of guide dog partnerships from a range of perspectives. Six guide dog partnerships made up the cases in this study. In this section some of the features of a case study, as well as the limitations of carrying them out will be described. Following this, there is a a summary of the characteristics of the case studies in Study Two and why these were chosen.

Whilst case study research is often described in books on research methods and methodologies, it is not a research method in itself (Willig, 2013). There is no set way to carry out a case study; instead the focus is on the unit of analysis, i.e. the case. Case study research is employed when the research questions are addressing how or why a phenomenon has occurred (Yin, 2014). Yin (2014) gives a twofold definition of case study research, pertaining to both the scope and features of a case study. According to this definition, a case study is an in-depth investigation into a contemporary phenomenon within the context of the real-world (Yin 2014). There should be more variables under investigation than data points (i.e. number of cases), evidence should converge in a triangulating fashion and data collection should be driven by theoretical propositions. A case study research project can be made up of one single case or multiple cases drawing ‘cross-case’ conclusions. Both quantitative and qualitative data can be collected, and a variety of different epistemological orientations can be employed (Yin, 2014).

Case studies vary greatly, with a number of different types of case being studied, and an even larger number of methods employed to study them. However there should be some common factors. Contextual data is included in this type of research, as a holistic approach is used and a range of sources are utilised in order to triangulate the data (Willig, 2013). The temporal dimension to the case is often considered (Willig, 2013). Case studies are used to investigate a particular person/place/event, etc. and therefore it is not the aim of case study research to be generalisable (Willig, 2013). However it should be noted that case studies are often used to generate theory (analytic generalisation) (Yin, 2014). Although findings cannot be attributed to wider populations, theory based on the research can be tested on larger sample sizes.

Although case studies can be extremely varied, there are classifications of different types (Willig, 2013). As mentioned above, the aim of case studies is not to be generalisable, however often cases are studied as they are an example of a more general phenomenon. This is classed as an ‘instrumental’ case study as opposed to an ‘intrinsic’ one, which does not share commonalities with general phenomenon but is interesting in itself (Willig, 2013). Another way of classifying a case study is by the aim of the research. Case studies can either describe a phenomenon or provide an explanation for it (Willig, 2013). Explanatory case studies include a description of the phenomenon but go beyond this by trying to attribute reasons for its occurrence (Willig, 2013). Finally case studies can be classed as either ‘naturalistic’ (a single case carried out in a real-world context with no previous assumptions by the researcher) or ‘pragmatic’ (guided by a research question) (Willig, 2013).

A limitation of case study research is the wide range of different types of case study approaches. This can lead to some ambiguity as to what does and doesn’t constitute case study research; there is a lack of uniform procedures to follow when carrying out case study research. Finally as mentioned earlier, case study research takes an idiographic view therefore generalisations cannot be made to the wider population although theory generation can be undertaken. In an effort to overcome some of these restrictions, case study research should be reported in such a way as to make the procedures used and any conflicts that may have arisen as a result of this very clear to the reader. Figure 4 below is an excerpt from Yin (2014), which details a proposed process of conducting case study research.

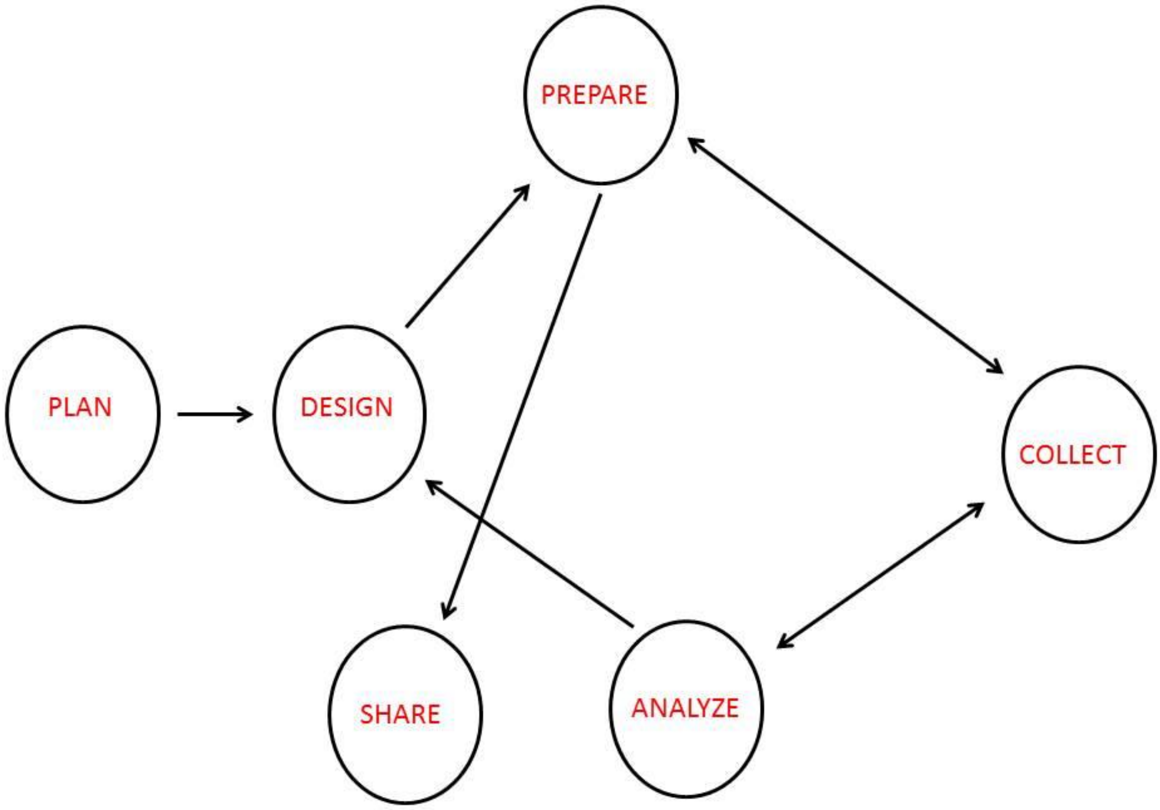

Figure 4 - 'Doing Case Study Research: A Linear but Iterative Process' reproduced from Yin (2014). This demonstrates the process of conducting Case Study research from the planning stages to dissemination of the results

3.4.5.2 Characteristics of case studies used in Study Two

Multiple case studies were carried out in this study, drawing both individual and cross-case conclusions. Whilst the majority of the data gathered was qualitative, in the form of documentation, such as written training reports and interview transcripts, quantitative descriptive statistics were also collected. Case studies were deemed the most appropriate method for the research question under investigation. Using statistical techniques to analyse quantitative data from records kept by Guide Dogs on the partnerships would have been less time consuming and would allow a larger sample size. However, the level of detail reached would not match that of case studies. It would also not be advisable to rely solely on the accounts of the GDOs interviewed in the previous study to draw conclusions on the causes of premature retirement. This would be only one person's version of what had happened. The use of case studies allowed multiple voices to be heard, which were then combined to draw conclusions.

The research question that drove the investigation in this study was ‘What are the factors leading to the early (within three years post qualification) breakdown of a guide dog partnership (excluding health problems)?’. Therefore a pragmatic design was employed, whereby the research question led the data collection and analysis of the cases. Rather than giving a purely descriptive description of the cases, an explanatory design was used in an effort to answer the research question. Finally, the cases used were instrumental (as opposed to intrinsic), as the guide dog partnerships that made up the cases were examples of numerous other unsuccessful guide dog partnerships.

3.5 Quantitative methods employed

Study Three employed quantitative methods as opposed to the qualitative ones used in the rest of the project. The reason for this mixed methods approach to the research, was to test findings from the qualitative research on a larger dataset. This would shed some light on the generalisability of the findings on the wider guide dog partnership population. It is hoped that this research will inform practice within Guide Dogs. By demonstrating that certain factors have an effect on guide dog partnerships in a large sample size, this can be beneficial to the implementation of recommendations in the organisation.

To investigate if these factors had an effect on the probability of a partnership being unsuccessful a logistic regression was carried out. This method of analysis was used as the data fit this form of analysis. Partnership success is a categorical variable and the factors of interest were a mix of categorical and continuous variables. This analysis was chosen over correlation, as this would allow the testing of the predictability of the variables of interest on partnership success, rather than whether there was an association between them.

To carry out this piece of research, an existing dataset was utilised. GDI-R holds information on all guide dog partnerships formed over the past ten years. Therefore, a large dataset holding a vast amount of information on partnerships formed within Guide Dogs was available to carry out this piece of work. Another option would have been to construct a questionnaire to collect the required data. However, within the timeframe of the research project, this would not have been feasible. If it was possible to construct and distribute the questionnaire at the beginning of the research, the sample size would still be significantly smaller than what could be obtained from GDI-R. In addition, data collection of the questionnaire data would have had to have been done alongside Studies One and Two. There would not have been time to collect this data and carry out the other pieces of research. Finally, the variables tested in this Study were informed by the findings of Studies One and Two. Therefore the construction of the questionnaire would not have been able to commence until the late stages of the project, giving even less time for data collection.

3.6 Mixed methods research

In contrast to the first two studies in this project, Study Three employs quantitative methods. This allowed the inductive approach of the first two studies to be followed up with a deductive approach, which was led by the findings of earlier studies. Logistic regression was used to test a set of hypotheses generated from the observations of Guide Dogs (Chapter One), literature review (Chapter Two) and results of Studies One (Chapter Four) and Two (Chapter Five) on a larger sample size.

A mixed methods approach to research has gained popularity in recent years, with researchers beginning to combine quantitative and qualitative approaches (Bryman, 2006). Various approaches have been put forward on how to classify research that encompasses both qualitative and quantitative methods. For example, Morgan (1998) emphasised making decisions on the priority and sequence of this type of research. A researcher should decide if the principal method/s are going to be quantitative or qualitative or if they will be used equally. They also need to determine the order in which the methods are used e.g. qualitative followed by quantitative. In an effort to explore how qualitative and quantitative methods are integrated in practice, Bryman (2006) conducted content analysis on 232 articles that employed mixed methods. He identified 16 ways in which qualitative and quantitative methods were combined. Some examples of these include making use of the strengths of both methods; using the two to look at different aspects of the topic under investigation; and using each method to enhance the findings of the other, e.g. using qualitative methods to illustrate the results of quantitative methods.

In identifying the ways in which mixed methods are used, Bryman (2006) highlights some of the advantages of using mixed methods in research. By harnessing the strengths of each method, a more complete investigation of the topic can be undertaken. By employing more than one method a wider set of research questions can be answered, and converging the findings of each can provide stronger evidence (Johnson and Onwuegbuzie, 2004).

Whilst there are many advantages to using mixed methods, there are also potential issues that can arise. It has been argued that quantitative and qualitative research each have a set of epistemological assumptions that conflict with each other (Bryman, 2012). However others argue that pragmatism serves as a philosophical position that fits with mixed methods research (Johnson and Onwuegbuzie, 2004). In his analysis of mixed methods research studies, Bryman (2006) found that many studies did not integrate their quantitative and qualitative findings; instead presenting them in parallel. To investigate some of the reasons for this, he followed up the study by interviewing researchers that had used mixed methods in their research (Bryman, 2007). Some of the barriers to integrating mixed methods research were managing the timelines of the research components so that the findings of one are generated before the other and limitations in the skill set of the researchers. For example they may be more experienced with one method over the other. To overcome this it is vital when planning a mixed methods project that the differences in the amount of time each method takes is taken into consideration. In addition, that the necessary skills are available in the research team to undertake the research.

It was decided that due to the exploratory nature of this project and the research questions under investigation, that a mixed methods approach to research be taken in this project using qualitative followed by quantitative methods. The first two studies allowed an exploration of the possible reasons for the breakdown of a guide dog partnership and the impact this can have on owners. To answer the first research question pertaining to the factors that may influence unsuccessful partnerships, it was deemed appropriate to follow up this qualitative research with quantitative methods. This allowed the findings of the qualitative studies to be tested on a larger sample, thus providing a sense of the generalisability of these findings. Consequently the order of research methods used in this project was qualitative followed by quantitative. It is hoped that the findings from these mixed methods studies can be used in an effort to reduce premature retirement in future.

3.7 Reflexivity

Woolgar (1988) discerns reflexivity from general reflection. According to his continuum, reflection is a general set of thoughts that help to gain an accurate picture of a person’s account, whereas reflexivity requires a more in-depth look at oneself. An assumption of social research is that as social beings we experience and interpret the world differently, so that when we are investigating the perception of people, it is subjective. In terms of reflexive research, this means making personal presuppositions available, so that if they are triggered during the research, this is acknowledged and taken into account in the research process. This is therefore a process that occurs continually, with the researcher reflecting over their interpretations of the data and their experience of researching.

3.7.1 Researcher's background

It is important to me to be as transparent as possible in this work as this allows the reader to understand the journey taken through the research process, why certain decisions were made and how conclusions were drawn. I am therefore going to include certain facets of my background that may have had an effect on my work in this project and explain how these may have an influence.

In terms of my academic background, I have a BSc in Psychology and an MSc in Animal Behaviour. This will undoubtedly influence the way in which I interpret data and the research process in general. I also have an interest in the human-animal bond (HAB) and plan to pursue research in this area after I have completed my PhD. It is this interest in the HAB that attracted me to this project and no doubt has swayed the direction the project has taken.

There are many parallels between premature retirement of guide dogs to pet dog relinquishment. I have experienced pet dog relinquishment when my family dog was given to a dog fosterer. I was extremely upset at the time and still miss him over 10 years later. I was mindful when interviewing GDOs, of the similarities between my experience of dog relinquishment and those that arose in their accounts.

3.7.2 The research process

In carrying out this research I have come into contact with a variety of people in the field. Many of these have included visually impaired or blind individuals. Prior to starting this PhD I had not encountered sight loss first hand. In addition, I had little experience with guide dogs. Interacting with visually impaired individuals and guide dogs highlighted some of my own preconceptions of the topic under investigation. Prior to starting data collection, I was unsure of what to say and how to act around people with a visual impairment. When I did have a conversation with a GDO during the early stages of my project, I was surprised at how easy I found it to talk to him. I did observe things that ought to be taken into account when interacting with someone with a visual impairment, e.g. describing where I was putting a mug of coffee for them on the table. However, I realised my previous concerns were unwarranted and I was embarrassed that I had felt that way. I was surprised to find that a lot of the feelings of apprehension I experienced about interacting with visually impaired individuals was actually documented in the literature. It appears as though I am not alone in the anxiety surrounding interacting with visually impaired individuals.

Apart from a demonstration at school I had also not had any experience with guide dogs. I, like many others, thought of guide dogs as being almost robotic and not like ‘normal dogs’. This may have stemmed from a guide dog presentation given at my primary school. The presentation was given by a GDO, who told us the story of when his dog stopped him from accidentally stepping off the platform at Kings Cross underground station, thus saving his life. As this was my sole source of knowledge on guide dogs, it may have resulted in my perception of them as a sort of ‘super dog’. Therefore, when starting this project and interacting with guide dogs, I was surprised to find that guide dogs are just like other dogs that want to play, scavenge and get excitable.

My role as a researcher external to Guide Dogs has provided opportunities in my work on this project. Being external to the organisation has perhaps allowed participants to be more open and honest with me in a way they may not have been with a Guide Dogs member of staff. However, as it was explained to participants that the project aimed to provide feedback to Guide Dogs on how they could improve their services, this sometimes led to an account of participant’s views on Guide Dogs procedures. This could sometimes distract from the topic being explored in the interview. Fortunately, this did not prove to be too large a problem and with some gentle guidance the area of interest was explored. The involvement of Guide Dogs in this research has had a large impact throughout the research process. Guide Dogs part funded the project and therefore it was a requirement that the research fulfil certain goals as specified by the organisation. Members of Guide Dogs staff were also able to make a decision on whether GDOs should take part in the study or not. The organisation did not have autonomy over what owners took part, however if a Guide Dog Mobility Instructor (GDMI) felt the owner may be too vulnerable to take part or it may disrupt their training with a new dog they had the opportunity to ask me not to contact that owner for the research. Another major influence Guide Dogs had over the research process was through dissemination of results. Any form of presentation or publication of the work had to be approved by Guide Dogs before being accessible to members of the public. This therefore impacted the way in which the research findings were distributed.

There were often challenges when interviewing participants. For example, recordings were only made during the actual interview. As the conversation between myself and the interviewee would often start before the interview had officially begun and continue afterwards, this sometimes meant data went unrecorded. In one interview, it was apparent that the spouse of the participant was heavily involved in the interview. Whilst I only spoke to the participant, he paused a lot during which time I could hear the voice of his spouse. It seemed as though her account was very much a part of this interview. In others I felt rushed by participants, who had expressed a desire to get the interview 'over and done with' as they had other commitments. Although they were given the option to conduct the interview at another time or to decline to be involved in the research they were eager to do the interview there and then. During these interviews I felt as though I was trying to be as quick and brief as possible, which may have been at the detriment to the data gathered. I have reflected on whether this would have happened, had the interviews taken place in person rather than over the phone. If a face-to-face interview was carried out, it is more likely that the participants would have set this time aside and thus the interview may not have felt so rushed.

A major issue faced in one interview was confidentiality of other participants. This particular interview was conducted as part of a case study, therefore other participants were being interviewed about the same partnership. It was vital that the confidentiality of all participants was maintained during this project. Participants in this phase of the research were aware that I was interviewing others involved in the partnership. In this particular interview, the participant asked several times for me to divulge the accounts of other participants in the case despite my explanation that I couldn't do this for reasons of confidentiality. I felt that this caused some friction between us and led me to reflect on the power dynamics between us.

Power dynamics between myself and the participants was reflected on in all the interviews. The people interviewed as part of this project varied considerably. Characteristics such as age, gender, occupation, location and living arrangements differed between participants. It was therefore inevitable that the dynamics between us also differed. Whilst I was of a similar age to a few participants, most were older than me, in some cases this age difference was significant. Participants lived in various locations across the UK, some of which I was familiar with and others I had never visited. A difference that was constant in all interviews, was my role as a researcher, external to Guide Dogs. Participants were aware that I was not employed by Guide Dogs. In a number of interviews participants gave a number of suggestions of ways in which procedures at Guide Dogs could be improved. Similarly, during my observations at Guide Dogs, a number of Guide Dogs staff members also did this. In both cases, these suggestions were either related specifically to premature retirement or pertained to Guide Dogs practices in general. I interpreted this as being related to my role as an external researcher. Participants and Guide Dogs staff may have felt that talking to me was a way of giving their feedback to Guide Dogs anonymously.

My interest in the Human-Animal Bond was evident in my field notes, in particular in the notes made after interviews. I often commented on the participant's reflections on their relationship with the dog and my own thoughts on these reflections. Other observations of the content of participants' accounts were made in my notes. For example, I often made interpretations of the ways in which participants described the reasons for the dog's withdrawal. In both interviews with GDOs and others involved in the partnership, there were a lot of references to their thoughts on the reasons for the withdrawal and where the blame laid. It was interesting to note how this may be a reflection of how they want to portray themselves. This highlights the interactional nature of interviews between the interviewer and participant, which results in a co-constructed account (Mann, 2011). My background and the power dynamics between myself and the participants described above both may have had an impact on the interviews. Both parties shape the interview and therefore the resulting data. My background in psychology and animal behaviour as well as my interest in the HAB probably dictated what aspects of participant's accounts I picked up on for further questioning. The differences in demographics between myself and the participants may also have had an effect on how we spoke to each other throughout the interview, thus having an impact on the data.

It should also be noted that during the later stages of this research I also carried out face-to-face interviews with GDOs. These interviews were originally going to form part of the work described in this thesis as a separate study, however due to time constraints this was not feasible. Although not described fully in the thesis, carrying out the interviews may have had an impact on the process of writing it, and therefore the interpretation and outcomes of this research. Meeting with GDOs to speak about their experiences of premature retirement was a very different experience to the telephone interviews conducted. I was able to get a larger glimpse into their lives after the dog had been withdrawn. I also had more opportunity to hear participants talk more freely, both before and after the interviews. I experienced this to a smaller degree in the telephone interviews, however there was more opportunity in the face-to-face ones as I was usually invited to stay for tea afterwards. During which time the conversations would cover wider topics and shed new light onto their experiences, not gleaned from the interviews. Thus, carrying out the face-to-face interviews may have helped to shape the discussion in the final chapter of this thesis on the impact of premature retirement.

My experiences working on this mixed methods project, have given me the opportunity to meet and work with a wide range of people. This has enabled me to develop my interviewing skills and prepared me for the many difficulties that can arise in a research context.

This chapter has outlined the aims and objectives of this thesis. The epistemological stance taken, as well as a description and justification of the various methods undertaken to meet these aims. Finally, reflections on the research process and issues that arose whilst carrying out this project were described. In the next chapter the first of three empirical studies is detailed.

Chapter 4 – Study One: A qualitative study on the experiences of guide dogs owners who have experienced premature retirement

4.1 Introduction

The assistance provided by guide dogs often enhances their owner's independence, freedom and confidence (Michalko, 1999, Banham, 2000, Sanders, 2000, Whitmarsh, 2005). As they also encompass the role of a pet dog, social facilitation and companionship are derived from this unique relationship, thus improving visually impaired individual's quality of life. It is not surprising, therefore that the end of a guide dog partnership can be an extremely difficult event (Nicholson et al., 1995a). Not all guide dog partnerships end when the dog reaches retirement age. When a dog is withdrawn early the owner is often even more severely impacted as they tend to blame themselves, experience feelings of failure and question their suitability to guide dog ownership (Nicholson et al., 1995a).

Whilst there appears to be progress in identifying risk factors of a guide dog that may not make it through the necessary training, there has been significantly less attention paid to the success of the dog post qualification. At present there has been very little research looking at the reasons for an unsuccessful guide dog partnership post qualification. Approximately 15-20% of guide dog partnerships are ended within three years post qualification due to health and behavioural problems in the dog (Caron-Lormier et al., 2016a, Caron-Lormier et al., 2016b). This is referred to as premature retirement, as a guide dog will usually work for 8-10 years before being retired from work. Nicholson et al. (1995a) suggested that the well-being of guide dog owners (GDO)s that experience premature retirement may be impacted more than those whose dog retired for old age, however to date there has been no research that has focused on premature retirement of guide dogs.

The loss of a pet, whether that be as a result of death or not has been found to induce grief in owners similar to that experienced as a result of the loss of a human (Sharkin and Knox, 2003, Field et al., 2009, Chur-Hansen, 2010, Edwards, 2012). There may be an exacerbated bereavement for the loss of a guide dog as this type of dog goes beyond the pet dog relationship with its owner. The owner is not only losing its dog, but the independence, freedom, social and physical benefits associated with the dog.

4.1.1 Current study

The first aim of this study was to better understand the perspective of GDOs that had experienced premature retirement on the reasons why that withdrawal had occurred. It has been suggested that owner accounts are a good way of measuring problematic behaviour in dogs as these behaviours are often rare events, and it is likely that these behaviours are affected by the presence of others (Hsu and Serpell, 2003). The high proportion of dogs that are withdrawn for behavioural reasons post qualification also suggests that there are problems that are not being detected prior to qualification or that there are differences occurring in the dogs behaviour once working with a client. DiGiacomo et al. (1998) found that people relinquishing pets to shelters reported differing reasons for relinquishing their pet when interviewed as part of the study to the reasons stated on the questionnaire for the shelter. This may have been due to worry over the shelter staff’s opinions or a fuller account from an in-depth interview compared to a questionnaire. Therefore it was deemed appropriate for the author, as someone external to Guide Dogs, to conduct semi-structured interviews with GDOs that had experienced premature retirement. It was hoped that owners would feel more at ease in describing their experiences with someone outside of Guide Dogs and that these in-depth accounts may highlight some of the reasons for unsuccessful guide dog partnerships.

The second aim of this study was to explore the impact that premature retirement may have on GDOs. Previous research seems to suggest that this group of owners could be particularly vulnerable (Nicholson et al., 1995a), however there is yet to be research confirming this.

4.2 Methods

4.2.1 Recruitment and participants

Thirteen individuals who were blind or partially sighted and had experienced premature retirement of their guide dog were interviewed. To recruit participants, a list of guide dogs that had been withdrawn at any time during puppy walking, training and post qualification was obtained from Guide Dogs. This list included the dog's ID number (to identify them on the Guide Dogs database), name, breed, date of withdrawal, stage at time of withdrawal (puppy walking, early training (ET), advanced training (AT), qualified), Mobility Team, withdrawal reason, qualification date and number of months worked (if applicable). The inclusion criteria for participants dictated that they had owned a guide dog that had been withdrawn within three years post qualification for health or temperament reasons, therefore the list was narrowed down to dogs that fit this criteria. A list of thirty dogs withdrawn during 2012 was then compiled. Dogs that were withdrawn towards the end of 2012 were selected, working backwards from the last dog withdrawn that year. As the number of dogs withdrawn for temperament far exceeded those withdrawn for health, all dogs that had been withdrawn for health reasons (nine dogs) during 2012 were included. The remainder of the list (21 dogs) was made up of dogs withdrawn for temperament.

The owners of these thirty dogs were identified using the Guide Dogs database. At the start of the study, the researcher directly contacted these owners. However, upon the suggestion of one owner who felt it would be more appropriate to be contacted by Guide Dogs in the first instance, this procedure was changed. The remaining owners on the list were initially contacted by their local Mobility Team Manager (MTM). The MTM gave a brief explanation of the study and sought permission for the researcher to contact them. Once consent was received, the researcher made an initial call to the owner, giving more information on the study and asking if they would be interested in being interviewed over the phone as part of the study. If the owner agreed, a date and time was agreed upon for the researcher to phone the owner to conduct the interview.

Owners were excluded if it was felt by the MTM or the researcher that their current dog situation may affect their feelings and/or memory of the withdrawn dog, the interview may have a negative effect on their well-being or they were on-class with a new guide dog at that time. Of the thirty GDOs on the list, eleven owners were excluded from this study by the MTMs. A further four owners who were contacted declined to take part in the study, one declining during the initial call and the other three agreeing to take part during the initial call but later changing their minds. Of the four owners who declined, one declined to comment on their reason for not taking part, two stated that they were still upset about the retirement and didn't want to talk about it, and the husband of one owner informed the researcher that he felt it was too soon for her to talk about it. Two of the owners could not be reached by telephone despite the MTM and researcher attempting to call their given contact number. Thus a sample of 13 out of the potential sample of 30 was achieved.

4.2.2 Materials

4.2.2.1 Interview schedule

The observations made at Guide Dogs at the beginning of this project (see Chapter One), as well as the literature review (Chapter Two), helped inform the areas explored in the interview schedule. Three areas deemed worthy of further exploration were 1) the expectations of having a guide dog; 2) the bond between a guide dog and its owner; and 3) the support received by the owner (both pre and post withdrawal). It was decided that these should be included in the interview schedule, along with a section focusing solely on the impact of premature retirement.

The researcher could potentially have accessed Guide Dog's database, GDI-R, to gather participant's demographic details. However, this information was obtained directly from participants so they could decide whether or not to provide these details. Therefore demographic questions were added to the schedule. These were divided into two sections, one at the start of the interview asking basic questions e.g. age and sex, to ease into the interview and start to build a rapport. The second section was at the end of the interview, asking slightly more sensitive questions e.g. questions around their vision and relationship status. It was hoped that by leaving these to the end, a rapport will have been built making the participants more comfortable to answer these more sensitive questions. It also gave a way of concluding the interview. The format of the schedule was as follows:

1) Demographics
2) Expectations
3) Bond
4) Impact
5) Support
6) Demographics continued

The full interview schedule can be found in Appendix 1.

A draft of the schedule was read by other researchers working on guide dog projects and based on their feedback a second draft was produced. The researcher then shortened and rephrased some of the questions in this draft as discussed with their principle supervisor. This third draft was then read by the researcher's two other supervisors, to produce a fourth draft that was used for piloting. Four pilot interviews were carried out, two were with GDOs, one was with an owner in the process of having a guide dog withdrawn early and one was with an owner that had experience of guide dog retirement but not premature retirement. The remaining two interviews were with individuals that had relinquished pet dogs at some point in their life. For these two interviews any questions that related directly to guide dogs were re-worded to make sense for a pet dog or omitted. For each pilot interview, feedback was obtained from the participant and changes made based on this feedback. By the fourth pilot interview, the researcher found that there was little feedback on changes that could be made and they were gaining sufficient data from the interviews, with each interview taking approximately 45 minutes to complete. It was decided that the interview schedule was ready and this final version was used in the interviews with GDOs.

4.2.2.2 Digital recorder

Two digital recorders were used to record the interviews. A Roland Edirol R-09HR was used for the first 10 interviews. For the remaining five an Olympus Digital Voice Recorder DM-670 was used. All interviews were downloaded onto a computer as an audio file once the interview was complete.

4.2.3 Procedure

Interviews were carried out from June to December 2013. Consent was obtained from each participant via email or telephone. Participants who consented via email were sent the information sheet and consent form. Once they had read these, they replied to confirm that they had read and understood both. Those who consented via phone listened to the researcher read the information sheet and consent form over the phone. Verbal consent was recorded by the researcher on a consent form by writing the participant’s name and the date the consent was obtained. The method used to obtain consent was decided upon by the participant during the initial call made to them.

Before commencing the interview the participant was asked if they had any queries and it was reiterated that they were not obliged to answer all the questions in the interview and could stop at any time. The interview was carried out using the hands free option on a phone in a private office and was recorded on a digital recorder. The interview schedule was used as a guide but was flexible. If questions were answered in earlier questions, these questions were not asked again and it allowed the participant to talk about things in the order they wanted to.

Once the interview was completed, the digital recorder was stopped and the researcher once again asked if the participant had any questions or comments. The participants were then reminded that if they felt they required any support regarding the issues spoken about in the interview they could contact their Mobility Team, who were aware of the research and would be happy to help.

Immediately after the interview, the researcher made field notes on their general thoughts on the interview, anything that they considered to be of particular importance, and any reflections on how they may have influenced or affected the interview. These field notes pertained only to what was said during the interview whilst the responses were being recorded. Anything said by the participant whilst the recorder was not recording were not included. The interviews were then transcribed from the digital recordings by the researcher verbatim. Line numbers were added to participant's responses to refer back to during analysis. A transcription protocol was devised to reflect elements of speech, e.g. pauses. The transcription protocol can be found in Appendix 4.

4.2.4 Analysis

The interview transcripts were analysed using thematic analysis as described by Braun and Clarke (2006). Analysis of the interviews began straight after the interview had been completed, when field notes were written. Whilst transcribing the interviews the researcher read through the transcript several times to become familiar with the account.

Once this familiarisation with the transcript had taken place the researcher read through the transcripts again generating a list of initial codes on any things of interest from the transcript. As the researcher made a note of these codes, a list was also kept in a separate coding notebook, where the order of the codes as well as definitions describing the meaning of the code was documented. In the coding notebook symbols were also used to highlight if the code had emerged in a previous transcript, earlier in the same transcript, was changed in anyway (title or definition) or if the code emerged in an earlier transcript but was not listed in the final list of themes for that participant.

The codes for each transcript were added to QSR International's NVivo 10 Software (2012) as 'nodes' with the same definitions as described in the notebook and put in individual folders for each participant. These were then re-ordered and related codes were clustered together under themes. The transcripts were then coded according to the original codes and the number of times these occurred in the text was checked. Any codes that occurred infrequently and that the researcher did not consider important to the participants account were deleted from the relevant theme. The final list of codes for each participant was transferred into a word document, with the themes to group them together.

The final stage of analysis involved constructing a final list of superordinate themes, which fitted the accounts of all 13 participants. The nodes generated for all participants were compiled in a single list. To begin transforming this list into the final list of superordinate themes, all nodes that were considered to be similar in content were merged into one node. Related nodes were then clustered together under parent nodes. This stage was repeated until there were three major parent nodes. During this process, any themes that were considered not integral to the summary of the 13 participants were removed from the list. Hence some themes appeared in individual participant themes but not in the final list of themes. Themes were not judged purely on how many times they were mentioned, but also in relation to the relevance to the overall story of the participants and the richness of the data in the transcript related to them. These three final parent nodes were classed as super-ordinate themes.

4.3 Results

In this section, the characteristics of participants that took part in the study are outlined. Following this, the three super-ordinate themes identified during analysis of the interview transcripts are described. Quotes from participant's accounts are provided to illustrate this description. The participant alias and line numbers from their transcript are given for each quote.

1. Participants

The participants in this study lived in a wide range of places within the UK. Their ages ranged from 27-80 years of age and all had owned varying numbers of guide dogs for varying lengths of time (Table 1). All participants had owned at least two guide dogs. The majority of participants had been blind or partially sighted since birth; only one participant's sight had deteriorated as an adult. This differs from the general population, where the number of people who develop visual impairments tends to rise with age (RNIB, 2013). The demographics of the participants in this study are displayed in Table 1. Participants were each assigned an alias for confidentiality reasons.

Table 1 - Demographic characteristics of 13 guide dog owners interviewed by telephone in a study exploring the reasons for and impact of premature retirement of their guide dog

Participant alias	Reason for withdrawal of dog	Gender	Age (Yrs)	Age developed sight loss	Age acquired first guide dog (Yrs)	Number of guide dogs owned in total	Relationship status	Pseudonym name of dog	Time passed since premature retirement at interview (Mths)
Emily	Temperament	F	29	2	18	3	Married	Patch	7
Luke	Temperament	M	80	30	56	5	Divorced	Penny	8
Rachel	Health	F	31	Birth	21	4	Married	Pepper	14
Richard	Health	M	46	10	20	5	Single	Pongo	8
Dean	Temperament	M	30	7	21	2	Married	Baloo	7
Toby	Temperament	M	32	Birth	31	2	Single	Belle	10
Logan	Temperament	M	65	Birth	52	3	Married	Bolt	9
Susan	Temperament	F	27	Birth	25	2	Single	Marley	12
Madeline	Health	F	42	Birth	20	7	Married	Bambi	16
Christopher	Health	M	56	Birth	45	3	Single	Duchess	14
Aria	Temperament	F	66	Birth	23	10	Married	Dodger	14
Nicole	Temperament	F	44	Birth	25	4	Married	Dumbo	16
Zack	Temperament	M	62	Birth	36	4	Married	Faline	15

2. Super-ordinate themes

Three super-ordinate themes were identified: ‘Owner – Dog Relationship’, ‘Loss’ and ‘Well-being’. Table 2 documents the number of references made for each super-ordinate theme and sub-themes.

Table 2 - The number of participants that referenced and total number of references for each super-ordinate theme and sub-theme in a study of 13 guide dog owners interviewed by telephone exploring the causes and impact of premature retirement of a guide dog

	Super-ordinate Theme 1 'Owner – dog relationship'		**Super-ordinate Theme 2 'Loss'**	**Super-ordinate Theme 3 'Well-being'**		
	Pet	*Working*		*Impact of 'problem'*	*Impact of premature retirement*	*Adoption of coping mechanisms*
Participants	13	13	5	7	12	11
Total references	107	316	10	20	55	66

2.2. Super-ordinate Theme 1: Owner – Dog Relationship

The relationship between the owner and the dog came up frequently in the participant's accounts, particularly in relationship to the decision to retire the dog and the impact that the retirement had on the owner. This super-ordinate theme was made up of two sub-themes, 'Pet' and 'Working' (see Figure 5). There was a significant difference in participant's perceptions of their relationship with their dog as a pet dog and as a working dog. Out of the nine participants whose dog was withdrawn for behaviour, four reported having a good relationship with their dog as a pet, but having problems when working with the dog. In all nine of these partnerships, there were problems in the working relationship that contributed to their decision to withdraw the dog. In six of these, it was the effect on the working relationship exclusively that led to this decision.

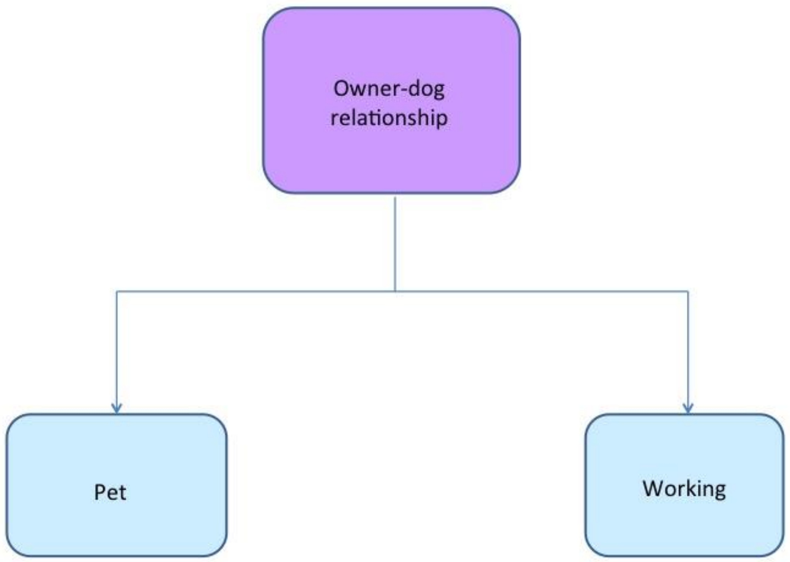

Figure 5 – An illustration of the super-ordinate theme 'Owner-dog relationship', and its sub-themes as identified in a study of 13 guide dog owners interviewed by telephone exploring the causes and impact of premature retirement of a guide dog

2.3.1. Sub-theme 1: Pet dog

In describing the relationship with their dog as a pet, participants referred to the affection and bond that they shared with the dog. They often cited that their dogs were very attentive to them when not working, thus illustrating that they enjoyed being close to their owner outside of the guiding role. This was often reciprocated by the participants who enjoyed the attentiveness their dog expressed. In this side of the relationship, participants seemed to take on a parental role towards the dog and emphasised that although the dog was an assistance dog, it was still a ‘normal’ dog that exhibited natural dog behaviour and needed feeding, exercise and play as all dogs do.

Participants described both how affectionate they perceived the relationship to be, and how affectionate their dog was. Those who mentioned this aspect of their relationship, deemed it to be a positive attribute.

> “*he was a lot more affectionate than my first dog, which I found really nice because he was very aloof so it was nice to have that-that affection.*” (Emily, 102-104)

Terms of endearment were often used when describing their dogs, which may reflect the affectionate and close nature of their relationships with their dogs. In addition to this, participants often expressed love for their dog and felt their dogs loved them in return.

> “*But a dog obviously they- they depend on you, whether it’s a pet dog or whether it’s a special dog, like a guide dog or a guard dog or whatever the case may be and um.. uh they rely on you and it’s unconditional love they give you, there’s no doubt about that.*” (Luke, 63-66)

Here Luke introduces another aspect of the owner – dog relationship, whereby the participants felt a mutual level of dependency between themselves and their dogs. This was mirrored in participant’s accounts of a high level of proximity that was held between themselves and their dogs when not working, and the level of attentiveness they received from their dog. Many participants expressed a desire for their dog to be attentive to them and enjoyed this attention.

> “*I really liked that he was- he was very umm attentive, umm and he wanted to be where you were and and check out what you were doing and make sure you know everything was-was going as planned. Umm so that was really nice.*” (Emily, 97-99)

> “*despite all the things I’ve told- about him not working out, I felt that I did have a bond with him as a pet dog and if I’d have been a situation where I could have kept him as a pet dog I would have done*” (Louise, 144-146)

As illustrated here, participants who had dogs that were retired due to behavioural problems often acknowledged that they had a good relationship with the dog despite these issues.

The caregiving aspect of the relationship was often commented upon by participants. It was recognised that they had a responsibility as an owner to look after the dog, catering for its basic needs. There seemed to be instances where this role of being the caregiver to the dog went further, with the participants fitting a parental role to the dog.

> "*I mean we really- we really got on well, we were practically inseparable. Umm that's why I find it difficult to go anywhere where I couldn't take the dog cause I had to make sure there was somebody else to look after her."* (Christopher, 128-131)

Along with the appreciation that they would need to act as a caregiver to their dog, participants also understood that although guide dogs act as a mobility aid, they are still living beings with their own needs. They expressed the knowledge that the dog needs rest and play, and acknowledged that it will exhibit natural dog behaviour as seen in pet dogs.

> "*Well you know she uh liked to play with her pull toys and uh have a run around in the garden yea. Yea the usual sorts of stuff you know a scratch behind the ear and all that stuff yea.*" (Kirk, 84-85)

2.3.2. Sub-theme 2: Working dog

When participants spoke about the working relationship with their dog, there was an emphasis on the difference between the dog's behaviour when working compared to when they weren't working. The various elements that went into the working relationship were described, such as the need to work as a partnership and the performance of the dog when working. It was usually the working relationship with the dog that was not working out and led to the withdrawal of the dog. Therefore the reasons for withdrawal were often described when participants spoke about the working relationship with the dog.

There was a general acknowledgement from participants that there is a difference in a guide dog when it is working compared to not working. There appears to be a work/pet dynamic that takes place.

> "*Uh with-with his harness on he was a really good guide dog umm and he- I don't think he ever bumped me into anything. So he was sort of really good, but with his harness off and just a pet around the house he was absolutely crazy.*" (Madeline, 34-36)

When it came to the working relationship, participants tended to put more of a focus on the dog's role as a mobility tool. For some, it seemed important that this was the dog's main role and that it should not be forgotten that this is the reason that they have the dog. Participants also acknowledged their role in the working relationship. As opposed to relying on the dog to take them where they needed to go, there was an appreciation that the work was a two way process, whereby dog and owner were partners.

> *"I did wonder how it worked with them crossing roads and stuff, did they know when to cross the road? And then I found out from uh, they don't know when to cross the road they just take you up to the curb and you have to make the judgement yourself, being careful* " (Louise, 14-17)

Participants often made reference to the standard of their dog's working performance. Commenting on how good or bad they perceived the performance to be, and what particular aspects of their dog's work were particularly good or bad. The reliability of the dog's performance as a working dog was also commented on. Four participants spoke about the inconsistency of their dog's work as being one of the reasons for withdrawing it or explained that its performance was dependent on certain factors, e.g. the presence of other dogs.

> "*I found that with Marley, he generally- he worked a bit better on his own but he wasn't very good at paying attention when there was other dogs about and there were other things-*" (Susan, 37-39)

The inability to rely on their dog's working performance was a major concern for participants and was often part of the reason for withdrawing the dog. When they felt the dog was not reliable in its guiding work, they felt unable to trust the dog to keep them safe.

> "*in the beginning it was- it was a lot better you know and uh.. Yea it-it-it was quite good bond in the beginning. Yea it was just in the final few months that it uh – I lost trust you know, you can't have that, yea.*" (Kirk, 91-93)

Participants that had had their dog withdrawn for temperamental reasons often stated the specific behaviours that their dogs exhibited that led to their decision to withdraw them. These behaviours fell under three main categories, the most common of which was aggression. This was cited nine times overall by five different participants. The other behaviours fell under general behavioural problems/disobedience and distraction.

> "*her work was good but if she came into contact with other dogs, especially small dogs she was aggressive towards them and you can't have that.*" (Zack, 29-31)

> "*Yea he-he-he jumped at my boss uh he tried to chew my bosses shoes when they were on his feet.*" (Dean, 38-39)

In relation to the reason for withdrawing the dog, participants spoke about the problem/s they were having with the dog in a broader sense. Rather than just relaying the specific behaviours that their dogs were performing, they spoke about how the problem affected them, the dog and their relationship, how the problem developed and its course over time.

> "*After a while I think I started to internalise that knowledge and I think it may have made me more sensitive to when he made little mistakes. Umm so it-it could have perpetuated some of the problems that we had.*" (Emily, 71-73)

2.2. Super-ordinate Theme 2: Loss

Many participants spoke of the sadness they felt at the loss of their dogs. Participants conveyed a sense of longing for their retired dogs and the companionship that they derived from them. Whilst participants referred to the loss of their dog as a mobility aid, this theme focuses on participants experiences of loss and grief over the relationship they shared with their dog as a pet. This theme was not referenced as much as the other two themes, however the use of language suggests that this is an important part of the experience of premature retirement that had a major impact on participants. Although many of the dogs described here were retired due to behavioural issues, participants still expressed feelings of loss and missing the dog.

Words such as 'upset', 'sad' and 'loss' were often used by participants when describing how they felt about the retirement of their dog. When asked if he went to his dog for comfort when he was upset, Richard replied

> *"to be honest I was actually more upset when he actually went away, that's when I got really upset."* (Richard, 308-309)

Luke described still being upset eight months post-withdrawal at the time that the interview took place.

> *"And I'm-I'm still quite upset about it actually cause she she's a lovely dog."* (Luke, 196-197)

An on-going longing for the retired dog was mirrored in other participants, for example Rachel's interview took place over a year since the withdrawal of her dog.

> *"I still think about her <u>now</u>."* (Rachel, 137)

2.3. Super-ordinate Theme 3: Well-being

The well-being of participants was affected in a number of ways by the premature retirement of their guide dog. This theme has been split into three sub-themes, focusing on how well-being was affected by the problems that led to the withdrawal of the dog, their experience of having the dog withdrawn and the coping strategies they used in an effort to compensate for the negative effects on well-being. Below is a diagram illustrating how this theme was constructed of sub-themes.

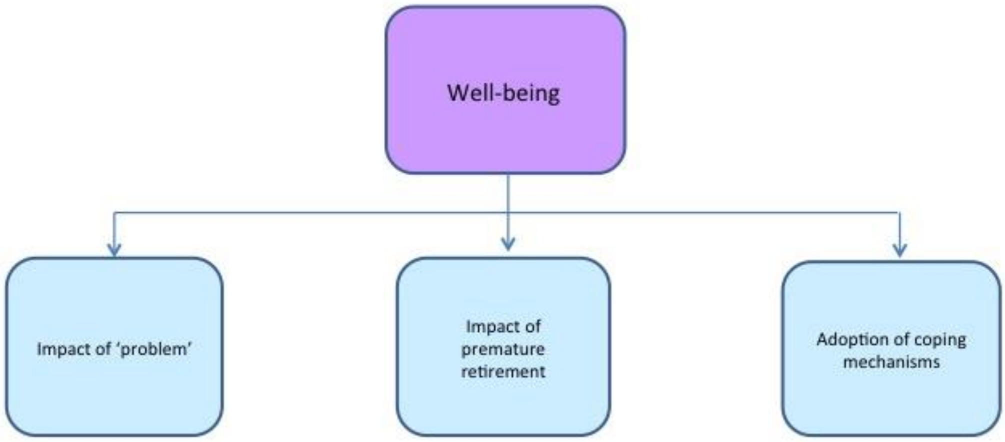

Figure 6 - An illustration of the super-ordinate theme 'Well-being', and its sub-themes as identified in a study of 13 guide dog owners interviewed by telephone exploring the causes and impact of premature retirement of a guide dog

2.2.1. Sub-theme 1: Impact of 'problem'

Participants who had owned dogs that were withdrawn for behavioural issues spoke about being under a lot of strain and suffering from stress due to the problem that led to the withdrawal. This often became overwhelming to the point that they felt they could not cope with the situation anymore.

> "*Yea it was umm, giving me serious stress issues uh. I couldn't take it, I really couldn't, I was uh- it was making me lose me rag all the time and uh you can't have that cause I was so scared I was gonna take it out on the dog you know so, that's when I actually decided to give her up.*" (Toby, 51-54).

> "*it was the work thing that you know I couldn't cope with, that was just so difficult to cope with.*" (Zack, 82-83).

For these participants, there seemed to come a point when they felt unable to handle the dog's behaviour and the impact it was having on their lives, leading them to make the decision to retire. Participants also described the additional work that they were required to undertake in an effort to deal with the 'problem' leading to withdrawal, whether this was a health or behavioural issue. For example Rachel described the efforts she went to in looking after her dog that was ill whilst still working, which involved family members also helping to look after the dog.

> "*I didn't want umm her awa- like away from me and away from home, but I was working so I had my mum come and look after her, while I was at work. Umm she could only go for like really short walks cause of her spleen and basically tied to her for four weeks*" (Rachel, 112-114).

Participant's whose dogs were withdrawn for behavioural reasons also put in extra work in an effort to change the problematic behaviour. In addition there was work that was required as a direct result of the dog's behaviour for example being continually vigilant.

> "*constantly being on the lookout for if he chewed anything, uh being aware of him jumping up other people that kind of thing. So I was always on my guard in case he displayed negative behaviours.*" (Dean, 134-136).

In some cases the mobility of participants was restricted as they felt unable to go places with the dog due to its behaviour.

> "*I basically stopped going places by myself because it was stressful.*" (Emily, 173).

1.1.1. Sub-theme 2: Impact of premature retirement

The most salient impact of retirement discussed by participants was the effect the retirement had on their mobility. As premature retirement is often quite sudden, the owner is usually left without a replacement guide dog for quite some time whilst a suitable match is found. This leaves the individual dependent on other means of getting around, such as a long cane or guided assistance. Many participants spoke of the difficulties in using these methods having been accustomed to the use of a guide dog.

> "*when Baloo went I had to use my cane again, uh so it's uh it's not very fluid, I have to stop and start, find my marks, takes a bit longer to get places, it's not as- uh it's not as social with-with people umm yea th-th-that really.*" (Dean, 139-141).

As this last comment highlights, when speaking about the restriction on mobility posed by the retirement, participants also shed some light on how this in turn affected other aspects of their life. Here Dean refers to the social element of using a guide dog, in aiding him to be social with other people. Other participants also reported talking to their dog, which they could not do with a long cane.

Another way in which the inhibition of mobility that came with retirement indirectly affected participants was a loss of the freedom that is attained when using a guide dog.

> "*when he was withdrawn I used to like- well maybe drag my husband out a bit more with me than what I usually do. Umm mainly because then I didn't have to use the cane, I could get sighted assistance. But I didn't like doing it and I uh I don't think he particularly liked it either.*" (Madeline, 139-142).

Madeline referred to 'dragging' her husband out for sighted assistance and mentioned that neither she nor him liked this. Not only does this reflect a loss of freedom but also suggests a feeling of burden put on her husband. This was also described by Nicole who described not leaving the house at all after the withdrawal of her dog. This was also mentioned by other participants.

> "*Just didn't go anywhere (laughter). Just sat and wait for another dog really. Umm going to and from work was, yea I had somebody coming to pick me up, lead me in, dropping me home. It's pretty umm, everything's put on hold.*" (Nicole, 132-135).

For one participant the inability to leave the house had a detrimental effect on her overall confidence in getting around with a knock on impact on her emotional well-being.

> "*I can't go out you see. Its umm I get so depressed in the house being on my own – you know not being able to go out. Cause uh I always like going out, even if it's only just for a walk, not you know not shopping or anything. I uh, yea it's really affected me.. because-because I'm older I'm worried that I'm gonna lose me confidence as well, you know not having a dog.*" (Aria, 111-116).

In addition to the impact premature retirement had on their confidence in getting around independently, many participants were concerned about future guide dogs they may have. There was a worry that the same thing may happen with the new dog and in some cases affected their relationship with their next guide dog.

> "*Umm.. It-it did make me worry that you know, that something else might ha- like happen (clears throat) to your new dog.*" (Rachel, 150-151).

> "*I've only had her for 3 months but I don't want to – to lose a dog again you know.. <u>That</u> quickly umm.. And I want to make sure that I'm doing it right, I mean they're different dogs – <u>very</u> different dogs umm.. but it it it kind of shakes your confidence a little bit and it was so emotional that you know I hope she sticks around for another 8-9 years because if she retires early I think I'll go back to using the cane for a while (laughter). Cause it-it is very emotionally exhausting.. and I hate the cane (laughter).*" (Emily, 206-211).

Over half (seven) of the participants initiated the withdrawal of their dogs as opposed to it being initiated by Guide Dogs. Most participants, even if the retirement was not initiated by them were involved in the decision to retire. This seemed to elicit a great deal of worry to participants, with many exhibiting doubt as to whether the right decision was made. They also tended to question what they could have done differently in dealing with the problem and wondered if it was their fault that the problem had occurred.

> "*also was hard because I started you know you start second guessing yourself. Have I made the right decision?*" (Emily, 200-201)

> “*Yea I wondered why- sort of like initially I thought well maybe I- maybe it’s me doing something wrong with him, uh so I sort of got my husband to-to follow me*” (Madeline, 153-154).

2.2.2. Sub-theme 3: Adoption of coping mechanisms

Participants used a variety of methods to cope with the premature retirement of their dog. Four main mechanisms seemed to be used: 1) distractions from the withdrawal e.g. a new guide dog or work (referenced by two participants); 2) deciphering the cause of the withdrawal, owners whose dogs were withdrawn for behavioural reasons tended to assign blame for the dog’s behavioural problems and speculate as to what the underlying causes were for it (referenced by ten participants); 3) reflecting on what they had learnt from the experience (referenced by seven participants); 4) a knowledge of the dog since it had been withdrawn offered a sense of closure and helped owners to cope with the premature retirement (referenced by six participants).

Distractions were used in an effort to focus participant’s attention on other things, for example Susan found having a replacement guide dog so soon after the retirement of her previous dog helped her.

> “*And umm I’ve nearly had Zane now a year and it’s going really well. I’ve found umm having him helped with- having him so soon after Lady helped umm with- helped with umm how do I explain it? Helped me not feel so sad and helped me with umm having to hand Lady over cause I had something else to focus on.*” (Susan, 186-190).

Participants whose dogs were retired for behavioural reason spoke a lot about the possible root causes of the behavioural issue. This may have been an attempt to understand what had happened and alleviate some of the angst that they felt over their role in the problem. For many, they had no clear ideas of what this root cause may have been and vocalised this uncertainty.

> “*And we couldn’t work out why, there was no obvious reason for it to happen as far as we could tell but this sort of extended out into working he started lunging at some dogs and not at others and I was thinking “Oh God!” It was really quite bad umm.*” (Logan, 277-279).

In comparison other participants expressed the view that the dog was not suitable as a guide dog. Some suggested that the dog was more suited to other types of roles. A mismatch between the owner and the dog was also cited as being a reason the partnership didn't work out. It was the view of these participants that they were incompatible with the dog, which led to the problem and subsequently to the retirement of the dog. Suggesting that if the dog had been matched with someone more suited to its temperament, this may not have been the case.

> "*I just think in the end umm maybe even though I did my best I just think we weren't quite compatible uh together and umm just weren't suited for that capacity, he wasn't keen on working really.*" (Susan, 250-252).

In understanding the root cause of the problem leading to withdrawal, a number of participants assigned blame. Interestingly there was hardly ever blame put on the dog, instead focusing on others that could possibly be responsible.

> "*Yea so it was a very hard job you know and I still blame myself to be honest but I don't know what I could have done that had made it any different, yea.*" (Toby, 42-43)

As demonstrated in this quote there was a great deal of uncertainty surrounding the allocation of blame. Although stating that they blamed themselves, participants would also defend themselves in saying that there was nothing they could have done.

The ambiguity over the assignment of blame was also present when participants blamed others for the problem. For example, in his account of the incidents that led to the retirement of his dog, Luke states that there was no one to blame whilst commenting on the actions of the people involved in the incident, perhaps suggesting that there was some responsibility on their part.

> "*well I'm not putting any blame really on anybody else to be honest with you. It seemed very strange that she should be across the road talking to umm one of her friends probably and just left the pushchair with the babe on the other-other side of the road on the pavement and uh with some other little child you know. The child hadn't even got a hold of the umm – she was dancing about apparently.*" (Luke, 274-278).

Participants spoke about how time had changed their views on the retirement of their dog. Whilst some felt guilt at retiring their dog at the time, when reflecting on the problem they realised that it was the right decision.

> "*I know it was the right decision and I know why they think, I mean it was the right decision in the end for both of us but it w- it was really tough at the time.*" (Rachel, 122-124).

There was a lot of negativity expressed at the length of time participants spent on the waiting list for a replacement dog. However, two participants spoke about finding the transition time between dogs helpful in order for them to build a relationship with their new dog and grieve for their loss.

> "*Umm retiring him and then going into a new dog I'm actually glad I had those 8 months even though at the time I wasn't glad. Umm I'm glad I had those 8 months because it helped me kind of I guess grieve our relationship in a certain way. Umm and then also prepare to be ready to work with this new dog and-and umm get to know her for who she is and how she works and and learn how to handle her umm in such a way that it would be productive for both of us.*" (Emily, 220-225).

Participants also gained insights from the experience. Participants were able to think about how the experience could be avoided in the future.

> "*on hindsight as I've said uh with hopefully my next dog and that I should know all about these things I shall know what to look out for and how to avoid it. That's what I hope uh to do.*" (Luke, 194-196)

It also gave participants insights into the type of dog that would be more suited to them by experiencing one they did not feel was compatible with their personality.

> "*I know from that experience exactly what dog is suitable for me now from that experience of uh.. umm.. umm, I think it was sort of uh tri- just a trial to see what he'd be like they thought they might- he might- might be suitable for me and it was just giving it a go.*" (Susan, 232-235).

Finally, participant's seemed to gain a sense of closure by knowing the dog was OK and being looked after. Knowledge of the dog since retirement provided comfort whereas not knowing how the dog was added more worry onto participants, resulting in added uncertainty.

> "*I wanted to know- I wanted to know that Bambi was happy, I didn't necessarily want to know who's got him but I wanted to know that he was happy and he wasn't stuck in a kennel somewhere and he did have a home. So I was sort of like checking to make sure he was alright and yes he is happy and yes he's got a home. So once I knew that I was fine, I didn't think about him.*" (Madeline, 122-126).

4.4 Discussion

4.4.1 Summary of results

Three super-ordinate themes emerged from the data: 1) Owner – Dog Relationship, 2) Loss and 3) Well-being. The first theme 'Owner – Dog Relationship' illustrated the distinction between the guide dog as a pet and as a working dog. The various elements that go into making up the two sides of this relationship were described in detail. It appeared as though the decision to withdraw dogs for non-health related reasons stemmed from problems arising in the working side of the relationship with the dog. 'Loss' was demonstrated by the language used by participants in describing their feelings toward the absence of their retired dogs from their lives. GDOs missed the companionship that they gained from their dog whilst it was with them and these feelings were often still apparent at the time of interview, which ranged from 7 to 16 months after the dog was withdrawn. 'Well-being' related to how the withdrawal of a guide dog impacted the physical and mental well-being of owners. Participants often made reference to an increased difficulty in getting around outside of their home without the dog. The feelings of loss described in the previous theme also had an impact on the emotional well-being of owners. Additionally, owners of dogs that were withdrawn for non-health related reasons expressed guilt and doubt over the decision to withdraw their dog.

4.4.2 Strengths and weaknesses

Using an inductive approach in this study allowed an exploration of experiences of guide dog owners from their point of view. Open questions were employed in the interviews, which allowed participants to guide the interview and therefore speak about what was important to them regarding the premature retirement of their dog. This gave the opportunity for themes to be identified from the data that may not have arisen if a deductive approach had been used, therefore losing the opportunity to understand premature retirement from the owner's perspective. The in-depth accounts of owners gathered in this study have highlighted some of the reasons for unsuccessful guide dog partnerships, which may not have emerged through records obtained from the organisation. DiGiacomo et al. (1998) reported that people relinquishing pets to shelters gave different reasons for relinquishment when interviewed, compared to the reasons stated on the shelter's questionnaire. This may have been due to worry over the shelter staff's opinions or due to obtaining a fuller account from an in-depth interview compared to a questionnaire.

It was important that premature retirement be investigated at the level of detail used in this study, as it was the first to look at premature retirement of guide dogs exclusively. Whilst other research on guide dog retirement (Nicholson et al., 1995b) and guide dog partnership matches (Lloyd, 2004) have included participants who had experienced early withdrawal of a guide dog, they did not solely investigate this. There is therefore minimal current literature and evidence in this area. The researcher's independence from Guide Dogs serves as another strength of this study. The researcher was external to the organisation, therefore having no preconceptions of people, processes or dogs that may have impeded on their interpretations of the findings. It also allowed the opportunity for a more open and unbiased account to be attained from guide dog owners. Whilst there has been little research conducted into the effect of interviewer characteristics on participant's responses (Bryman, 2012), it is plausible that owners may feel more at ease in describing their experiences with someone outside of the organisation.

There are some limitations in this study as a result of the small sample size, for example the findings from this study cannot be presumed to apply to the population of guide dog owners as a whole or to other assistance dog partnerships. However, the purpose was not to generalise, but to provide a rich account of individual experiences of why and how premature retirement occurs and the impact that this can have. Another possible limitation of this study relates to the sensitive nature of the topic and the use of interviews as a data collection method. As with all research interviews, there is a risk of response bias, in that participants may have felt obligated to say what they thought the interviewer wanted to hear i.e. social desirability effect (Bryman, 2012). They may also have left out or altered information if they were embarrassed or felt they may be judged by it, especially given the sensitive nature of the subject under investigation. Participants may not have felt comfortable in discussing issues of such an emotional and personal significance with the interviewer. Therefore, the accounts of participants may not be a fully accurate reflection of their experience. To help overcome these problems the interviewer made field notes after each interview. This helped to exercise self-reflexivity to develop transparency about how their presence may have affected the interview and to ensure this was considered throughout the data collection and analysis process. The structure of the interview schedule was also constructed so as to begin with less intrusive questions that would build a rapport with the interviewee to help put them at ease before discussing more sensitive issues.

There is an argument that telephone interviews would provide less rich data compared to face-to-face interviews, as there is less chance to build a rapport, read physical cues given by interviewees and engage in a more in-depth interaction (Chapple, 1999, Glogowska et al., 2011). This may be less of an issue with those who have visual impairments as they may place more emphasis on communicating without other visual cues. The accounts obtained from these interviews were in-depth and participants were willing to discuss topics of a sensitive nature over the phone. Finally it should be acknowledged that at the time that the interviews took place, most retirements had occurred from six months to over a year prior. Therefore the accounts may be subject so some recall bias.

4.4.3 Owner – Dog Relationship

Far from a simplistic relationship of a guide dog owner and their dog as a mobility tool, the relationship between owners and their dogs was much more complex. The sub-theme ‘Pet dog’ describes the owner’s relationship with the dog outside of the working context. Here participants spoke about the bond that they shared with the dog in terms of their interactions with it when not working, including the affection shared between the two and the level of attentiveness between them. Owners often took on a parental role towards the dog, seeing the dog as a child that is their responsibility to look after rather than a mobility aid and recognising that a guide dog is a normal dog with natural dog behaviour and needs. Participants in the study by Power (2008) also spoke about the way they cared for their dogs as if they were children. A similar finding was identified in the qualitative study by Kwong and Bartholomew (2011) on assistance dog owners. Being a caregiver was an important aspect of participants’ relationships with their dog. The parental role taken on by these guide and other assistance dog owners reflects a ‘Humanistic’ orientation to dogs, as described by (Blouin, 2013). In addition to ‘Humanistic’, ‘Protectionistic’ and ‘Dominionistic’ orientations were also identified as orientations dog owners had towards their dog. These orientations were identified from 28 in-depth interviews with dog owners in the US. ‘Protectionistic’ owners viewed their dog as a companion and had a general respect for animals. ‘Dominionistic’ owners tended to view their dog as a tool and regarded humans to be superior to animals. Owners with a ‘Humanistic’ orientation were described as viewing their dogs as a cherished child above other animals. According to this orientation, the person views the dog as a child and themselves as its parent. Additionally, the dog usually resides in the person’s house and is regularly seen by the vet. These are standard practice in guide dog relationships. Based on the parental role described by participants in this study towards their dog and the similarities between standard guide dog practice and the relationship shared between ‘Humanistic’ owners and their dogs, this orientation may be a common one of GDOs towards their dog.

It should be noted that when GDOs in this study were asked what role they felt their dog played, nine stated a mobility tool as at least one of their dog’s roles. Six of these also mentioned other roles such as a friend or family member, however there was an emphasis put on the importance of the dog as a mobility tool. This reflects a dichotomy in their relationship with their dog. The sub-theme ‘Working dog’, focused on this distinction between a guide dog as a pet and a working dog according to owners. Sanders (1999) found a similar result in his ethnographic study of police dogs and their handlers. Handlers felt there was a dichotomy in their relationship with the dog, on the one hand the dog working with them, whilst on the other acting as a pet dog. This had been the only evidence of the dual nature of working dog relationships. The current study has illustrated that this also occurs in guide dog partnerships. This may be a common theme in assistance and service dog relationships. The dichotomy has potential consequences for the working relationship between the dog and owner. The pet relationship shared with the owner may have an impact on the dog’s work performance and training. For example the requisite handling of the dog as a pet versus when working may differ. Some owners may find it difficult to switch between their role as a pet owner and working dog handler. It is worth exploring this possible effect in future.

Particular attention was paid to the different aspects of the working relationship, such as the performance of the dog in its work. It was also in this sub-theme that the reasons for and the issues surrounding the withdrawal of the dog came up. In all nine partnerships that were discontinued due to behavioural problems, issues in the working relationship contributed to the dog's withdrawal. Whilst there have been no previous studies on the reasons for relinquishment of guide dogs as a result of behavioural issues once qualified, a guide dog owner survey reported the most common aspect of their dog's behaviour that gave them cause for concern was their social behaviour, i.e. when not working (Craigon, unpublished). In contradiction to this, whilst participants in this study described problems both when the dog was working and in its social behaviour (when not working), their decision to withdraw the dog was motivated primarily by its behaviour when working. The guide dog owners interviewed in the guide dog survey were all owners that were currently working with their dogs. It may be that owners are willing to work through behavioural problems that occur outside of the working relationship, but when work is affected this is more likely to make them decide to withdraw the dog. This would fit in with the topic of trust and safety that arose many times during interviews. Participants frequently spoke about being able to trust their dog and feel safe when working with them, and often mentioned this in relation to the problem that led to withdrawal, i.e. no longer feeling safe with the dog when working. This is a surprising finding. It would be expected that behavioural problems that may impact on work would be more likely to be picked up during training, as training generally deals with the working side of the relationship rather than the social. This therefore suggests that there may be a shift in the behaviour from that exhibited by these dogs during training compared to when working with clients post qualification. The difference in behaviour may be a result of the change in handler. Studies have found dog behaviour to be influenced by their human handler (e.g. (Jagoe and Serpell, 1996, Call et al., 2003, Schwab and Huber, 2006, Bennett and Rohlf, 2007, Haverbeke et al., 2008). Potential guide dogs responded differently to their PW compared to a person unfamiliar to them during obedience tasks and spent a significantly different proportion of time gazing at each of the handlers (Harvey, 2014). Differences in dog's behaviour between handlers is an important consideration when matching an owner and dog. It is recommended that the dog's behaviour is closely monitored during matching visits and the first few weeks post qualification to identify any changes in behaviour. Appropriate action can then be implemented if these changes may be potentially problematic.

As mentioned previously, many owners tended to assign a cause or identify some source of blame for the underlying reasons of the problems they had with their dog. A number of participants attributed the problem to a mismatch between themselves and the dog. Two owners felt that their dog was not suitable to being a guide dog, whilst others felt that the dog would have worked out as a guide dog with someone else that suited it better. It may be that these owners were attempting to deflect blame for the failure of their partnership. Appropriate matching between guide dogs and owners should be investigated further. At present there has been considerable research into quantifying the traits that predict qualification of a guide dog (Goddard and Beilharz, 1986, Svartberg, 2002, Duffy and Serpell, 2012, Asher et al., 2013). This places a lot of emphasis on the dog. As the withdrawal rates are still so high for behaviour post qualification it may be that it is the combination of the dog and owner that needs to be explored. Whilst there has been some work on the characteristics of people in relation to the level of attachment they form with their pets these have yielded differing results and there has been no work done on what works best in relationships between dogs and handlers in working relationships. Therefore future work on establishing what makes a good match between a guide dog and its owner is warranted.

4.4.4 Loss

The theme of ‘Loss’ very much pertains to the relationship the owners' had with their dog as a pet. When describing the loss of the dog, owners tended to focus on the loss of companionship that they had derived from their dog. This fits in with one of the benefits of owning a guide dog being companionship as found by Banham (2000) and Whitmarsh (2005). It would also tend to suggest that owners of guide dogs are similar to owners of pet dogs in that companionship is an important aspect of owning a companion dog (Kobelt et al., 2003). In fact one of the main reasons for deciding to acquire a pet is for companionship (Kobelt et al., 2003, Staats et al., 2008).

As discussed previously, guide dogs may have a ‘humanistic’ orientation as described by Blouin (2013) towards their dog. Blouin (2013) found that pet dog owners with this orientation would not relinquish their dog and found it very difficult to come to terms with the dog’s impending demise. Whilst ‘humanistic’ guide dog owners may not want to relinquish their dog, they may be forced to make this decision if the working relationship is compromised. Therefore these owners may experience a great deal of suffering when faced with this dilemma. In the study by Kwong and Bartholomew (2011), the caregiver role participants felt towards their assistance dog had a major impact on their grief and some felt this compared to the loss of a child. In a survey study of 923 university students, Kurdek (2008) found that the degree of attachment felt by participants was positively associated with the extent to which they took care of the dog. Acting as a guide dog’s primary caregiver may help strengthen the owner’s attachment to the dog, which in turn can have a greater impact on the owner when losing their dog.

Nicholson et al. (1995b) found that GDOs whose dog was withdrawn experienced more distress than those whose dog had retired due to old age. This contradicted the author's assumption that these owners would feel a sense of relief once their dog was withdrawn. The current study fits in with the findings from Nicholson et al. (1995b) and highlights that this group of owners may indeed be more vulnerable. The sense of loss described by participants in this study was similar to bereavement (Hunt and Padilla, 2006). It is slowly coming to the attention of health care professionals that the death of a pet can induce severe grief, similar to that of human loss (Morley and Fook, 2005). The intense grief of participants in this study highlights that it is not only the death of a pet / guide dog that can induce these feelings. A sense of loss was also identified in a qualitative study of pet dog relinquishment (Edwards, 2012). The loss associated with premature retirement may be particularly difficult as it can be defined as an 'ambiguous loss'. This type of loss refers to the loss of someone (human or animal), that does not allow the person suffering the loss to achieve the detachment required for closure (Boss, 1999). This type of loss is seen in cases of missing persons. There are parallels with premature retirement since both occur suddenly where the individual does not have the time to come to terms with the situation. Someone who has experienced the death of a pet may also be affected by 'disenfranchised grief', where the grief experienced cannot be openly acknowledged (Doka, 1989). Following the death of a pet, owners often feel that they cannot share their feelings of loss with others as it is deemed not socially acceptable to feel a strong intensity of loss after the death of an animal. This was exemplified in the study by Redmalm (2015), in which participants made efforts to diminish the grief over their pets, for example getting a replacement pet. Disenfranchised grief may be a potential consequence of pet relinquishment and in turn premature retirement. This may be even more prominent in these cases as the animal has not actually died. Complications such as ambiguous loss and disenfranchised grief may add to the impact on owners who have experienced premature retirement as they may be less able to talk about their feelings of loss. This may then make it harder to cope with their sense of loss.

Another interesting observation in participant's accounts was that the description of these feelings of loss were often in the present tense, with owners describing how they still missed their dogs. These interviews took place from seven months to one year and four months after the withdrawal, which suggests that this loss can still be felt for a time after the event has occurred. Throughout the interviews with participants whose dogs had been withdrawn for behavioural reasons, participants often speculated over the underlying cause of the behavioural problems or why their partnership didn't work out. It appeared as though owners were still trying to make sense of the experience. Establishing meaning after loss is thought to be an important part of the grieving process (Gillies and Neimeyer, 2006). It may be that these owners were unable to gain any meaning from their loss and were therefore still trying to do this in an effort to fully grieve (Blazina et al., 2011). Due to the sudden nature of the withdrawal of a guide dog, it could be argued that premature retirement may be classed as a traumatic loss. This type of loss has been suggested to incur a number of additional symptoms to those normally experienced during grief. These include intrusive thoughts about the person that has been lost, separation distress and nightmares and these symptoms usually last longer than in a non-traumatic loss (Blazina et al., 2011).

4.4.5 Well-being

There were three sub-themes under the super-ordinate theme of 'Well-being'. The first sub-theme, 'Impact of 'problem'', was expressed mainly by participants whose dogs had been withdrawn for behavioural reasons. This sub-theme relates to how the problem/s that later led to the withdrawal of the dog affected the owner's well-being. As a result of the problem, some owners ceased using the dog for mobility and were therefore not able to get around as easily. Behavioural problem/s also often led to stress, which sometimes further exacerbated the problem when the dog could pick up on their owner's tension. The second sub-theme, 'Impact of premature retirement' also describes an inhibition of mobility, and the subsequent psychological effects of this. Low mood was also experienced as a result of the feelings of loss described in the main theme 'Loss'. 'Impact of premature retirement' also encompasses the negative ways in which participants spoke about the withdrawal. Words that illustrated the extent to which the withdrawal impacted on their well-being were used. It also covers the worry felt by owners over their uncertainty in making the decision to withdraw and how the withdrawal might affect their relationships with future guide dogs. The third sub-theme 'Coping Mechanisms' describes how the owners tried to deal with the impact that the withdrawal had on their well-being. There were four mechanisms described by participants: 1) distractions from the withdrawal; 2) deciphering the cause of the withdrawal; 3) reflecting on what they had learnt from the experience; 4) a knowledge of the dog since it had been withdrawn. When there was no knowledge of the dog since retirement this often seemed to impact further on their well-being.

4.4.5.1 Impact of ‘problem’ and premature retirement

The first two sub-themes, ‘Impact of ‘problem’’ and ‘Impact of premature retirement’, encompass both direct and indirect effects of premature retirement on the owner. The well-being of participants was affected in a number of ways, either directly or indirectly. Direct effects of well-being were as a result of the ‘problem’ that led to the retirement of the dog, the limited mobility due to the retirement of the dog and the negative experience of the retirement. Well-being was also indirectly affected by low mood reported as a result of the loss of the dog or the restricted mobility. Other examples of the indirect effects on well-being include the impact the retirement had on the participant’s confidence and the level of uncertainty surrounding the decision to retire the dog. Figure 7 illustrates the ways in which participants were affected both directly and indirectly by the withdrawal of their dog.

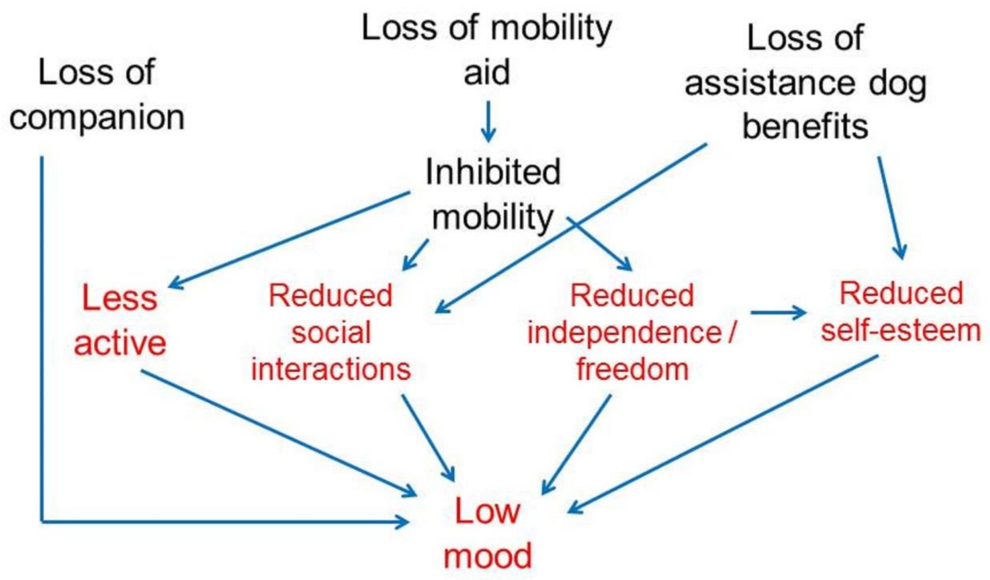

Figure 7 - Diagram depicting how guide dog owner well-being was affected by premature retirement in a study of 13 guide dog owners interviewed by telephone exploring the causes and impact of premature retirement of a guide dog

The effect of premature retirement of a guide dog on the well-being of an owner can be illustrated by examining some of the current models of health and well-being. Based on a review of the evidence on ways to improve well-being, the New Economics Foundation suggest five ways in which to improve mental well-being: 1) Connecting with others; 2) Being active; 3) Continued learning; 4) Giving to others; 5) Taking notice of your surroundings and being present and in the moment (NEF, 2008). The inhibition of mobility as a result of either the issues leading to withdrawal or the retirement of the guide dog means owners are less able to be active. In the first instance they are not as able to get around as easily due to a reliance on less favourable mobility aids. As an adjunct to this, without a dog they are not obliged to leave the house as often to ensure the dog receives adequate exercise, thus reducing their own physical activity.

The first of these recommendations, ‘Connecting with others’, suggests that building relationships with others improves mental well-being by allowing people to share experiences, receive support and hold a sense of belonging. Kef et al. (2000) found the social networks of visually impaired adolescents to have an impact on well-being. Limited mobility as a result of the ‘problem’ or withdrawal of a guide dog decreases the ability of owners to go places with others and takes away the social facilitation bought about by the presence of a companion dog (Katcher and Beck, 1983a). Related to this is the notion that social participation, not just in relationships with others also has an effect on well-being. ‘Healthy People’ is an initiative in the USA that uses scientific findings in order to inform objectives for improving health (HealthyPeople.gov, 2014). According to this initiative there are three domains that need to be measured in determining health related quality of life and well-being, one of which is participation in society. In a review of factors that affect well-being Dolan et al. (2008) found that being involved in community activities, doing exercise and socialising with friends and family are beneficial to subjective well-being. This can also be impacted by the ‘problem’ and/or withdrawal of a guide dog as the owner goes out less and thus participates in fewer activities.

Aside from the more general models of well-being, there are a number of ways in which the well-being of visually impaired individuals in particular can be improved. For example Kef et al. (2000) found that the degree of independence in mobility affected well-being in this group. The negative impact on mobility due to the withdrawal of a guide dog may therefore affect this group in this way. It has also been demonstrated in some studies that animal companions reduce depression and improve self-esteem (Wells, 2009). Although these findings have varied, the majority of studies carried out on assistance dogs seem to verify this (Lane et al., 1998, Sachs-Ericsson et al., 2002, Collins et al., 2006, Rintala, 2008). It can therefore be speculated that the withdrawal of a guide dog can also have a negative impact on these aspects of the owner’s life too.

4.4.5.2 Coping mechanisms

The four coping mechanisms employed by participants in this study, (distraction, identifying cause, reflection and post-withdrawal knowledge), potentially reflect both adaptive and maladaptive ways of dealing with premature retirement. Participants who distracted themselves from the withdrawal of their dog may have been engaged in an avoidant emotion-focused coping strategy (Folkman and Lazarus, 1980). Participants may have attempted to control their emotions by distracting themselves from the withdrawal of their dog. There is evidence to suggest that avoidant coping strategies are maladaptive when dealing with loss. For example, in a study of 123 university students in the US who had experienced a traumatic loss, complicated grief responses and Post Traumatic Stress Disorder (PTSD) symptoms were higher when participants reported avoidant emotional coping strategies (Schnider et al., 2007).

One of the sub-scales used to measure this strategy was self-distraction, which concurs with the distraction employed by participants in the current study. Another sub-scale was self-blame, which concurs with another coping mechanism identified in this study. Many participants sought to identify the cause of their dog's withdrawal. This often involved assigning blame for the withdrawal, which included blaming themselves at times. Participants tended to speculate about the cause of their dog's withdrawal and what they could have done differently to avoid it. They would often come back to this topic more than once during their interview. This may be an example of a type of grief rumination, labelled 'counterfactual thinking'. Grief rumination refers to 'repetitive and recurrent thinking about the causes and consequences of a loss and loss-related negative feelings' (Eisma et al., 2015). 'Counterfactual thinking' concerns thoughts about how the loss could have been prevented (Eisma et al., 2014). In a longitudinal study of 242 people who had lost a first-degree family member within the previous three years, participants who reported higher levels of counterfactual thinking about their loss tended to have more symptoms of complicated grief and depression (Eisma et al., 2015). Based on these studies, the rumination participants seemed to exhibit over the underlying cause of their dog's withdrawal may also be a maladaptive coping mechanism.

Conversely, participants who were able to gain insights from reflecting on the withdrawal may have adopted a more adaptive coping mechanism. Participants who reported a clearer understanding that the withdrawal was the right decision when reflecting may have been exhibiting positive reappraisal of the experience. Positive reappraisal is described as a cognitive strategy that reframes a situation in a more positive light (Folkman, 1997). In a longitudinal study on the effects of caregiving and bereavement on people who had a partner with AIDS, positive reappraisal was associated with higher levels of positive affect (Folkman, 1997). GDOs in this study also discussed some of the positives they took from the experience, for example, giving them an idea of the type of dog they are more suited to for future reference. This is another example of positive reappraisal known as 'benefit finding'. In a meta-analysis on the relationship between benefit finding and health, Helgeson et al. (2006) found that benefit finding was related to more positive well-being and lower levels of depression in 87 cross-sectional studies.

The final coping mechanism employed by participants concerned the use of their knowledge of the dog since it had been withdrawn.

Participants who had contact with the dog’s new owner or were informed of the dog’s situation post withdrawal felt this gave them comfort and helped them move forward. GDOs that had no contact with their dog after it was retired were one of the groups that required more support post retirement (Nicholson et al., 1995b). As mentioned earlier, premature retirement may result in an ambiguous loss for the owner. The findings from this study and Nicholson et al. (1995b) support this and further highlight the impact premature retirement can have on GDOs.

4.4.5.3 Health versus behavioural withdrawals

Whilst the well-being of participants whose dogs had been withdrawn for both health and behavioural reasons both resulted in significant impacts, there was a distinction in the path that this took. Owners of health withdrawn dogs tended to suffer a great deal as a consequence of the feelings of loss they were feeling toward the dog. For these participants, they had a dog that they had a good relationship with and was doing well in its work. They often felt that they did not get enough time with the dog and it was the grief and loss of the dog as a mobility aid that affected their well-being. For owners of behavioural withdrawals, the picture becomes more complex. As well as the grief over the loss of their dog, other factors impacted on the well-being of these owners. For example in these cases the dog was physically able to do the work unlike those with health problems, however the owner decided the relationship was not working out and made the decision to have the dog withdrawn. Therefore there were feelings of uncertainty, failure and guilt over the decision to withdraw. As mentioned previously, a ‘Humanistic’ orientation (Blouin, 2013) of their dog may be common amongst GDOs. However, participants in this study also emphasised the importance of their guide dog as a mobility tool. Thus, as seen by Sanders (1999) a dichotomy seems to exist in working dog partnerships. The view held by owners of their dog from a working standpoint fits a ‘Dominionistic’ orientation (Blouin, 2013). As these two orientations have very different attitudes and values in relation to their dog, this may be a source of conflict for some owners. ‘Humanistic’ owners are described as being extremely reluctant to relinquish their dogs. Owners may feel reticent to have their guide dog withdrawn, however their competing view of the dog as a mobility tool puts pressure on them to go against their values in this respect. This has the potential for psychological distress that may have been exhibited through the uncertainty and guilt participants in this study expressed. There was also the added dimension of the problematic behaviours experienced with the dog. Owners tended to question why the problems occurred and if they had done enough to overcome them.

4.4.6 Conclusion

Three main themes were identified in this study. GDOs experienced feelings of loss as a result of the premature retirement. At present there is bereavement support available for GDOs at the end of a partnership. However this study highlights that GDOs that have been affected by premature retirement are a particularly vulnerable group and require tailored support. It is suggested that this group are at risk of suffering from traumatic loss due to the sudden nature of the dog's withdrawal. This is impounded by the often ambiguous nature of the loss, in that the dog has not deceased. Finally, a feeling of disenfranchisement in speaking about their grief may hinder them from seeking support from loved ones. The loss felt by owners as well as the impact of not having a dog impacted owner's well-being. This was compounded for owners of dogs that were withdrawn for behavioural reasons who also had feelings of guilt, confusion and worry over the decision to withdraw their dogs. This highlights the negative impact premature retirement can have on GDOs and the importance in investigating why withdrawals for behavioural reasons occur. Finally the complexity of the relationship of the dog and owner was identified, in particular how this relationship differed in relation to when the dog was and was not working. This dichotomy may have serious consequences for the owner's well-being and the relationship between the owner and dog. The importance of behaviour when the dog was working was highlighted, as this was a major contributing factor for the withdrawal of all dogs that were withdrawn for temperament in this sample. The suitability of the match between the dog and owner was also emphasised as an important aspect in the longevity of their working life together.

The detrimental effect premature retirement can have on a GDO is under-recognised at present. In future it would be useful to alter the way this impact is considered, factoring the many ways in which a person's health and well-being may be jeopardised. It is vital that Guide Dogs recognise this and that these owners are a vulnerable group that need support after the sudden withdrawal of their dog. In an effort to reduce the amount of premature retirements that occur due to the dog's behaviour, it is also vital that more is known on what makes a good match between guide dogs and owners.

Chapter 5 – Study Two: Six in-depth case studies of unsuccessful guide dog partnerships

5.1 Introduction

There are a number of factors that can have an effect on the relationship between a human and dog. This includes the behaviour of both the owner and dog, the type of interactions that take place between them, and the physiological effects of these interactions (Payne et al., 2015). There has been an emphasis on the effect that humans can have on dog behaviour. For example the type of training carried out by the handler has been shown to affect the dog's performance in carrying out tasks (Jagoe and Serpell, 1996, Bennett and Rohlf, 2007, Haverbeke et al., 2008). These studies have suggested that the use of rewards rather than punishment, and having higher levels of engagement in training, have a positive effect on the dog's behaviour as perceived by the owner. There is also evidence to suggest that the level of attachment shared between the dog and owner can have an effect on how positively the owner views the dog (Serpell, 1996).

There is little evidence to suggest that the characteristics of humans and pet dogs can be used to measure their compatibility (Curb et al., 2013). However a study exploring what makes a successful match between guide dogs and their owners found some factors were consistently mentioned by guide dog owners (GDO)s (Lloyd, 2004). These included their relationship with the dog whilst not working, as well as when working and their compatibility both physically and behaviourally. To match dogs with suitable clients, Guide Dogs conduct client assessments and refer to the behavioural and health records kept on the dog throughout its puppy walking and training. Two assessments are carried out with clients, a mobility assessment (assessing the client's mobility needs and vision), and a guide dog assessment (assessing the client's dog handling abilities and lifestyle). Once staff decide they have found a suitably matched client and dog, based on the client assessments and dog records, a matching visit takes place where the two are introduced. The pair spend some time together and go on a walk, if they appear to work well together and the client is happy they are officially matched and they begin training together.

In this chapter, case studies were conducted on six of the partnerships from Study One that were withdrawn for behavioural issues. The aim was to explore in further detail why these partnerships ended prematurely. In addition to the interview with the GDO, further interviews were carried out with the dog's puppy walker (PW) and the person who re-homed the dog after it was prematurely retired. These three accounts, in conjunction with the client assessments, and records on both the dog during training and the partnership post qualification were analysed. This provided several sources of data to provide a more complete account of the partnership. The underlying causes of the behavioural problems described by the owner were explored. Interviewing other people that were involved in the partnership added to the accounts of the GDOs, providing a range of perceptions of the partnership.

5.2 Methods

In-depth case studies were conducted on six guide dog partnerships where the dog was prematurely retired for behavioural reasons. Each partnership was defined as a case. For each case the following data were collected and analysed:

- Interview account of GDO
- Interview account of PW
- Interview account of person who re-homed the dog after it was prematurely retired
- Records of the dog's characteristics e.g. breed
- Records of the dog's movements (details of the age and circumstances the dog moved between handlers, usually as a consequence of progressing from one stage to the next. See 'The journey to becoming a guide dog' section in Chapter One for more details)
- Records of the dog's littermate's movements
- Health records of the dog throughout its life
- Canine Assessment Summary (CAS) reports (behavioural assessments of the dog conducted throughout puppy walking and early and advanced training)
- Client mobility assessment
- Client guide dog assessment
- Report on matching visit
- On-class training reports

- After care visit reports (visits made by the Guide Dog Mobility Instructor (GDMI) to the owner and dog post qualification)
- Dog withdrawal report
- Incident investigation reports

5.2.1 Sample and Recruitment

A sub-set of the thirteen partnerships explored through GDO interviews in the previous study were followed up as case studies. Inclusion criteria was a withdrawal of the dog due to behaviour. Exclusion criteria was a withdrawal of the dog due to health. The Puppy Training Supervisor (PTSup) and Re-homing Officer (RO) that dealt with the PW and re-homer in each partnership were contacted. They were asked if they agreed that the PW and re-homer could be contacted about the study. Once consent was received, the researcher made an initial call to the PW and re-homer, giving more information on the study and asking if they would be willing to participate in a telephone interview as part of the study. In an effort to avoid bias in their responses, PWs and re-homers were not informed that the study was investigating premature retirement. Instead, the researcher described the study as an investigation into guide dog partnerships. It was hoped that this would facilitate a broader account of the dog and their experiences with it, as opposed to concentrating on factors that may have led to the dog’s withdrawal. If the PW / re-homer agreed to take part in the study, a date and time was agreed upon for the researcher to phone them to conduct the interview. For each case, information on the dog and partnership was retrieved from the database used by Guide Dogs, and semi-structured interviews were conducted with the dog’s PW and re-homer.

5.2.2 Materials

5.2.2.1 Interview schedules

The interview schedules for the PWs and re-homers was based on the interview schedule used for the interviews with GDOs (see Chapter Four). The demographic questions were kept in the same format with questions re-worded to reflect puppy walking or re-homing a guide dog, as opposed to owning one as a mobility tool. For example ‘How many guide dogs have you owned in total?’ became ‘How many guide dogs have you puppy walked in total?’ for the PW interview schedule.

The PW interview began with questions relating to their wider experiences of puppy walking and then focusing on the retired dog. The section on the retired dog was based on relevant questions from the GDO interview schedule. Finally, a section with questions that were specific to each case was added. These questions were based on specific information gleaned from the interview with the GDO in that case. These were mostly regarding the reason for the withdrawal, for example if a dog was withdrawn for aggression towards other dogs, a question on the dog's experience with other dogs during puppy walking was asked.

The re-homer interview schedule followed a similar pattern to the PW version, without the section on puppy walking experience. A few questions were also added relating to their knowledge of the withdrawal and any contact they had with the GDO in the case. The full interview schedules can be found in Appendices 1-3.

Drafts of the schedules were read by the principle supervisor and based on their feedback a second draft was produced. This was then circulated to Guide Dogs staff with knowledge on premature retirement. Based on their comments a third and final draft was produced. As the schedules were based on the one used for GDOs, it was decided not to pilot these schedules and instead to use these as the final version.

5.2.2.2 Digital recorder

An Olympus Digital Voice Recorder DM-670 was used to record the interviews. All interviews were downloaded onto a computer as an audio file once the interview was complete.

5.2.2.3 GDI-R

Aside from the interview accounts, all data were extracted from GDI-R. GDI-R is the database currently used at Guide Dogs to track all the dogs in the organisation from birth to retirement. Access to the database by the researcher was approved by Guide Dogs through a material transfer agreement. Data gathered from GDI-R included the dog's health records, CAS reports, client assessments and reports written by the GDMI on the partnership.

CAS reports are completed throughout puppy walking and training. They assess the dog's behaviour and work performance through a scored representation of specific behavioural traits and an overall summary, which includes an overall training and health grade, as well as a free text section. Scored behavioural traits are divided into three sections (1 – Working Situations, 2 – Non-Working Situations, 3 –

Skills Acquisition). Working Situations and Non-Working Situations are scored on a likert scale of 1-4, 1 indicating that the dog demonstrates the best performance for that particular trait and 4 the worst. Skills acquisition was scored similarly, though on a likert scale of 1-7. As with the two other sections, higher scores indicated a poorer performance on a skill, so that 1 indicates the dog demonstrates the best performance for that particular skill and 7 the worst. The overall training and health grades are on a likert scale of 1-4, with 1 indicating a very good standard of training/health and 4 indicating a very bad standard. The Guide Dogs staff member carrying out the assessment can use the free text section to add any additional comments about the dog.

5.2.3 Procedure and Analysis

5.2.3.1 Data collection

Data collection was carried out from March 2014 to March 2015. This included finding, selecting and extracting data from GDI-R. To begin, a search of the available data stored on GDI-R for each case was conducted. Information deemed to relate to the outcome of the partnership was selected for analysis. This information included characteristics of the dog, e.g. breed and sex; details of the dog's training e.g. information from the CAS reports; and key characteristics of the partnership e.g. dog withdrawal reason and partnership duration. The client mobility and guide dog assessments, as well as the reports on the partnership, starting from the matching visit were also selected for analysis. A full list of this data can be found in Appendix 5. The selected data were read and appraised for each case. This was then summarised in excel spreadsheets.

Semi-structured interviews with PWs and re-homers were also conducted. When conducting interviews, the same procedure as described in Chapter Four was carried out.

5.2.3.2

5.2.3.3 Individual and cross case analysis

Once data collection was complete, the various sources of evidence were converged (see Figure 8 for an illustration of this). A summary of each case was then compiled. This included a description of the owner and dog separately prior to the partnership, the matching criteria for the pair, their relationship prior to the withdrawal and the withdrawal. A time line was then constructed, detailing the dates of the various training stages and any key aspects pertaining to the eventual withdrawal of the dog. The similarities and differences between the data sources for each case were also described. Based on the case summary, an interpretation of the data by the researcher on the reasons for the breakdown of the partnership was made.

Figure 8 - Convergence of sources of evidence for each case in a study exploring the reasons for premature retirement of a guide dog

Once each individual case analysis was compete, a cross case analysis was undertaken. This involved a thematic analysis of the summaries for each case in order to identify themes that emerged across the cases. To do this a table was constructed with the key features of each case. The columns were as follows:

- Puppy walking (the dog's puppy walking environment)
- CAS assessments (an overview of all assessments)
- Character (the dog's character based on the GDI-R data and GDO, PW and re-homer accounts)
- Boarders (number of times dog boarded and number of boarders)
- Vision (the owner's vision)
- Guide dog / animal experience (the owner's experience of owning guide dogs or being around animals prior to the partnership)
- Lifestyle (the owner's lifestyle)
- Matching (the matching requirements of the dog and owner)
- Working (the working relationship)
- Pet (the pet relationship)
- Withdrawal (reason for withdrawal)
- Withdrawal reason observed prior to match (yes or no)
- Time line (a summary of when the issues leading to withdrawal were identified)

- Conclusions (the conclusions reached by the researcher on the reason for the breakdown of the partnership)

5.3 Results

In this section an overview of the characteristics of the dogs and owners involved in the partnerships that made up the cases is given. Next, a summary of each case study is provided. This consists of a description of the case (including further details on the dog and owner at the time of the study), a time line and a description of the similarities and differences amongst the various forms of data collated for each case. The case summaries cover a description of the case from the data collected, with direct quotes from interview accounts and data extracted from GDI-R to illustrate in some instances. Following on from this, conclusions reached by the researcher based on an interpretation of the data is discussed. Finally themes that emerged from the cross case analysis are described.

5.3.1 Overview of cases

Nine partnerships were eligible for this study. One of these partnerships was excluded as the dog came from a guide dog school in Canada. As this is a different organisation to Guide Dogs, the procedures for the upbringing and training of this dog were not comparable to the others. In two partnerships, the PWs had also re-homed the dogs; they initially agreed to take part in the interview but later changed their mind. One dropped out due to ill health, the other did not give a reason for changing her mind. This left just the owner interview and GDI-R reports, which would have been inadequate to compile a comprehensive case study. Therefore these two partnerships were excluded from the study, resulting in six cases for this study.

In two of the six cases included in the study, two had incomplete data sources. In one case the re-homer could not be reached by telephone as he had stopped volunteering for Guide Dogs and his number was no longer valid. The researcher sent letters explaining the study with contact details to his postal address but received no response. The re-homer in the other case had requested not to be contacted by Guide Dogs for research purposes. Therefore the GDO interview, PW interview and GDI-R records made up the data set for these two cases.

Table 3 provides information on the six partnerships that formed the cases for this study. Further demographic information on the owners involved in the cases can be found in Table 1 (Chapter Four).

Table 3 - Characteristics of six guide dog partnerships, investigated as in-depth case studies to explore the reasons for premature retirement of a guide dog

Case	Owner name*	Dog name*	Withdrawal reason**	Dog sex	Dog breed	Length of partnership	Owner since withdrawal***
1	Luke	Penny	Scavenging in harness	Female	Golden Retriever x Labrador Retriever	8 months	Waiting list
2+	Susan	Marley	Unacceptable behaviours for guiding	Male	Labrador Retriever	9 months	New guide dog
3	Aria	Dodger	Slowing down	Male	Golden retriever x Flatcoat Retriever	7 months	Waiting list
4+	Zack	Faline	Dog distraction	Female	Labrador Retriever x Golden Retriever	9 months	Waiting list
5	Toby	Belle	Aggression – dogs	Female	Labrador Retriever	6 months	New guide dog
6	Logan	Bolt	Negative dog distraction	Male	Golden Retriever x Labrador Retriever	11 months	New guide dog

* Psuedonym
** As reported on GDI-R
*** Guide dog status
+ No data from re-homer

5.3.2 Case summaries

5.3.2.1 Case 1 – Luke and Penny

5.3.2.1.1 Key names

Penny – Guide dog
Luke – GDO
Kylie – PW
Lynette – Re-homer
Kate – GDMI

5.3.2.1.2 Case description

5.3.2.1.2.1 Penny

Penny was born in a litter of eight puppies. Penny's PW, Kylie was an experienced PW having puppy walked eight dogs prior to Penny, six of which had gone on to become working guide dogs. According to Kylie, one was withdrawn from training for being overly excitable, whilst the other had issues with traffic. In the household were Kylie and her four children, whose ages ranged from 16 – 20. Kylie lived in a village and owned ponies in addition to puppy walking Penny. Kylie described Penny as an obedient dog and "lovely natured", which she thought was quite typical for a guide dog. According to Kylie, Penny was physically quite "butch" and was a "bruiser" as she liked a lot of physical play and would often get quite dirty playing in mud, etc. Lynette, Penny's re-homer also described Penny in this way. She was described as being sociable with humans and extremely intuitive when interacting with them according to both Kylie and Lynette. Kylie recounted that one of her daughters had ill health and would occasionally keel over. When this happened Penny would "stand right by her and would actually be there trying to get her back on her feet." Coincidentally Lynette also had a daughter with ill health. Lynette recounted the following about Penny when her daughter would get upset as a result of her condition "Penny will literally come up, turn around and try and sit on her lap and lick the tears off her face". She described Penny as being "very emotionally in tune with people". Penny was also described as being very intelligent by both Kylie and Lynette. When asked what Penny was like when it came to food, Kylie stated that Penny was very food oriented and would often scavenge food. Lynnette also described Penny as food oriented and reported that she would scavenge, including taking food from people's hands. GDI-R records during puppy walking also reported that Penny would scavenge for food.

During puppy walking Penny was attacked twice by other dogs. Kylie felt that this made her very anxious of other dogs and led to her becoming aggressive towards them. She stated that before the attacks took place she would ignore other dogs. She described that Penny "had to get in first so she would give all the barking and the attitude and everything" and would "lunge first at every dog we passed". In an effort to overcome this, Kylie would spend time with Penny outside a vet surgery where there would be a lot of dogs passing by, using treats to train her not to be aggressive. Dog distraction and aggression towards dogs was reported throughout puppy walking and early training (ET) in GDI-R.

Penny's records on GDI-R show that she was boarded four times during puppy walking. One of these occasions showed that the role of PW was transferred from Kylie to someone else for the 11 days that they had Penny before being transferred back to Kylie. The remaining three occasions were with a different boarder. In addition to the reports of scavenging and dog distraction / aggression, Penny was also often reported as distracted with no reference to the stimulus. During puppy walking she was reported to be very good with children. In ET her Guide Dog Trainer (GDT) reported that she loved handler interaction. In advanced training AT her GDMI reported that she was attention seeking. In the first six puppy walking CAS reports, Penny was given an overall score of 1, from the 7th report until qualification she was scored 2.

5.3.2.1.2.2 Luke

Luke was registered as blind and described as having blurred only peripheral vision. He lived alone and was retired. He had great grandchildren and was still in contact with his ex-wife. Luke described his lifestyle as not being very busy. On a typical day he would do some gardening and things around the house but regarded himself as active, regularly going on long walks and using a variety of public transport to visit different places. Luke described having dogs in the family from a young age and also stated he had pet cats in the past. Luke had experience with both the long cane and previous guide dogs as mobility aids. Of the five guide dogs he had prior to Penny, three of these were also withdrawn for behavioural reasons. Two were withdrawn for scavenging and one for stopping on walks, which according to the report on GDI-R was thought to be linked to the dog's spending routine and being low in confidence.

5.3.2.1.2.3 Matching

In Luke's guide dog assessment he was described as having a 'moderate walking speed', requesting a dog that went no faster than this. He was stated as having a 'natural handling style', being a 'fluid mover', quick at interpreting dog's movements, that he 'works dogs to a high standard' and that he 'worries'. The assessor felt that he had a 'naturally commanding manner', made 'good use of praise' and was good at 'firm negative handling'. However they also stated that his history of two dogs that were withdrawn due to scavenging suggests that he was 'unwilling/unable' to put this type of handling into practice. In addition it was stated that previous experience suggested that his remaining vision was 'of minimal use in spotting upcoming distractions'. The assessment stipulated that he required a guide dog that could be worked in a variety of environments on long routes and could be around other animals and children. It was stated that the dog should exhibit 'good social behaviour in company'. Luke preferred to have a female dog with good stamina and good on public transport. It was also specified that the dog should have 'vocally controllable distractions only' and that Luke should be matched ASAP. Unlike the guide dog assessment, the matching visit was conducted by Luke's GDMI, Kate. She described Penny as a 'bright, willing, confident' dog who was 'good socially'. It was stated that Penny got distracted by people and dogs but that this was easily controlled with the use of voice and light physical handling. During the visit Kate observed a 'lengthy walk' in Luke's local area, it was stated that Luke was happy with the match.

5.3.2.1.2.4 Relationship

During on-class training Kate observed that Luke and Penny had 'settled' and walked at a fast pace. They were to 'work on positioning' and the 'use of physical control' when Penny became distracted. Kate also stated that they needed to work on Penny's 'straight line work', 'response to speed' and to further expose her to distractions by going on walks in areas high in distractions. In the final on-class report it was felt by the acting line manager that Luke and Penny had reached a 'good/satisfactory standard of work'. He also reported that Luke would need to use physical correction to control Penny when she got distracted and that he would need to keep on top of 'speed/tension'.

At the first aftercare visit, Kate described Luke and Penny's work as 'all satisfactory'. She went on to say that they had reached a 'good standard' but that Penny was attempting to scavenge and was distracted by dogs. She advised Luke to use physical control for these problems, however Luke was reluctant to do this as his previous dog had become unwilling to work and he didn't want to reduce Penny's enthusiasm to work. She advised him that this form of handling would be fine to use with Penny and it was 'necessary to ensure concentration'. No problems were reported at the next aftercare visit where Luke and Penny's work was again described as 'all satisfactory'. The third aftercare visit was carried out by a different GDMI. Although it was a routine visit, it followed a phone call from Luke saying that he could no longer work with Penny, however he reconsidered. The GDMI reported that Penny required 'strong physical control' when distracted by dogs and cats but acknowledged that it could be difficult. She reported a high level of scavenging but that Penny was good socially. It was stated that Penny could get excitable when someone came to the door and that Luke didn't have many opportunities to free-run Penny, however he would do when he had family support. The GDMI observed Penny 'lining up for food and checking gutters'. To avoid this she practiced giving Luke advance warning of upcoming food so that he could control Penny early. This improved the problem and Penny was 'avoiding food by the end of the walk'. To follow up on this the GDMI recommended Luke ask friends to follow his walks to give him early warning as she did, in the hopes that this would 'put doubt in the dog's mind'. She also reported that Luke was 'able to control dog and cat distractions with the lead'. Following on from this visit Luke and Penny undertook some refresher training with Kate. During this training they worked on Luke being able to prevent scavenging attempts and arranging opportunities for Penny to go on free runs to burn off additional energy.

Luke described Penny as being a 'lovely little girl', a great dog who was a good companion to him. He felt she was an 'excellent working dog' and that they were 'settling in quite well'. He described feeling worried when letting her free run, something he feels with all his dogs as there is a chance they may 'have a bit of a scrap' with other dogs that are also free running. However he stated that Penny would return to him when he whistled or called. Luke referred to his relationships with dogs in general, including Penny as being a mutually dependent one and described the home environment with them as 'this was their home and my home and we shared it'.

5.3.2.1.2.5 Withdrawal

When asked about Penny's withdrawal Luke stated that he asked for her to be withdrawn due to an incident he had with her. He went on to describe three similar incidents. The first one took place close to Luke's house when he and Penny were on a 'working walk'.

The pair passed by a child in a pushchair who was with a slightly older child, whilst the mother of the children spoke to a friend across the road. The child in the pushchair had a bag of sweets, which she offered to Penny. Penny took the sweets and Luke felt that this led to Penny looking out for food from children in pushchairs from then on. The next incident happened outside Luke's local post office. He was unaware of exactly what happened here, a report was made to Guide Dogs concerning a woman with a child in a pushchair. He speculated that Penny took a sweet from the child as before. The final incident took place when Luke and Penny were with Luke's ex-wife, on their way to his ex-wife's house. They were passing a bus stop where there were approximately half a dozen people waiting for a bus and limited space due to a shop that had plants outside the premises. A woman with a child in a pushchair were waiting at the bus stop and Penny took something from the child's hand. In doing this, Penny pierced the child's skin with her teeth and the child began to cry. Luke spoke to another woman who witnessed the incident who informed him that 'it's OK' and that Penny had 'just' scratched the finger. He stated that he had not felt any tension on the handle and had not realised that Penny had done anything. Luke asked for Penny to be withdrawn following this incident as he 'was worried about it happening again'. The reports on GDI-R also describe this last incident and state that this led Luke to make the decision to withdraw Penny.

5.3.2.1.2.6 Time line

14th April 2010 (Penny born)	
2nd June 2010 – 13th June 2011 (Puppy walking)	• Attacked by dog twice (3 week interval) – treats used by PW training Penny to be comfortable around dogs • Reports of Penny scavenging
14th June – 23rd October 2011 (ET)	Reports of Penny being distracted
24th October 2011 – 23rd January 2012 (AT)	Reports of Penny being distracted

24th January – 13th February 2012 **(On-class training)**	
- *2nd February 2012* *(2nd on-class training report)*	Luke advised to implement physical correction with handle and lead to regain concentration when Penny distracted
14th February – 26th September 2012 **(Working)**	
- *14th February 2012* *(Qualified)*	Stated that Penny's distractions need to be controlled more at times with some physical as well as vocal correction
- *9th March 2012* *(6 week routine aftercare visit)*	• Report of Penny scavenging • Luke advised to increase lead correction – he is reluctant to do this due to experience with previous dog
- *23rd June 2012* *(26 week routine aftercare visit)*	• Different GDMI following phone call from Luke to say he no longer wants to work with Penny • Physical control advised for dog & cat distractions • High scavenging witnessed – GDMI assisted with early warning of oncoming food, advised to continue with friends • Lack of opportunity for free runs reported
- *24th July 2012* *(Refresher training)*	Scavenging and free run opportunities addressed

- *24th August*	Penny takes food from child's hand whilst on working walk
- *29th August 2012 (Non-routine aftercare visit)*	• Luke decides he no longer wants to work with Penny • Penny withdrawn from work and placed with boarder
- *26th September*	Penny permanently retired from work

5.3.2.1.2.7 Similarities, differences and inconsistencies in the data sources

The accounts given by Kylie and Lynette were very similar in their descriptions of Penny. Both described her as an intuitive, intelligent, sociable dog who enjoyed physical play. They also both commented on her love of food and that she would scavenge. Her scavenging was commented on in the CAS reports carried out during puppy walking, although there is an inconsistency in one of the reports where it is stated that she had 'not stolen any food but will take the odd thing'. In the CAS reports Penny was also reported to get distracted by other dogs and to exhibit aggression towards them. This was mentioned in Kylie's account, where she indicated that this was the result of Penny being attacked by two other dogs.

In both the mobility and guide dog assessments Luke was described as being active. This concurs with how he described himself during his interview. According to the mobility assessment Luke had owned five guide dogs prior to Penny, however when asked how many guide dogs he had owned in total Luke said he had owned five. As the interview was conducted after Luke had owned Penny this is one less than indicated in the mobility assessment. Records on GDI-R confirm that Luke had owned five guide dogs prior to Penny. In the mobility assessment report it was stated that two of the five previous guide dogs were also withdrawn from work for scavenging. However it was suggested in Luke's account that he had no experience with dog scavenging in the past when he said "I mean in all the years I've had dogs – I mean it's been 20 odd years now and that umm I've-I've never had that issue happen". However, he may have been referring to the specific incident of Penny taking food from a child's hand.

There were reports of Penny scavenging and getting distracted throughout her training and working life with Luke. Excluding the three occasions that he described Penny taking food from children, this was not mentioned by Luke. Only the last of these, which led to Penny's withdrawal was reported on GDI-R. The previous two occasions that were similar in nature were not mentioned. However in the final aftercare report the following was stated 'Following another incident where Penny snatched a treat from a child's hand whilst working in harness', which implied that this had happened before. The account given by Luke on the incident that led to Penny being withdrawn from work corresponded with the description of the event in the incident investigation form and the aftercare visit summary.

5.3.2.1.3 Conclusions

Based on analysis of the data for this case it is suggested that the partnership failed as a result of an inappropriate match between the client and dog. There were many qualities in the pair that were not compatible. Luke had owned two guide dogs prior to Penny that were withdrawn for scavenging, suggesting that he may have found it difficult to implement the handling abilities required to control this behaviour. Penny had a history of scavenging and was reported as being extremely food oriented. Whilst Luke was reported as being good at firm negative handling, it was reported that the scavenging displayed by his previous guide dogs suggested he did not put this type of handling into practice. It was recommended that he be matched with a dog that has 'vocally controllable distractions only'. Throughout the partnership there were reports of the need for Luke to use more physical control with Penny. It was stated in his first aftercare visit that he was reluctant to do this as one of his previous dogs had stopped working and he did not want to discourage Penny. In describing Penny's matching requirements it was stated that voice and light physical handling were needed to control her distractions.

Luke had a very small amount of residual vision. This was highlighted as another possible reason he had problems controlling scavenging behaviour with his previous guide dogs. To address this, a GDMI walked behind Luke during an aftercare visit and warned him of upcoming food. They recommended Luke continue to do this with friends or family to put doubts into Penny's mind. However this may not have been practical and would counteract the aim of increased independence by working with a guide dog. With the description from both Kylie and Lynette of Penny's intelligence and ability to 'read' people, it is plausible that Penny would intuit that Luke was unaware of food on walks in the absence of others. Placing a dog that has a history of scavenging and has a good ability to read people with a client with very little residual vision may exacerbate the problem as the dog realises it can scavenge unnoticed.

The restrictions in Luke's vision meant that he was often unaware of upcoming food that could distract Penny from her work and that Penny was scavenging. It is likely that this was compounded by Penny's ability to intuit that Luke was not attentive to her scavenging, and Luke's concern over reprimanding her. Therefore her scavenging escalated, resulting in a situation that caused safety concerns for Luke and Guide Dogs.

5.3.2.2 Case 2 – Susan and Marley

5.3.2.2.1 Key names

Marley – Guide dog
Susan – GDO
Carol – PW
Allen – GDMI

5.3.2.2.2 Case description

5.3.2.2.2.1 Marley

Marley had seven litter mates. Marley was puppy walked by Carol who lived in a village with her husband and 15 year old daughter. Carol had previously puppy walked seven potential guide dogs, having been a PW for six years before getting Marley. She stated that one of the seven hadn't qualified as a guide dog as Guide Dogs were unable to find a suitable match for the dog. Marley was described as being a stubborn dog who 'enjoyed being naughty' by Carol. She stated that he possessed the ability to carry out work and exhibited good behaviour when he did work, however this would always be on his terms. Carol described having difficulties toilet training Marley and that he destroyed all his toys. He was reportedly aggressive towards people, for example Carol's daughter would sit crossed legged on a chair to avoid Marley lunging at her and trying to bite her feet. A number of tactics were used to try to correct unwanted behaviour, however Carol stated that she 'couldn't keep up with him most of the time'. Carol felt that Marley was quite unsociable, stating 'he wasn't a touchy-feely dog, he didn't like to be stroked or anything'. She believed that his 'naughty' behaviour was as a result of him being a very intelligent dog who became bored very easily and constantly needed to be kept active. She 'often wondered if he had ADHD'. She also felt that a lot of this behaviour was to get a reaction from her. Marley progressed onto ET at 11 months of age, which is relatively early as this stage of training does not usually start until the dog is about 14 months. Carol stated that this was because Guide Dogs believed he needed more stimulation and was therefore ready for training.

The behavioural description given by Susan was similar to those in reports made about Marley throughout puppy walking and training. Susan described Marley as being disobedient and recounted that ‘he was quite chewy’. She stated that ‘he had a habit of jumping up on the side to get things’ and ‘he used to like nicking the cat food a lot’. In addition to these challenging behaviours Susan also described him as a cuddly and friendly dog who ‘got over excited’. She also described Marley’s enjoyment of ‘running around the garden’ and that he loved squeaky toys. In the reports on GDI-R Marley was reported to ‘have problems with mouthing and barking’, have ‘issues with concentration and obedience’, be ‘over boisterous with other dogs’, steal socks and be inconsistent with recall. There was also a report of him chasing a child at the park. The fifth puppy walking CAS report described Carol’s frustration with her lack of ability to get Marley settled in the evening and the assertion that as Carol worked he was not ‘getting enough stimulation and needs more to do’. During ET and AT Marley was given scores of 6 and 7 for traffic skills in his CAS reports. In the second CAS during AT it was stated that Marley was to stay in training longer as there were no suitable matches and to allow him to settle with his boarder, work on the handler bond and because he ‘needs a little more time to mature’. Marley stayed with three different boarders during AT and his GDMI changed approximately three months into this stage of training.

5.3.2.2.2.2 Susan

Susan had not owned a guide dog prior to Marley, using a cane to aid her mobility. She suffered from tunnel vision and had difficulties with contrast; her vision was better in her left than her right eye. In addition she had some hearing loss. Susan lived with her parents and their dog; she also had a dog in addition to a cat and a hamster. Susan worked in a library and went out with friends in the city that she lived in.

5.3.2.2.2.3 Matching

When out and about, Susan liked to take her time so walked at a ‘slow moderate pace’. Her dog handling ability was described as average in her guide dog assessment and it was stated that she preferred using praise to negative handling. The importance of allowing the dog to work without letting her ‘functional vision to interfere’ was explained to her. Susan wanted a guide dog to improve her confidence in getting around her city and reduce her reliance on friends. She would take the dog on a range of medium length routes. It was important that the dog she was matched with was able to work around other animals, children, in a variety of public places and at the library where she worked. The assessor specified that the dog be calm and ‘not requiring a lot of control or support’, whilst Susan requested it be ‘affectionate and not overly excitable’. The matching visit between Susan and Marley was carried out by their GDMI, Allen. He described Marley as an ‘oddball’ but stated that Susan was happy with the match.

5.3.2.2.2.4 Relationship

Allen indicated that during on-class training Marley and Susan were to work on dog care and welfare and basic guiding skills. He described the pair’s work together as satisfactory. Throughout the pair’s aftercare visits Allen continued to comment that their work was satisfactory until their routine aftercare visit at 26 weeks. Susan reportedly had ‘concerns about dog distraction and excitability’. Allen commented that he would contact Susan to ‘discuss Marley’s future with Susan’. These were still issues at the annual routine aftercare visit, as well as barking at people on the bus and variable responses to recall.

In her interview, Susan also discussed Marley’s poor recall and tendency to be distracted by dogs when working. She also recounted that he was distracted by people when working. Susan had difficulties taking Marley on buses as he ‘didn’t like going into the space in between the seats and would fidget’. According to Susan’s account, she had experienced difficulties with Marley both when working and not working from the start, but had hoped that these issues would be resolved as Marley got older. Despite the problems she had with him, Susan stated that she formed a bond with him as a pet dog. She liked having him around and got comfort from him. According to Susan’s account Marley liked to be near Susan, so much so that he would whine and sometimes chew things he shouldn’t, if she left him alone in a room. She also recalled how pleased she was when she taught Marley to play fetch, as he didn’t know how to play this game before and she felt he enjoyed playing it.

5.3.2.2.2.5 Withdrawal

Susan’s decision to withdraw Marley was partly due to the problematic behaviour described above; however she emphasised that it was mainly as a consequence of his inconsistent behaviour when working that she felt was dangerous. She described an instance when Marley walked into the road when they were at a crossing when told not to, which resulted in Susan having to pull him back. She also recalled that there were times when she could 'tell he wasn't really concentrating' on his work, as he was distracted by other dogs. Marley's excitability when meeting people was another factor in her decision. She stated that 'it was very hard to get him in line, get him to lay down and do as he's told'. Excitability was cited on the withdrawal report on GDI-R under 'Known behavioural issues'. Also noted here was his chewing behaviour and inappropriate barking. The reason declared for Marley's withdrawal on this report was 'Behaviour incompatible with guide dog role'.

5.3.2.2.2.6 Time line

8th April 2010
(Marley born)

26th May 2010 – 28th February 2011
(Puppy walking)

- Reports of challenging behaviour
- Behavioural problems attributed to boredom and decision to progress to training early for more stimulation

1st March – 25th July 2011
(ET)

- Reports of challenging behaviour
- CAS traffic scores – 6/7

26th July – 4th December 2011
(AT)

- *27th July 2011*
  (2nd AT report)

Reports of challenging behaviour

Decision to keep in AT for longer as no suitable matches and to settle with boarder and form handler bond

5th – 19th December 2011
(On-class training)

20th December 2011 – 11th September 2012 (Working)	Reports of challenging behaviour from Susan
- *24th August 2012 (Routine 26 week aftercare visit)*	Susan reported dog distraction and excitability to Allen – note for Allen to contact Susan to discuss future of partnership
- *10th September 2012 (Routine annual aftercare visit)*	Marley reported to bark at people on the bus, get distracted by dogs, get overexcited and have variable recall
- *11th September 2012*	Marley permanently retired from work

5.3.2.2.2.7 Similarities, differences and inconsistencies in the data sources

The challenging behaviour described by Carol and Susan and stated in the CAS reports was very similar. However, these behaviours weren't commented on by Allen until the pair had been working together for 8 months. When Marley's behaviour was commented on in this report and the following one, there was no mention of the inconsistencies of his traffic work mentioned by Susan as her main reason for deciding to withdraw him. Another discrepancy between sources is regarding Marley's temperament. Whilst Carol described him as being unsociable, Susan stated that he was cuddly and friendly. Whilst there was a statement that Marley needed more to do in his fifth puppy walking CAS report, there was no mention of him starting training earlier due to this. Finally, there was an inconsistency in the fourth aftercare visit report. According to this it was a routine annual visit, however the pair had only been working together for nine months on this date.

5.3.2.2.3 Conclusions

The data gathered on this case paints a picture of a dog with a number of challenging behaviours demonstrated since puppyhood. It is therefore suggested that the main reason this partnership was unsuccessful is because Marley was unsuitable for guide dog work. Based on reports from Carol, his PTSup and GDT it is questioned whether Marley should have qualified as a guide dog. Whilst the majority of the problematic behaviour demonstrated by him did not directly relate to his ability to carry out guiding work, e.g. jumping up on people, this is something that would interfere with it.

There were references made to Marley's need for stimulation as the reason he exhibited these challenging behaviours. It would make sense to have matched Marley with someone with a varied lifestyle as Susan had, e.g. her work and going places in the city. However his behaviours would also indicate that he was in need of a very experienced dog handler who would be able to manage him. Whilst Susan had experience with dog handling as she lived with pet dogs, this was her first guide dog. The task of learning how to work with a guide dog for the first time creates its own set of challenges, without the added burden of having a guide dog with a multitude of behavioural problems. In addition, if these sorts of behaviours are exhibited by a pet dog, whilst frustrating, they would not impact on the ability of the owner to get out and about safely as it does with a guide dog. Many guide dogs also accompany their owner to work, as was the case with Susan and Marley. This is another example of how behavioural problems of a guide dog can be more challenging than a pet dog. Therefore it is suggested that another contributing factor to the failure of this partnership was an unsuitable match between the client and dog.

5.3.2.3 Case 3 - Aria and Dodger

5.3.2.3.1 Key names

Dodger – Guide dog
Aria – GDO
Susan – PW and re-homer
Tara – GDMI

5.3.2.3.2 Case description

5.3.2.3.2.1 Dodger

Part of a litter of six, Dodger was puppy walked by a fairly experienced PW called Susan who also went on to re-home him after he retired. The household included Susan's husband and two daughters. Susan had been puppy walking for five years prior to Dodger, puppy walking two dogs before him. According to Susan, neither of her previous dogs had qualified as guide dogs, one for health reasons and one for problems with travelling. Susan described Dodger very positively, stating 'Dodger was a dream from the start' and referring to him as ‘brilliant’ and ‘saint Dodger’. She made comparisons between Dodger and the other two dogs she had puppy walked to illustrate how well behaved Dodger was. According to her account, Dodger enjoyed his training during puppy walking and she had no problems with him when walking with his lead. Susan described Dodger as ‘gentle’ and ‘faithful’. She stated that he’s a ‘happy dog’ who ‘loves to go on his walks’ and can get ‘quite licky’ and ‘a bit overexcited’ when he met new people. Susan felt that Dodger was very much a part of the family and often played a guardian-like role for her daughters. She described him as ‘like nanny out of Peter Pan’ when her daughters were younger. It was Susan who took on the main responsibilities for looking after Dodger and she described their relationship as close, stating that he would follow her everywhere.

Towards the beginning of puppy walking, it was reported that Dodger occasionally needed vocal encouragement when walking on lead. However for the remainder of puppy walking and throughout ET he was reported to walk well on the lead, to be willing and eager to train and to enjoy interaction with his handler. In the final CAS report of ET it was reported that two in every ten times Dodger would ignore the ‘forward command’. When Dodger progressed to AT he was reportedly ‘inconsistent with speed and tension’ and ‘better on familiar routes’. Dodger spent most of his time during AT living with a boarder. His last few weeks of AT as well as on-class training and his first few weeks post qualification were overseen by a different GDMI to his main one, Tara. Aria described Dodger as being a lovely, laid back dog who enjoyed free running and playing with his toys and her pet dog.

5.3.2.3.2.2 Aria

Aria had no remaining vision and had owned guide dogs for over forty years prior to Dodger, owning a total of nine guide dogs before working with him. She lived with her husband who also owned a guide dog, as well as her son with his wife and two children aged two years and eleven months. In addition to her sight loss Aria had Meniere’s disease, which meant she made regular visits to the hospital and GP and could sometimes lose her balance. Having grown up on a farm Aria had a lot of experience with farm animals and cats that also lived on the farm. Her children had also owned hamsters and rabbits when they were younger.

5.3.2.3.2.3 Matching

Aria required a guide dog to help her get to the local shops, the hospital and the GP. As her grandchildren were living with her, the dog needed to be comfortable around babies and toddlers. To account for her health condition it was reported that the dog needed to have a 'slow/moderate pace'. Her health also prevented her from using physical control with the dog, however her 'voice motivation' was described as 'good'. It was stated in Aria's guide dog assessment that the dog may be left alone for up to five hours if she was to go to her child's house. It was explained to her that she would need to spend time with the new dog. The assessor outlined the need for an undemanding dog that wouldn't 'take advantage' of Aria's 'limited capacity', was 'steady in harness', 'good in heavy traffic', 'low in distraction' and able to 'work in tandem' with her husband and his guide dog. It was also noted that Aria took her current guide dog on few free runs and the importance of doing this was explained to her. It was stated that a volunteer would need to be sourced to help Aria with free running the new dog. In Dodger's CAS reports he was described as having a slow/moderate pace. Aria and Dodger's GDMI, Tara carried out the matching visit. She described Dodger as a 'sensitive male' who 'needs routine'. It was stated that Aria and Dodger had a 'lovely walk' and training was to commence the following month.

5.3.2.3.2.4 Relationship

Aria described Dodger as a family member who she 'loved to bits'. She described him as a lovely dog who she had a close relationship with. Aria felt Dodger's work was 'very good' and described him as being 'very careful', never walking her into anything. She also stated that he had a very slow walking pace, which got 'slower and slower' over time. Dodger's slow speed was commented on by a GDMI who carried out one of the pair's on-class training reports. She stated that this had been discussed during the matching visit and was expected to improve. Apart from this, the pair were described as having 'settled' and to be making 'good progress'. In the final on-class report Tara described Aria and Dodger as being a 'good match' who had made 'good progress'. She also stated that Dodger was a 'little slow' but that she thought this would 'improve with confidence'. However during the first two routine aftercare visits Aria reported that he was still slow. Tara stated that she had hoped it would have 'settled by this point' but Aria was not concerned and when observing a walk she stated that it was a 'good standard and acceptable speed'. Dodger was also described as being ‘cautious with traffic and road safety’. Aside from this the two were stated to have developed a ‘strong bond’.

5.3.2.3.2.5 Withdrawal

In Aria’s interview she explained that Dodger was withdrawn because of his extremely slow walking pace. She felt this was because ‘he didn’t want to work’ as he ‘never got excited’ when she got the harness out and ‘always ducked his head down’ to stop her putting it on. She described that he had begun to stop and sit down, ‘not wanting to go’ when she went out with him and rang Guide Dogs to inform them of this. She went on to say that they observed a very short walk before deciding to withdraw him as he had ‘had enough’. This was described in a non-routine aftercare report, whereby Dodger was described as slow and looking ‘miserable’. Dodger’s slow walking speed and reluctance to go out was described as being the reason for withdrawal told to Susan in her account. When asked if she had noticed this behaviour since re-homing Dodger, Susan said no stating that he ‘trots along lovely on the lead’. However she mentioned that if his lead was tugged ‘he will come to a near enough stop’ and she speculated that perhaps Aria had been ‘pulling on his lead too much’.

5.3.2.3.2.6 Time line

13th April 2010 **(Dodger born)**	
2nd June 2010 – 6th June 2011 **(Puppy walking)**	
- *22nd July 2010* *(2nd puppy walking CAS report)*	Dodger reported to occasionally need vocal encouragement when walking on lead
7th June – 7th November 2011 **(ET)**	
- *21st October 2011* *(4th ET CAS report)*	Dodger reported to ignore forward command two out of ten times
8th November 2011 – 22nd January 2012 **(AT)**	Dodger reported to be inconsistent with speed and tension

23rd January – 9th February 2012 (On-class training)	Dodger reported to be slow but thought to improve with confidence
10th February 2012 – 10th September 2013 (Working)	Dodger reported as slow at routine aftercare visits
- *7th August 2013 (Non-routine aftercare visit)*	• Following phone call from Aria reporting Dodger to be slow and stopping short walk observed. • Tara stated Dodger to be too slow and looked miserable • Decision made to withdraw Dodger – to stay with Aria until boarder found
- *15th August 2013 (26 week routine aftercare visit)*	• Reported that Dodger to keep working with Aria until a replacement dog is found with 3x monthly visits to check working standards – Aria back on the waiting list • Dodger reported to still be too slow – Aria to contact Guide Dogs if slows more
- *10th September 2013*	Dodger retired from work

5.3.2.3.2.7 Similarities, differences and inconsistencies in the data sources

Dodger was described positively by both Susan and Aria, with both of them commenting on how well behaved he was. Susan described him as a gentle dog. Similar descriptors were given by Aria who commented that 'he let the other dog boss him around' and Tara who described him as a 'sensitive dog' in the matching visit report. However the accounts differ when it comes to Dodger's walking speed and behaviour when on walks. Susan described her own walking speed as quite fast and stated that she didn't have any issues with Dodger's speed. She also said that there were no problems when he was on lead. Whilst the majority of the CAS reports carried out during puppy walking concurred with this account, describing Dodger as 'walking well on lead', in one of the early

CAS reports it was stated that he ‘occasionally needed vocal encouragement when walking on lead’. In ET his speed was described as slow/moderate, which contrasts with Susan’s account and it was stated that he would sometimes ignore the forward command. During AT he was described as ‘inconsistent with speed and tension’. Aria’s description of Dodger when working also contrasts with Susan’s account, fitting more with the reports written about Dodger on GDI-R that he was slow.

Aria described herself to have a ‘close relationship’ with Dodger and stated that she ‘loved him to bits’. This concurs with Tara’s report that the pair had developed a ‘strong bond’ in her aftercare reports. Aria’s account of Dodger’s slow speed and unwillingness as the reasons for his withdrawal match the descriptions given in the aftercare visit reports and the withdrawal report on GDI-R. Susan also recounted that this is what she was told was the reason he was retired.

5.3.2.3.3 Conclusions

The various accounts suggest that Dodger possibly didn’t have a great deal of enthusiasm for guiding work. He was described as being slow in many accounts and there seemed to be agreement that he did not enjoy his work. This was illustrated in Aria’s account who described his reluctance to have the harness put on and Tara’s report that he looked miserable in the aftercare visit when he was withdrawn. This lack of enthusiasm may be attributed to his sensitive and gentle nature. Susan described him as being very gentle, recounting an occasion when he showed interest in playing with other dogs whilst free running but not being assertive enough to join in. Aria also stated that he would be bossed around by the other dog and Tara described him as being sensitive in the matching report. It is arguable that the role of a guide dog requires a certain level of robustness to deal with the demands of the work and the many stimuli encountered when working. One of the main predictors of success at qualification is fearfulness.

There are a number of statements of Dodger enjoying handler interaction throughout his training. It may be that he required a high level of support from his handler to overcome his sensitivities when working, or that this type of interaction was something he enjoyed, without which he became unhappy and thus lost enthusiasm for working. Either way, this level of interaction may be unfeasible for a client to carry out when on a working walk as there are so many other things to contend with, such as remembering routes, listening out for traffic and concentrating on the dog’s subtle movements in harness. It is therefore suggested that Dodger may not have had a suitable temperament for guiding duties. However it may also be the case that Aria was unable to give the level of interaction whilst working that Dodger required but there may be some clients who would be capable of this. In this instance it could be argued that the match between Aria and Dodger was unsatisfactory.

Another possible interpretation of this case is relates to Dodger's interactions with his handler. His slow walking pace and reluctance to work may have been a result of him picking up on Aria's anxieties and trepidation when walking. It is possible that Aria didn't feel completely secure when walking due to her balance problems. Based on Aria's account, she shared a close bond with Dodger and therefore Dodger may have picked up on Aria's low confidence when working. This in turn may have caused anxiety in him and reduced his enthusiasm for work.

5.3.2.4 Case 4 - Zack and Faline

5.3.2.4.1 Key names

Faline – Guide dog
Zack – GDO
Greta – PW

5.3.2.4.2 Case description

5.3.2.4.2.1 Faline

Faline was one of a litter of eleven puppies. Her PW, Greta had over thirty years of experience puppy walking and had lost count of how many dogs she had puppy walked in her interview. She recalled that two of the dogs had not qualified, one because it was not comfortable in harness and so went on to be a hearing dog and one that was inconsistent in its work. Along with Greta's husband, Faline lived with their pet cat and dog during puppy walking. Faline was described as a lively dog who enjoyed going for walks around the countryside where they lived with Greta's pet dog. Greta described Faline as friendly and good natured, a dog that enjoyed meeting people and was 'fun'. She stated that Faline had an 'ideal temperament'; she was very good all the way through puppy walking, she was a 'biddable' dog and was 'responsive and a real joy'. Greta felt that Faline was a member of the family, a 'good companion' who would 'curl up beside' her in the evenings.

Throughout puppy walking and training Faline was reported to be easily distracted. Her distractions varied and included dogs, people, food and toys. In her seventh CAS report during puppy walking it was stated that she was cautious in meeting other dogs. Whilst Greta mentioned taking Faline to a park where there were a lot of other dogs to free run in order to ensure Faline was comfortable around other dogs, she did not mention the nature of the interactions Faline had with these dogs. Zack stated that Faline 'could be a lovely dog' but she was 'like a stroppy teenager' who wanted 'her own way'.

5.3.2.4.2.2 Zack

Zack was a piano tuner who travelled a lot for his work. He had no remaining vision and used all different types of transport when travelling. He had owned three guide dogs prior to Faline and lived with his wife and the guide dog that preceded Faline who he kept as a pet.

5.3.2.4.2.3 Matching

In Zack's guide dog assessment he was described as a 'Londoner' who tended to rush and was 'reluctant to adapt his own routines' for a dog. For example, he fed the dog that preceded Faline once a day instead of twice as it fit 'better with his work schedule'. It was stated that he needed educating and that he appreciated that he would have to limit his work initially. It was stipulated that he needed a 'robust and positive' dog who could be self-sufficient when left alone whilst Zack carried out his work. As Zack's work took him to a variety of locations he needed a dog that was comfortable in 'offices, pubs, clubs, cafes, schools, concert venues and private homes'. It would also need to be comfortable around other animals and children. The assessor described the dog required as 'bomb proof, positive worker, adaptable, resilient' and 'good socially'. It should also indicate when it needed to spend. At this assessment Zack stated that he would prefer a Labrador as he had previously had a Golden Retriever who was stubborn. According to the report, the assessor discussed Zack's need to 'adapt his handling style and work load when training with a new dog' with him and he would also need to need to 'manage his expectations of a new dog'. It was also explained to Zack that there would probably need to be a 'compromise regarding a dog being sound enough to cope with workload, but quiet socially'. At the matching visit, Faline was described as a 'bright and energetic' dog who 'enjoys work, finding objectives and being in new environments'. It was agreed that training would commence a couple of weeks later.

5.3.2.4.2.4 Relationship

Zack described Faline as being a good worker but she ‘fell down on the social behaviour and behaviour towards other dogs’. He stated that she was distracted from her work by other dogs and was ‘aggressive towards them’. He also said that her behaviour ‘wasn’t as good as my other three dogs’. During his interview he spoke about the importance of his guide dog’s social behaviour being ‘exemplary’ and that Faline’s behaviour ‘wasn’t as good as it should have been’. He felt that Faline should not have qualified as a guide dog. Zack recounted that she got free runs and relaxation, he stated that he made sure that his dogs always got rest to compensate for his busy lifestyle. He also recalled that sometimes he had to ‘reprimand’ her, which ‘doesn’t look good in the public eye’ but that he did what he was ‘told to do’ by Guide Dogs. When asked what role Faline played Zack said ‘guide dogs are a mobility tool. That’s what they’re there for’ and that you have to give them love, understanding and relaxation, but Faline was there to be a mobility tool. Later on in the interview he went on to say that Faline was attentive and that he ‘wouldn’t ever hurt’ her or any animal and that ‘they’re part of the family’. When asked if he ever went to Faline when he was feeling low he answered ‘no you don’t do that’, stating that ‘you have people to do that’ and that ‘dogs don’t understand that’ and Faline wouldn’t have ‘been able to do anything about it’. However he reported that if Faline was feeling down he would comfort her.

When Zack and Faline first started on-class training the GDMI aimed to ensure Zack was comfortable and understood ‘the handling skills required’ for Faline. The partnership was described to be progressing well on the whole, however there was an incident reported where Faline went ‘past the objective and jumped off a low wall’ causing Zack to fall. Zack reported having not been concentrating and ‘simply followed the dog’. The assessor stated that Zack often made ‘orientation errors’ and was very reliant on Faline and needed to be ‘more aware of surroundings’. They also said that Faline had not done this in the past and they were unsure as to why it happened. In the first two aftercare visits following qualification the pair’s work was described as ‘satisfactory’, however Zack reported that Faline was distracted by dogs. The GDMI advised Zack to ‘flick’ the handle and use a ‘firm voice’ to overcome the dog distractions and it was stated that this worked when observed. She was also reported to steal other dog’s toys whilst free running and to bark at other dogs. At the 26 week routine aftercare visit it was stated that this was a ‘priority visit following a complaint from the public’ on Zack’s dog handling when he was ‘disoriented in town’. Zack reportedly said that he was ‘stressed and frustrated’. During the visit, it was stated that Faline was ‘working in gentle leader’ and that this assisted with dog distraction and she worked ‘well when focused’. A muzzle was also being used when Faline was on a free run to stop her from stealing other dog’s toys. It was stated that Zack and his wife weren’t happy managing this so further work was necessary. It was also mentioned that Faline spent three times during the observed walk. Zack was reported to be ‘happy with this, but doesn’t pick up after dog as never has and hasn’t been taught in training’. Although Faline’s spending routine, control needs and distractions, obedience and social work and recall were all classed as unsatisfactory, the assessor commented that the work observed during the visit was of a satisfactory standard. A few weeks after this visit the pair underwent refresher training. The assessor aimed to help Zack to handle Faline in a ‘calm professional manner so as to reduce public concern’. During the second session of the refresher training it was stated that Faline’s dog distraction improved with Zack sitting Faline as soon as she got excited or there was an increase in tension on the harness. It was also mentioned in this report that the use of praise by rubbing Faline’s chest was received well, ‘as dog does appear hand shy when client tries to touch or stroke her head or ears’. According to the report her dog distraction ‘was of a safe and appropriate level’ during a walk in the third visit. This visit followed another complaint from a member of the public who had observed Zack trying to make Faline sit following her being distracted by a dog. Faline was described as having a complex temperament and that Zack was to decide whether to proceed with her. In the notes it was commented that there had been three complaints from members of the public recently and that ‘future complaints may mean Guide Dogs withdrawing’ Faline. Zack and Faline had two GDMIs throughout their relationship. One undertook AT with Faline and worked with them through on-class training and the first six months of their relationship. The second one then took over and was the person in charge of the partnership when Faline was withdrawn.

5.3.2.4.2.5 Withdrawal

It was reported in the withdrawal report on GDI-R that Faline was withdrawn due to ‘unacceptable and uncontrollable levels of dog distraction’. It was also stated in this report that she was distracted by balls and toys, which led to poor recall. There was a non-routine aftercare visit made, which was when the decision to withdraw Faline was made. In this report Zack was reportedly tired and stressed after reporting another incident whereby Faline had barked and lunged at another dog, so it was agreed that she would be withdrawn. In his interview Zack stated that he initiated the decision to withdraw Faline due to her aggressive behaviour towards small dogs. He also said that Guide Dogs were going to withdraw her anyway.

5.3.2.4.2.6 Time line

4th April 2010 **(Faline born)**	
19th May 2010 – 9th May 2011 **(Puppy walking)**	• Reports of Faline being easily distracted • Report of Faline being cautious greeting other dogs
10th May – 29th September 2011 **(ET)**	Reports of Faline being easily distracted
30th September – 27th November 2011 **(AT)**	• Reports of Faline being easily distracted • Report of Faline chasing balls, Frisbees, etc in park
28th November – 21st December 2011 **(On-class training)** - *19th December 2011*	Report of Faline jumping off a wall causing Zack to fall – Zack reportedly not concentrating on surroundings and GDMI stated he was too reliant on Faline and advised to be more aware of surroundings

22nd December 2011 – 24th September 2012 (Working)

- *1st February 2012 (6 week routine aftercare visit)*
  - Faline reported to steal other dog’s toys when free running
  - Zack reported Faline to be distracted by dogs – a flick on the handle and firm vocal advised
  - Zack using muzzle when free running to stop Faline stealing other dog’s toys

- *10th April 2012 (16 week routine aftercare visit)*
  - Faline reported to bark at ‘small yappy dogs’ – Zack reported started a few weeks prior when a ‘small dog had a go’ at her

- *7th June 2012 (26 week routine aftercare visit)*
  - Priority visit following complaint from member of public about Zack’s handling of Faline – Zack aware of incident, reported stressed and frustrated
  - Faline reported to be distracted by dogs
  - Muzzle still being used when free running – Zack and wife not happy with this

- *2nd July 2012 (Refresher training – 1st session)*

  Objective to assist Zack in managing and controlling dog distraction in a calm and professional manner so as to reduce public concern

- *12th July 2012 (Refresher training – 2nd session)*	• Dog distraction reported to have improved with Zack getting Faline to sit when excited • Rubbing Faline's chest as praise well received – Faline appears hand shy with Zack
- *19th July 2012*	Complaint from member of the public re Zack making Faline sit following dog distraction
- *25th July 2012 (Refresher training – 3rd session)*	• Visit following complaint – dog distraction reported to be at safe and appropriate level • Zack to consider options – 3 complaints recently, future complaints may lead Guide Dogs to withdraw Faline
- *31st August 2012 (Non-routine aftercare visit)*	Zack reported Faline barking and lunging at dog – agreement to withdraw Faline
- *25th September 2012*	Faline retired from work

5.3.2.4.2.7 Similarities, differences and inconsistencies in the data sources

Slightly different accounts were given of Faline's character. Her PW Greta described her as a friendly dog with an 'ideal temperament'. There is no mention of her being easily distracted. However according to the CAS reports, Faline was very easily distracted by a number of stimuli starting in puppy walking. Zack corroborated this in his account of Faline. There was also a report of Faline being cautious when meeting other dogs. In Zack's account he described Faline as being aggressive towards other dogs. Greta made no mention of the type of interactions she had with unknown dogs. Contrary to Greta's positive description of Faline, Zack stated that whilst she 'could be' lovely, she wanted 'her own way'.

Reports on GDI-R that stated Zack's extensive travelling for work was also commented on by Zack in his interview. There were a number of reports on GDI-R that made reference to complaints being made about Zack from members of the public. Whilst Zack didn't directly refer to these during his interview, he did mention reprimanding Faline, which he felt didn't look good in the public eye. Zack mentioned that Faline would steal toys whilst she was free running, this was also stated in the aftercare reports. However, there were reports on GDI-R of refresher training undertaken by the pair that Zack did not recount in his interview. Zack attributed Faline's withdrawal to her aggressive tendencies towards dogs. The withdrawal report stated the reason as being 'unacceptable levels of dog distraction'.

5.3.2.4.3 Conclusions

Based on the data gathered on this case it is suggested that a guide dog may not have been an appropriate mobility aid for Zack. Based on the comments in the guide dog assessment, it may not be feasible to find a dog that meets his requirements. This was relayed to Zack by the GDMI, as well as the need for flexibility and a different attitude to dog handling. However, it is stated in the reports on GDI-R that he was reluctant to make changes for a new dog. The numerous complaints from the public suggest that this inflexibility may have caused him to get frustrated with Faline's behaviour. In his interview he made references to the need for a guide dog's work to be exemplary and that Faline's behaviour was not to an acceptable standard. It may be that his expectations of a guide dog are unrealistic and would need to be lowered if he is to have a successful guide dog partnership.

The match between Zack and Faline may also have been a contributing factor to the breakdown in their relationship. Zack had three guide dogs prior to Faline, none of which were prematurely retired. This suggests that if a suitable match is made, he may have a successful partnership with a guide dog. It may be that Zack's previous dogs were more passive and acted in a way that Zack felt was acceptable. However, if this is the case the dog's welfare should also be closely monitored. It is important the dog is not negatively affected by Zack's disinclination to change his routines and behaviour to meet the needs of the dog.

Faline's history with unfamiliar dogs should also be taken into consideration. During puppy walking, Faline was reportedly cautious when meeting other dogs. This suggests that she experienced some anxiety when encountering other dogs and she may have exhibited this as aggression when working with Zack. Faline had a different type of relationship with Zack to the one she shared with Greta. Whilst with Greta, Faline was considered primarily a companion, Zack stated that

Faline was primarily a mobility tool. This difference in the relationship with her owner may have resulted in the different ways she expressed her anxiety around other dogs. She may have felt less security with Zack compared to Greta, so that her anxiety around other dogs was heightened and caused her to act aggressively towards them.

Based on the data for this case, the partnership may have broken down for several reasons. It is suggested that a guide dog may be an inappropriate choice of mobility aid for Zack. It could also be argued that Zack and Faline were not an ideal match.

5.3.2.5 Case 5 – Toby and Belle

5.3.2.5.1 Key names

Belle – Guide dog
Toby – GDO
Sophie – PW
Ivan – Re-homer
Max – GDMI
Pippa – Guide dog's dam

5.3.2.5.2 Case description

5.3.2.5.2.1 Belle

Belle was part of a litter of nine and was born at her PW, Sophie's house. Sophie had previously puppy walked six guide dogs, all but one of which had qualified as a guide dog. According to Sophie the one that didn't qualify was withdrawn for health. Sophie was also a Brood Bitch Holder who owned Belle's mum Pippa. Sophie chose Belle from the litter to puppy walk and so Belle also lived with Pippa whilst being puppy walked. Also in the house were Sophie's three children, a cockatiel and a goldfish. Sophie described Belle as being 'curious', 'inventive', a fast learner and a puppy that would 'get into everything'. She cited these attributes as the reason for choosing Belle to puppy walk, stating that she 'stood out' from the litter. Toby also described Belle as being a very clever dog and 'a sharp cookie'. Sophie said Belle was 'quite lovable' and that she would take a soft toy with her when she went places, using it as a pillow. She stated that Belle was affectionate and attentive but was also quite anxious, particularly of balloons. Whilst Sophie described Belle as being 'like one of the family', she stated that her and the family were used to puppy walking and saying goodbye to the puppies, so they 'weren't attached to her at all'. According to Sophie, Belle was friendly and sociable with both humans and other dogs. Belle's re-homer, Ivan, also reported her to be sociable with humans, however he stated that she was not as comfortable with unfamiliar dogs. When asked about Belle's character, Ivan described her as a bossy and stubborn dog who likes to 'pinch socks'.

There are mixed reports of Belle's behaviour around other dogs in the CAS reports throughout puppy walking. An early CAS report states that she was calm around dogs whilst free running, later reports describe her barking at other dogs, which was curbed by enticing her with food. It was also mentioned that she was calmer when Pippa was not in the house and in the ninth CAS she reportedly seemed to prefer being the only dog in the house. Towards the end of puppy walking, the CAS reports stated that her tendency to bark at other dogs had improved, however there were further reports of her barking and lunging at dogs during ET. Again this reportedly improved by the end of ET. The CAS carried out during AT gave Belle a score of 2 for aggression towards animals, indicating she had 'displayed mild threatening behaviour' and the assessor commented that she exhibited distractions to animals. Her GDMI, Max, also reported Belle to be distracted by other objects and to have 'disproportional reactions to environmental stimuli'. He attributed this to Belle having a high number of movements during puppy walking, leaving her with 'a sense of enhanced self-reliance' as 'she feels she has a responsibility to look after herself' and reported that her distractions were exhibiting her anxiety through displacement. Belle was boarded five times during puppy walking, each time with a different boarder. Belle's tendency to be easily distracted by animals and to bark at dogs was also described by Toby.

5.3.2.5.2.2 Toby

Toby had not previously worked with a guide dog, having used a long cane to assist in his mobility needs. Whilst he did have remaining vision, it was 'wobbly and had little detail'. He suffered with double vision, night blindness and he found bright light painful. Prior to getting Belle, Toby had owned a pet dog, however he stated that he wasn't in charge of this dog, so he 'hadn't had a clue on how to be responsible for another living thing'. However, it was stated in his guide dog assessment that he owned a caged bird.

5.3.2.5.2.3 Matching

A different assessor carried out the guide dog assessment to Max who completed the mobility assessment. They reported that Toby required a guide dog to go on walks both in the country and town using a variety of different modes of transport. His girlfriend at the time of the guide dog assessment had breathing problems and this was to be taken into consideration when matching by having a trial period with the girlfriend present around the dog. Toby was described as having a moderate walking speed and was good at positive handling, whilst average at negative handling. It was specified that the dog be comfortable around other animals, pubs, clubs, cafes and children. The assessor recommended a small-medium dog to accommodate Toby's house size, who was confident, had stamina and responded to positive rather than negative handling. Max carried out the matching visit. In this report Belle was described as energetic and dominant, whilst Toby was referred to as an intelligent and motivated handler. It was commented that Toby required support to 'harness and direct high standard and qualities of dog' and that he 'seems capable'. It was stated that there was potential for a good partnership.

5.3.2.5.2.4 Relationship

Toby described his relationship with Belle as not being 'so bad' in the early days but becoming progressively worse due to her distractions by animals. He felt they had a good bond in the beginning but that he was constantly trying to get her to focus and by their seventh month of working together he 'couldn't handle her anymore'. He recalled losing trust in her as a working partner, but that he would go to her for comfort if feeling low or upset.

During on-class training the pair were reported to be progressing well and to have reached a safe and good standard of work. At the six week routine aftercare visit the pair's work was reported to be satisfactory, however Toby had reported Belle to be distracted by other dogs. It was stated that this was not observed during the visit and that Toby attributed this to the GDMI's presence.

5.3.2.5.2.5 Withdrawal

In his interview Toby recounted that he made the decision to have Belle withdrawn due to her being distracted by and chasing other dogs. He stated that it put him under too much stress and he couldn't change Belle's behaviour 'no matter what advice' was given. In the sixteen week routine aftercare visit it was stated that Belle was being withdrawn 'following an incident with a dog attack', which caused her dog distraction to reach an 'unsafe and unacceptable level'. A similar description was given in the withdrawal report. Ivan stated that Belle was attacked by another dog, which caused her to lose her confidence and become fearful.

5.3.2.5.2.6 Time line

30th April 2010 (Belle born)	
16th June 2010 – 17th July 2011 (Puppy walking)	Belle reported to be distracted by other dogs and to bark at them
18th July – 7th November 2011 (ET)	Belle reported to bark and lunge at other dogs
8th November 2011 – 5th February 2012 (AT)	• Belle reported to be distracted by animals and to display mild threatening behaviour towards them • GDMI states distractions due to self-reliance of Belle as a result of numerous movements during puppy walking
6th February – 4th April 2012 (On-class training)	
5th April – 26th October 2012 (Working)	
- *28th March 2012 (6 week routine aftercare visit)*	Toby reported Belle being distracted by dogs but not seen during visit – Toby attributed to presence of GDMI
- *1st October 2012 (16 week routine aftercare visit)*	Decision made to withdraw Belle following a dog attack increasing her dog distraction
- *26th October 2012*	Belle retired from work

5.3.2.5.2.7 Similarities, differences and inconsistencies in the data sources

Sophie reported Belle to be friendly and sociable with other dogs, however she was reported to bark at them in the CAS reports throughout puppy walking and training and by Toby. From both Sophie and Toby's accounts, Belle appeared to be an intelligent and inquisitive dog. In Toby's interview, when asked about his previous experience with animals he reported previously having a pet dog. He did not mention having a pet bird at the time of having Belle, although this was stated in the guide dog assessment and he answered 'no' when asked if he had any other pets or animals in the house. The guide dog assessment made mention of Toby's girlfriend's breathing problems being factored into the matching visit, however there was no mention of this in the matching visit report.

Toby's reports of Belle being distracted by other dogs was mentioned in the six week routine aftercare visit report. However, whilst he attributed Belle's withdrawal to the stress caused by her dog distraction, he made no mention of a dog attack heightening the problem as discussed by Ivan and reported on GDI-R.

5.3.2.5.3 Conclusions

The numerous reports of Belle's distractions and aggressive behaviour towards dogs suggests the problem may have been too great for her to be suited to guiding work. The data suggests that she was prone to aggressive behaviour and displayed anxieties before the dog attack incident occurred so this may not be the root cause of her withdrawal as stated in the GDI-R reports and by Ivan. It may also be that her aggressive behaviour towards other dogs was what initiated the attack in the first place. However it can also be argued that a client who had experience of owning guide dogs may have been able to handle her behaviour better and the problem may have been resolved. In both the puppy walking and ET reports her barking at other dogs seemed to improve in both by the end of the periods. This suggests that with consistent handling with the same handler her behaviour around other dogs may have improved.

The comment made by Max about Belle's anxiety and self-reliance due to the numerous movements during puppy walking may be accurate. Belle was boarded five times during puppy walking, all with different boarders. In addition, Sophie stated that her and her family tended not to get attached to the dogs they puppy walked as they knew they would have to say goodbye to them. It may be that Belle did not have a stable foundation during her puppyhood making her anxious and subsequently aggressive towards unfamiliar dogs. In conclusion, Belle may not have been suited to guiding due to instability during puppy walking producing anxieties and aggressive behaviour towards other dogs. However being matched with a client with experience of guide dogs who was able to use a consistent, stable handling approach with her may have helped this problem.

5.3.2.6 Case 6 – Logan and Bolt

5.3.2.6.1 Key names

Bolt – Guide dog
Logan – GDO
Bob – PW
Winona – PW
Laura – Re-homer
Lorraine – GDMI

5.3.2.6.2 Case description

5.3.2.6.2.1 Bolt

Bolt had seven litter mates and went on to be puppy walked by Bob and Winona. Having previously puppy walked seven puppies, Bob and Winona had a lot of experience of puppy walking. All but one of their previous dogs had qualified as a guide dog, however a reason was not given for this dog's withdrawal. The interview for the case study took place with Bob. In this interview Bob described Bolt as being a 'lovely dog' who was an 'absolute pleasure' despite going through a 'terrible teenage phase'. He recounted that during this time Bolt wouldn't come back to him when let off the lead for a free run and would pull on the lead when heading towards the park. However he stated that they worked through these problems and he 'came round'. Bob described Bolt as a 'bright', 'big strong' dog who enjoyed being 'out and about and busy'. Bolt's re-homer, Laura also commented that Bolt was a 'big dog' in her interview and Logan described him as 'very big'. According to Logan, Bolt loved going for long walks and free running but got bored when taken around the shops. Bob recounted having a very strong bond with Bolt, which he described as 'one man and his dog'. He stated that Bolt was extremely attentive to him, so much so that he would sometimes 'ignore other people'. Bob explained that Bolt spent a lot of time with him as he would take Bolt to work with him and as Bolt was such a 'big powerful guy', he was too strong for Bob's wife so it was mainly Bob who walked him. Laura described Bolt as having a puppy mentality. This is similar to Logan who described Bolt as being ‘a right goof’ and ‘boisterous’. He also spoke about his tendency to ‘bounce around’. Laura described Bolt as ‘absolutely wonderful’ and ‘what you would wish any dog to be’. She stated that he loved children, animals and chasing balls. Logan also spoke about Bolt’s love of children.

Bob recounted that Bolt was socialised with other dogs from an early age and ‘never had an issue with them’. This was also stated by Laura, who described Bolt as getting along with various dogs belonging to her son and friends as well as unknown dogs he comes into contact with when free running. In contrast, Logan stated that Bolt was often aggressive towards other dogs. Throughout puppy walking Bolt was reported to be distractible and scored a 3 for both attentiveness and distraction in most of the CAS reports throughout this period. His distractions were also commented on during ET, however it was reported that it was improving. During AT dog distraction was reported. It was also stated that he would ‘grumble’ when in the car and a dog passed and that his tail would go up ‘in a negative way’. Dog distraction was also described as ‘positive or negative’ and there was a report of Bolt lunging at dogs. Bolt was originally matched with another client, who he qualified and worked with for about two weeks before he went back to AT. According to GDI-R, this was because the client decided they could manage without a guide dog.

5.3.2.6.2.2 Logan

Logan had owned one guide dog prior to Bolt. He spoke very highly of his first guide dog and often talked about her during his interview. He lived with his wife and their two pet Collie dogs before getting Bolt. Whilst Logan had remaining vision, he described it as being like ‘looking through cellophane’ during his guide dog assessment.

5.3.2.6.2.3 Matching

Logan required a dog for walking both in the city and the fells near where he lived. The guide dog assessment report stated that he walked at a moderate speed, was good at positive handling, whilst average at negative handling and used his remaining vision well. It was stated that the dog needed to be comfortable with other animals, pubs, clubs and cafes. According to the report Logan had specified a yellow bitch due to previous experiences with his pet collie and that it was going to be ‘a tall order’ to find a dog with the same qualities as his last dog. The assessor specified that the dog be adaptable, willing and of a quality standard with ‘few vices’. It was also commented that ‘selection’ was ‘essential for client’ and that temperament was important.

Lorraine, Bolt’s GDMI carried out the matching visit. She described Bolt as being a ‘lovely, willing boy’ who had a ‘good standard of work’ and had ‘good initiative’. However she also said that he could get ‘excitable when gets attention’ and that he had had both positive and negative reactions with dogs. It was stated that three matching visits were made and that at each of these Logan’s pet dogs snarled and snapped at Bolt but this had gotten better each time. She commented that apart from this the pair were a good match and she hoped the dogs would settle.

5.3.2.6.2.4 Relationship

When talking about his first meeting with Bolt, Logan stated that his work was ‘very very good’, however he also stated that he ‘ended up with my head in his mouth’, which he interpreted as affection. Logan stated ‘I absolutely enjoyed him enormously’ when asked how he would describe his relationship with Bolt. However he also spoke about Bolt's reactions to both unfamiliar dogs and his pet dogs. According to Logan, Bolt’s behaviour was variable in this regard and he couldn’t comprehend why he was aggressive sometimes and not others. In describing Bolt’s work, Logan would refer to Bolt as ‘coping’ or ‘managing’.

During on-class training Lorraine described the partnership as ‘developing nicely’ and stated that ‘all the dogs seemed to have settled’. However she also stated that the younger of the two pet dogs was ‘protective’ of his toys causing Bolt to ‘be silly’. In addition she stated that there was a ‘lack of input’ from Logan and that Logan would ‘frequently look down’ at Bolt, thus ‘giving eye contact’ and that he would use ‘inconsistent handling when indoors’ and give ‘confusing commands’. By the final on-class report, the pair were reported to be working well together and Logan’s vocal support had improved. It was stated that it was taking time for Bolt and the pet dogs to ‘settle without some minor conflict’ but that this was getting ‘better each day’. The first two routine aftercare reports stated that Logan and Bolt’s work was satisfactory and that Bolt was ‘using his nose a lot’ without Logan correcting this. This was also reported in the 26 week routine aftercare visit, as well as Bolt’s reluctance to go in between seats when on the bus.

5.3.2.6.2.5 Withdrawal

A non-routine aftercare visit stated that during an incident between Bolt and the younger pet dog, the pet dog and Logan's wife had been injured. It was reported that there were continuing problems with Bolt's behaviour towards Logan's pet dogs and unfamiliar dogs, therefore he would be withdrawn. The withdrawal report cited 'aggression towards pet dog' as the reason for withdrawal. Included in this report were comments that Bolt could not 'read other dogs well' and 'reacted inappropriately at times'. It went on to say that whilst he 'has shown aggression' he is 'generally fine with other dogs'. In the section for other relevant information, it was stated that Bolt was best in a house with no other dogs and that Bob and Winona had recently reported that he could be jealous if other dogs were getting attention. An incident investigation report described the incident between Bolt and the pet dog in more detail. It stated that whilst Logan was giving a treat to the older pet dog, Logan's wife came home with the younger pet dog. Logan reported the young pet dog to curl his lip at Bolt, resulting in Bolt trying to bite the young pet dog. Logan's wife put her arms around the young pet dog and got bitten by Bolt. In this report Lorraine also gave her opinion of what happened. She described the young pet dog as having seizures and that the vet described him as 'autistic', leading Bolt to feel uncomfortable around him as Bolt is not good at reading other dogs. She felt the confined space with food on offer led Bolt to react to the young pet dog's signal. She also stated that Bolt 'must have gone in a second time to have bitten wife'.

Logan described a similar incident with some differences. He stated that Bolt went for the older pet dog. He also didn't mention either of the pet dogs curling their lip at Bolt, or that there was food on offer. He described his wife arriving home with the older dog and Bolt attacking the dog straight away. He also stated that Bolt 'went for him' twice, getting his wife the second time. Lorraine also stated that she had been told Bolt was withdrawn for getting into a fight with one of Logan's pet dogs and biting the wife when she put her hand in to separate them.

5.3.2.6.2.6 Time line

21st March 2010
(Bolt born)

4th May 2010 – 5th April 2011 **(Puppy walking)**	Reports of Bolt being distracted

6th April – 28th August 2011 (ET)	• Reports of Bolt being distracted • Report of Bolt taking longer to return on free runs if dogs present
29th August – 6th November 2011 (AT)	• Reports of Bolt grumbling when saw dogs when waiting in car and putting tail up in a negative way • Report of positive and negative dog distraction displayed by Bolt and that he was lunging at dogs
7th – 24th November 2011 (On-class training with previous owner)	
25th November – 5th December 2011 (Working with previous owner)	Decision made for Bolt to return to AT as client decided they could manage with a guide dog
6th December 2011 – 3rd January 2012 (AT) - *30th December 2011 (Matching visit report)*	Report of Logan's pet dogs being aggressive towards Bolt in three visits – progressively better at each visit
4th – 18th January 2012 (On-class training)	• Report of younger pet dog being protective of toy leading to Bolt 'acting silly' • Report of Logan using inconsistent handling and giving confusing commands
- *19th January / 2nd February 2012 (Final on-class reports)*	Reported that takes time for Bolt and pet dogs to settle without minor conflict but getting better

19th January – 20th December 2012 (Working)	According to Logan's interview Bolt showing aggression towards pet and unknown dogs
- *19th & 20th April 2012 (16 & 6 week routine aftercare visits)*	Reports of Bolt 'using nose' a lot and Logan not correcting
- *6th November 2012*	Bolt attacks Logan's pet dog – wife injured during attack
- *12th November 2012 (Non-routine aftercare visit)*	Decision to withdraw Bolt following incident with pet dog
- *28th December 2012*	Bolt retired from work

5.3.2.6.2.7 Similarities, differences and inconsistencies between data sources

Bob, Laura and Logan all described Bolt as being a big dog. Logan and Laura also described him as being quite young in nature. This fits with the reports written about Bolt during puppy walking and training of him being quite excitable and easily distracted. Logan and Laura also both stated that he liked children. According to Logan, Bolt could react aggressively towards other dogs, this was also stated in some of the reports on GDI-R, although these were usually more vague using language like 'raised tail in a negative way'. In contrast, Bob and Laura both described Bolt as behaving well with other dogs and didn't report any problems with him. However in the withdrawal report, Lorraine stated that Bolt's PW had recently informed her that Bolt would get jealous if attention was paid to another dog. Bob did not mention this in his interview. The CAS reports described Bolt as being generally distracted, not just by dogs, however this was not mentioned in any of the other data sources.

Logan spoke about the aggression between Bolt and his pet dogs during his interview. This was also reported by Lorraine during the matching visits and on-class training. The accounts given by Logan, Laura and Lorraine are quite similar with regard to the incident that led to Bolt's withdrawal. However there are slight differences between them with regard to the events immediately preceding the incident, the pet dog involved and the behaviour exhibited by the pet dog/s. There were also some inconsistencies in the dates of the various reports. In the matching visit report it was stated that three visits took place, however there was only one report. The date given for the six-week routine aftercare visit was one day after the 26 week routine aftercare visit. In addition there were two final on-class reports written.

5.3.2.6.3 Conclusions

From the data gathered it is suggested that this partnership failed due to an inappropriate match between Bolt and Logan's household. Whilst there are inconsistencies in the accounts regarding Bolt's behaviour towards other dogs, it was believed by Lorraine who matched Logan and Bolt that Bolt had 'displayed negative reactions' towards dogs in the past. There was also aggression displayed by Logan's two pet dogs towards Bolt during the matching visits. Not only may this hinder the work performed by the guide dog but the dog's welfare is also called into question. It also appears as though Logan's handling style may have contributed to the failure of this partnership. There were reports of him using inconsistent handling and giving confusing commands. Therefore his handling may have exacerbated the problems between the dogs. Whilst Bolt and Logan may have been a good match on an individual level, Logan's household was not suitable for Bolt.

5.3.3 Cross case analysis

Thematic analysis of all cases was conducted to identify common themes. Eight themes emerged from this cross case analysis. These were 'PW characteristics', 'Distraction', 'Owner characteristics', 'Matching contradictions', 'Withdrawal characteristics', 'History of withdrawal reason', 'Inappropriate match' and 'Suitability'. Each theme will be described with examples from the data.

5.3.3.1 PW characteristics

Two common characteristics of the PWs in these cases were identified. All the PWs were female. Whilst they all lived with other people, all the named PWs on GDI-R for the six cases were female, including Case 6 where a man and woman were both named as PWs. In addition, all the PWs in these six cases had previous experience of puppy walking. This number of dogs varied greatly between PWs, with the lowest being two and the highest being eight. The difference may be greater than this as one PW had been puppy walking for over thirty years and forgotten how many dogs she had puppy walked.

5.3.3.2 Distraction

Four out of the six dogs were reported to be easily distracted in the CAS reports. This ranged from being scored or described as being generally high in distraction to specific distractions being named. All of the dogs that were reported to be easily distracted also had reports of showing aggression or caution towards other dogs. Two of these four dogs went on to be withdrawn for aggression towards dogs. Whilst the official withdrawal reason given for Case 4 was dog distraction, the owner in this case also reported that the dog showed aggression towards other dogs.

5.3.3.3 Owner characteristics

Five of the six owners in these cases had previous experience of owning pets before having the case study dog. They did not always have the full responsibility for the pet but all described having had some sort of experience with them. The species included dogs, cats, hamsters, rabbits and birds. Four out of the five owners who had owned pets had owned dogs. Another common characteristic shared by five of the six owners in this study was their preference or better ability to carry out positive voice handling over negative physical control. Specifically, Luke expressed unwillingness to exert physical control over his dog, Penny, and Susan expressed a preference for praise over negative handling. Aria was unable to exert physical control over her dog due to her medical condition. The remaining two owners, Toby and Logan, were both described as being good at positive handling whilst average at negative.

5.3.3.4 Matching contradictions

It became apparent when analysing the reports on GDI-R for each case that there were often contradictions in the matching requirements. Three of the six cases contained contradictions in the requirements of the owner and the characteristics of the dogs. In Case 1, it was stated in the guide dog assessment that Luke requires a dog with vocally controllable distractions only. In the matching report, his dog, Penny, is described as having distractions that are controlled with voice and light physical handling. In Case 2, Susan is described as requiring a calm and not overly excitable dog. The matching visit report only describes her dog, Marley, as an oddball, however other reports state that he can be overly boisterous. In Case 6, Logan is described as requiring a dog that is good with other animals. His dog, Bolt, was described as sometimes showing negative reactions towards other dogs.

5.3.3.5 Withdrawal characteristics

In three of the cases studied, a specific incident spurred the decision to withdraw the dog. In Case 1, Penny took food from a child’s hand resulting in an injury to the child, which led her owner, Luke, to make the decision to withdraw her. In Case 5, Belle was attacked by another dog, which increased her dog distraction to a level deemed unsafe and unacceptable. In Case 6, Logan’s wife was injured during an aggressive incident between Bolt and one of Logan’s pet dogs. In all three of these cases it was the owner who made the decision to withdraw the dog. In fact, the withdrawal was initiated by the owner in all but one of the six cases. It was described by the owners that whilst Guide Dogs were in agreement that the dog be withdrawn, it was them that had made the final decision.

5.3.3.6 History of withdrawal reason

In all six cases the eventual reason for withdrawing the dog was observed either by the PW, the GDT or the GDMI prior to the dog being matched with a client. In five of the cases this dated back as far as puppy walking, and in four of these five it was observed throughout the dog’s various stages of training and whilst working.

5.3.3.7 Inappropriate match

An inappropriate match was suggested as being a possible cause of the breakdown of the partnership in all six cases. In Cases 1 and 6, it was concluded that the match between the owner and dog was the sole reason for the premature retirement. Whilst in the remaining four cases an inappropriate match was cited as being one of the possible reasons for the partnership being unsuccessful. Even though this theme ran through all six cases, the nature of the mismatch varied between cases. Case 1 revolved around Penny’s distractible and intuitive nature coupled with Luke’s lack of remaining vision. Case 2, 3 and 4 involved the dog’s temperament not being suited to the client. Marley’s need for stimulation may have been too much for Susan who was a first time GDO. Dodger's desire for interaction with his handler whilst working could potentially not have been feasible with Aria's health condition. Faline's lack of timidity may not have suited Zack's dominant handling style. As with Case 2, in Case 5, Toby was a first time GDO. It could be argued that he was not experienced enough to provide the consistent, stable handling required by Belle as a consequence of the instability she experienced during puppy walking. Finally, whilst Logan and Bolt were a good match for each other in terms of their temperaments and working styles, Bolt's reactions to other dogs didn't suit Logan's lifestyle as he lived with two pet dogs who were known to show aggression.

5.3.3.8 Suitability

Another common conclusion drawn from the six case studies was the suitability of either the owner to owning a guide dog or the dog to being a guide dog. In three of the cases it could be argued that the dog may not be suited to guiding duties either due to their temperament, as in Case 2, their enthusiasm to carry out the work, as in Case 3, or their experiences in early life, as in Case 5. In one case it was concluded that the owner would be better suited to using a different form of mobility aid. Whilst a guide dog is there to help a visually impaired person get out and about, they also live with their owner and have the same needs as a pet dog. These needs should always be made a priority by the owner, however was not always done in Case 4. Zack's handling style may also have heightened Faline's distractions by other dogs.

5.4 Discussion

5.4.1 Summary of results

There were a number of similarities across the six cases. Eight themes emerged from the cross case analysis. 1) PW characteristics – all PWs were female and had puppy walked at least one guide dog prior to the dog in the case; 2) Distraction – four of the six dogs were high in distraction and showed aggression or caution towards other dogs; 3) Owner characteristics – five of the owners had owned pets prior to having the case dog and five owners also preferred positive voice handling to negative physical handling; 4) Matching contradictions – three of the cases showed contradictions in the GDI-R reports on considerations for matching; 5) Withdrawal characteristics – specific incidents led to the withdrawal in three cases and in five of the cases the withdrawal was initiated by the owner; 6) History of withdrawal reason – the withdrawal reason was mentioned in the GDI-R reports prior to matching in all cases, in five of the cases this dated back as far as puppy walking; 7) Inappropriate match – it was concluded in all cases that an inappropriate match may have been the reason the partnership broke down; 8) Suitability – in four of the cases it was concluded that the dog or owner may not have been suited to being a guide dog or GDO, thus leading to the eventual break down of the relationship.

5.4.2 Strengths and weaknesses

This is the first study that has looked at animal relinquishment to this degree of detail. There have been no studies prior to this that have investigated the reasons for premature retirement of guide dogs, and whilst others have explored the reasons for pet relinquishment (e.g. DiGiacomo et al. (1998)) they have relied solely on interviews with the owners. By using a range of sources a case study allowed multiple perspectives of the partnership to be attained and therefore provided a more holistic view of it. In many of the cases, a different picture emerged as to why the partnership broke down from the case study compared to the interview with the owners (Chapter Four). In addition, the findings may assist Guide Dogs in improving and developing their matching process, and the training and monitoring of partnerships post qualification.

A major limitation in this study was the lack of context about the owners in each case. When the interview schedules for the owners were compiled, the focus was on their opinions of why the partnership broke down and the impact it had on them. Therefore there were relatively few questions focused on the owner's personality and lifestyle. As a result of this, the data provides a much more in-depth review of the dog's character and life than the owner's. However it should be noted that much of the data on the owner was gathered from the interviews and the GDI-R reports. It should also be noted that two of the cases in this study had incomplete datasets. Accounts were not obtained from the re-homers in these two cases, therefore there was a gap in the data for these two partnerships. Whilst this was not ideal, the cases were still included as the researcher felt there was enough data available from other sources to conduct a study of the partnership. Another potential limitation of this study is the effect the nature of the topic and/or the researcher's affiliation with Guide Dogs may have had on participant's accounts. The study investigated the possible causes of unsuccessful guide dog partnerships. This can have negative connotations, and therefore participants may have wanted to deflect any blame from themselves, therefore omitting information or sharing it in a way that puts them in a more positive light. To overcome this, every effort was made to be transparent with participants about the study under investigation, without highlighting that it was focused on unsuccessful partnerships. To do this, participants were informed that case studies were being conducted on guide dog partnerships. However, most participants knew the outcome of the partnership under investigation and therefore their accounts may have still been subject to the impact described above.

5.4.3 Dog-owner relationship

5.4.3.1 Match

In the first case study, it was concluded that one of the main factors in the partnership being unsuccessful was that Penny, who had a history of scavenging, was matched with Luke who had very little residual vision. It is argued that Luke's remaining vision was not adequate in identifying upcoming food distractions, therefore Penny took advantage of this and her scavenging heightened. A potential solution would be to match dogs with a history of high distractibility to clients who have enough residual vision to see stimuli that may distract the dog in advance. This would enable them to take the necessary measures to ensure this does not distract the dog from its work. Lloyd (2004) found GDOs with a little residual vision had higher compatibility scores with their dogs compared to those with no vision. In that study details of the dog's temperament were not provided; therefore the results cannot be compared to this hypothesis. However, distraction is one of the highest withdrawal reasons at Guide Dogs (see Chapter One) and it is often found to be related to guide dog qualification (Batt et al., 2008, Mizukoshi et al., 2008, Asher et al., 2013, Kobayashi et al., 2013). Therefore it may be that many of the dogs in Lloyd (2004)'s sample had high levels of distractibility and therefore were more compatible with owners who had a little sight compared to those with none.

Two of the owners in the case studies were first time GDOs. Past research suggests that undesirable behaviour in dogs is often correlated with owners who have less experience with dogs (Jagoe and Serpell, 1996, Kobelt et al., 2003, Bennett and Rohlf, 2007). Although these two owners had owned pet dogs prior to getting a guide dog, the training requirements and interaction involved in working with a guide dog varies significantly from that with a pet dog. A guide dog that exhibits some challenging behaviour during training may be better suited to someone with more experience of working with a guide dog. A lack of experience in dog handling may also cause a dog to exhibit undesirable behaviour as a result of inconsistency in the way the dog is handled. In a survey study exploring the ways in which dog owners interacted with their dog, Arhant et al. (2010) found that owners who reported inconsistency in the way they handled their dog also reported their dog to be less obedient than those who were reportedly consistent in their handling. The conclusion reached in one of the cases in which the owner had no previous guide dog experience, was that the dog required consistent stable handling. This conclusion was reached as the dog had been boarded various times during puppy walking and seemed to progress with each trainer but became significantly worse when progressing to the next stage of training. It may be that consistency in handling is especially important to some dogs.

The study by Arhant et al. (2010) also found that dogs were more obedient if their owner engaged in more activities with them. A similar finding was demonstrated by Lefebvre et al. (2007), who found military dogs that lived with their handler and practised sport with them were more obedient. In Case 3, Dodger showed an unwillingness to work, although this reticence was not displayed prior to qualification. It was concluded that he desired a high level of handler interaction, which Aria was unable to provide due to health problems. Whilst obedience and willingness are different traits, there may be links between the two. It would be interesting to test the effect of shared activities on dog work willingness. In fact willingness of service dogs has not been investigated scientifically. Unlike humans, dogs do not possess autonomy in the duties they carry out and therefore have not chosen to be service dogs. Serpell and Hsu (2001) describe a number of possible negative impacts on the welfare of service dogs. If a dog shows an unwillingness to work, is it ethical to attempt to force it to carry on in this role?

The conclusion reached as to why Case 7 was unsuccessful was that Bolt was not a good match for Logan’s lifestyle. The importance of the match between a dog and the client’s lifestyle was also highlighted as one of the main reasons why a partnership was unsuccessful in the study by Lloyd (2004). It is important that Guide Dogs factor this into their matching decisions alongside the compatibility between the dog and client as individuals.

It is also advised that the social behaviour of the dog is monitored more closely during training and given more weight during selection and matching. These aspects of the dogs’ behaviour seemed to be as important as the work carried out by them. Finally, in all cases the reason for withdrawal was observed prior to the dog being matched with a client. Sometimes there were direct contradictions in the needs of the client and dog when matching. This highlights that the reports kept on GDI-R can be overlooked. It is suggested that these be examined more thoroughly before matching a dog and client.

5.4.3.2 Dog "reading" of human behaviour

In Case 1, Penny was described by her PW and re-homer as being very intuitive. They gave examples of Penny having a good ability to read humans. It was concluded in this case that Penny's intuitive nature meant she could take advantage of the fact that Luke couldn't see food when they were out working. In the work of Craigon (unpublished) GDOs felt that the best way to prevent their dog from scavenging was to deny them the opportunity. Without the sight to be able to implement this strategy, this could be challenging. Studies have demonstrated that dogs possess the ability to recognise human's attentional state (Hare and Tomasello, 2005). Research also suggests that they are sensitive to human's face/body direction, when humans are distracted by another activity and when the human's vision is obstructed either by a blindfold or when their eyes are closed (Call et al., 2003, Bräuer et al., 2004, Gácsi et al., 2004). In a study by Call et al. (2003) dogs were forbidden to take a piece of food in a room when the human varied their behaviour. Dogs took the food significantly more frequently when the human was distracted, had their eyes closed or had their back turned compared to when they faced the food with their eyes open. These studies suggest the conclusions reached for this case are plausible. Whilst there have been studies to suggest that dogs are capable of this type of socio-cognition, individual differences between dogs have not been explored. From the descriptions given of Penny, it was suggested that Penny was particularly good at reading human behaviour and therefore she may have a high level of socio-cognitive ability. It would be of interest to carry out research into this in future studies. This can also have implications for the matching process, some clients may particularly benefit from having a guide dog with good socio-cognitive abilities, whilst this may cause problems for others. It may also be worth considering if dogs that excel in socio-cognitive abilities be retrained in a different role that they would be particularly suited to, e.g. a medical detection dog.

5.4.3.3 Human effect on dog behaviour

The study by Call et al. (2003) displays how human behaviour can have an effect on dog behaviour. It was concluded in Cases 2-5 that the interaction between the owner and dog had an effect on the dog's behaviour. There have been numerous other studies exploring the impact of humans and their interactions with dogs on dog's behaviour. The type of training carried out with a dog as well as the amount of reward or punishment used seems to have an effect on the dog's performance in carrying out tasks e.g. Haverbeke et al. (2008) and their display of undesirable behaviour e.g. Jagoe and Serpell (1996). The type and quality of the relationship shared between an owner and dog also appears to have an effect on the dog's behaviour. Dogs who engage in more shared activities with their owners tend to display less undesirable behaviour (Bennett and Rohlf, 2007, McGreevy and Masters, 2008). In addition owners who reported to be more attached to their dog also reported their dog to be more intelligent and closer to their 'ideal' dog (Serpell, 1996).

As it appears as though humans can have a significant effect on dog's behaviour, it is important that the GDO's role in the relationship is considered to be as important as that of the dog's. At present guide dogs undergo approximately two years of preparation for guiding work. To ensure the dog's performance is maintained after qualification, GDOs need to have a good understanding of the amount and type of work they will need to carry out prior to entering the partnership. For example, education on the type of co-operation that exists between the two (Naderi et al., 2001) and how various aspects of their behaviour can impact the dog. It is suggested that owners are educated in these areas when applying for a guide dog to ensure they have a comprehensive understanding of the work involved in guide dog ownership. When matched with a dog, further education on how to implement this to meet the specific needs of that dog would also be beneficial.

As discussed in Chapter Four, a dichotomy seems to exist in guide dog relationships, between the pet and working relationship. Owner's interactions with their dogs in these two different contexts have the potential to be detrimental to the dog's work performance. As identified in the cross case analysis, five of the six owners in these cases either preferred or were more able to use positive voice handling rather than negative physical control. It is a possibility that a more forceful approach to handling is required when working with a guide dog, compared to when interacting with dog outside of a working situation. Thus, this may be indicative of owners finding the balance between their role as a pet owner versus working dog handler difficult to manage.

The type of handling required may also differ between dogs. There has been research carried out on personality characteristics in dogs (Jones and Gosling, 2005). The cases in this study suggest that there may be individual differences in dogs' needs with regard to handler interactions. The interaction between a dog and human is a vital part of the dog's existence and understanding how this varies can help improve dog-human relationships. It may also allow a better way of training dogs. In the literature on human education, people are described as having individual learning styles e.g. a visual, auditory or kinesthetic learner (Russell, 2006). This enables educators to offer a tailored way of teaching that improves academic performance. A similar school of thought may be applicable to dogs in the way that they are trained, thus improving training outcomes and the dog's welfare. In one of the cases, the dog appeared unwilling to work. Exploring willingness of service dogs could have important applications for the welfare of working animals.

5.4.4 Dog behaviour

5.4.4.1 Guide dog behaviour

The failure of the partnerships in Cases 2 and 5 may have been because the dogs were unsuitable to guiding work. There have been a number of studies exploring predictors of success at qualification of guide dogs (Goddard and Beilharz, 1986, Svartberg, 2002, Batt et al., 2008, Gazzano et al., 2008, Mizukoshi et al., 2008, Arata et al., 2010, Duffy and Serpell, 2012, Asher et al., 2013, Kobayashi et al., 2013). The main predictors seem to be fearfulness, aggression and distraction. Case 5 fits with these findings; Belle displayed a high level of dog distraction and this was ultimately why she was withdrawn. However in Case 2, Marley was withdrawn predominantly due to his behaviour when not working. Participants in the study by Lloyd (2004) reported the importance of the guide dog's social behaviour, stating that it was as important as the working behaviour. Craigon (unpublished) also found that GDOs frequently mentioned the importance of social behaviour in a telephone survey. Together these studies suggest that other elements of guide dog behaviour are of importance post qualification, in particular the behaviour of the dog outside of the working relationship. It is suggested that the dog's social behaviour is monitored as thoroughly as other aspects in its training pre-qualification.

In four of the cases, the dogs were reported to be highly distracted in the reports on GDI-R. Interestingly all of these dogs were also reported to be aggressive or show caution towards other dogs. Whilst this would be expected if the dog was distracted by other dogs, the distractions reported in these dogs were not limited to dogs. Instead general distractions were described. Arata et al. (2014) found that dogs who were highly reactive to stimuli in their environment also exhibited aggression. This fits with the findings in these cases, however it should be noted that the reports of general distraction on GDI-R were not in response to specific questions of what stimuli the dog was distracted by. Therefore when a dog was reported to have general distractions, the assessor may have been referring to distractions only to dogs. As distraction is one of the leading withdrawal reasons, this area requires further investigation.

5.4.4.2 Early experience

As mentioned above, Belle from Case 5 was withdrawn due to distraction. In the interview with her owner, Toby, he described her as being aggressive towards dogs as well. A further conclusion reached from this case was the possibility that Belle’s high levels of distraction and her aggression towards other dogs was as a result of anxiety. It was speculated that she experienced high levels of anxiety due to the fact that she was boarded a number of times with different boarders during puppy walking, therefore experiencing a lack of stability during her early life. Research suggests that experiences during the critical period of a dog’s development (three to twelve weeks of age) can have an effect on its behaviour throughout the lifespan (Scott and Fuller, 1965). A study by Lopes et al. (2015) compared cortisol concentrations of two groups of adult dogs (three dogs in each group) before and after completing a set of obstacles. One of the groups had been exposed to a stimulation enriched park during their socialisation period, whilst the other group had not. No significant differences were found between the groups, however the enriched group had lower cortisol concentrations after completing the obstacles than the non-enriched group. The lack of a significant result may have been due to the small sample size in this study. The results may suggest there is an effect of early environment on later stress levels in dogs, future studies with larger sample sizes are warranted.

There have been no studies on links between attachments to humans or environmental stability during early life and anxiety in dogs, however this has been explored in the human literature. In a longitudinal study by Warren et al. (1997) adolescents were more likely to suffer from an anxiety disorder if they had an anxious/resistant attachment to their mothers at 12 months of age. An external locus of control during childhood has been found to increase vulnerability to anxiety (Chorpita and Barlow, 1998). Bandelow et al. (2002) found participants with Panic Disorder (PD) were more likely to report childhood trauma, such as separation from parents, than controls. They also found that PD participants reported their parents to be more restrictive and less attentive than controls. Interestingly Belle’s PW mentioned that her and the family were used to saying goodbye to the dogs they puppy walked and so weren’t attached to Toby. This may link to the findings of Warren et al. (1997) and Bandelow et al. (2002) on early attachment and parental attitudes in humans. Further work is required on attachment during early life and anxiety in dogs.

5.4.5 Conclusion

The use of case studies to investigate the possible causes of premature retirement of guide dogs allowed a comprehensive view of the reason for failure in these six partnerships. Using numerous sources of data enabled the researcher to gain an understanding of the overall picture and what may have contributed to the withdrawal of the dog. There were a number of themes that ran through the six cases as highlighted by the cross case analysis. These included a number of owner and PW characteristics, an inappropriate match between the owner and dog and specific events leading to withdrawal. Based on the results of this study a number of practical applications for Guide Dogs have been recommended as well as avenues for future research based on theoretical implications from the findings.

Chapter 6 – Study Three: Factors affecting guide dog partnership success

6.1 Introduction

Numerous studies have investigated behavioural traits that are predictive of guide dog qualification (Batt et al., 2008, Arata et al., 2010, Duffy and Serpell, 2012, Asher et al., 2013, Kobayashi et al., 2013). These studies have identified traits such as anxiety, distraction and aggression as being important to qualification. In this area of research, guide dog qualification is often synonymous with guide dog success; however approximately 15-20% of guide dog partnerships end prematurely (Caron-Lormier et al., 2016a, Caron-Lormier et al., 2016b). In this study, success is defined as a guide dog partnership that works together for more than three years post qualification.

Prediction of guide dog success defined in this way has yet to be studied. As this definition of success will inevitably be reliant on a range of other factors besides the dog's behaviour, it is unclear whether this can be predicted. Lloyd (2004) explored what guide dog owners (GDO)s considered to be a successful and unsuccessful match between a guide dog and owner. Owners cited compatibility, both when working and not working as the main factor of a successful match. Compatibility could cover an extremely diverse range of factors e.g. working styles that complement each other. Whilst the length of the partnership was compared to compatibility between the dog and owner in Lloyd (2004)'s study, the predictive nature of these compatibility factors were not investigated.

The aim of this study was to test the predictability of partnership success. To do this, hypotheses were formulated based on the observations made of Guide Dogs (Chapter One), the literature review (Chapter Two) and previous studies (Chapters Four and Five) of this project. The hypotheses related to various variables that may have an effect on partnership success. These included factors relating specifically to the owner and dog as well as factors relating to the dog's puppy walker (PW). To test these hypotheses, logistic regression analyses were carried out on data of guide dog partnerships that qualified between 2009 and 2014. Testing variables identified from the overarching project on a large sample of guide dog partnerships, provided an opportunity to investigate the generalisability of these findings. It also indicated whether partnership success can be predicted in the same way as guide dog qualification success.

6.2 Methods

6.2.1 Hypotheses

Seven hypotheses were generated based on the previous findings from this project that could be tested using data from GDI-R. The findings came from the observations of Guide Dogs made by the author (see Chapter One), the literature on pet dog relinquishment (see Chapter Two), results of the telephone interviews (see Chapter Four) and case studies (see Chapter Six).

6.2.1.1 Hypothesis 1: A guide dog partnership is more likely to be unsuccessful if the owner has had at least one guide dog that was prematurely retired

There are similarities between pet dog relinquishment and premature retirement of guide dogs. For example aggression as a common reason for the relinquishment/retirement (Segurson et al., 2005, Audretsch, 2013). It is possible that other similarities exist between these two populations. In a survey study by Weng et al. (2006) on risk factors for unsuccessful dog ownership in Taiwan, dog owners were more likely to be unsuccessful if they had relinquished pet dogs in the past. GDI-R holds data on all clients' guide dog partnerships, therefore the effect of previous premature retirement on guide dog partnership success could be tested to see if this resembles pet dog ownership success.

6.2.1.2 Hypothesis 2: A guide dog partnership is more likely to be unsuccessful the shorter the length of time the owner was on the waiting list

One participant in Study One felt that their time on the waiting list after the premature retirement of their guide dog allowed them to mourn the loss of their previous dog and prepare for a new one. It was therefore hypothesised that owners who did not have the required time to get ready for a new dog may not have a successful partnership.

6.2.1.3 Hypothesis 3: A guide dog partnership is more likely to be unsuccessful the less experience the owner has of guide dog handling

In Study Two the conclusions reached for Cases 2 and 5 were that a contributing factor to the partnerships demise was the lack of guide dog handling experience by the owners. Both owners had no previous experience of guide dog ownership. Therefore, they may not have had the requisite experience to handle the dogs they were matched with adequately. Therefore, it was hypothesised that owners with less guide dog handling experience would be more likely to have an unsuccessful partnership as they are less able to cope with the needs that some dogs may have.

6.2.1.4 Hypothesis 4: A guide dog partnership is more likely to be unsuccessful the more boarders the dog stayed with during puppy walking

In Study Two, Belle from Case 5 was withdrawn for a high level of dog distraction. It was speculated in the conclusion for this case that this was due to instability in her environment during puppy walking. It was hypothesised that instability during puppy walking, due to the dog staying with boarders may result in behaviour unsuited to guiding work in later life, resulting in an unsuccessful partnership.

6.2.1.5 Hypothesis 5: A guide dog partnership is more likely to be unsuccessful if the dog is not robust (i.e. low training scores, high in anxiety and low in adaptability)

In Study Two, Dodger from Case 3 was withdrawn due to an unwillingness on his part to work. This was thought to be due to his sensitive nature. In the conclusion for this case it was suggested that guide dogs may need to be robust, i.e. low in anxiety, adaptable and able to deal with a variety of challenges and stimuli. Therefore this hypothesis predicts that dogs low in these traits will be more likely to be part of an unsuccessful partnership.

6.2.1.6 Hypothesis 6: Guide dog partnership success is affected by the experience of the dog’s PW

6.2.1.7 Hypothesis 7: Guide dog partnership success is affected by the relationship between the dog and its PW

Hypotheses 6 and 7 were generated based on the observations made of Guide Dogs. Throughout this period of observation, a number of staff and volunteers cited the importance of the PW to the later guide dog partnership. Emphasis was put on how the experiences of the dog during puppy walking impacted the dog’s later development. Therefore hypotheses 6 and 7 were generated based on the available data pertaining to the dog’s time in puppy walking. It was speculated that both the experience of the puppy walker and the relationship they shared with the dog would have an effect on the dog’s subsequent partnership with its GDO.

6.2.2 Dataset

The data used in this study was taken from GDI-R. To do this, reports with the required data to test the hypotheses were generated on GDI-R. The data from these reports was then exported into Microsoft Excel. In this software package the data was cleaned and organised in a way that allowed the variables to be tested. For example calculations were required of some data to produce the variable under investigation. When the data was ready for analysis, the Excel file was converted into a Comma Separated Value (CSV) file so that it could be used in R. For some analysis, merging of two or more CSV files was required, this was carried out in R.

All partnerships that qualified between January 2009 and September 2014 as identified by GDI-R were used for this study. This resulted in 4,657 partnerships, 3,784 of which were still qualified. The remaining partnerships ended due to the following: 63 reached retirement (i.e. the dog became too old to work), 80 dogs died, 730 dogs were withdrawn from the partnership prior to retirement. Dogs that were withdrawn prior to retirement were either re-homed as pet dogs, returned to guide dog training, retrained as a companion (buddy) dog or transferred to an external organisation. Of the partnerships in which the dog was withdrawn, 553 were qualified for less than three years. Four hundred of these partnerships lasting less than three years were reported to have failed due to the dog’s behaviour or client circumstances. These 400 partnerships were classed as being unsuccessful. The remaining 153 partnerships that lasted less than three years were reported to have failed due to health or the reason for withdrawal was missing. These partnerships were excluded from the study as the success of the partnership could not be determined. This resulted in a sample of 4,504 partnerships in total. With 4,104 successful partnerships and 400 unsuccessful partnerships. All data on the partnerships was retrospective and was obtained from two separate sources: 1) GDI-R; 2) questionnaire data on guide dog behaviour (Harvey et al., 2015, Harvey et al., 2016a). The data from Harvey et al. (2015) and Harvey et al. (2016a) consisted of responses of puppy walkers and Puppy Training Supervisors (PTSup)s to a questionnaire on the behaviour of potential guide dogs at 5, 8 and 12 months of age. The questionnaire data (Harvey et al., 2015, Harvey et al., 2016a) included information on 734 of the 4,504 dogs in the total sample. Therefore hypotheses 5 and 7, which tested variables using this data, had a total sample of 734 partnerships, 35 of which were unsuccessful. Figure 9 shows a flow chart illustrating the dataset.

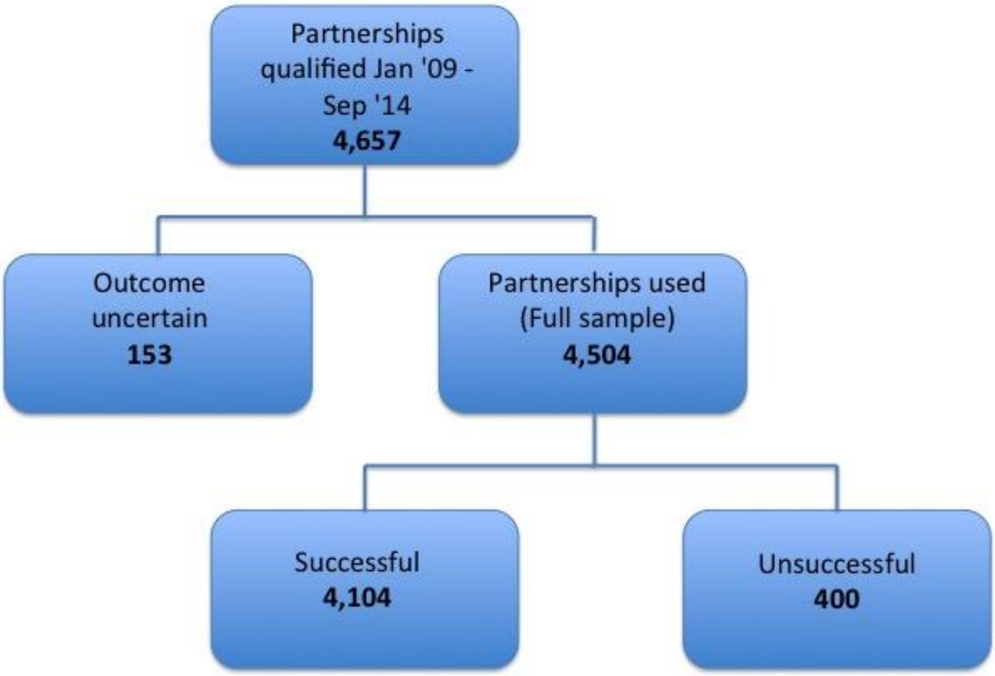

Figure 9 - Flowchart of the dataset used for a study employing logistic regression models for seven hypotheses to investigate the predictability of guide dog partnership success

6.2.3 Variables

For all hypotheses the outcome variable considered was partnership success. There were three categories of predictor variables used to test the hypotheses described above. 1) Owner characteristics; 2) Dog characteristics; 3) Puppy walking characteristics.

6.2.3.1 Owner characteristics

The following information was measured to test the effect of owner characteristics on partnership success. The owner's previous guide dog partnership success was a dichotomous variable, (0 or 1; 0 indicated the owner had no experience of premature retirement prior to the partnership and 1 indicted the owner did have experience of this prior to the partnership). The length of time the owner was on the waiting list prior to the partnership. This was a continuous variable, the value recorded was the number of days on the waiting list. The owner's guide dog handling experience prior to the partnership. This was a continuous variable, the value recorded was the number of guide dogs owned prior to the partnership.

6.2.3.2 Dog characteristics

The following information was measured to test the effect of dog characteristics on partnership success. Dog robustness was a continuous variable of the dog's performance on training, anxiety and adaptability. This was measured by summing the dog's mean training grade given by the dog's trainers throughout puppy walking and training (1 – 4; with 1 indicating the best standard of behaviour on attributes measured and 4 the worst); anxiety scores at 5, 8 and 12 months of age (0 – 100; with 0 being low on anxiety and 100 being high); and reversed adaptability scores at 5, 8 and 12 months of age (0 – 100; with 0 being high on adaptability and 100 being low). Therefore dogs could score between 1 and 604 on robustness. The lower the score, i.e. good overall behaviour, low in anxiety and high in adaptability, the more robust a dog was considered to be.

6.2.3.3 Puppy walking characteristics

The following information was measured to test the effect of puppy walking characteristics on partnership success. The number of boarders the dog stayed with during puppy walking was a continuous variable. The puppy walker's experience of puppy walking. This was a continuous variable where the value recorded was the number of puppies the PW had puppy walked prior to the dog from the target partnership. The relationship between the dog and its PW was a continuous variable. It was measured by using the scores of four questions pertaining to the relationship at 5, 8 and 12 months of age included in the questionnaire by Harvey et al. (2015) and Harvey et al. (2016a) (see Appendix 6). The questions addressed the following: 1) how the dog's behaviour changed with other people (0 - 100; with 0 indicating its behaviour didn't change and 100 indicating it did); 2) the dog's desire to be physically close to the PW (0 – 100; with 0 indicating it didn't choose to be near the walker and 100 it did); 3) the PW's ability to read the dog's feelings and reactions (0 – 100; with 0 indicating the walker didn't pick up on these and 100 they did); and 4) the PW's ability to control the dog (0 – 100; with 0 indicating they didn't find it difficult and 100 they did). The score for each question at 5, 8 and 12 months were combined to give an overall score per dog (0 – 300). The questions relating to the dog's desire to be close to the PW and the PW's ability to read the dog's feelings and reactions were both deemed to be related to the bond between the dog and PW. Therefore the scores of these two items were combined so each dog could score between 0 and 600.

6.2.4 Statistical analysis

To investigate the effect of the variables described above on partnership success, Univariable Logistic Regression analyses were performed for each hypothesis. The Univariable Logistic Regression was implemented in the Mass package (Venables and Ripley, 2002) in R 3.2.2 (R Core Team, 2015). Table 4 details the models used for each hypothesis.

Table 4 – Details of the predictor variables and dataset used in logistic regression models for seven hypotheses in a study investigating the predictability of guide dog partnership success using a retrospective dataset of guide dog partnerships qualified between January 2009 and September 2014

Hypothesis	Predictor variable/s	Dataset
1	Owner had experienced premature retirement prior to partnership (Yes or No)	GDI-R (N = 2,483)
2	Number of days owner on waiting list prior to partnership	GDI-R (N = 4,504)
3	Number of guide dogs owner qualified with prior to partnership	GDI-R (N = 4,504)
4	Number of boarders dog stayed with during puppy walking	GDI-R (N = 4,504)
5	Dog's robustness score (0 – 204)	(Harvey et al., 2015, Harvey et al., 2016a) (N = 734)
6	Number of puppies PW puppy walked prior to partnership dog	GDI-R (N = 4,504)
7	• Amount dog's behaviour changed around other people during puppy walking compared to walker (0 – 300) • Bond between the dog and walker during puppy walking (0 – 600) • Walker's ability to control the dog during puppy walking (0 – 300)	(Harvey et al., 2015, Harvey et al., 2016a) (N = 734)

For each hypothesis the descriptive statistics are provided for the dataset. This includes of the number of partnerships analysed (N), the number of successful and unsuccessful partnerships for the predictor variable, and the range and average (mean or median) of the predictor variable. Following this, the results of the inferential statistics are presented, in the form of odds ratios, confidence intervals and p values associated with the logistic regression. The criteria for accepting significance was $p<0.05$.

6.3 Results

Below are the results for hypotheses 1-7, described above. Tables 5-11 outline the data associated with each hypothesis. A more detailed breakdown of the results for the hypotheses is also provided.

6.3.1.1 Hypothesis 1: A guide dog partnership is more likely to be unsuccessful if the owner has had at least one guide dog that was prematurely retired

Table 5 - Number of successful and unsuccessful guide dog partnerships, with and without previous experience of guide dog withdrawal by the owner in a sample of 2,483 guide dog partnerships to investigate the predictability of guide dog partnership success

	Successful		Unsuccessful	
Partnerships (N)	**Experience**	**No experience**	**Experience**	**No experience**
2,483	539	1,707	76	161

Of the 4,504 partnerships in the sample, 2,483 included an owner with previous experience of owning a guide dog. 237 of these partnerships were unsuccessful. Of the partnerships involving an owner with previous guide dog experience, 604 (24%) had previously experienced premature retirement at least once. 1,879 (76%) had not experienced premature retirement. Figure 10 illustrates the number of successful and unsuccessful partnerships involving owners that had experience and those that had no experience of premature retirement.

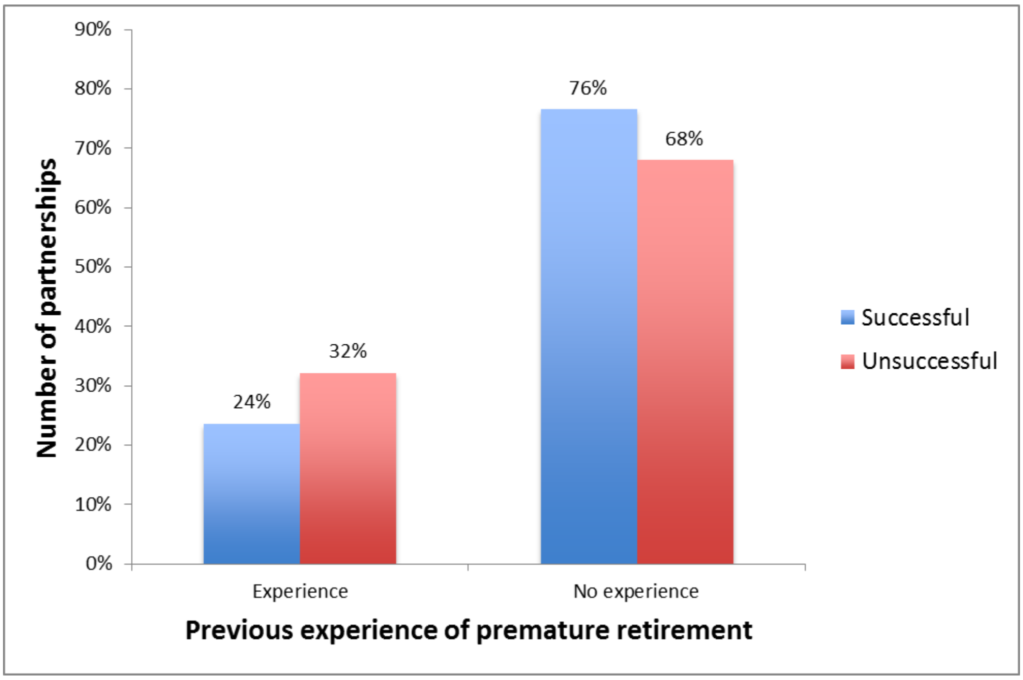

Figure 10 – Proportion of successful and unsuccessful guide dog partnerships in relation to owner's previous experience of premature retirement in a sample of 2,483 guide dog partnerships to investigate the predictability of guide dog partnership success

Previous experience of guide dog withdrawal was significantly predictive of partnership success (odds ratio (OR), 0.651; 95% confidence intervals (CI), 0.487, 0.870; p<0.001). Partnerships were less likely to be unsuccessful if the owner had not experienced guide dog withdrawal prior to the current partnership (see Figure 10).

6.3.1.2 Hypothesis 2: A guide dog partnership is more likely to be unsuccessful the shorter the length of time the owner was on the waiting list

Table 6 - Number of successful and unsuccessful partnerships and the range, mean and standard deviation of number of days owner was on the waiting list for the dog in a sample of 4,047 guide dog partnerships to investigate the predictability of guide dog partnership success

Successful (N)	Unsuccessful (N)	Range	Mean successful (SD)	Mean unsuccessful (SD)
3,687	360	0 – 3,479	208.64 (215.70)	209.10 (260.03)

There was missing data on the length of time on the waiting list for 457 partnerships, giving a total of 4,047 partnerships included in this analysis. Length of time on the waiting list was not significant for partnership success (OR, 1.000; CI, 1.000, 1.000; p=0.970).

6.3.1.3 Hypothesis 3: A guide dog partnership is more likely to be unsuccessful the less experience the owner has of guide dog handling

Table 7 - Number of successful and unsuccessful partnerships and the range, mean and standard deviation of number of previous guide dogs owned in a sample of 4,504 guide dog partnerships to investigate the predictability of guide dog partnership success

Successful (N)	Unsuccessful (N)	Range	Mean successful (SD)	Mean unsuccessful (SD)
2,246	237	0 – 8	0.98 (1.46)	0.94 (1.43)

Figure x illustrates the number of guide dogs owned prior to successful and unsuccessful partnerships.

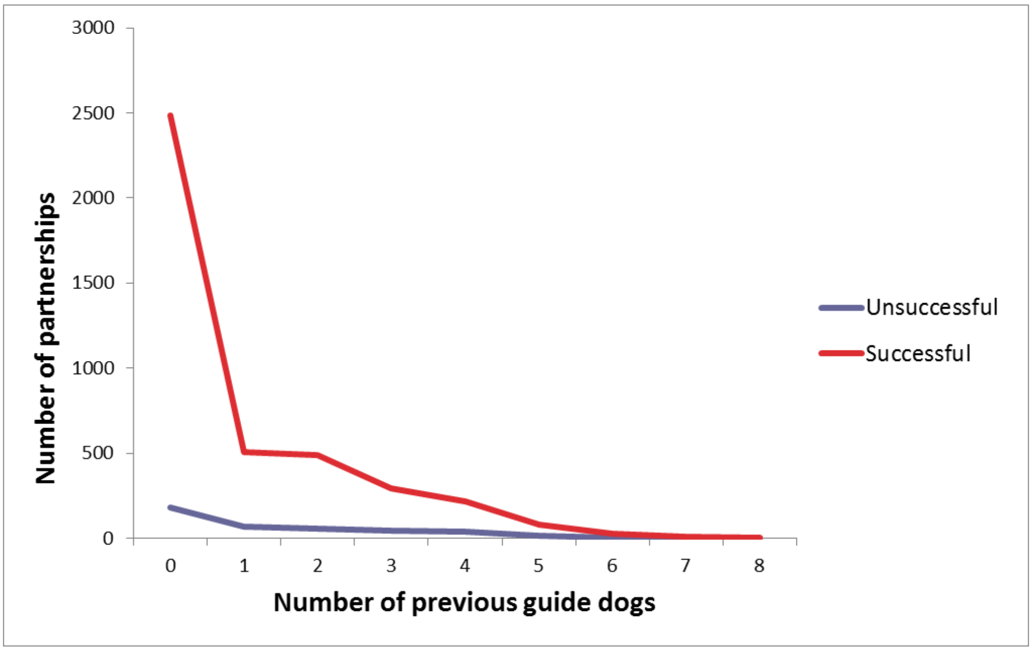

Figure 11 - Number of successful and unsuccessful partnerships in relation to the number of previous guide dogs in a sample of 4,504 guide dog partnerships to investigate the predictability of guide dog partnership success

Guide dog handling experience was significantly predictive of partnership success (OR, 0.822; CI, 0.774, 0.874; p<0.001).

Partnerships were more likely to be unsuccessful the more guide dogs the owner had prior to the current partnership.

6.3.1.4 Hypothesis 4: A guide dog partnership is more likely to be unsuccessful the more boarders the dog stayed with during puppy walking

Table 8 - Number of successful and unsuccessful partnerships and the range, mean and standard deviation of number of boarders of dogs in a sample of 4,456 guide dog partnerships to investigate the predictability of guide dog partnership success

Successful (N)	Unsuccessful (N)	Range	Mean successful (SD)	Mean unsuccessful (SD)
4,064	392	0 – 9	0.29 (0.93)	0.30 (0.99)

There was missing data on the number of boarders dogs stayed with for 48 partnerships, giving a total of 4,456 partnerships included in this analysis. The mean number of boarders a dog stayed with was 0.30 (SD = 0.95). The mean number of boarders in successful partnerships was 0.29 (SD = 0.93). The mean number of boarders in unsuccessful partnerships was 0.30 (SD = 0.99). The number of boarders the dog stayed with during puppy walking was not significant for partnership success (OR, 0.998; CI, 0.894, 1.114; p=0.970).

6.3.1.5 Hypothesis 5: A guide dog partnership is more likely to be unsuccessful if the dog is not robust (i.e. low training scores, high in anxiety and low in adaptability)

Table 9 - Number of successful and unsuccessful partnerships and the range, median and interquartile range of dog robustness score in a sample of 4,504 guide dog partnerships to investigate the predictability of guide dog partnership success

Successful (N)	Unsuccessful (N)	Range	Median successful (IQR)	Median unsuccessful (IQR)
4,104	400	1 – 365	90 (98.5)	80 (107)

The robustness scores of the guide dogs involved in the partnerships under investigation ranged from 1 to 365. The median score was 90 (IQR = 99.75). Robustness was not significantly predictive of partnership success (OR, 1.001; CI, 0.995, 1.006; p=0.808).

6.3.1.6 Hypothesis 6: Guide dog partnership success is affected by the experience of the dog's PW

Table 10 - Number of successful and unsuccessful partnerships and the range, mean and standard deviation of number of dogs puppy walked by the puppy walker in a sample of 3,158 guide dog partnerships to investigate the predictability of guide dog partnership success

Successful (N)	Unsuccessful (N)	Range	Mean successful (SD)	Mean unsuccessful (SD)
2,896	262	1 – 32	6.94 (5.81)	7.66 (6.60)

There was missing data on the number of dogs puppy walked by the PW for 1,346 partnerships, giving a total of 3,158 partnerships included in this analysis. The number of dogs puppy walked by the PW for each partnership prior to puppy walking the partnership dog ranged from 1 to 32, with a mean of 6.00 dogs (SD = 5.88). PW experience was not significant for partnership success, however it was approaching significance (OR, 0.981; CI, 0.962, 1.008; p=0.057).

6.3.1.7 Hypothesis 7: Guide dog partnership success is affected by the relationship between the dog and its PW

Descriptive and inferential statistics on the PW relationship scores are displayed in Table 11. This includes the range and median score for each question, as well as the median scores of successful and unsuccessful partnerships. The three aspects of the relationship between the dog and its PW measured were not significant for partnership success (see Table 11).

Table 11 – Range, Median, Inter Quartile Range, Odds ratio, Confidence Interval 95% and P values for PW relationship predictor variables on partnership success in a sample of 734 guide dog partnerships

Variable	Range	Median (IQR)	Successful Median (IQR)	Unsuccessful Median (IQR)	OR	CI		P
Behaviour change with other handlers	0 – 300	134.5 (97)	134 (97.5)	138 (69.5)	1.001	0.995	1.008	0.661
Difficulty controlling dog	0 – 276	67.5 (86)	67 (84.5)	90 (91)	0.996	0.988	1.003	0.276
Closeness & empathy	83 – 600	436 (117.5)	436 (115.5)	437 (136)	0.999	0.994	1.003	0.505

6.4 Discussion

6.4.1 Summary of results

Out of the seven hypotheses tested, only the first one was accepted, see Table 12. One hypothesis involved a predictor that was significantly predictive of partnership success, however this was in the opposite direction to the hypothesis, therefore it was rejected. The remaining hypotheses were rejected as the predictors showed no significance. Two factors relating to the GDO were predictive of partnership success. GDOs that had previous experience of premature retirement and those that had owned a guide dog in the past, were more likely to have an unsuccessful partnership.

Table 12 - Outcomes for seven hypotheses tested in a study investigating the predictability of guide dog partnership success

Hypothesis	Accepted or rejected
A guide dog partnership is more likely to be unsuccessful if the owner has had at least one guide dog that was prematurely retired	Accepted
A guide dog partnership is more likely to be unsuccessful the shorter the length of time the owner was on the waiting list	Rejected
A guide dog partnership is more likely to be unsuccessful the less experience the owner has of guide dog handling	Rejected (Predictor variable significantly predictive in opposite direction to that hypothesised)
A guide dog partnership is more likely to be unsuccessful the more boarders the dog stayed with during puppy walking	Rejected
A guide dog partnership is more likely to be unsuccessful if the dog is not robust (i.e. poor overall behaviour, high in anxiety and low in adaptability)	Rejected
Guide dog partnership success is affected by the experience of the dog's PW	Rejected
Guide dog partnership success is affected by the relationship between the dog and its PW	Rejected

6.4.2 Strengths and weaknesses

This study stemmed from an in-depth exploration of unsuccessful guide dog partnerships using predominantly qualitative research methods. One of the strengths of mixed methods research is that it allows both an exploration of the area under investigation followed by testing these findings on a larger scale. Potential areas for further investigation were generated from the observations made of Guide Dogs (Chapter One), a literature review (Chapter Two) and detailed qualitative studies with small sample sizes (Chapters Four and Five). This study tested these areas of investigation on a larger sample, allowing the findings to be generalised to the guide dog population. Six of the seven hypotheses tested in this study were rejected. The hypotheses were formulated from the findings of the literature review, telephone interviews and case studies conducted as part of this project. The fact that some of these hypotheses were rejected shows the importance of adopting a mixed methods approach. Incorporating qualitative methods with smaller samples enabled a further interrogation of larger quantitative datasets with important results. These findings then highlighted avenues of investigation that were followed up with quantitative analysis of larger datasets, to see if the findings can be generalised to the wider population. This is the first study to systematically test factors that may predict unsuccessful guide dog partnerships.

The main limitations of this study stemmed from the dataset. The data used in this study was retrospective, taken from GDI-R and a dataset collected for another project. Therefore it was not collected specifically for the purposes of testing the hypotheses. This resulted in an analysis of secondary data which was not always the best fit for the hypothesis under investigation. Inadequacies of the dataset also meant that there were other hypotheses generated from the project that couldn’t be tested, as the necessary data was not available. The data from GDI-R proved to be particularly problematic as it was not designed to be used in this research context. The database is ordinarily used on a case-by-case basis to log the history of clients, dogs, PWs, etc. Therefore when producing reports on large datasets of partnerships, manipulation was often required to get the information needed. All measures were taken to ensure that the data used was as accurate as possible, however there may have been some inconsistencies that could not be captured. For example, there was no measure of robustness of dogs; instead this was calculated by summing the dog’s anxiety, adaptability and training grades. Another example of how the dataset was not ideal was highlighted in hypothesis one. The dataset included information on the duration of owner’s previous guide dog partnerships, however information on why the partnership ended was not included. Therefore the dog may have died as opposed to being prematurely retired. To attain that information it would have required manually looking up each dog individually. This was deemed unfeasible so all partnerships that lasted less than three years was classed as a premature retirement. For some hypotheses a separate dataset was used. This allowed variables to be tested that were not available in GDI-R, however the sample was significantly smaller. A preferred dataset would have come from a questionnaire specifically designed to investigate the effect of the predictor variables on partnership success. This would have resulted in a dataset tailor made for the analysis, thus reducing possible inaccuracies of the data. It also would have allowed other hypotheses to be tested that couldn't be on the GDI-R dataset. For example, the effect of the relationship between the owner and dog. Whilst both sets of data had some issues, the data was from a period of five years, and collection of prospective data over a similar period would not be feasible in the timeframe for this project. The data that was available did allow a number of the factors of interest to be tested; therefore it was still worth pursuing this line of enquiry with the data available. As a bespoke database, with data from the UK's largest guide dog charity, GDI-R holds key information on guide dog partnerships. Recording extra data, for example detailed information on the interactions that occur between the guide dog and owner would allow for a future prospective study exploring other avenues of investigation.

6.4.3 Owner factors

Owner's previous partnership success and guide dog handling experience were found to be predictive. Studies have found that pet dog owners who relinquished their dogs were more likely to have relinquished a dog in the past (Weng et al., 2006). A similar result was obtained for premature retirement of guide dogs; owners who had previously had a guide dog that was prematurely retired were more likely to have another partnership where the dog was prematurely retired. Other similarities between pet dog relinquishment and premature retirement of guide dogs include the proportion of pet/guide dogs that are relinquished/prematurely retired (Weng et al., 2006, Caron-Lormier et al., 2016b). 12% of owners relinquished their pet dog in the study by Weng et al. (2006), and 17% of guide dogs are prematurely retired according to Caron-Lormier et al. (2016b). Aggression has been identified as one of the most common reasons for the relinquishment of pet dogs and premature retirement of guide dogs

(Weng et al., 2006, Audretsch, 2013). A mismatch between the owner and dog has also been identified as one of the main reasons for pet dog relinquishment and premature retirement of guide dogs (DiGiacomo et al., 1998, Lloyd, 2004). A mismatch between the dog and owner was also identified as a contributing factor to premature retirement in the cases investigated in Chapter Five. As there are overlaps between the two populations, it is worth exploring more factors that are demonstrated to lead to pet dog relinquishment in the guide dog population. For example pet dog owner's views of their dog was found to have an impact on relinquishment in a study by Weng et al. (2006). One possible avenue of research would be to investigate GDO's views of their dog and how this interacts with premature retirement. The similarities that exist between pet dog relinquishment and premature retirement of guide dogs suggest there may be common factors between the two populations. This may reflect the role of a guide dog as both an assistance dog and a pet.

It is important to consider why previous experience of premature retirement makes owners more likely to have a dog prematurely retired in the future. It is possible that premature retirement may have an impact on an owner's future guide dog relationships. This may be as a result of the stress encountered in a struggling relationship before the dog was withdrawn. The owner may not want to repeat this, therefore making them more likely to have the dog withdrawn. Withdrawal of a guide dog is a highly complex process. Further investigation is warranted, exploring factors such as the owner's expectations of the dog and differences in the bond between successful and unsuccessful partnerships. It should also be noted that in this study the owner's premature retirement history was investigated; however the dog's was not. It would be beneficial to see if the same trend is seen in the dog, with dogs that have previously been withdrawn from a partnership being more likely to have an unsuccessful partnership in the future.

An owner's previous experience of premature retirement should be taken into account when matching them with dogs in the future. Assistance dog charities should consider that if the owner has experienced problems previously, they may require extra support in future partnerships, and ensure a vigilant watch is kept on the partnership for any possible problems. Important considerations when matching would include the nature of the problem, how it affected the owner and comparisons between the previous and potential dog.

The other owner factor that was predictive of partnership success was previous guide dog experience. Contrary to the hypothesis, owners that had owned guide dogs prior to the partnership were more likely to have an unsuccessful partnership. It was predicted that owners with less experience may struggle with managing certain demanding behaviours in dogs, as was concluded in two of the cases in Chapter Five. However the results from this study conflict with this rationale. As illustrated in Figure 11, there were significantly less unsuccessful partnerships involving first time GDOs. It may be that first time GDOs have lower expectations of their dog as they have nothing to compare it to and are experiencing the benefits of owning an assistance dog for the first time. Therefore they are happier with their dog than owners who have already experienced owning a guide dog and may have higher expectations and are less likely to end the partnership prematurely. Another interpretation is that owners who have more experience of owning guide dogs are also more likely to have experienced premature retirement. As previous experience of premature retirement was found to be predictive of partnership success, it could explain this finding. However there are other explanations to be considered. It is plausible that when matching dogs and owners, dogs with challenging behaviour may be more likely to be matched with owners who have more experience of owning guide dogs. It should also be noted that age may have had an effect on this result. It is likely that guide dog experience goes up with owner age. However the effect of age could not be tested as the data on owner age was missing for most of the sample, with age data on only 143 of the 4,504 owners in the sample.

It was predicted that owners who were on the waiting list for a short amount of time would be more likely to have an unsuccessful relationship. This was based on an account from telephone interviews in Chapter Four. One participant spoke about her time on the waiting list and that although she found it hard being without a dog, in hindsight she felt she needed that time to grieve for her previous dog and get ready for the new one. However, time on the waiting list was not predictive of partnership success in this study. It may be that a need for a longer time on the waiting list is specific only to owners whose dog has been withdrawn. These owners may need the time to grieve and obtain closure before embarking on a new partnership. However, there are also many potential confounding factors surrounding the length of time on the waiting list that may have influenced this result. Whilst the length of time on the waiting list was not found to have an influence on partnership success in this study, it appears as though owner's guide dog history does have an influence on success.

An important factor that was unable to be explored in this study due to lack of appropriate data was the relationship between the GDO and the dog. It is speculated that this will have a great effect on partnership success, and should be investigated in future research. Based on the outcomes of from the previous chapters, areas worth exploring include the level of interaction between the pair both when working and not working and the level of trust and co-operation shared.

6.4.4 Dog robustness

Dog robustness was not found to be predictive of partnership success. It was hypothesised that dogs that were more robust would be more likely to be in a successful partnership; i.e. a dog that exhibited good overall behaviour, was low in anxiety and high in adaptability. The rationale being that dogs that are more robust are lower in anxiety and more adaptable, thus being better able to handle the requirements of guiding work. However, robustness as measured in this study was not predictive of success. This finding could highlight one of the differences between guide dog success as defined by qualification to work versus a partnership that lasts for three years or more. Whilst traits relating to robustness, e.g. anxiety (Goddard and Beilharz, 1986, Gazzano et al., 2008, Duffy and Serpell, 2012) and sensitivity (Arata et al., 2010) have been found to predict guide dog qualification success, it appears as though they don’t have the same relationship with partnership success post qualification. This could mean that dogs who qualify as a guide dog are indeed of an acceptable standard to work, and it is problems within the partnership, i.e. the dog-owner dyad, that leads to premature retirement. However it should also be noted that to test this hypothesis, a smaller sample was used as the data was not available for all 4,504 partnerships. A further argument is that the variance in the sample of dogs that qualify as guide dogs and are subsequently withdrawn for behavioural reasons is too small as most dogs unsuited to guiding work would have been withdrawn prior to qualification.

6.4.5 PW factors

It was hypothesised that dogs who had been boarded with several boarders during puppy walking would be more likely to be in an unsuccessful relationship. This stemmed from one of the cases in Chapter Five, where the dog had been boarded a number of times during puppy walking with different boarders and later been withdrawn for aggression towards other dogs. There was speculation as to whether the dog’s early experiences may have led to anxiety, with a discussion surrounding early experiences in dogs and humans. Whilst there is evidence to suggest that there is a critical period for dogs when their social interactions determine their behaviour in later life (Scott and Fuller, 1965), instability during this time and its effect on anxiety have not been studied. There have however been links between instability during childhood and anxiety in later life in humans (Warren et al., 1997, Chorpita and Barlow, 1998, Bandelow et al., 2002). The present study suggests that there is a difference in the early experiences of dogs and humans and the effect they have on behaviour in later life. The results indicate that instability during early life may not have a detrimental effect on anxiety in dogs as it does in humans. This would explain the findings in a study by Fallani et al. (2006) who found that guide dogs, who undergo several transitions throughout their first few years of life, were less fearful of a frightening stimulus than pet dogs, who in comparison, presumably have a more stable environment throughout their life. In fact it may be that this lack of stability actually reduces anxiety in later life in dogs. However, it should also be noted that it is likely that most of the dogs in the sample wouldn’t have had a high number of boarders and so the sample of dogs that met this criteria would have been small and might not have detected an effect. It would also be beneficial to look at the relationship between the number of boarders a dog has, its anxiety levels and partnership success. It may be that there is an interaction between number of boarders and anxiety, even though number of boarders alone didn’t predict partnership success.

It was also hypothesised that PWs with less experience of puppy walking would be more likely to puppy walk a dog that subsequently had an unsuccessful partnership. It was reasoned that the early experiences of the dog would have an impact on its later work, and an experienced PW may be better at preparing a dog for its later working life. However this hypothesis was rejected. Similar to the effect of the length of time on the waiting list, this result may have been influenced by a range of potential factors. As discussed earlier, it may be that a dog’s early experiences are not as fundamental to their later behaviour as that in humans (Felitti et al., 1998). However, it should be noted that PW experience was measured by the number of dogs they had puppy walked prior to the partnership dog. Their general dog handling experience e.g. with pet dogs, was not taken into account. As the guide dog partnership encompasses more than the working relationship, it may be that the PW’s general dog handling experience is more important than their puppy walking experience in determining the future success of the guide dog partnership. It could also be argued that the dog is not worked in the same way when puppy walking. Although the dog undergoes basic training, they are not required to carry out any of the duties that a qualified guide dog would. Therefore the puppy walking experience of the PW may not hold a lot of importance to the future guide dog partnership. It should also be noted that all of the PWs involved in the case study partnerships (see Chapter Five) had experience of puppy walking at least two dogs prior to the case dog. It may be that most PWs have previous experience of puppy walking and therefore the sample of those without experience was too small to detect an effect on partnership success. Whilst puppy walking experience was not found to significantly predict partnership success, it was approaching significance. Perhaps if the sample included higher numbers of PWs with no experience of puppy walking a significant difference would have been detected. Finally, another possibility is that the environment during puppy walking is more important than the PW's experience. In a study on the influence of the environment potential guide dogs were exposed to during puppy walking Harvey et al. (2016a) found that factors in the environment, e.g. the number of children in the home, had an effect on the dog's behaviour.

The relationship between the PW and the dog was also not predictive of future partnership success. It was concluded in some of the case studies that experiences held by the dog during puppy walking had a later effect on their relationship with their owner, for example the dog that was boarded a lot. Again, the lack of an effect suggests that only certain aspects of a dog's early life impact select behaviours in later life. It should also be noted that this hypothesis made use of the data with a smaller sample. Therefore the smaller sample size may contribute to the lack of an effect.

Whilst this study found no predictive nature of the PW's experience or the relationship they shared with the dog, it is plausible that the dog's experiences during puppy walking better resemble their experiences with a GDO than when training. During both periods the dog lives in a home environment, rather than kennels, which is often the case during training. In addition, its relationship with the PW is likely to be more akin to the one with its GDO as they live together and the dog takes on the role of a pet. At present, the matching process is more focused on the dog's behaviour during training. It is suggested that the dog's behaviour during puppy walking is considered equally important as this reflects the dog's behaviour in a home environment and its interaction as a pet / companion, which is an integral part of the guide dog partnership. Other factors can also be studied to see how they relate to partnership success. For example aspects of the home environment as studied by Harvey et al. (2016a), and PWs' general dog handling experience as opposed to just their puppy walking experience. A larger study population will be needed to conduct a more complex study of the interactions between different components of the relationship.

6.4.6 Conclusion

This study found that partnership success post qualification can be predicted by the owner's previous partnership success and guide dog experience. It suggests that out of the factors investigated in this study, owner factors are important in partnership success. The study has highlighted that caution should be taken when describing guide dog qualification as successful. Whilst the dog may have successfully completed training, it does not necessarily mean the partnership will be successful. This success rests not solely on the dog's behaviour and performance, but also on the owner and the dog-owner dyad. Important aspects for consideration when matching owners and guide dogs, as well as future avenues of research have been identified by this piece of research.

Chapter 7 – General Discussion

In this chapter, the final one of the thesis, an overview of the project is provided. To begin, a summary of the findings from each of the three studies that made up the project are described. This is followed by a discussion of the strengths and weaknesses of the project as a whole.

The next section discusses a theme that was not the topic under investigation for this thesis, but arose several times throughout the research process. The theme relates to the complexities of the guide dog partnership. Starting with the dichotomous nature of the partnership, examples are given that illustrate how the working role of the dog is often given more attention by owners, staff and volunteers. This leads to a discussion surrounding the possible conflicts that can arise out of this dichotomy and further examples from the project of guide dogs as more than just mobility aids.

Following this, a model of guide dog partnership success and impact is described. This model was developed as a result of the findings of Studies One (Chapter Four), Two (Chapter Five) and Three (Chapter Six). The model is divided into three stages, (Compatibility, Working relationship and Impact on owner). Each of these stages will be discussed with reference to the existing literature.

7.1 Project overview

The aims of this thesis were to answer the following two research questions:

1. What are the factors leading to the early (within three years post qualification) breakdown of a guide dog partnership (excluding health problems)?
2. What are the impacts of premature retirement on guide dog owners?

Below is a summary of the studies undertaken in an effort to answer these questions.

7.1.1 Summary of study results

Table 13 - Details of three studies conducted as part of a project investigating the causes and impact of premature retirement of guide dogs

Name and chapter	Description	Main findings
Study One – 'A qualitative study on the experiences of guide dog owners who have experienced premature retirement' (Chapter Four)	Telephone interviews conducted with 13 guide dog owners (GDO)s that had experienced premature retirement. Interviews explored their expectations of a guide dog, the bond they shared with the dog that was retired, the impact of the retirement and the support they received.	Three superordinate themes: 1. Owner – dog relationship 2. Loss 3. Well-being
Study Two – 'Six in-depth case studies of unsuccessful guide dog partnerships' (Chapter Five)	In-depth case studies of six guide dog partnerships in which the dog was prematurely retired. Guide Dogs records and accounts from the owner, puppy walker (PW) and re-homer were used to interpret what led to the retirement in each case. Cross-case analysis was then conducted to identify similarities across cases.	Guide dog partnerships are highly complex and require compatibility between the two in their work as well as their social and home environments. In each case, whilst most components of the relationship worked well, when one of these wasn't working it led to the breakdown of the partnership.

Table 13 continued

Study Three – 'Factors affecting guide dog partnership success' (Chapter Six)	Hypotheses based on the observations of Guide Dogs, the literature review and Studies One and Two were tested using logistic regression on guide dog partnerships that qualified over a five year period. The hypotheses predicted the effect of various factors on partnership success.	Owners who had previously experienced premature retirement were more likely to have an unsuccessful partnership. First time GDOs were more likely to have a successful partnership.

The first study allowed the researcher to explore the experiences of GDOs that had experienced premature retirement. One of the main themes identified here related to the unique relationship between the participants and their dogs. The dichotomous nature of the guide dog-owner relationship was highlighted. Participants seemed to have two separate relationships with their dog, one as a working dog and one as a pet. By speaking to owners whose dogs had been withdrawn for behavioural reasons, it became apparent that whilst having problems of an extremely stressful nature with their dog when working, most had a favourable relationship with the dog when not working. This also gave some insight into the possible causes of premature retirement. When dogs were withdrawn for behaviour, it was often the interference of the behaviour when working that led to the withdrawal. However, it was not necessarily connected to the dog not performing their working duties correctly. Some dogs exhibited undesirable social behaviour (e.g. becoming excitable around people) that ultimately interfered with their work. A second theme 'loss' was strongly associated with their pet relationship with the dog. Most participants, regardless of the reason for their dog's withdrawal, grieved the loss of their dog as a pet from their lives. This then linked to a third theme 'well-being'. In this theme, participant's well-being was affected by their grief over the loss of the dog, the stress of the withdrawal and the direct and indirect impact of having a reduced mobility.

To further explore the underlying causes of premature retirement of dogs withdrawn for behavioural issues, the second study undertook case studies of six of the partnerships from Study One. The findings from this study suggested that one of the main reasons for an unsuccessful partnership is down to the match between the owner and the dog. Whilst a guide dog has been specifically bred for guiding, and undergoes rigorous training for the first two years of its life, the human component of the guide dog partnership cannot be ignored. In the cases explored in this study, the accounts and reports surrounding the partnerships suggested that there were incompatibilities in the matching of owner and dog. The factors involved in the match that were detrimental to the partnership varied between cases. In four cases the owner's handling abilities were not appropriate for the dog's temperament; in one the owner's home environment didn't suit the dog's behavioural history; and in one the client and dog's temperament weren't suited. As in the first study, this study highlighted how intertwined the life and behaviour of a guide dog is with its human handler/s.

In Study Three, findings from the observations of Guide Dogs, literature review and Studies One and Two were used to test the predictive ability of various factors on partnership success. Increased guide dog handling experience, as well as previous experience of premature retirement both predicted an unsuccessful partnership.

This project has highlighted the complexities of the guide dog partnership and the need to acknowledge both the owner and dog. The working relationship, as well as the personal bond with the dog are of equal importance in the success of a guide dog partnership. In addition, the accounts of GDOs that had experienced premature retirement highlight the degree to which premature retirement can affect GDOs. This emphasises the importance of providing appropriate emotional support to help ease the negative impact premature retirement can have on a GDO's quality of life.

7.1.2 Strengths and weaknesses

Utilisation of mixed methods research has served to obtain a holistic and in-depth view of the topic under investigation. To begin with, Studies One and Two employed an inductive approach to the research. As the research questions had not been addressed previously this allowed an exploratory avenue of investigation. These findings were then followed up using a deductive approach in Study Three by testing them on a larger sample. Qualitative research is sometimes criticised for the use of small sample sizes and the lack of generalisability. However, there have been a number of important details regarding the nuances of a guide dog partnership and experiences of owners that could not have been attained from quantitative data. In addition, by using qualitative inductive techniques with small sample sizes to explore the issues, followed by quantitative deductive ones, it allowed both the identification of findings not previously considered and testing of generalisability of these (Bryman, 2006).

The use of mixed methods can overcome some of the potential limitations of qualitative and quantitative research methods used in isolation. However, there are also criticisms of employing more than one type of research method. Some suggest that each method comes with its own epistemological and ontological implications, and therefore mixing these means that core assumptions are ignored (Bryman, 2012). However it can also be argued that there are many overlaps in different research methods, which counteracts this claim (Johnson and Onwuegbuzie, 2004). The researcher has endeavoured to be reflexive throughout the research process and measures have been taken to ensure the work was reported in a transparent manner. Therefore any conflicts that may have emerged as a result of mixing methods were acknowledged and addressed.

It should also be noted that due to time constraints, successful guide dog partnerships could not be studied in this project. This would have provided a control to the unsuccessful partnerships investigated and could have helped to identify core differences not picked up by studying unsuccessful partnerships alone.

Despite the limitations described this is the first piece of research to focus exclusively on guide dog partnerships that work together for less than three years. It has highlighted the highly complex nature of the guide dog partnership and identified factors that can be used to determine partnership success post qualification. The results have also shed light on the devastating consequences a struggling guide dog partnership and premature retirement of a guide dog can have on the owner. The stress experienced both before and after the dog’s withdrawal is compounded by the worry, grief and decreased mobility has a severe impact on owner’s well-being.

7.2 Complexities of the guide dog relationship

A theme that has arisen throughout this project is the complex nature of the relationship between a guide dog and its owner. The intricacies of the guide dog partnership were not explicitly investigated as one of the project aims. However, due to the regular emergence of this theme further discussion on it seemed warranted. There appears to be a dichotomy in the relationship owners and guide dogs share, between pet and working. However, it appears to be the working side of the relationship that is the most recognised. Failure to take account of the non-working side of the relationship may have negative consequences for both the owner and dog. This section will discuss the nature and consequences of this dichotomy and the implications this has for assistance dog organisations going forward.

7.2.1 Dichotomy

In the initial observations made of Guide Dogs, it was apparent that there are two sides to the guide dog partnership. A difference in the way the owner and dog behaved and interacted with each other was observed when working compared to not working. When working, dyads were usually mechanical in their behaviour, working together to navigate their surroundings. However, when the dog’s harness was taken off the two would often appear more relaxed, playful and affectionate. This difference was commented on by Guide Dogs staff, volunteers, GDOs and others in the University of Nottingham research team. The difference between working and non-working was also referred to by GDOs in the study by Craigon (Unpublished). The accounts given by GDOs in Study One supported these observations. Owners frequently described their guide dog as being a pet as well as a guide. Thus producing a dichotomy of roles, which has also been described in other working dog relationships (Sanders, 1999). The role of a pet and guide are inextricably linked in guide dogs, transforming the dog into more than just a mobility tool. This was further exemplified by the significant grief reported by owners after the retirement of their dog; and the distress in making the decision to have the dog withdrawn, despite the problems experienced. In conducting case studies of unsuccessful partnerships, it became apparent that factors relevant to both the working and pet relationship need to be compatible between a guide dog and its owner for the partnership to be successful.

7.2.1.1 Emphasis on the working relationship

This project has identified the importance of the pet relationship as well as the working one in guide dog partnerships. However, there has been evidence throughout the research to suggest that emphasis is placed on the working side of the partnership. The first example of this was seen when observations of Guide Dogs were carried out (see Chapter One). Figure x, which demonstrates the journey of a guide dog, goes from birth through to retirement. It illustrates how Guide Dogs could be seen as undertaking a production/manufacturing process in an effort to provide high quality working dogs that meet and match client's mobility needs. Guide Dogs is the largest breeder of working dogs in the world (Guide Dogs, 2014). There are dogs that are selected to become 'breeding stock' that are mated either naturally or by artificial insemination. Once a potential guide dog puppy is born they enter this process of producing guide dogs, beginning with behavioural assessments at six weeks of age, continuing to puppy walking, early and advanced training, working and retirement. At each stage, the goal is to ensure everything is done so the dog performs optimally as a mobility aid for a client. The use of the term 'client' further reinforces the idea of Guide Dogs as a service provider. A similar system is described by Cobb et al. (2015), who refers to the 'production' of working dogs.

Participants in Study One (Chapter Four) spoke of the grief they experienced over their loss of their dog as a pet, as well as the mobility the dog provided them. However, there were still examples of the weighted importance of the dog's work in GDO's accounts. Participants often spoke of their guide dog playing the role of a mobility tool. Whilst for most participants this was not the only role the dog played, it was described as an important role. Some participants emphasised that this was the most important role of the dog. Whilst they enjoyed a relationship with the dog outside of the working context, they felt this is what a guide dog is for and it should be the primary role above that of a pet or companion. When the withdrawal of the dog was due to behavioural reasons, owners cited problems in the working relationship as a major factor when making this decision. This further reflects the emphasis on the dog as a guide first and foremost.

Another example of the emphasis on the working relationship can be seen in Study Two (Chapter Five). Upon investigation of the cases, the reason for the partnerships being unsuccessful was down to a complex interaction between a combination of factors, the main being an incompatibility between the dog and owner. However the official reason for withdrawal of the dog as recorded on GDI-R was an element of the dog's behaviour. Therefore when a dog is prematurely retired, it would appear as though the onus is put on the dog falling short of the required working standards, as opposed to the partnership between the dog and owner not working out.

These findings reflect the usage of dogs by humans commonly seen throughout different cultures. Dogs as a species are inextricably linked to humans, as they came about as a result of the domestication of their predecessors, wolves (Serpell, 1995b). It is speculated that the domestication of the wolf stemmed from the formation of an alliance between wolves and hunter-gatherers (Sablin and Khlopachev, 2002). Humans used wolves in an attempt to assist their hunt for food. This trend of humans utilising dogs for their needs has extended in their interactions with dogs as evidenced through their use as working dogs (Serpell, 1995b), to provide companionship (Enders-Slegers, 2000a, Gilbey et al., 2007) and to confer social (Katcher and Beck, 1983b) and health (Friedmann et al., 1980) benefits. Given the familiarity with this perception and treatment of dogs, it may be easy for assistance dog organisations and owners to emphasise the working role of the dogs.

7.2.1.2 Conflict

As discussed in Chapter Four, viewing guide dogs as mobility aids reflects attributes of a ‘Dominionistic’ orientation of owners towards their dogs (Blouin, 2013). However, the pet relationship shared between guide dogs and owners are indicative of a ‘Humanistic’ orientation. The dichotomy of the guide dog partnership may result in an inner conflict if GDOs hold these two opposing orientations towards their dog. On the one hand, owners may view their dogs as close companions, for whom they take on a parental role and feel distress when it is withdrawn. Whilst, conversely perceiving the dog as a mobility tool that is there to work and meet a required standard. A similar theme is explored by Wilkie (2012), who discusses the ways in which people who work with livestock and lab animals attempt to negotiate the shifting perception of the animals they work with as sentient beings versus tools or commodities. If this conflict is shared by GDOs, it may have consequences for both the relationship and the owner’s well-being. It is important that this dichotomy is recognised by Guide Dogs and other working dog organisations, and measures are taken to account for both aspects of the relationship. By understanding the two strands of working dog partnerships, they can be treated holistically to try to avoid conflicts on the owner’s part.

Another potential source of conflict produced by this dichotomy is the effect on the training of the dog in its guiding work. As discussed in Chapter Five, it is speculated that GDOs may have difficulties in balancing the role as a pet owner versus a dog handler in maintaining their dog’s training. In a study of 1,276 pet dog owners in Vienna, self-reported inconsistency in their responses to their dogs’ behaviour was correlated with reported dog disobedience (Arhant et al., 2010). The alteration in GDOs’ behaviour towards their dog when working compared to non-working may be a source of inconsistency that has the potential to be problematic. For the safety of both the dog and owner it is vital that the work related training of a guide dog is maintained throughout its working life. However it should be considered that the type of interactions between the GDO and dog required to maintain the dog’s work may differ to those that maintain the bond shared between the two as companions. Further empirical research is required to explore how the dichotomous nature of working dog partnerships affects the interactions and behaviour of both parties and the impact this has on both sides of the relationship.

7.2.2 More than a tool

This project has provided examples of how a guide dog-owner dyad is a two-way relationship. As opposed to a guide dog being a mobility tool used by a visually impaired or blind client, the two become partners that live and work together, each one having an impact on the other. This is highlighted by the substantial impact that premature retirement can have on a GDO. In addition to the loss of a mobility tool and the benefits that come with this, there is also the loss of a companion. It is important that this impact is recognised as going beyond the need for a mobility tool. GDOs in the study by Nicholson et al. (1995b) reported feeling that Guide Dogs were primarily concerned with the practical aspects after a dog was retired, e.g. getting a replacement dog. It is important that the breakdown of a partnership is not only considered as a need for a replacement mobility tool. In fact the grief experienced by GDOs in this research has been comparable to that experienced after the loss of a person.

Guide Dogs is under considerable pressure to meet the demands of the hundreds of blind and partially sighted individuals who are in need of a guide dog. In trying to meet these needs, it is important that the organisation does not run the risk of institutionalisation and therefore the onus is moved away from the ‘production line’ style view of guide dogs. This requires an understanding of the multifaceted nature of the guide dog partnership throughout the process. Beginning with matching a dog and owner through to retirement, premature or otherwise. Guide dogs can easily be viewed as tools in meeting the demands of Guide Dogs’ clients. This may involve a focus on what type of dog the client requires; tailoring the dog’s training to the needs of the client; ensuring the dog carries out the work in a way suitable to the client; and finding a replacement once the dog is retired. Instead it is important that the partnership as a whole be considered. A dog and owner that are compatible; training both the dog and owner to work together; ensuring the needs of both the dog and owner are met throughout their time working together; and an appreciation of the many ways in which the owner is affected when the partnership ends and the considerations of this before embarking on a new partnership. In order to ensure this view is implemented throughout the organisation, there needs to be a change in the education of GDOs on what to expect from a guide dog partnership. A change is needed from viewing guide dogs as a service provided to clients, to a dog and person that are able to work together to aid mobility.

7.3 Guide dog partnership success and impact model

Based on a review of the literature and the research conducted in this project, this section outlines a model detailing the answers to the research questions for this project. 1) What are the factors leading to the early (within three years post qualification) breakdown of a guide dog partnership (excluding health problems)? 2) What are the impacts of premature retirement on GDOs? Figure 12 shows a diagram illustrating how a guide dog partnership may be unsuccessful and the subsequent impact this can have on the owner. Following this is a description of the model. It should be noted that this project did not investigate the causes of a successful partnership. Whilst the model puts forward pathways to a successful partnership, this is conjecture based on what leads to an unsuccessful partnership. Future research should explore what makes a successful guide dog partnership to further highlight the considerations needed to accomplish this.

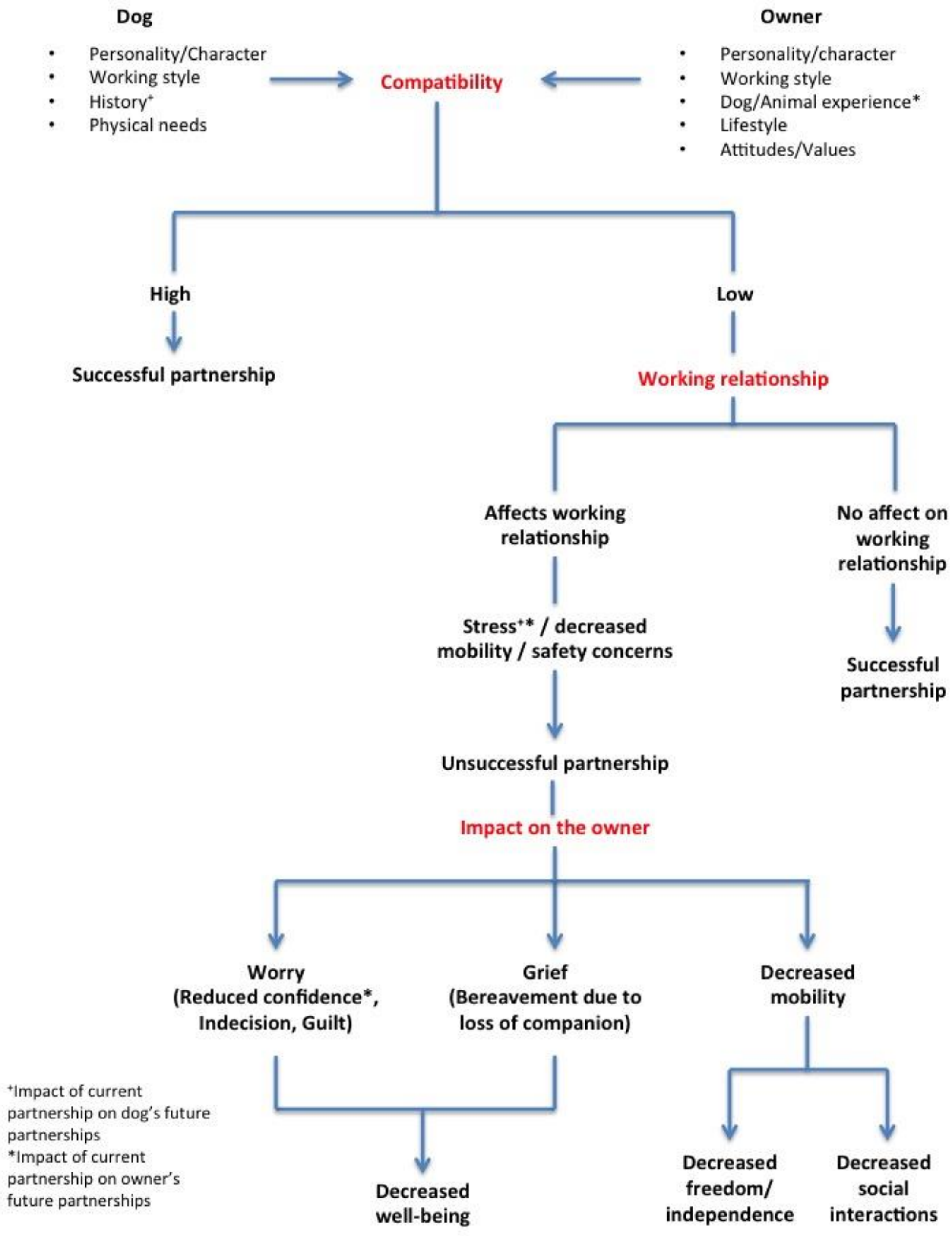

Figure 12 - Proposed model based on a project exploring the causes and impact of premature retirement of guide dogs, outlining how compatibility between a guide dog and owner can lead affect their working relationship, leading to an unsuccessful partnership and the impact this has on the owner

7.3.1.1 Compatibility

This project explored the possible causes of unsuccessful guide dog partnerships. Based on the results of the four studies carried out, it appears as though guide dog partnerships that end prematurely due to reasons other than the dog's health preventing it from working, are unsuccessful due to an incompatibility between the dog and owner. These studies also highlighted the range of factors that are important to the guide dog partnership and require compatibility. In this section, these factors are discussed with reference to the project findings and how these fit with the existing literature. The factors discussed include the personality, working style and previous experiences of the owner and dog. In addition the physical needs of the dog, and the lifestyle and attitudes/values of the owner.

The personality or character of both the dog and owner play a large part in the compatibility between them. GDOs spoke about the amount of affection and proximity they shared with their dog when not working. Whilst most owners enjoyed giving and receiving affection from their dog and being in close proximity, the amount differed between participants. Some enjoyed sharing a great deal of affection and being in close proximity to their dog at all times, others preferred to have space from their dog when not working. The level of affection, attention and proximity exhibited also differed between dogs. Both the dog and owner's desire for affection, attention and proximity are aspects that affect compatibility between the pair. Sociability is reported as a personality trait in dogs (Jones and Gosling, 2005). This may encompass a guide dog's propensity for affection, attention and proximity towards its owner. Extraversion as detailed in the Big Five personality traits theory (McCrae and Costa, 1985) encompasses human's affection and sociability, therefore this may be a good measure for this trait in owners. Research suggests that certain personality traits in humans may be better suited to certain types of dogs. For example, owners low in neuroticism may be better suited to dogs that require higher levels of training (Payne et al., 2015). There has been little research on the effect of dog personality traits on human-dog dyads. Further investigation is required to find out what and how other personality traits may affect dog-owner compatibility. This could be accomplished by comparing personality traits of the owner and dog with compatibility scores, using a measure similar to that developed by Lloyd (2004). This could also be explored in different types of dog-human relationships to see how it differs depending on the sort of relationship shared.

When speaking about their dog's work in interviews, GDOs often spoke about how well their dog performed in their guiding work and their specific working style. Building on this, it was concluded upon completion of the case studies that the owner's way of working with their dog was also important to the partnership dynamics. For example, it was concluded in one case that the dog required an owner that would be very interactive with her when working. Unique to working dog partnerships then, it is important that the dog and owner's working styles also complement each other. Kerepesi et al. (2005) used time structure model and pattern detection procedures to detect temporal patterns in human-dog interactions. Similar techniques could be used to investigate how working styles complement each other in working dog partnerships.

Another factor lies in the dog and owner's previous experiences. The case studies suggest that the type of environment and interactions the dog had throughout puppy walking and training have an impact on their behaviour post qualification. This was also true of owners' previous dog and animal experience. It was concluded in some cases that a more experienced GDO would have been better suited to the dogs.

The physical needs of the dog are also of importance to the success of the partnership. Part of this is encompassed in the personality traits found in dogs. How activity levels differ between dogs. The owner's own level of activity should suit the dog's, either in their personal life e.g. enjoyment of walks, etc or in journey requirements for work. Another aspect of the dog's physical needs that should be considered is their spending requirements. The environment and frequency of spending can also differ between dogs and the owner will need to be able to accommodate this.

Much of the dog's physical needs will be required to suit the owner's lifestyle. Another aspect of the owner's lifestyle that may affect the relationship are the presence of others in their home, be that human or animals. The inability of the guide dog to get along with the owner's pet dogs led to an unsuccessful partnership in one of the case studies. Another example from the case studies was the owner's health. This can impact the type of work required by the dog and the amount of activity it will get with a particular owner. Physical components of the dog may also be incompatible with certain health conditions, e.g. a long haired dog may not be suitable to be placed with an asthmatic owner.

Finally, the attitudes and values of the owner need to be compatible with the dog's personality. In the interviews with GDOs, their attitudes towards dogs varied. Some considered the dog to be a part of the family, whilst others viewed the dog as a mobility tool. A dog that wants high levels of interaction and affection may not suit an owner who holds the latter view of their guide dog.

The quantity and quality of compatibility that exists between a guide dog and its owner varies, and balancing these two aspects can be complex. As described above, there are a number of different dog and owner factors that are important for compatibility. However, the importance of these factors to the dog and owner may vary. For example two GDOs may want a dog that is very confident when guiding. If they are matched with a timid dog, one may find that they find it very difficult to work with the dog whilst the other may overcome this and not find it to be a great issue. Therefore both these components of compatibility are important. Based on the amount and type of compatibility, if it is high it is speculated that the partnership will be successful. When matching potential guide dogs and owners, it may be worth asking owners how important these factors are to them. Knowledge of the dog can also be used to consider what factors are of highest importance for the dog. These weightings can then be used to balance the numerous aspects that need to be considered in the matching process. This is also applicable when matching other assistance dogs and re-homing pet dogs.

The avenues of future research identified in this section have suggested ways compatibility between dogs and humans can be explored holistically. As with other areas of research on the human-animal bond (HAB), it is important that studies investigate both human and dog traits simultaneously rather than from one side.

7.3.1.2 Working relationship

If the compatibility between the dog and owner is low, based on the interview with GDOs, how this affects the working relationship then determines the success of the partnership. Some owners reported problems in their working relationship with their dog and no problems when they were not working together. Other owners reported experiencing problems both when working and not working. In both instances, when discussing their reasons for having the dog withdrawn, it was the problems encountered when working with the dog that led them to make the decision. Therefore it is speculated that if the owner and dog are low in compatibility, but their working relationship is not affected by this, the partnership will still be successful. This fits with a survey of GDOs that were currently partnered with a guide dog (Craigon, unpublished). In the study by Craigon (unpublished) owners often spoke about problems they encountered with their dogs, however they were still working with the dog and made no mention of withdrawing the dog for these problems. The problems mentioned were predominantly issues affecting their non-working relationship with the dog.

The work carried out by guide dog partnerships is a complex two-way interaction between the owner and the dog. Naderi et al. (2001) found that guide dogs and their owners co-operated with one another whilst out on a walk and navigating an obstacle course. Owners would initiate some actions, such as slowing down, whilst dog tended to initiate other actions, e.g. avoidance of obstacles. Research suggests that communication between humans and dogs is highly developed. Kerepesi et al. (2005) found that human-dog pairs used distinct temporal patterns when engaged in a co-operative task. This was made up of actions by both the owner and dog in a specific sequence that allowed them to complete the task as a team. It is therefore unsurprising that the working relationship between the guide dogs and owners in this project often suffered. As it is the working relationship that determines the success of the partnership, it is imperative that this side of the partnership works well.

When the working relationship was affected owners emphasised the stress they experienced and the detriment to their own and the dog's safety when deciding to have the dog withdrawn. This led a lot of them to cease working with the dog, meaning a loss of the independence and freedom they attained through acquiring a guide dog. This suggests that when the working relationship is affected it leads to the owner fearing for their safety and thus feeling stressed when trying to work with the dog. This then means they work with the dog less or stop working altogether, which decreases their mobility. These factors lead to the partnership being unsuccessful. Safety has been cited as one of the benefits of owning an assistance dog (Sachs-Ericsson et al., 2002, Rintala, 2008). Therefore the lack of safety felt by the owners in this study suggests one of the key attributes of having a guide dog is lacking. In fact, their safety may be compromised more by the presence of the dog compared to using a different form of mobility aid. In the interviews with GDOs, feelings of safety and their trust in the dog were often mentioned. Whilst these two concepts are similar in nature, safety may be an advantage of owning an assistance dog, whilst trust may be vital to the work the dog and owner perform together. In a study by Odendaal and Meintjes (2003), neurotransmitters such as dopamine and the hormone oxytocin increased in both humans and dogs following affiliative interactions with each other. Oxytocin is associated with forming social bonds with others and has been found to increase trust in interpersonal interactions between humans (Kosfeld et al., 2005). A lack of trust by GDOs may be indicative of a strained working relationship between themselves and their dog. It is suggested that trust in guide dog partnerships be explored further. It may be an avenue for Guide Dogs staff to check on the working relationship in guide dog partnerships. This could easily be incorporated into aftercare visits by asking owners to rate how much they trust their dog on a likert scale. To test the efficacy of this a longitudinal study comparing the level of trust with the perceived strength of the working relationship by the owner and Guide Dog Mobility Instructor (GDMI) and the outcome of the partnership could be undertaken.

It should also be noted that the stress felt by the owner was thought to be felt by the dog as the partnership was in conflict. As discussed in Chapter Two, animals have a large effect on humans through social facilitation (Katcher and Beck, 1983b) and reducing reactivity to stress (Levine et al., 2013). Studies have also demonstrated that human behaviour can have an effect on animals they interact with. For example, the type of human handling experienced by piglets affected their performance in a cognitive bias test (Brajon et al., 2015). Piglets that received gentle handling were more likely to make a positive judgement bias than those that had received rough or minimal handling. This suggests that the emotional state of animals can be affected by the ways in which humans interact with them. Another study found that dogs paired with human's that engaged in more punitive and less affiliative behaviours with their dog after losing in a dog agility competition were more likely to have higher cortisol levels (Jones and Josephs, 2006). Oliva et al. (2016) compared pet dog performance in solving a task that required using human social cues to retrieve a treat. Dogs owned by people who were anxiously attached to them performed poorer than those owned by people who were not anxiously attached to them. This suggests the type of relationship shared between the owner and dog has an effect on the dog's ability in comprehending human communicative cues. Similarly, Topál et al. (1998) found that dog's problem solving techniques were affected by the type of relationship it had with its owner. Dogs in a companionship relationship with their owner behaved more dependently from them in a problem-solving task compared to dogs in a working relationship. For example, following and looking at the owner during the task. The methods used in these studies could be employed to further that of Study Three. A large prospective study investigating partnership success could measure elements of the relationship between the owner and dog, such as the type of attachment style of both parties and handling used by the owner. In addition, the ability of the dogs and dyads in completing tasks could be measured as these provide information on the relationship between the owner and dog.

The working relationship appears to be the most important aspect in the decision to have a guide dog withdrawn. The interactions that take place between a guide dog and owner when working are multifaceted and require further exploration to understand what causes this side of the relationship to break down. This project has shown that when the working relationship is affected by a low compatibility between the dog and owner, stress is experienced by the owner and possibly the dog. The stress felt by both parties could then have an impact on their future partnerships as this forms part of their past experiences. Study Three found that past experience of premature retirement predicted future success, with partnerships being more likely to be unsuccessful if the owner had experienced premature retirement in the past. It may be that the negative consequences of an unsuccessful partnership impact owners in a way that is detrimental to their future partnerships.

7.3.1.3 Impact on the owner

This project has illustrated the negative impact premature retirement can have on an owner's well-being. The loss experienced by owners is extremely complex and can affect their health and well-being in a myriad of ways. It is important that this is taken into account and the necessary support is provided.

7.3.1.3.1 Worry

There are a number of possible impacts of an unsuccessful guide dog partnership on the GDO's well-being. Owners often experienced a great deal of worry about their decision to have their dog withdrawn. Confidence was also a potential issue after an unsuccessful partnership, with owners losing confidence in their ability to work with a guide dog as they feel they failed with their previous dog. This could then impact their future guide dog partnerships, as they are anxious that they may have a similar experience with a new dog. Previous premature retirement was predictive of an unsuccessful partnership in Study Three, suggesting withdrawal of a guide dog may impact future partnerships. Owners also tended to have a lot of doubts about their decision to have their dog withdrawn. Many were very indecisive in making the decision and still felt this confusion for a long period of time after the partnership had ended. They felt unsure if it was the correct decision and ruminated over what they could have done differently. Along with this, they also felt guilty in having made the decision to end the partnership. They often had a number of concerns including whether they could have done more to make the partnership work, and worrying about what had happened to the dog since it was withdrawn.

In both the telephone interviews and case studies it became apparent that the cause of the retirement was a topic participants dwelled on. GDOs would often speculate as to the cause of the retirement and who was to blame. In doing so, participants would often speak about their role in this. At times they would assign blame to themselves then question what else they could have done. In addition there were some differences in the accounts given by participants in the case studies. These differences were sometimes regarding the cause, or who was to blame for the dog's withdrawal. It is speculated that owners worry about how the premature retirement of their dog portrays them to others. The alternating in their interview accounts and the discrepancies between participant accounts in the case studies may have been a result of owners attempting to ensure they were not portrayed negatively. In a study on pet dog relinquishment, one of the components that fed into the negative experiences of people who had relinquished pet dogs was the social negativity that surrounded the relinquishment (Edwards, 2012). Owners felt culpable for the relinquishment and therefore felt the negativity of societal norms rested on them. GDOs may go through a similar experience when a guide dog is prematurely retired. In fact, this may be heightened for GDOs as guide dogs have such a high positive public profile.

In Chapter Four, the rumination of participants over the possible cause of their dog's withdrawal was suggested to be a maladaptive coping mechanism. Whereas when participants reflected on what they had learned from the experience, this was suggested to be an adaptive coping mechanism. It has been suggested that Guide Dogs ensure they provide specific support to GDOs who have experienced premature retirement. One element of this could be to assist owners in using more adaptive coping mechanisms and less maladaptive ones. To do this they could help owners to identify positives from the experience. Education of GDOs prior to engaging in a guide dog partnership on the commonality of unsuccessful partnerships may give them more realistic expectations. This may then alleviate some of the worry they feel if their dog is withdrawn. There may be an opportunity to identify owners that are more likely to use maladaptive coping mechanisms. Study One identified the use of certain maladaptive coping mechanisms. To advance understanding of the use of these mechanisms after the loss of a guide dog, future research could investigate the type used and how this correlates with other traits. Secondary analysis of the GDO accounts from Study One could be employed to identify traits that may correlate with the adoption of particular coping mechanisms. This could then be tested on a larger sample by distributing a survey to owners after guide dog withdrawal exploring these traits and the type of mechanisms employed. This research may also be beneficial for other working and pet dog owners.

7.3.1.3.2 Grief

Alongside the worry experienced by owners, grief was also often experienced as they mourned for the relationship they had with dog and the absence of the dog from their lives. As the dog shared their life with them outside of the working relationship, owners lost the dog as a pet as well as a guide. This meant they grieved their pet dog even though the working relationship was unsuccessful.

The accounts given by GDOs in the telephone interviews (Chapter Four), illustrated the longevity of the grief they experienced. Owners still grieved the loss of their dog over a year after it had been retired. Some also felt they played a parental role towards their dog, which may have heightened the grief they experienced. The need for closure discussed by some participants also highlights some of the difficulties owners had in dealing with their bereavement. As discussed in Chapter Four this may have been due to a number of factors that could potentially complicate the loss experienced when a guide dog is prematurely retired. Disenfranchised grief is often experienced by individuals who lose a pet and it is speculated that this may be a particular issue for GDOs after their dog is withdrawn or retired.

In light of these issues surrounding the grief of owners, the opportunity for GDOs to speak to someone about their loss may be invaluable to some. Guide Dogs offer support to owners after a guide dog has been withdrawn or retired. It is important that this support includes the opportunity for owners to speak to someone about their loss. Additionally the unique issues faced by owners whose dog has been withdrawn should be considered. For example, the often ambiguous and traumatic nature of their loss. As mentioned above, adaptive rather than maladaptive coping mechanisms could also be encouraged. By ensuring the offer of support is particularly promoted to owners whose dog was withdrawn, this may help lessen the use of distraction, a possibly maladaptive coping mechanism. Guide Dogs may be able to provide tremendous relief to GDOs by keeping them informed of their dog’s fate post withdrawal. This can help owners obtain closure and is possibly an adaptive coping mechanism.

7.3.1.3.3 Decreased mobility

Simultaneous to their grief, GDOs have also lost their mobility tool, meaning their mobility is compromised. This can consequently affect their confidence, independence and freedom to get out and about. As a result of losing their guide dog most resorted to using a cane and assisted guiding from friends and family. Whilst they were still able to be mobile, most felt this hindered them and often led to them feeling a burden on others. In addition, limited mobility meant they had less opportunity to socialise with others as they were less able to leave the house. Owners also lost the social aspect of having a guide dog, which often facilitates social interactions when out of the house. This impact on social interaction has been described in other studies on assistance dogs (Eddy et al., 1988, Allen and Blascovich, 1996, Hart et al., 1996, Lane et al., 1998, Guest et al., 2006).

To counteract some of the consequences of a decrease in mobility Guide Dogs could implement some practices to support GDOs whilst waiting for a new dog. The GDO, Guide Dogs and the GDO's friends and family could work together to construct a plan on how the GDO will sustain their mobility. Guide Dogs currently offer assisted guides as one of their services. There may be other services that could be developed, for example, putting the owner in touch with other GDOs, Guide Dogs staff or volunteers in their area. It may also be beneficial for Guide Dogs to outline the possible negative consequences of living without a guide dog and ways in which owners can overcome these when a dog is withdrawn.

7.4 Conclusion

This project has shed light on the intricate relationship between a guide dog and its owner. Prior to this piece of research, there was little known about the intricacies of guide dog partnerships. It was understood that a level of co-operation took place between the two, however the details of this had not been investigated. This project has demonstrated that the two share a relationship that has two distinct and separate elements that may have the potential to conflict with each other. Whilst guide dogs are most recognised for their guiding duties, it is important that the non-working relationship is considered as equally significant. The first aim of this thesis was to identify possible risk factors for the early withdrawal of a guide dog. The research carried out here has demonstrated that compatibility between the dog and owner is required both in their work and non-working relationship. If a lack of compatibility has a negative effect on the dyad's work, there is a risk that the dog will be withdrawn. The second aim was to explore the impact an unsuccessful partnership may have on the GDO. The thesis has illustrated the various ways guide dog withdrawal can have a detrimental impact on the owner. Worry, grief and a decreased mobility all contribute to a compromised sense of well-being. To help avoid unsuccessful guide dog partnerships, and to support owners who have experienced this, a more holistic approach should be used in viewing and handling guide dog partnerships in future. Future investigation of guide dog partnerships including the compatibility between the two parties and elements that affect the working relationship should take account of both the owner and dog equally and in conjunction. Education of GDOs on the holistic nature of the partnership is also required to improve their knowledge and understanding of the way the partnership works. The methods used in this research were the first to be used to study guide dog partnerships. These can now be used to investigate successful ones in the hopes that it will highlight factors that make a partnership successful, in the same way that this project highlighted factors that may cause it to fail. This thesis has begun to shed light on the complex workings and needs of a guide dog partnership and has identified avenues of future research that are applicable to all human-dog dyads.

To end this thesis, the key issues pertinent to premature retirement are highlighted. The diagram from Chapter One is revisited, highlighting the points in a guide dog's journey that may impact premature retirement. Following this is a table of recommendations for stakeholders based on the outcomes of this research.

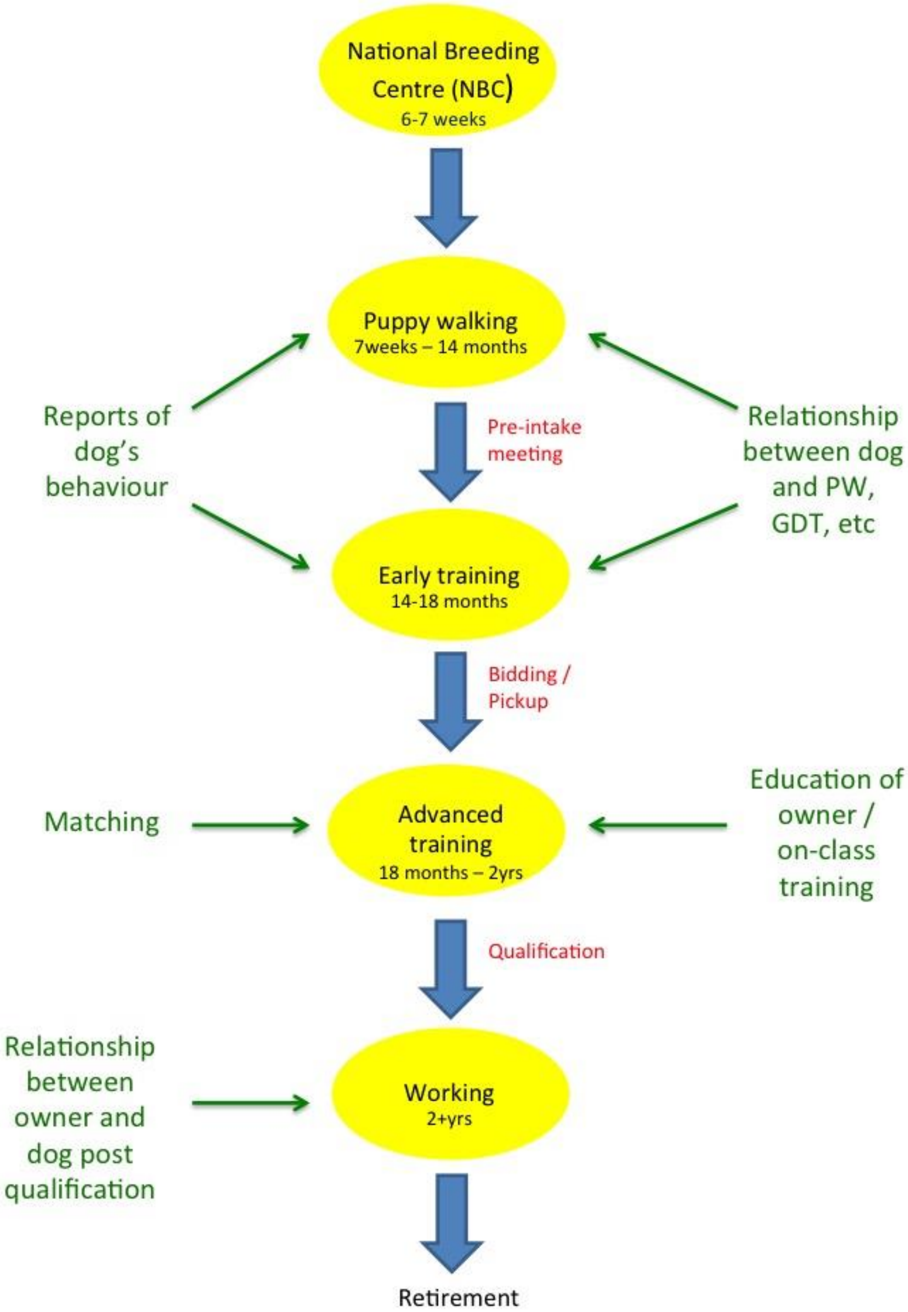

Figure 13 - A diagram showing the typical path of a guide dog within Guide Dogs from birth to the end of its working life. Stages that may be pertinent to premature retirement are highlight.

Table 14 - A table of recommendations to stakeholders based on the findings from this research

What was found?	What does this mean?	What needs to be done?	By who?
There are two distinct parts of a guide dog partnership - the working and non-working relationships	Both parts need to be considered as equally important	The non-working relationship needs to be factored more heavily in matching, training and life post qualification	Guide Dogs (and potentially other working dog partnerships)
The problems that lead to premature retirement usually stem from the working relationship	If there are problems in the partnership that are having an effect on the working relationship, this may be an indicator that the partnership will be unsuccessful	When these problems are identified, the partnership should be classified as being at high risk of dissolving and appropriate support should be put in place to monitor and try to rectify the problems, and if applicable prepare the GDO for the possibility of the dog's withdrawal	Guide Dogs (and potentially other working dog partnerships)
Factors relating to the owner are just as important as the dog's behaviour in determining if a partnership is successful or not	Owner characteristics also play a part in the success of guide dog partnerships and their behaviour is just as important as the dog's	The behaviour, characteristics and lifestyle of the owner should be considered with the same importance as the behavioural traits of the dog during matching, training and life post qualification. There should be a culture shift in emphasising the role of the owner as much as the dog	Guide Dogs (and potentially other working dog and pet dog partnerships)

A mismatch between the owner and dog is a major factor in premature retirement	It is important that the various components of the dog and owner's personality, lifestyle and needs are compatible	These components should be taken into account when matching dogs and owners	Guide Dogs (and potentially other working dog and pet dog partnerships)
Information pertinent to the dog's withdrawal can often be found in notes on the dog/partnership made throughout puppy walking, training and matching	The problem/s that led to the premature retirement were observed pre-qualification and may have been avoided	Notes made throughout puppy walking, training and matching should be carefully considered when dealing with guide dog partnerships, especially during the matching process	Guide Dogs
The emotional wellbeing of GDOs that experience premature retirement is impacted in multiple ways	GDOs that experience premature retirement are a vulnerable group whose wellbeing may be severely negatively impacted	Support specifically tailored to this group should be provided, as well as education on the commonality of premature retirement prior to forming a partnership for all GDOs	Guide Dogs

Appendices

Appendix 1 – Guide dog owner interview schedule

Thank you for taking the time to take part in this interview. As I mentioned in our last conversation I will be asking you some questions on your experiences of having a guide dog that was withdrawn early. If there are any questions that you would rather not answer, we can skip these and you are not obliged to complete the whole questionnaire if you don’t want to. Do you have any questions before we begin?

OK, so I’m going to start off by asking for some information on you to get an idea of the demographics of the people in my study. I understand that Guide Dogs probably has a lot of this information, but as an independent researcher I don’t have access to this.

<u>Demographics</u>

1. Are you male or female?
2. How old are you?
3. What nationality are you?
4. What county or city do you live in?
5. How would you describe the place where you live? E.g. village, town city centre
6. How long ago were you first trained with a guide dog?
7. How many guide dogs (including all the dogs you have qualified with) have you owned in total?

Thank you for giving me that information. I’m now going to move on to some questions on your dog that was retired. I understand his/her name is xxxx, is that correct? OK so thinking back to before you got xxxx……..

<u>Expectations</u>

8. Can you tell me about any expectations you had prior to getting a guide dog?
   - How did you expect the dog would behave?
   - What did you expect the dog to do?
   - What did you expect your role to be in your work with the dog?
   - What did you expect your role to be in building a relationship with the dog?

9. Can you describe a typical day for you and (the dog) when you were working together?
   - How many activities did you do?
   - How many walks did you go on?
   - How busy were you?

10. How would you describe (the dog's) behaviour when working (with a harness), compared to when (it) was not working (off lead and around the house)?
    - Was there a difference in (it's) behaviour?
    - Did you expect there to be a difference?
    - Did you feel you were affected more by (the dog's) behaviour when working or vice versa?

<u>Bond</u>

11. Could you describe any experience you have had with animals prior to (the dog), e.g. other pets?

12. Tell me about (the dog)…
    - Could you describe (the dog's) character?
    - What did (it) like to do when (it) wasn't working?
    - What aspects of (the dog) did you particularly like? And was there anything about (it) that wasn't so great?

13. How would you describe your relationship with (the dog)?
    - What role did (the dog) play e.g. family member, friend, tool?
    - Was (the dog) attentive to you when it wasn't working and did you like this?
    - Did you go to (the dog) for comfort when feeling low or upset?

<u>Impact of early withdrawal</u>

14. Can I explore with you why (the dog) was withdrawn?
    - Was (the dog's) withdrawal initiated by you or Guide Dogs?

15. How was/has your life changed by the withdrawal of your dog?
    - Do you feel it has impacted your mobility or physical health in any ways?
    - Did it affect you emotionally?
    - Do/did you think about the withdrawal a lot?
    - Do you feel it has impacted you in any other ways?

16. What have been your feelings towards owning a guide dog since (the dog) was withdrawn?
    - Have you had any guide dogs since (the dog)?
    - Do you plan to have another guide dog in the future?

<u>Support</u>

17. Could you describe any help you received from either Guide Dogs or friends and family for (the dog)?
    - Did you go to anyone for advice about (the dog)? Who?
    - Are there any ways your support could have been improved?

18. When did you first notice (the problem)?
    - Was it gradual or did it come about suddenly?

- Did you discuss the issue?
- What action was agreed?

19. Were there any other factors that you felt impacted on (the dog's) withdrawal?
    - Do you have any additional needs apart from your visual impairment?
    - How did Guide Dogs take account of this?

So that's the bulk of the questions I wanted to ask. Thank you for taking the time to answer these, you're feedback has been really helpful. I'd just like to ask a few more questions about you and your circumstances before we finish. Is that OK?

<u>Demographics continued</u>

20. Are you registered as blind or partially sighted?
21. For roughly how many years have you had a visual impairment that you would say has affected your day-to-day life in some way?
22. What is your current relationship status/ living arrangement? e.g. single, married/civil partnership, divorced/separated, etc
23. Do you have any other pets or animals in the house apart from a guide dog?
24. How many people live in your household including yourself?
25. Can you tell me the ages of anyone in your household that is under 18?

Well I've asked you everything I wanted to ask now. Thank you for being so patient and agreeing to take part. Do you have anything you'd like to ask me?

I understand that the withdrawal of a guide dog can be a difficult time so I just want to bring your attention to the fact that you can contact your mobility team for support. They know that I've asked you to take part in my study and are happy to provide you with information on support that is available to you.

As I mentioned in our last phone call I will be asking some people to complete a follow up interview with me at a later date. Can I contact you about this if you are one of the people I'd like to interview?

Thanks again, if you have any queries please give me a call or email me.

Appendix 2 – Puppy walker interview schedule

Thank you for taking the time to take part in this interview. As I mentioned in our last conversation I will be asking you some questions about xxx. If there are any questions that you would rather not answer, we can skip these and you are not obliged to complete the whole questionnaire if you don't want to. Do you have any questions before we begin?

OK, so I'm going to start off by asking for some information on you to get an idea of the demographics of the people in my study.

<u>Demographics</u>

26. Are you male or female?
27. How old are you?
28. What nationality are you?
29. What county or city did you live in whilst puppy walking xxx?
30. How would you describe the place where you lived whilst puppy walking xxx? E.g. village, town city centre
31. How long ago did you first puppy walk a guide dog?
32. How many guide dogs have you puppy walked in total?

Thank you for giving me that information. I'm now going to move on to some questions on your experiences of being a puppy walker.

<u>General questions</u>

Puppy walker experience

33. Prior to xxx, how many dogs had you puppy walked?

34. Have all your dogs gone on to training? If not, why?

35. Do you know how all of your dogs have progressed since leaving you?
    - Did they qualify as a guide dog?
    - Have any retired? If yes, how old were they?

36. Can you describe your experience of being a puppy walker?
    - What do you enjoy about puppy walking?
    - Are there any particular challenges?

OK, so now thinking about xxx…

Retired dog

37. Can you tell me about xxx?
    - Could you describe xxx's character?
    - What kinds of things did he/she like to do?

- What aspects of xxx did you particularly like? And was there anything about him/her that wasn't so great?

38. How would you describe your relationship with xxx?
    - Did you feel that he/she played a specific role e.g. family member or friend?
    - Was xxx attentive to you and did you like this?
    - Did you go to xxx for comfort when feeling low or upset?

39. How would you describe xxx's relationship with others in the household?
    - Was there anyone in particular that had a close relationship to xxx?
    - Did all members of the household get along with xxx?
    - Did all members of the household share the responsibility of looking after him/her?

40. Can you describe a typical day for you and xxx?
    - What kind of activities did you do?
    - How many walks did you go on?
    - How busy were you?

41. How would you describe xxx's behaviour when training/working (with his/her harness on), compared to when he/she was not working?
    - Was there a difference in his/her behaviour?

17. Can you describe any support you received from Guide Dogs while you had xxx?
    - Did you ever go to them for advice about xxx?
    - What kind of training and/or general information did they give you?

<u>Case specific questions</u>

Case 1

18. Can you tell me about Penny's experience with children?

19. What was Penny like when it came to food?
    - Scavenge

Case 2

18. Did Marley ever exhibit any behavioural problems?
    - Obedience
    - Chewing
    - Jumping up

19. Can you tell me about Marley's experience on public transport?
    - Buses

- Fidgeting
- Sitting position

20. Can you tell me about Marley's experience in public places e.g. restaurants?

21. What was Marley like when it came to food?
    - Treats

22. How did Marley behave when he was left alone e.g. in a room of the house?
    - Destructive behaviour

Case 3 (also re-homer)

18. How would you describe Dodger's attitude when it came to training/working?
    - Enthusiasm

19. How would you describe your walking pace? (Fast, slow, average?)

20. How would you describe Dodger's walking pace?
    - Match

21. Have you noticed any changes in Dodger between puppy walking and re-homing him?

Case 4

18. Can you tell me about Faline's experience with other dogs?

19. Did Faline ever exhibit any behavioural problems?
    - Obedience
    - Chewing
    - Jumping up

Case 5

18. Did Belle's behaviour ever change when around different people?

Case 6

18. Can you tell me about Bolt's experience with other dogs whilst puppy walking him?

So that's the bulk of the questions I wanted to ask. Thank you for taking the time to answer these, you're feedback has been really helpful. I'd just like to ask a few more questions about you and your circumstances before we finish. Is that OK?

<u>Demographics continued</u>

- What is your current relationship status/ living arrangement? e.g. single, married/civil partnership, divorced/separated, etc

- Do you have any other pets or animals in the house apart from xxx?

- How many people live in your household including yourself?

- Can you tell me the ages of anyone in your household that is under 18?

Appendix 3 - Re-homer interview schedule

Thank you for taking the time to take part in this interview. As I mentioned in our last conversation I will be asking you some questions about xxx. If there are any questions that you would rather not answer, we can skip these and you are not obliged to complete the whole questionnaire if you don't want to. Do you have any questions before we begin?

OK, so I'm going to start off by asking for some information on you to get an idea of the demographics of the people in my study.

<u>Demographics</u>

42. Are you male or female?
43. How old are you?
44. What nationality are you?
45. What county or city do you live in?
46. How would you describe the place where you live? E.g. village, town city centre

Thank you for giving me that information. I'm now going to move on to some questions on xxx. I understand his/her name is xxxx, is that correct? OK so thinking back to before you got xxxx……..

<u>General questions</u>

47. Could you describe any experience you have had with animals prior to rehoming xxx, e.g. other pets?

48. Can you tell me about xxx?
    - Could you describe xxx's character?
    - What kinds of things does he/she like to do?
    - What aspects of xxx do you particularly like? And is there anything about him/her that isn't so great?

49. How would you describe your relationship with xxx?
    - Do you feel that he/she plays a specific role e.g. family member or friend?
    - Is xxx attentive to you and do you like this?
    - Do you go to xxx for comfort when feeling low or upset?

50. How would you describe xxx's relationship with others in the household?
    - Is there anyone in particular that has a close relationship with xxx?
    - Do all members of the household get along with xxx?
    - Do all members of the household share the responsibility of looking after him/her?

51. Can you describe a typical day for you and xxx?
    - What kind of activities do you do?
    - How many walks do you go on?

- How busy are you?

52. To your knowledge why was xxx withdrawn?

53. What is your opinion on xxx's withdrawal?
    - Do you think it was the right decision?
    - Have you noticed (the problem) since rehoming him/her?
    - Has (the problem) got better or worse?

54. Are you in contact with xxx's previous owner?

<u>Case specific questions</u>

Case 1

55. What is Penny like when it comes to food?
    - Scavenge

56. What is Penny like around children?

Case 2

14. Does Marley ever exhibit any behavioural problems?
    - Obedience
    - Chewing
    - Jumping up

15. What is Marley like on public transport?

16. What is Marley like when it comes to food?
    - Treats

17. How does Marley behave when he is left alone e.g. in a room of the house?

Case 3 – see PW interview

Case 4

14. What is Faline like with other dogs?

18. Does Faline ever exhibit any behavioural problems?
    - Obedience
    - Chewing
    - Jumping up

Case 5

14. Does Belle's behaviour ever change when around different people?

Case 6

14. What is Bolt like with other dogs?

So that's the bulk of the questions I wanted to ask. Thank you for taking the time to answer these, you're feedback has been really helpful. I'd just like to ask a few more questions about you and your circumstances before we finish. Is that OK?

<u>Demographics continued</u>

- What is your current relationship status/ living arrangement? e.g. single, married/civil partnership, divorced/separated, etc

- Do you have any other pets or animals in the house apart from xxx?

- How many people live in your household including yourself?

- Can you tell me the ages of anyone in your household that is under 18?

Appendix 4 - Transcription protocol

- Itallics = interviewer
- Underlined = emphasis on word
- Underlined = emotional/crying
- Verbal encouragers by interviewer not transcribed
- Short pause = ..
- Long pause = ..

  Text continued on next line
- Hesitancies, umms, word repeats, stuttering recorded
- Inaudible in brackets
- Laughter in brackets
- Clearing throat in brackets
- Interruptions to interview in brackets with reason given
- Words unsure of followed by question mark and put in brackets
- Demographic questions summarised (full transcription not given)
- Lines numbered
- Punctuation used as identified by transcriber e.g. full stop at end of sentence, comma when take a breath, speech marks when imitating others, exclamation marks when saying something with a strong emotion
- Bold = singing

Appendix 5 - GDI-R information recorded in spreadsheets

- Dog
    - GDI-R ID
    - Withdrawal reason
    - Sex
    - Breed
    - Whelp location
    - Age:
        - started early training
        - started advanced training
        - at qualification
        - at withdrawal
    - Length of partnership
    - Guide Dogs team trained with
    - Guide Dog Trainer
    - Guide Dog Mobility Instructor
    - Sire GDI-R ID
    - Dam GDI-R ID
    - Litter mate/s:
        - GDI-R ID
        - Working status
        - Stage withdrawn (if applicable)
        - Reason for withdrawal (Health or Temperament) (if applicable)
        - If Temperament, details
        - Outcome after withdrawal (re-homed, transfer to other organisation, etc) (if applicable)
        - Details of health issues
    - Number of times boarded
    - Number of boarders
    - Details of CAS throughout puppy walking and training
    - Additional comments or information
- Guide Dog Owner
    - Gender
    - Age
    - Nationality
    - County/city resided
    - Area type (town, village, etc)
    - Years since first trained with a guide dog
    - Number of guide dogs prior to case partnership
    - Visual impairment registration (blind, partially sighted, etc)
    - Years since development of visual impairment
    - Relationship status
    - Other pets
    - Number of people in household

    - Ages of anyone under 18 in household
    - Withdrawal initiation (Owner or Guide Dogs)
    - Guide dog since case partnership (Yes or No)
    - If no, open to getting one in future (Yes or No)
- Puppy walker
    - Gender
    - Age
    - Nationality
    - County/city resided
    - Area type (town, village, etc)
    - Number of years puppy walking
    - Number of dogs puppy walked
    - Relationship status
    - Other pets
    - Number of people in household
    - Ages of anyone under 18 in household
- Re-homer
    - Gender
    - Age
    - Nationality
    - County/city resided
    - Area type (town, village, etc)
    - Relationship status
    - Other pets
    - Number of people in household
    - Ages of anyone under 18 in household
- Report information
    - Mobility assessment
        - Assessor
        - Previous mobility aid/s used
        - Regular journeys made
        - Places like to go
        - Description of vision
        - Description of hearing
        - Transport used
    - Guide dog assessment
        - Assessor
        - Factors to consider regarding others in household
        - Guide dog history
        - Pets and factors to consider
        - Practical assessment of work with dog
        - Ability to control and motivate dog
        - Environments will work dog
        - Specific social requirements
        - Dog specific preferences
        - Summary
    - Matching visit

    - Assessor
    - Visit preparation
    - Matching comments
  - Training programmes
    - Reviewer
    - Location (At owner’s home or at hotel) – initial report only
    - Objectives – initial report only
    - Considerations – initial report only
    - Present standard
    - Further requirements/objectives
    - Line manager comments
    - Summary – final and ad-hoc reports only
  - Aftercare visits
    - Reviewer
    - Category (Routine or not)
    - Work observed free text
    - Partnership being discontinued (Yes or No)
  - Retired/withdrawn dog details
    - Reviewer
    - Main outcomes
    - Known behavioural issues
    - Other relevant information
    - Reason for retirement/withdrawal
    - Matching details
  - Other
    - Type of report (e.g. Incident Investigation form)
    - Summary

Appendix 6 – Questions taken from questionnaire in Harvey et al. (2015) and Harvey et al. (2016a)

- Chooses to sit near or in contact with its puppy walker
- Puppy walker picks up on the dogs feelings and reactions
- Puppy walker finds the dog difficult to control
- Behaviour changes with other handlers (e.g. boarders and PTS's)

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