Homeless People and their Dogs:

Exploring the nature and implications of the Human-Companion Animal Bond (H-CAB) between homeless owners and their dogs

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Table of Contents

1.0 Abstract

Homelessness in the UK is an issue of increasing concern as the national homeless population continues to rise. Many of those who find themselves in situations of homelessness are accompanied by pets, often dogs. Dog ownership has been shown to positively affect human physical, psychological and social health and it is likely these influences extend to homeless dog owners. Contrary to popular opinion, dogs belonging to homeless owners appear generally healthy. Unfortunately, few homeless services accommodate pet owners, and many dog owners would sooner remain in precarious living situations than part with their dogs. This study aims to explore the nature of the bond between homeless people and their dogs and assess its implications for the health and welfare of both parties. Twenty homeless dog owners were interviewed regarding their experiences of the bond they have with their dog. The health and welfare of twenty-one homeless-owned dogs was assessed using the PDSA Petwise MOT. Results suggest that the health and welfare of homeless-owned dogs is not compromised as is often assumed. It is often presumed that homeless-owned dogs may experience malnutrition, however the results of the current study found that homeless-owned dogs are more likely to be at risk of being overweight, an issue that is also frequently reported within the housed dog population. On the other hand, elements of welfare including companionship appeared to be better catered to than is recorded within the housed dog population. Results also found that

dogs often exist as crucial support systems for their homeless owners, providing instrumental benefits to psychological and social health. In addition, desistance and engagement in pro-social behaviours as a result dog ownership and the associated responsibility was also identified. Re-evaluating existing stigma and reviewing current policies regarding homeless pet ownership are warranted in order to better support both homeless owners and the dogs that accompany them.

2.0 Introduction

Humans and animals have been recorded living alongside each other since the existence of our prehistoric ancestors (Hill, 2013). A dynamic relationship has developed between them, the nature of which has changed and diversified over time. Animals used to provide protection, security, food, resources, companionship, and therapeutic aids. Benefits of human-animal partnerships have been identified and capitalised on, particularly as they relate to the health and welfare of people (Beck and Katcher, 2003). In many examples, animals too have profited from this relationship through the provision of food, shelter, protection, and veterinary care.

The interactions between people and animals frequently involve emotional investments by humans (Veevers, 2016), which in some ways can be comparable to relationships formed between humans. This is thought to be more widespread, largely as the result of the anthropomorphism of animals (Antonacopoulos and Pychyl, 2010), seeing them as integral members of the family unit, with physical and emotional needs that reflect those of their human carers (Carr, 2017). This has added a new and intriguing dimension to the concept of the Human-Animal Bond and assisted in the development of the notion of 'companion' animals, of which one subset is a pet. The definition of a pet is; 'an animal (typically domestic or tame) kept for pleasure or companionship' (Hart, 2003). As

will be discussed, pets often play many roles in the lives of their keepers, so perhaps this definition is not universally appropriate. The working animal, dogs or horses being common examples of this, may be kept both as companions as well as to serve a functional purpose (Serpell and Paul, 2011). Many assistance and therapy dogs, act as both working animals and companions. In this paper, the term companion will refer to those animals, particularly dogs, kept as pets.

The motivation to keep animals for companionship often relates to the bond expected by the owner; the sense of perceived friendship, support and affection (Archer, 1997). Caring for an animal provides owners with responsibility and can contribute towards a sense of autonomy and personal identity (Zilcha-Mano et al., 2012). It has been hypothesised that these aspects of human-animal partnerships are particularly significant and beneficial for people who are physically or socially excluded from society, such as the elderly, disabled or those experiencing homelessness (McNicholas et al., 2005). The nature of the relationship between homeless people and their pet dogs and the implications of this for the welfare of both parties is the focus of this review and associated research.

2.1 The Human-Companion Animal Bond (H-CAB)

Since the 1970s, scientific interest in to the concept of the Human-Animal Bond (HAB) has increased with multi- and inter-disciplinary research

being conducted in an attempt to better understand this complex and changing relationship (Hines, 2003). The HAB, as oppose to simply Human-Animal Interaction (HAI), is considered in this research as the HAB describes interactions between people and animals that is often mutually beneficial and includes, but is not limited to, emotional, psychological and physical interactions between humans, animals and their environment (AVMA, 2019). On the basis of this, the HAB is considered more appropriate in the context of pet ownership however the HAB can be applied to many situations where humans oversee the care of animals, as in pet ownership, but also in laboratories, farms and zoos.

2.1.1 Contemporary Human-Animal Relationships

Although cultures, religious beliefs and inhabited environments vary so widely around the world, the concept of animals kept as pets is widespread throughout human populations. In the UK, pets are a prominent part of our daily lives. The 2017 PDSA Animal Wellbeing (PAW) Report claims that 49% of UK adults own a pet, with an estimated UK pet dog and cat population of 8.9 and 11.1 million respectively (PDSA, 2018). Similarly, in the 2017-2018 National Pet Owners Survey conducted by the American Pets Product Association (APPA), it is estimated that 68% of U.S. households own a pet of some description, with an estimated 94.2 million cats and 89.7 million dogs kept as pets nationwide. So why are pets such an integral part of society today?

Research suggests that animals may have a role to play in maintaining human physical and psychological health, and that the H-CAB is particularly important in this context (O'Haire, 2010, Wilson, 1998, Wells, 2011). Exploring the literature may go some way towards explaining why the H-CAB is so significant, why people choose to keep pets as companions, why pets play such a pivotal role in the lives of people, particularly those who are isolated and vulnerable, and how this relationship may even be therapeutic in nature (Scanlon, 2016, Fitzgerald, 1986). Many individuals experiencing homelessness are accompanied by a pet, often a dog, and it is hypothesised that, as with housed owners, pets play an influential role in their lives (Irvine, 2013).

2.2 Homelessness

The term homelessness is defined as the condition faced by an individual who lacks a safe, secure and affordable place to live (Shelter, 2018b). The term homeless may bring to mind the most visible of people affected by homelessness, those sleeping rough occupying streets and doorways in large busy cities. However, many people experiencing homelessness are considered to be 'hidden homeless', living out of sight in squats, bed and breakfasts, hostels or in temporary and often precarious arrangements with friends or family (The Crown, 2003).

Homelessness is not normally the product of a single cause or event (Anderson and Christian, 2003), but a consequence of several concurrent

or sequential factors that ultimately lead to the loss of secure housing (Reeve et al., 2006). Some of the most frequently stated causes of homelessness include; the breakdown of a relationship, physical or mental health issues, loss of employment, drug or alcohol addiction or the leaving of institutions such as care facilities (Crisis, 2018a). Due to the often-complex nature of homelessness, combatting the problem often requires a multifaceted approach. Issues pertaining to mental health are prominent within the homeless population, as are drug and alcohol addiction and abuse (Drake et al., 1991, Fischer and Breakey, 1991, Bhugra, 2007). The experience of becoming homeless, and indeed being homeless, is traumatic and underlying physical or psychological health complications are often exacerbated that in turn perpetuate the affected individual's vulnerability (Goodman et al., 1991, Kidd and Kidd, 1994). These issues need to be addressed alongside efforts to rehouse vulnerable individuals in order to maximise the chances of a successful outcome.

2.2.1 Homelessness in the UK

It is difficult to accurately measure the population of people living in situations of visible homelessness and even more so that of hidden homelessness. As a result, national statistics on homelessness are relatively crude measurements and likely considerably understate the true figures. An estimated 320,000 people are affected by homelessness in the UK, a figure that equates to roughly 1 in every 200 UK residents (Butler,

2018). The Homeless Monitor 2011-2016, published by the homelessness charity Crisis, estimates that 9% of the English population have experienced homelessness at one point in their lives.

Factors such as climate, service availability, infrastructure and population size influencing begging success are likely to affect the geographical distribution of the UK's homeless population, particularly those who are street bound, with higher incidences of homelessness reported in larger cities. Even though rough sleeping is a very visible form of homelessness, statistics concerning this are often generated using data from street counts and intelligence driven estimates, providing only rudimentary estimates. Crisis (Crisis, 2018c) claims that official estimated figures on rough sleeping have increased by 169% since 2010. Their report 'The Homeless Monitor 2018', indicates that as many as 12,400 people in England were sleeping rough in December of 2018, either on the streets, in tents, buses or cars or even in makeshift shelters such as bins (The Guardian Online, 2018).

Although it is thought that a significant number of homeless individuals are pet owners, no precise figures for this exist. Irvine (2013) hypothesises why statistics on homeless pet ownership are difficult to attain. She suggests that homeless pet owners often remain secretive about their pets for fear of attracting negative attention that might lead to their removal. Statistics generated through counts taken at homeless

shelters, day centres or soup kitchens will often exclude pet owners as pets may be refused access. As a result, homeless pet owners often form a hidden population (Irvine, 2013). Although Irvine (2013) focuses on the lives of homeless pet owners in cities in the United States, her argument for the lack of representation in national statistics is likely to be exhibited in UK-based homeless pet owners.

2.2.2 Homelessness and Health

Homelessness often means access to food, shelter and healthcare may be compromised, resulting in costs both for those affected and the society they exist in (Williams and Hogg, 2016). Poverty, social isolation, abuse and public prejudice are also common features of homelessness experienced by many. It is therefore not surprising that homelessness can be considered a risk factor for both physical and psychological health (London, 1992, Scott, 1993). Many homeless individuals, in spite of an increased need for health care and support services, have limited access to such facilities (Hwang, 2001).

Homeless individuals suffer from similar diseases to those who are housed however the frequency of illness is increased (Turnbull et al., 2007). Age-adjusted mortality rates amongst homeless populations are 2-8 times that of the housed community (Hwang, 2000). Psychiatric diseases, mental and physical disabilities, the consequences of drug and alcohol abuse including violence, sexual exploitation and infectious diseases such as

HIV, hepatitis C and tuberculosis are all higher in homeless populations and further increase rates of morbidity and mortality (Beijer et al., 2012, Turnbull et al., 2007). The average life expectancy for a homeless individual is reduced, with issues relating to substance use and suicide being primary causes of death (BBC Online, 2018).

In the UK, the National Health Service (NHS) means that health care is arguably more accessible to vulnerable people than in many parts of the world. However, results from studies surveying the health of the UK's homeless reveals concerning statistics. Homeless Link (2014) surveyed 2,590 homeless persons, from 19 different locations around England. Of this, 73% of respondents reported having a physical health problem with 41% claiming this was a chronic issue. Of the 73% of respondents who reported having a physical health problem, 15% reported not receiving help. In addition, 17.5% of respondents who claimed to suffer from a mental health problem, and 16.7% who reported an issue with alcohol said they would like support for their issues but were not receiving it (Homeless Link, 2014). As with other forms of support, homeless dog owners often face an additional issue when accessing healthcare services, namely having a trusted dog sitter or safe place to leave their pet. It is likely that homeless dog owners are at an increased risk of experiencing medical conditions that go untreated, jeopardizing their health, as they are reluctant to leave their companion animals (Kidd and Kidd, 1994, Rhoades et al., 2015). It is argued that homelessness is a health risk and

more needs to be done to address the health and welfare of those suffering from it (Homeless Link, 2014).

2.2.2.1 Social Isolation and Loneliness

Being homeless often means living in a condition of social isolation. Research into the effects of social isolation and feelings of loneliness demonstrates that the relationship between social isolation (loneliness) and physical and mental health are complex and unique to each individual (Rokach, 2005, Griffin, 2010). According to a report published by the Mental Health Foundation (2010), during childhood each person develops a specific threshold for social interaction that they expect later on in life. The result of not meeting this threshold can lead to negative consequences on wellbeing (Griffin, 2010, Age Concern, 2009). This goes some way to explain why the experience of loneliness is unique to each individual, as each person has a different expectation of the relationships they will later develop. The report also explains how the body reacts when these expectations are not being met, describing how one may feel threatened and unhappy. In this state, the ability of the body to regulate the emotions associated with isolation and loneliness are compromised and thus a vicious circle ensues (Griffin, 2010).

Homelessness can result in an individual occupying a precarious living situation, disconnected from the mainstream of society and separated from friends and family. Perceptions of social exclusion are exacerbated

by verbal and physical abuse, common features of homelessness (Griffin, 2010). Studies have identified that individuals suffering from severe mental illness, substance dependence or physical disabilities, actually have a heighted demand for social support even though their condition may mean they receive less (Griffin, 2010, La Gory et al., 1990). This further increases the risk of this vulnerable population to the negative physical and psychological effects of social isolation and loneliness including propagation of more complex mental health issues.

2.2.2.2 Mental Health

High incidences of issues relating to mental health amongst homeless people have been reported since the early 1980s (La Gory et al., 1990). Mental illness can be a risk factor for, and/or a result of homelessness (La Gory et al., 1990, Goodman et al., 1991). The consequences of certain psychological conditions can perpetuate circumstances that may result in an individual losing their home (Maguire et al., 2009). On the other hand, poverty, unsecure housing, social isolation, reduce access to resources, exposure to adverse weather, abuse and violence, prominent features of homelessness, can increase the risk of an individual developing a mental health condition on exacerbating an already present condition (Goodman et al., 1991). Goodman and colleagues (1991) describe the condition of homelessness as psychological trauma in its own right, acting as a risk factor for emotional disorders. They described how the trauma of homelessness can manifest in one of three ways; first, the trauma

experienced as a result of becoming homeless, second, the trauma experienced as a consequence of the on-gong condition of homelessness, and finally, how the condition of being homeless can exacerbate the emotional effects of previous traumatic events (Goodman et al., 1991).

According to a 2009 Crisis report reviewing the current literature on mental ill health within the homeless population, the prevalence of common mental health issues in the English homeless population is more than twice that of the general population, particularly amongst single homeless people (Rees, 2009). In a 2014 health audit published by Homeless Link, it was reported that 80% of UK homeless individuals in the UK described suffering from an issue with their mental health, with 45% having been diagnosed as such. Almost half of those surveyed admitted to using drugs or alcohol to cope with these issues (Homeless Link, 2014).

More complex psychological conditions are more common amongst homeless populations compared to the general population. Psychosis has been reported to be as much as 4-15 times more prevalent, with street homeless individuals being particularly at risk, 50-100 times more likely to be affected than the general population (Rees, 2009). Personality disorders are also far more common amongst the homeless population (Bassuk et al., 1984), with Rees (2009) reporting that two thirds of clients to English homeless service facilities presented with characteristics

consistent with personality disorders; many of these were also believed to be undiagnosed (Rees, 2009).

Whilst it is clear that these issues are widespread throughout homeless populations, the extent to which an individual suffers from mental health issues as a result of homelessness is not uniform. La Gory et al. (1990) investigated the variable experiences of mental illness, specifically depression, amongst a group of 150 shelters and street based homeless individuals in the Birmingham area to further understand why the distress of homelessness is experienced differently on a psychological level (La Gory et al., 1990). They explored the roles that social support systems and psychological resources play in mediating the stress experienced as a result of homelessness. Interestingly, their results suggested that whilst social support and psychological resources do play a significant role in mediating the symptoms of depression and stress, they play a different role for homeless individuals than for the general population. They hypothesised that social support systems, which are often reduced or non-existent, fail to respond to the increasing demands of one suffering from homelessness meaning that they are not able to mediate depressive symptoms. Homelessness is a devastating life event and for many, social and psychological support is either lacking or unable to meet their enhanced needs. Those with limited social and psychological resources, for example the street-based homeless, the physically ill, those who have been homeless for an extended period of time, are more at risk of

experiencing depressive symptoms (La Gory et al., 1990). The small number of studies in the field suggest that companion animals play a pivotal role in providing aspects of this crucial social and psychological support (Howe and Easterbrook, 2018).

Although the literature suggests there are potential benefits of the H-CAB for a number of psychological conditions, as will later be explored, it should be noted that some mental illnesses may make an individual not suitable for pet ownership due to the potential risk factors of their condition on animal health and welfare. An example is psychosis, the symptoms of which include the individual perceiving or interpreting reality differently to other people around them (NHS UK, 2018), and a psychotic episode may pose a risk to their pet. This is also the case with severe cases of substance abuse, which in itself can cause episodes of distorted reality and is also related to increased frequency of psychosis (Adan and Benaiges, 2016). It is likely that pets provide crucial companionship and psychological support for isolated individuals. However, the positive impacts of pet ownership on owner health should always be considered alongside implications for animal health and welfare.

2.2.2.3 Substance Abuse and Dual Diagnosis

Alcohol and drug use exist as prominent challenges to the health of those experiencing homelessness. Again, accurate statistics quantifying the extent of substance reliance amongst the UK's homeless population are

difficult to attain due to the varying definitions of alcoholism, substance abuse and homelessness (McCarty et al., 1991). It is apparent however, that issues relating to drug and alcohol use are more prominent within homeless groups than in the general population (Fischer and Breakey, 1991). The charity, St Mungo's, estimates that around 64% of its homeless service users have problems with drugs and/ or alcohol (St Mungo's, 2010). Similar findings were reported by Crisis (2018b) who indicated that between 2013-1025, 27% of their service uses reported problematic drug use (Pleace and Bretherton, 2017, Crisis, 2018b). Two thirds of their service uses described drug and alcohol misuse as the cause of their homelessness (Crisis, 2018b).

Co-morbidities of mental illness and substance abuse pose a particularly difficult challenge. As many as 10-20% of homeless persons may be dually diagnosed with substance abuse and severe mental health issues (Drake et al., 1991). This sub-group of the homeless population are particularly vulnerable and have complex and often poorly understood needs. Access to support to combat this multifaceted diagnosis is often lacking (Homeless Link, 2014). Marginalised from society with restricted access to health care and social support networks, it is unsurprising that these conditions are often not treated and become self-perpetuating by the effects of homelessness. Although homeless individuals acting as guardians for companion animals often attribute their companion animals with helping them manage issues relating to substance use and mental ill-

health (Howe and Easterbrook, 2018), this human-animal relationship often results in additional restrictions that further render them unable to access support.

2.2.3 Assistance with Homelessness

In the UK, local authorities have a duty to provide housing to homeless individuals, however five specific criteria must be met. These are summarised and listed below (Shelter, 2018c);

- If the individual is considered 'legally homeless' as oppose to being only 'threatened with homelessness'.
- If an individual meets immigration conditions. These include being either a British or Irish citizen living in the UK, an EU citizen working in the UK or with permanent residency or being from outside the UK but allowed to claim benefits (at the time of writing it is unclear how the UK leaving the EU will affect this).
- If an individual is in a 'priority need' category, for example being pregnant, having a young family or classed as 'vulnerable'.
- If the individual is homeless through no fault of their own as opposed to being 'intentionally homeless'.
- If the individual has a connection to the area such as living or working in the area, having close family who live in the area or if the individual requires specialist healthcare.

Although this duty of care exists, many vulnerable people, notably middle-aged single men, tend not to meet these criteria and are often not considered eligible for assistance.

The issue of UK homelessness has gained more attention, both in the media and on the national political agenda, largely as a result of the perceived rise in homelessness over the last decade (Crisis, 2018c). The Homelessness Reduction Act 2017 came into effect in April 2018 (Shelter, 2018a), and aims to tackle homelessness by placing new legal duties on local housing authorities and amending the current legislation. These new duties apply to all individuals who are both homeless or at risk of becoming homeless irrespective of their priority need status, giving them access to help and resources as long as they are eligible for assistance (are a British national or have a permanent right to reside in the UK). This new Act also places duties on local authorities to meet the needs of particular groups of individuals who are at an increased risk of homelessness, including those who suffer from physical or mental health complications, victims of domestic abuse, those leaving prison, hospitals, other care facilities or the armed forces (Shelter, 2018a).

While the introduction of this Act is a positive step in helping the nation's homeless, there have been growing concerns about the resources of local councils being sufficient to provide housing support to an expanding homeless population (Crisis, 2018c). In addition, these new measures fail

to recognise the importance of supporting homeless pet owners. Currently, accessing homeless services, often requires them to surrender their animals. Many faced with this decision choose to remain in situations of homelessness (Singer et al., 1995). This may affect their future eligibility for assistance as they are deemed to be 'intentionally homeless'. However, relinquishment of a pet may have detrimental effects on physical and psychological health, including increasing the risk of relapse into previous drug or alcohol dependence (Kidd and Kidd, 1994, Slatter et al., 2012).

Although it is common for those who are homeless to be accompanied by a companion animal, the positive impact these animals play in the lives of vulnerable people is largely overlooked by service providers and policy makers. Pets are often seen as a barrier to escaping homelessness as opposed to instruments facilitating human health and welfare and overcoming homelessness (Slatter et al., 2012).

After focusing on the challenges of homelessness in section 1, how it exists as a risk factor for physical and mental health, the following section will consider the benefits of companion animals on human health and welfare.

2.3 Health Benefits of Companion Animals

2.3.1 Physiological Health Benefits

The last few decades have witnessed an increased interest into the positive health benefits of pet ownership and interactions with companion animals (Barker and Wolen, 2008, Friedmann et al., 2000, Hart, 2006, Wells, 2009). A study by Friedmann et al (1980) investigating the one-year survival rate of individuals discharged from a coronary care unit suggested decreased mortality rates amongst pet owners compared to non-owners, supporting the hypothesis that social bonds and companionships with animals have a significant effect on human health (Friedmann et al., 1980). It should be noted that the sample size of their study was small, and the data correlational. Many variables exist that may be responsible for affecting cardiac health and recovery over a one-year period, including other social support, personality type and socio-economic factors (Wells, 2009, Bergler, 1988). This study has also been widely criticised for its statistical methods (Wright and Moore, 1982) and further studies have been unable to replicate these results (Wells, 2009).

Later studies were able to produce results to support a similar hypothesis, that animal companionship can positively affect cardiovascular health. In 1995 Friedmann and Thomas (1995) repeated their earlier work on a larger population of 369 patients participating in the Cardiac Arrhythmia Suppression Trial (CAST). The results showed that dog owners were 8.6 times more likely to still be alive 1 year following a heart attack and

interestingly that dogs served as more effective facilitators to recovery than cats, suggesting a species-specific effect (Friedmann and Thomas, 1995).

Allen et al (2002) investigated the effects of social support as it relates to health, specifically the effect of friends, spouses and pets on cardiovascular reactivity to physical and psychological stress. They demonstrated how the presence of a pet dog could affect cardiovascular factors in human subjects. When performing physically and psychologically stress-eliciting tasks (a mental arithmetic assessment and a cold pressor test) either alone, with a friend or pet, with their spouse or with both their spouse and pet present, owners of pets were found to have significantly reduced increases in heart rate and blood pressure (i.e. reduced reactivity) compared to non-owners. This was particularly true when their pet was present during the test (Allen et al., 2002). This study proposed the question of not only the effect of social support on stress and cardiovascular conditions, but also how the type of support and nature of this relationship affects physiological responses. It should be noted that, as acknowledged by Allen et al., the studies were conducted in the participant's homes and therefore it is unknown how the home environment compared to a laboratory setting might impact stress response. Moody et al (1996) argue that the most important factor affecting cardiovascular parameters in a home environment is variation between the subjects themselves, claiming this outweighs the effects of

having a pet present. They found no significant differences in systolic (SBP), diastolic blood pressure (DBP, or heart rate (HR) between hypertensive pet owners in the presence or absence of their pet compared to non-owners (Moody et al., 1996). Their study was small however, involving only 6 pet owners and 2 non-owners.

Further studies have produced results supporting the conclusion that companion animals can produce positive benefits on physiological states (Lynch and McCarthy, 1969, Wells, 2009, Bokkers, 2006). Barker et al. investigated whether the nature of the relationship between animal and human affects the bio-behavioural response to stress, such as changes in blood pressure, heart rate and salivary cortisol as well as feelings of anxiety (Barker et al., 2010). The study involved a population of therapy dog owners interacting with their own dog and a second group interacting with an unfamiliar dog. Participants were able to choose the manner in which they interacted with the dog. Reduced measures of stress responses were recorded from the group of owners interacting with their own dogs compared to those interacting with an unfamiliar animal. This study may not represent relationships between owners and their dogs generally as the dogs involved in the study are trained therapy dogs, likely lacking behaviours that may be problematic to the owners. In addition, the owners in the study likely have an increased dependence on their dogs compared to owners of non-therapy dogs. Although this study involved a small population, it highlights the need for more research into

how the specific attitude and relationship to the animal are likely to influence the effects of companion animal interactions on short-term physiological responses to stress.

In comparison to the literature investigating short-term physical health benefits of the presence of companion animals, resdearch looking into long-term benefits is more limited. A number of studies have suggested that pet owners visit their doctor significantly less than non-pet owners (Siegel, 1990, (Headey et al., 2008). Increase in owner physical activity has also been suggested to be a product of dog ownership specifically (Christian et al., 2013, Cutt et al., 2008), which is likely to contribute to a healthier physical state (Dembicki and Anderson, 1996). Although a considerable number of studies have been conducted to investigate increases in owner physical activity, many have been criticised for their small sample size and inadequate sampling techniques (Cutt et al., 2007). In their review of the existing literature, Cutt and colleagues also argue that causality cannot be inferred from many of the studies that are cross-sectional in design. It may be that dog ownership increases physical activity, or that more physically active individuals become dog owners. In addition, different breeds, ages and health status of dogs may affect the benefits of dog ownership on owner physical activity (Cutt et al., 2007). Owners of physically fit, active dogs who require more physical and mental stimulation may have more incentive to exercise with their dogs than those who own dogs that require less stimulation or are old and/ or

unwell. For many homeless dog owners, particularly those with no fixed abode, physical activity levels may be associated with dog ownership but are just as likely to be a product of their nomadic lifestyle. None the less, the potential of dog ownership to positively affect physical health by providing motivation to exercise should be considered.

Evidence has also emerged to suggest that pet owners may benefit from a decreased risk of cardiovascular disease through reduced levels of serum triglycerides compared to non-owners (Dembicki and Anderson, 1996). A longitudinal study involving a national cohort of Swedish found that dog ownership was associated with decreased risk of cardiovascular disease in single person households, and lower mortality rates in the general population (Mubanga et al., 2017). It is interesting to note that it was within the single household population that the largest protective benefits of dog ownership were observed. There have been a number of proposed explanations for this; single dog owners have been found to walk their dog more than in multiple-person households where the task of dog walking may be shared (Christian et al., 2013). It is also possible that there are increased levels of interaction with a pet in a single-person household where social support is reduced compared to a multiple-person household. Many homeless dog owners live alone with their animals, so hypothetical benefits of pet ownership for this population may also be increased in the absence of other forms of social support.

Whilst the effects of dog ownership on physical well-being appears to dominate the literature, physiological effects of pets are not exclusive to this. The presence of a companion animal may affect the body's ability to fight off disease. A study performed in 2004 found that interacting with a dog resulted in significantly higher levels of secretary immunoglobulin A (IgA) (Charnetski et al., 2004). Higher levels of IgA have been associated with reduced incidences of illnesses, particularly upper respiratory tract infections. In addition, a number of recent studies have reported evidence of the protective effects of animal interaction against the development of allergies and conditions such as asthma (Hölscher et al., 2002, Liccardi et al., 2005, Pohlabeln et al., 2007, Hesselmar et al., 2018) perhaps a result of increased exposure to immunological challenges. Having said this, studies have also shown an increased risk of allergies and asthma prevalence associated with exposure to companion animals (Simoneti et al., 2018). It is clear that there may be numerous positive effects of companion animals, including dogs, on human physical health as the literature concerning this continues to expand. For a population who experience more physical health complications than the general public, the protective nature of pet ownership for homeless owners holds particular significance.

2.3.2 Psychological Benefits of Companion Animals

Psychological states, as well as physiological states, have the potential to be manipulated by the presence of an animal companion, and it is likely

this is fundamental for socially isolated pet owners. Animals have been shown to alleviate feelings of loneliness, isolation and depression (Aydin et al., 2012, Beck and Katcher, 2003, Bergler, 1988, Bolin, 1987). Companion animals may also serve as buffers to stressful life events through reducing feelings of stress and anxiety (Siegel, 1990, Hart, 2010).

Socially excluded individuals, such as those experiencing homelessness, will arguably find the bonds they form with companion animals to be important. Pets provide isolated and vulnerable people with a sense of friendship and a feeling of responsibility and support that they may be lacking in the absence of human companionship (Irvine, 2013, Howe and Easterbrook, 2018, Scanlon, 2016) Pets can provide a bond that may mimic relationships one might expect between family members, lessening loneliness and mitigating feelings of unhappiness and segregation (Wells, 2011, Kidd and Kidd, 1994, Zilcha-Mano et al., 2012). Animal companions have also been shown to improve self-esteem and feelings of autonomy and competency which may be deficient in individuals who are either physically or socially isolated (Wells, 2011).

The benefits of HABs are not clear cut and this interaction is also associated with problems. Physically, companion animals can increase the risk of zoonoses, bites, scratches and accidents such as human falls. Psychologically, the loss of a pet can lead to grief and other negative

emotions, and the expense of keeping and animals can lead to increased stress levels (Friedman and Krause-Parello, 2018). In addition, policies restricting the access of pets into housing (Power, 2017), or enabling services animals into public places makes the keeping of pets challenging for many.

It would be crude to generalise every owner-pet relationship within the population of homeless pet owners as having the same effect. As with any human-animal partnership, and indeed between any human-human relationships, the nature of the bond formed, and the way an individual develops an attachment towards another living thing is not uniform. The concept of attachment theory and how this relates to the impact of close relationships on psychological states is explored below to add context to the following exploration of the influence of H-CABs on psychological and social health of homeless owners.

2.3.2.1 Attachment Theory and Human-Companion Animal Relationships

Attachment theory, as first described by Bowlby, is a framework for explaining how psychological growth, emotional regulation and mental health can be regulated by close relationships (Bowlby, 1977, Zilcha-Mano et al., 2012). According to attachment theory, both biological and environmental factors in early development leads individuals to differ in their 'availability and responsiveness' to close relationships and thus form different attachment orientations which can affect relationships in

adulthood. These include secure, anxious and avoidant (Mikulincer and Shaver, 2019). A secure bond formed means attachment provides a 'safe haven' and 'secure base'. The authors describe a safe haven as being 'the kind of support that meets a person's needs for comfort, reassurance, assistance and protection in times of danger or distress.' A secure base is described as 'support that meets another person's needs for exploration, autonomy, and growth when exploration is safe and desirable'. Individuals who form anxious attachments are likely to be less satisfied by the support they receive as a result of their increased emotional demands, and those forming avoidance attachments will be more reluctant to accept support as they feel psychologically safer when maintaining emotional distance and emotional self-reliance (Zilcha-Mano et al., 2012).

Zilcha-Mano and colleagues explored the extent to which a pet can function as an attachment figure. They found that human-pet relationships can act in a similar way to human-human relationships in providing a safe haven and secure base. Their results also indicate that the extent to which companion animals can act as attachment figures is largely dependent on the attachment orientation of the owner. Owners who scored high for attachment avoidance benefited less from the cognitive or physical presence of their pet with regards to emotional regulation during a stressful task. This work supports the hypothesis that the H-CAB can be beneficial for human psychological health, particularly

in times of stress, but does emphasise the extent to which this benefit is experienced by the owner is dependent on their individual differences, including attachment style. This is important to consider in light of previous and future studies investigating the impact of companion animals on health and may be particularly significant when characterising and assessing the intense bonds formed between socially isolated pet owners and their dogs.

2.3.2.2 The Effect of Companion Animals on Social and Psychological Health and Welfare

The presence of a friendly and relaxed companion animal, familiar to the subject or not, has the ability to affect elements of psychological and social health and welfare. While the literature in this area is not vast, it is expanding. The extent to which the subject's attachment to the animal affects the impacts of this bond calls for further research. While some studies have shown positive influences of having a companion animal present, irrespective of the participant's attachment to it, other studies suggest an enhanced positive effect is experienced when the animal is familiar to the person in question. Literature concerning both is explored in this review.

Perceptions of social exclusion, a consequence of homelessness, are positively associated with increased feelings of emotional distress resulting in a depressive state and enhanced feelings of loneliness. Aydin and colleagues investigated the role dogs play in buffering the adverse

psychological effects associated with social exclusion (Aydin et al., 2012). Their study involved 50 women and 18 men recruited at the University of Munich. The participants were randomly assigned to one of four conditions, socially excluded with or without a dog, or socially included with or without a dog. In order to achieve this the participants were first instructed to play a game that would have the effect of either making them feel socially included or excluded. Following this they would answer a questionnaire either in the presence or absence of a dog. The questionnaire was designed to incorporate scales measuring perceptions of satisfaction in life, meaning in life and self-esteem. Socially excluded participants in the presence of a dog displayed higher scores for living a satisfied life, self-esteem, perceiving life as meaningful, feeling socially accepted and experiencing positive emotions compared to the participants in the socially excluded in the absence of a dog category. The authors argue that the mere presence of a dog may benefit individuals suffering negative psychological effects as a result of social exclusion. Interestingly, the dog used in the study was unfamiliar to all of the participants, suggesting that the benefits experienced due to the presence of a companion animal was not linked to pet ownership exclusively. The authors do caution against drawing conclusions from this with regard to the stress-buffering effects of 'companion animals' as a whole and argue that dogs may be unique in this effect. The study did not measure or consider other factors that may influence perceptions of social exclusion, including current stressful life events or personality types. In addition

each experimental condition included a small number of participants (between 15 and 18) which questions the generalisability of the results.

Although the literature is varied, there have been a number of studies suggesting a positive relationship between pet ownership and reduced feelings of loneliness and depression. The work of Zasloff et al. (1994) investigated the relationships between pet ownership, attachment and loneliness in a sample of 148 females. Their results suggested that individuals living entirely alone were significantly lonelier than those living alone with a pet. Interestingly they also found that there were higher levels of pet attachment, as measured by the 'Pet Relationship Scale', in the situations where a woman was living alone with a dog than when a woman was living with other people as well as a dog (Zasloff R. L., 1994). Whilst these finding indicate that having a pet can alleviate and mediate feelings of loneliness, it is also clear that pet attachment may be dictated by the social environment of the owner.

As well as mitigating negative mental states associated with social exclusion, dogs have been shown to act as 'social facilitators', increasing encounters an individual will have with other people and mediating social interactions (Guéguen and Ciccotti, 2008, Messent, 1985, McNicholas and Collis, 2000). A number of studies have demonstrated how walking with a dog significantly increases the quality of chance encounters an individual will experience with complete strangers in comparison to when they are

walking alone (Wells, 2009, McNicholas and Collis, 2000). Dogs provide a non-threatening point of interest, providing a stimulus for communication e.g. eye contact, smile or even conversation based on a common affinity or experiences of dogs and/or dog ownership. For homeless owners, the social power of their dogs extends beyond facilitating social bonding. Being seen to be caring for their dogs may assist in changing public misconceptions of homeless persons (Carr, 2017).

Little attention has been given to how reliance on social support from a companion animal may reduce motivation to seek out and maintain human relationships, particularly for single isolated people. It is possible that companion animals, such as dogs, act as an alternative to human relationships and may reduce support seeking behaviours. McConnell et al (2011) investigated the extent to which companion animals are able to fulfil the social needs of their owners and whether this support complimented or competed with support provided from people. Their results suggested that relationships with pets did not come at the expense of human companionships (McConnell et al., 2011). The demographics of the study's population was fairly specific with participants having been recruited through a university mailing list, likely being well-educated and social. Caution should be taken when drawing conclusions from these findings as a result. The social needs, attachment styles and stresses of homeless pet owners, and indeed the general

population, is likely to differ from this population, as is the impact of the H-CAB.

As well as improving the social health of their owners, research has shown how companion animals can mitigate the effects of stressful life events such as bereavement and divorce (Akiyama et al., 1987) through reducing levels of anxiety and lessening feelings of depression (Wells, 2011, Bolin, 1987, Garrity et al., 1989, McCulloch, 1981, Siegel, 1990). Siegel (1990) investigated the role companion animals have on the effects of stressful situations experienced by 938 elderly pet owners by surveying their use of physicians. It was found that non-pet owners were significantly more likely to seek out medical attention in times of stress compared to pet owners. This trend was particularly significant for owners of dogs in comparison to other pets, again alluding to a species specific effect. (Siegel, 1990). What should be considered is whether owners of dogs were less inclined to seek medical attention as the stress buffering effects of pet ownership meant they did not require it, or whether attachment to their pets resulted in a reduced desire to leave them. The first explanation suggests a positive effect of pet ownership, the second, a potential cost, and the third that is it not a direct relationship at all.

As explored, it is widely accepted that companion animals may provide health benefits to people. The impact that the nature of the bond between

animal and intended subject has on these benefits is under debate. Many argue that the positive effects of companion animals are enhanced when the intended subject has an existing relationship with the animal (Beck and Katcher, 2003). Having said this, animals previously unfamiliar to patients are frequently employed in therapies involving companion animals producing positive effects.

2.3.2.3 Animal Assisted Therapies (AATs)

Animal Assisted Therapies (AAT) often involve the use of animals unfamiliar to patients. Fine (2002) defines AAT as 'a goal-orientated intervention in which an animal meeting a specific criteria is an integral part of the treatment process for an individual' (Fine, 2002). The use of animals as therapeutic aids has been widely recognised and implemented in a variety of clinical scenarios where patients are socially isolated including hospitals, care homes, rehabilitation facilities and prisons (Wells, 2011).

A number of studies seemingly demonstrate the ability of AATs to be beneficial when used as part of a therapy plan for individuals suffering mental ill health, though there are studies that show no such effect (Hawkins et al., 2019). A study conducted in 2015 at a psychiatric hospital caring for individuals with acute mental disorders found that, of a population of 34 children and adolescents aged between 11 and 17, those treated with AATs demonstrated increased school attendance and

decreased time spent in hospital compared to the control group (Stefanini et al., 2015). The participants were assigned to either the AAT treatment group or the control group, who followed a standard treatment protocol in the absence of AAT, using a randomisation method involving computer generated random numbers. The animal used in the AAT during this study was a dog. However, no comparisons were drawn with other forms of adjunctive therapy so it cannot be concluded that this was an animal effect specifically as oppose to being the effect of an activity. Interaction with companion animals such as dogs has also been reported to successfully reduce symptoms of attention deficit and hyperactivity disorder (ADHD) in children (Beck and Katcher, 1996).

In older patients, the use of animals as therapy has been investigated with regards to its beneficial use for treating individuals suffering from dementia. Walsh and colleagues conducted a study measuring the effect of a 'Pets as Therapy' programme on a group of chronic ward-bound dementia patients. Measures of daily functioning, physiological parameters such as blood pressure and heart rate, and measures of general ward noise levels were recorded. The results showed a significant difference in the physiological parameters of the patients and a substantial drop in noise levels in the experimental ward during the presence of a therapy dog (Walsh et al., 1995). Although the effect of the dog is apparent, it is not clear how this effect is brought about. The dog may be acting as a short-term distraction for the patients, thus affecting

noise levels. As no comparisons are drawn with other forms of distraction, whilst the conclusion can be made that the presence of the dog did reduce noise levels and physiological parameters, again it cannot be concluded that this effect would be unique to the presence of a dog. It would be interesting to see how other forms of distraction affected these parameters, and how this compared to the effect of the dog's presence.

Further studies have demonstrated the presence of a dog to alleviate perceptions of pain. Braun and colleagues examined how AATs would effect perceived pain in a group of children aged between 3 and 17. Their results showed a significant reduction in pain perception in the experimental group receiving AAT compared to the control group who did not (Braun et al., 2009). Again, it may be that the dog simply acts as a distraction aid, mitigating the perception of pain as opposed to offering therapeutic advantages specific to it being a dog. Nonetheless, the benefit of companion animals used in therapy, specifically dogs, is demonstrated in the literature.

Whilst it is clear that companion animals can have a significant physiological and bio-behavioural effect on people, it is arguably the psychological and social benefits they provide patients that are most significant in the use of animals as therapy. If homelessness can be considered a health risk, should homelessness owners and their dogs not be viewed as a partnership that benefits from the bond they share in a

similar way to homed owners, particularly for owners who may have psychological issues. As many as 30-50% of homeless individuals experience issues with their psychological health (Scott, 1993). In light of existing literature pertaining to the benefits of companion animals with regard to alleviating feelings of loneliness, depression, improving self-esteem and feelings of autonomy, managing mental illness and even mitigating pain and distress, it is highly likely that the H-CAB between homeless owners and their dogs is extremely significant to the health and welfare of these people. Situations that threaten this bond could have negative implications for the welfare of both homeless owners and possibly also their pets.

2.4 Benefits of Pet Ownership for Homeless Owners

It is not unusual to see a homeless individual accompanied by an animal, commonly a dog (Williams and Hogg, 2016). Many argue that the reason people who are homeless choose to keep pets is centred around the companionship they share with their animals that may mimic inter-human relationships that are lacking (Rew, 2000, Irvine, 2013). A large majority of homeless pet owners will spend a considerable amount of their time with their pet. A strong and resilient bond is formed between owner and animal as a result of this largely uninterrupted companionship. Compared to research investigating benefits of pet ownership as a whole, that exploring the specific benefits of pets to homeless people is limited and focuses largely on psychological and social benefits. Homeless individuals

accompanied by pets have an important source of companionship and support provided to them by their animals (Kidd and Kidd, 1994). In the opinion of Clare Kivlehan, manager of Dogs Trust's 'Hope Project', 82% of homeless people would consider their dog to be their best friend (Dogs Trust, 2015).

It has been documented that feelings of depression and loneliness can be alleviated by the companionship provided by animals, as a result, pets are likely to be particularly important to homeless people (Zasloff and Kidd, 1994). The presence of an animal can reduce feelings of solitude and provide support and solace for people living alone. Lem and colleagues performed a cross-sectional study of 189 homeless youths, some pet owners and some not, across four Canadian cities and found a negative association between pet ownership and depression (Lem et al., 2016). This is consistent with previous work by Rhoades and colleagues who found that of 398 homeless youths who utilised two Los Angeles day centres, 23% were pet owners and generally reported fewer symptoms of depression and loneliness than the non-pet owners in the study (Rhoades et al., 2015) . Homelessness may result in an individual being ostracised as a result of existing stigma against homelessness. Dogs have been shown to act as social facilitators (Messent, 1985), and may increase the social encounters of their homeless owners. Dogs may also provide financial support, improving begging success, and for some, particularly

those sleeping rough, provide crucial protection and security against the risks associated with homelessness.

There are other reasons that individuals, homeless or not, benefit from dog ownership. Companion animals provide their owners with an occupation and a sense of purpose (Archer, 1997). Irvine (2013) argues that pet ownership for homeless owners motivates many to act responsibly, to make deliberate choices to refrain from drug and alcohol abuse and chase sobriety. She suggests that the fear of losing their pet, often a sole source of companionship and social support, is motivation enough to refrain from engaging in detrimental or criminal behaviour (Irvine, 2013). A preliminary and unpublished study, the summary of which can be viewed in the appendix, found that the sense of responsibility gained by owning a dog was of particular significance to many homeless dog owners (Scanlon, 2016). Having an animal to care for provided participants with a 'reason to get up in the morning', a 'reason to live' and suppressed thoughts and feelings of depression and suicide, themes that have been demonstrated in earlier studies (Sanders, 2003, Sanders, 2015). Participants of this unpublished study described how being able to care for their dog was reliant on caring for themselves, resulting in improved owner health.

Carr (2017) explored the significance of caring as it relates to homeless pet owners and argues that as well as providing health benefits, pet

ownership amongst homeless people has the potential to be both socially and politically positive. She argues that seeing homeless pet owners as both providers and recipients of care not only provides the individual with a resource to be 'transformed' and 'recuperate from the losses that are inherent with the condition of homelessness' (p.111), an argument presented in earlier work by Irvine (Irvine, 2013), but also facilitates political change. Exposure of the general public to the caring relationship between homeless guardians and their animal companions has the potential to change existing cultural 'misrecognition' of this population of pet owners (Carr, 2017).

2.5 Challenges of Pet Ownership for Homeless Owners

Many homeless services throughout the UK will not accommodate people and their dogs. Statistics released by Homeless Link revealed that of 222 emergency and secondary homeless accommodation projects present in London, only 37 accept dogs (Howe and Easterbrook, 2018, Homeless Link, 2017). Scanlon's (2017) unpublished study found that, of 116 homeless accommodation service providers contacted in England, 80% stated they had experienced pet owners seeking their services. This work can be viewed in the appendix of the current study. In contrast, only 36% said they had provisions for, and would accommodate, homeless pet owners (Scanlon, 2017). A study conducted in California by Singer and colleagues found comparable results. Of the 66 homeless participants involved in their research, the majority stated that they had found

accessing accommodation challenging as a result of their pet (Singer et al., 1995).

As Singer and colleagues observed, the question posed by these results is that of whether pet ownership is contributing towards the maintenance of homelessness. This is a view that appears to be held by many. Their study also found that homeless pet owners scored very low on the 'Beck Hopelessness Scale', a self-report inventory developed by Aaron T. Beck that measures the main aspects of the feeling of hopelessness (Beck, 1988). In fact, the scores were comparable with that of 'normal' or 'non-clinical' scores (Singer et al., 1995). It would be interesting to see how these results compared to those of homeless non-owners. Singer et al (1995) pose the argument of whether pets maintain a situation of homelessness for their owner as they increase their owner's tolerance of the condition of homelessness. Beck's earlier work suggesting pets reduce feelings of hopelessness offer support for this argument. Singer and colleagues conclude by suggesting that service providers should view an individual in need, and their pet, as one unit and move towards being able to provide care for both, reducing the obstacles faced by homeless pet owners with regards to accessing accommodation and other services.

There are many other challenges faced by homeless pet owners, including the financial cost of owning a pet, with many struggling to cover the cost of food and veterinary care (Howe and Easterbrook, 2018). Owning a pet

can also make access to other services such as transport and health care more challenging, as previously mentioned (Ailment et al., 2016). This is supported by Taylor et al. (2004) who found that despite having worse health, UK homeless pet owners were less likely to seek medical services than the population of homeless people who did not own a pet (Taylor et al., 2004).

An important consideration is that in the UK the lack of accommodation for pet owners extends beyond the homeless population. Many individuals seeking accommodation through social housing or the private rented sector also struggle to secure accommodation that is inclusive of their pet. While dogs can help with many issues relating to homelessness, it may be that, until housing providers become more accepting of dogs, dogs they create just as many problems as they solve. Homeless owners fortunate enough to access homeless accommodation services with their dogs may struggle to move on from this, as they find it difficult to access more permanent housing that accepts their dog, making homelessness difficult to escape.

Another challenge for homeless pet owners is the increased attention they receive from the general public. Some of this may be positive, they may receive more charitable donations from passers-by, but much of this is negative in the form of verbal harassment and even physical abuse (Irvine et al., 2012). There are existing prejudices in our society against

homelessness and more specifically against homeless pet owners. Homeless people are often considered inappropriate pet owners, implying that a state of homelessness will have negative impacts on the health and welfare of a pet (Williams and Hogg, 2016).

2.6 Homelessness, the Five Freedoms and Animal Welfare

There has been little research on the welfare of dogs owned by homeless people. In order to investigate this further, it is important to understand what the welfare needs of a companion animal are.

The Five Freedoms of Animal Welfare is a practical framework used to recognise, meet and measure the welfare needs of animals ((Council, 1992) and is applied to all vertebrates kept in the UK. To clarify, the five freedoms are;

- Freedom from hunger and thirst
- Freedom from discomfort
- Freedom from pain, injury and disease
- Freedom from fear and distress
- Freedom to express normal behaviours.

The PDSA, a UK-based veterinary charity, have integrated these welfare needs into a user-friendly framework for assessing the health and welfare of popular companion animals called the Petwise MOT. This assessment

uses a traffic light scheme to assess the current state of the five welfare needs applied to a pet.

Recent research suggests that the welfare needs of dogs belonging to homeless owners is not compromised compared to that of the population of dogs belonging to housed owners (Williams and Hogg, 2016), but that their needs are catered to differently. Whilst it may be true that an individual who is sleeping rough is less able to provide shelter for their pet away from adverse weather conditions, they are often with their pet at all times providing constant companionship that is rarely observed in the population of pets belonging to the general public (Williams and Hogg, 2016). Further, these authors found that, while financial difficulties and reduced access to services may result in homeless pet owners being unable to provide appropriate food or veterinary care for their animals, dogs belonging to homeless owners have fewer behavioural issues, likely a result of the high levels of socialisation they receive (Williams and Hogg, 2016). Having said this, it may be that less well socialised pets, or those with behavioural issues, are less well tolerated, and are therefore relinquishes, creating a bias in the observed population.

Williams and Hogg (2016) undertook clinical examinations of 50 dogs belonging to homeless owners living on the streets of UK cities and 50 dogs belonging to housed owners. This was followed by a questionnaire delivered verbally to the owner. The results of the study suggested that

dogs belonging to homeless owners were in fact healthy. Behavioural issues, such as separation related-distress, aggression and over excitement were under represented in the homeless population compared to dogs belonging to homed owners. It should be noted that this was self-reported by the owners which limits the study by the potential owner bias. With regards to diet and health, an increased risk of being overweight or obese was observed in the homed dogs compared to dogs belonging to homeless owners. The evidence suggests that dogs belonging to homeless owners do not necessarily suffer worse health and welfare. The authors concluded that due to the physiological, psychological and social benefits pet ownership grants homeless people, facilities providing services and support to homeless individuals should move towards accommodating both people and their pets.

A preliminary study conducted by the author aimed to build on Williams and Hogg's work by using the Petwise MOT to assess the health and welfare of 19 dogs belonging to 18 homeless pet owners in three different locations around England (Scanlon, 2016). The study found that some aspects of animal welfare scored very highly, these being companionship and environment. The high scores for the environmental welfare of the dogs was likely a result of the study population mostly consisting of dog owners living in temporary accommodation provided by pet friendly homeless services. Body condition scores of the dogs and measures of companionship were also good, supporting Williams and Hogg's earlier

findings. The health of the dogs scored less well than what was suggested by the work of Williams and Hogg (2016). This may reflect the focus of the Petwise MOT which, primarily considers the use of prophylactic parasite treatments, vaccination and neuter status as well as subjective visual assessments of overall health, limiting its accuracy in reporting current health status. Many of the study participants discussed how their living and financial situation was a direct barrier to them accessing veterinary care for their dogs. In contrast to the work by Williams and Hogg, this study identified some behavioural issues amongst these dogs. Many owners admitted their dogs exhibited signs associated with separation related distress when left alone, likely a product of the high levels of companionship they otherwise receive. It is likely this was not seen in Williams and Hogg's population of dogs who were living on the streets and therefore not often left alone. These dogs may also show signs of separation related distress if the owner were to find accommodation, posing another challenge when encouraging homeless services to accommodate owners of dogs. Focus should be made on working with services to deal with these potential issues, such as implementing pet policies, naming other individuals as secondary carers of dogs should the owner be away and providing education and resources on dog training. A summary of this work is available in the appendices.

In summary, homelessness often brings with it a multitude of hardships. Individuals suffering from homelessness tend to be forced to live in

poverty and unsecure environments. They rarely have reliable sources of social and psychological support. Physical and financial barriers exist which restrict their access to health care services, and they are often not able to acquire a balanced diet or secure shelter. Social isolation is a prominent feature of homelessness for many which may perpetuate or instigate mental ill-health. Arguably these challenges do affect the provisions a homeless dog owner is able to provide their dog with and it remains uncertain to what extent this affects the welfare of the animal.

The limited number of studies suggest that for many homeless owners, their animal companions are crucial aspects of their lives and as a result are cared for as well as possible. It is likely that, as is the case with pet owners in the general population, animal welfare is not solely dictated by the living circumstances of the owner but is also a product of the nature of the relationship between owner and pet. Educating pet owners, homeless or otherwise, on the welfare needs of their pets as well as owner compliance, play a pivotal role in dictating canine health and welfare. Many homeless dog owners have a particular strong bond with their dog (Irvine, 2013, Scanlon, 2016). It appears that dogs assist their homeless owners cope with the condition of homelessness. If provided with services that accommodate both owner and animal, and those that offer veterinary and behavioural assistance, it is possible that homeless owners and their pets may both benefit from their bond and be able to combat homelessness together.

3.0 Research Questions

The current study focuses on two clear research questions. First, what is the nature of the Human Companion-Animal Bond (H-CAB) between homeless owners and their dogs? Second, what are the implications of this bond for the health and welfare of both homeless owners and their canine companions?

4.0 Materials and Methods

The current study utilises qualitative research methods. The use of such methods within veterinary research is still in it's infancy, with quantitative methods often favoured. Quantitative research is generally concerned with quantities that can be measured, whereas qualitative data is descriptive and conceptual, involving phenomena that can be observed and interpreted but not measured (Bernard, 2017). Qualitative research often involves a multi-method approach allowing the researcher to study the subject matter in a natural setting, drawing interpretations from phenomena in terms of the meaning the subjects being observed bring to them (Britten et al., 1995). Qualitative research methods, such as interviews, were deemed to be most appropriate for the current study as it is well suited for exploring the perceptions, behaviours and lived experiences of homeless dog owners.

Throughout this document, the terms 'primary researcher', 'researcher' and 'author' will be used interchangeable throughout this thesis and refer to the author named on the title page of this document.

4.1 Epistemology and Ontology

Epistemology is the study of knowledge and how it is acquired. It also encompasses the validity and scope of knowledge and draws a distinction between justified belief and opinion. Tuli (2010) summarises this by outlining three questions posed by epistemology (Tuli, 2010). What is the

relationship between the knower and what is known? How do we know what we know? What counts as knowledge? Ontology, on the other hand, is the philosophical study of being and truth, essentially the nature of reality (Tuli, 2010). The ontological and epistemological philosophy of the researcher directs the interpretation of the data, as a result it is important to clarify this early on in the study design (Miller and Dingwall, 1997).

There are different standpoints within epistemology and ontology that can be taken up by the researcher. The objectivist epistemological view is similar to the realist ontological position, both would argue that the data gathered from interviews with participants represents an accurate description of the experiences being described. On the other hand, a subjective epistemological perspective, or constructionist ontological standpoint, argue that data gathered portrays a reality that is constructed by the interviewee in response to cues that exist within the interview setting. As described by Dingwall (1997), "data produced by interviews are social constructs, created by the self-presentation of the respondent and whatever interactional cues have been given off by the interviewer about the acceptability or otherwise of the accounts being presented" (Dingwall, 1997).

Another consideration relates to what is learnt from the interviews. This study utilises just the recorded and transcribed interviews as the source of data. A more relativist approach would be to accept that more can be

learned from an interview than what is said. Symbolic interactionism is a view in sociology that regards the behaviours of individuals in terms of how they interact with each other via symbols and dialect. The language used and the behaviour of the interviewee during the interview provides data above and beyond what is recorded. Although this approach is not adopted within this study, it is important to consider this framework as an alternative way of interpreting the data collected. Further studies may benefit from making notes of the temperament, behaviours and dialect of the participants. This has not been performed in this study.

The positivist, realist approach was deemed to be the most appropriate epistemological and ontological perspective to apply to the current study. As a result, the data gathered from interviews and the Petwise MOTs is assumed to be an accurate representation of reality and portrays the true lived experiences of the participants and their dogs. The researcher does acknowledge that there is justification for taking up a more constructionist perspective, particularly as a result of the sensitive subject matter discussed in the interviews and the social pressures that may have been acting on the interviewees, altering or censoring how they chose to respond.

4.2 Reflexivity and Researcher Positionality

Reflexivity is defined as the process of the researcher becoming self-aware, critically reflecting upon their own biases, and making their influences on the research explicit to the reader (Gentles et al., 2014). As described by Bourke (2014), 'the nature of qualitative research sets the researcher as the data collection instrument. It is reasonable to expect that the researcher's beliefs, political stance, cultural background (gender, race, class, socioeconomic status, educational background) are important variables that may affect the research process.' Positionality describes the stance of the researcher in relation to the social and political context of the study and will affect the research process at every point, from design to data collection, analysis and interpretation. Therefore, a reflexive researcher is one who makes clear how they're positionality may have influenced the study.

There are a number of influences that are likely to have shaped the positionality of the primary researcher. At the time that the study was conducted, the researcher had completed four years of an undergraduate degree program in veterinary medicine and was a dog owner herself. In addition to this, the researcher had completed two preliminary studies investigating issues surrounding homeless dog ownership (Appendix 6). References to these are made within the introduction. The first study aimed to investigate the availability of dog friendly homeless accommodation providers and the polices that either permit or restrict

access for homeless pet owners. The findings of this study were presented at the British Small Animal Veterinary Association (BSAVA) congress in Birmingham in 2017 (Scanlon, 2017). The second study involved a small population of homeless dog owners and aimed to assess canine health and welfare and the Human-Companion Animal Bond (Scanlon, 2016). The participants involved in this work were not permitted to take part in the current study. A full report of this study can be made available upon request. Both research projects were completely prior to beginning the current study and were funded seperately.

Although the author has strived to reduce researcher bias, the personal experiences, education and prior research work undertaken are likely to have shaped the position of the researcher.

4.3 Sample

Interviews were conducted with homeless owners in order to gain an insight into their specific experiences of the H-CAB, the impacts of homelessness on this and vice versa. Inclusion criteria for participation in the study included dog owners who were, or had, experienced homelessness or vulnerable housing with their dog. Within this field of study there is a lack of a clear and widely accepted definition for homelessness, therefore within the current study the term ‘homeless’ is used to describe an individual existing in a vulnerable living situation, lacking safe, secure or sustainable housing.

4.4 Recruitment

Recruitment was conducted through homeless accommodation providers, outreach teams, homeless initiatives such as The Big Issue and social media platforms.

First, a database was compiled using information provided by Dogs Trust on pet friendly homeless accommodation facilities throughout the United Kingdom. A recruitment letter was circulated via email with details of the study and participation requirements to all dog-friendly accommodation providers in England. Follow up emails and phone calls were made to services that responded.

In addition to homeless accommodation providers, other services providing support to those experiencing homelessness were contacted. These services included those that provided food, supplies or advice to homeless individuals. Veterinary outreach groups including Nottingham's Vets in the Community Clinic and StreetVet were contacted regarding recruitment of their clients. Outreach projects providing homeless support not including veterinary care were also contacted, namely a street-based support team located in Manchester called Manchester Homeless Group. In addition to this, offices for The Big Issue in Nottingham and Sheffield were contacted regarding recruitment of any of their vendors who were dog owners experiencing homelessness.

Social media was also utilised for recruitment purposes. Twitter and Facebook pages were established to send out regular recruitment requests as well as acting as a point of contact for prospective participants. One homeless accommodation provider requested a recruitment poster which was provided and can be viewed in the Appendices (Appendix 5).

Pet owners interested in taking part were either given contact details for the primary researcher or they were invited to an interview with the researcher through the services or support workers who work with them.

4.5 Semi-Structured Interviews

As previously mentioned, interviews are frequently used within qualitative research. Semi-structured interviews utilise an 'interview schedule'. This is a guide for the interview which sets out open-ended questions to be delivered to the interviewee. Below each question there may be a number of bullet points covering topics of interest. Each interview can be tailored by the responses of the interviewee. The responses gained are not as restricted as is often the case with methods such as the use of questionnaires. For this reason, semi-structured interviews were considered the most appropriate method for data collection regarding the H-CAB.

Semi-structured interviews were conducted using an interview schedule, as described previously (Appendix 1). Interviewing in this way provides comparable and reliable data whilst still allowing the participants the freedom to offer their insights and experiences in the most convenient way (Cohen and Crabtree, 2006). Running one on one interviews also provides participants with a private environment in which they may feel more comfortable discussing sensitive matters. The interviews began by asking demographic questions such as 'what gender do you identify with?' and 'what is your age?'. All demographic questions had an option to 'not specify', though all participants did. Further questions elicited data regarding the living circumstances of the participant, explored how they had become homeless and their experiences of accessing services. The remaining questions were focused on exploring the relationship the participant had with their dog(s) as well as the challenges and benefits they had experienced as homeless dog owners. The final question was an open question; 'What does your dog mean to you?'. The interview was concluded by asking whether there was anything additional the participant would like to speak about regarding homelessness and pet ownership.

Interviews were recorded using a Dictaphone (Olympus VN-711PC) and notes were taken manually. All but one interview was transcribed verbatim using an external transcription service. The remaining interview

involved two participants with strong accents, so to ensure quality and accuracy of transcription this was transcribed by the interviewer. Quality and accuracy of the interviews transcribed by a transcription service was assured by reading through the transcriptions whilst replaying the interview recordings and amending any errors.

It is important to note the limitations of using interviews. This study has taken up a positivist and realist approach when analysing the interview data, interpreting the responses of the subjects as true accounts of their lived experiences. In reality, it is possible that the responses of the dog owners may not be accurate, or that relevant information was not revealed. This follows a more constructionist ontological philosophy, and whilst the study takes up a realist approach it is appropriate to describe this as a limitation within analysis of the data gathered.

Focus groups also allow for lived experiences of participants to be explored. It was decided that due to the sensitive and potentially distressing topics discussed in the interview, including drug use and mental health concerns, this method would not be suitable. In addition, the dogs belonging to the participants were required to be present during the interview in order for the Petwise MOT to be conducted and it was decided that, for logistical and safety reasons, focus groups involving multiple dogs within the same space would not be practical.

An ethnographic study, which involves observing study participants within real-life situations (Gold, 1997), could be an alternative research method. Having said this, many of the behaviours and effects of pet ownership for homeless dog owners would be challenging to observe, especially within the time-frame of the study which was restricted to approximately 4 months of data collection. In addition to this, concerns surrounding the personal safety of the researcher restricted the use of this as a method of data collection.

4.6 PDSA Petwise MOTs

Health and welfare of the 21 dogs was assessed using the PDSA's Petwise MOT (Appendix 2). This assessment model was chosen for a number of reasons. First, it is easy to use in a variety of settings and doesn't require any additional equipment. Second, the Petwise MOT provides a visual and user-friendly educational resource for owners to keep, assisting them in better understand the welfare needs of their dog. The results from the Petwise MOT can also be compared to the annual PDSA Animal Wellbeing (PAW) report to identify any differences between the study population and the population of dogs belonging to the general public. The Petwise MOT also provides the opportunity for the assessor to establish an atmosphere of trust with the owner. As a result, the Petwise MOT assessments were conducted immediately prior to the interviews.

The Petwise MOT is based upon the five welfare needs of pets, specifically dogs. These are; environment, diet, behaviour, companionship and health. Each of the five categories is scored on a traffic light scheme based on a set of criteria. Green indicated the welfare needs are being met, amber suggests that there is room for improvement and red indicates significant need for changes in order to improve health and welfare. The assessment is conducted via a 15-minute question and answer session with the owner and visual inspection of the dog. The results were recorded in the PDSA Petwise MOT booklet and later collated on Excel (Microsoft Office 2019, Version 16.23). The participants were given the option to keep the results of the assessment should they wish to. The author attended a Petwise MOT training course at the PDSA headquarters in Telford prior to conducting the assessments. Descriptive statistics will be compiled using Excel.

4.7 Ethics

Ethical approval was gained from the ethical review committee of the School of Veterinary Medicine and Science at The University of Nottingham. All prospective participants were provided with an information sheet (Appendix 3) outlining the purpose of the study, how information would be treated and stored and what their involvement would require. In addition to this, all participants were given an informed consent form (Appendix 4) to sign prior to participation and the researcher made them aware that, should they wish, both documents

could be read allowed to them. Both the participant information sheet and informed consent form included information on both the semi-structured interview and PDSA Petwise MOT assessment. All participants were forewarned about the sensitive and personal nature of some of the questions involved in the interview and made aware of their right to abstain from answering any questions, pause the interview or withdrawing altogether.

4.8 Piloting

The semi-structured interview schedule was designed with some questions broadly based on an interview scheduled used in a preliminary unpublished study, namely the open ended questions eliciting data regarding what the dogs meant to the study participant (Scanlon, 2016). This was piloted with members of the Centre for Evidence-based Veterinary Medicine (CEVM) at the University of Nottingham as well as members of Dogs Trust's Outreach Development team. In addition to this, both the interview and Petwise MOT assessment were piloted with five dog owners living in situations of homelessness in Gillingham, Kent. Adjustments were made to the interview schedule prior to conducting the first data collection samples based on the feedback of the piloting. Amendments included altering the interpretation of aspects of the Petwise MOT criteria to make it more relevant to the study population. In addition, questions regarding employment difficulties faced as a dog

owner were re-worded to include ‘if applicable’, as some participants were not able to work for reasons that did not involve their dog.

4.9 Data Analysis

Descriptive analysis was conducted on the results of the Petwise MOT’s with elements of dog health and welfare cross referenced with data obtained from the interviews, such as what the living situation of the owner was and whether this may have had an effect on the results of the health and welfare assessments.

Interviews were analysed using qualitative methods, employing thematic analysis. Thematic analysis is a method by which patterned meanings or ‘themes’ can be identified and analysed in qualitative data (Braun et al., 2014). Braun and Clarke (2006) suggest that thematic analysis is a fundamental qualitative method as it ‘provides a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex, account of data’ (p.78) (Braun and Clarke, 2006). It illustrates the importance of particular themes in the exploration of the phenomena under investigation (Joffe, 2012). As is standard practise with thematic analysis, narrative and observations are included to provide context to direct quotations taken from the transcriptions and improve readability (Miles et al., 2014).

The Braun and Clarke six-step method for thematic analysis was used (Braun et al., 2014) as it provides well-defined guidelines for the process of conducting thematic analysis, ensuring clarity and consistency. These steps are listed below:

Phase 1: Familiarise yourself with the data

Phase 2: Generate initial codes

Phase 3: Searching for themes

Phase 4: Reviewing potential themes

Phase 5: Defining and naming themes

Phase 6: Producing the report

Data collection and analysis occurred concurrently. Phase 1 involved transcription of one of the interviews by the primary researcher. Familiarisation of the rest of the data was conducted by reading through the remaining transcripts and listening to the audio files to ensure accuracy of transcription. During this first phase, notes were taken regarding initial ideas regarding the contents of the data and why this was interesting in relation to the research aims.

Phase two involved generating initial codes using NVivo (NVivo 2012) software by reviewing all the interview transcripts in detail. Codes relate to the most basic elements of the raw data that can be assessed in a useful way regarding the phenomena being researched (Boyatzis, 1998).

To ensure consistency when developing initial codes, 5% of the data was coded by the primary researcher as well as by three project supervisors. A code diary (Appendix 7) was then generated by the primary researcher and sent to a fourth supervisor along with the same transcript that had previously been co-coded. Similarities and discrepancies in the coding were discussed. The rest of the data was then coded by the primary researcher alone. To further ensure coding consistency, coding was performed on each transcript multiple times.

Once all the data had been coded, initial themes were generated and reviewed by the whole team before being grouped into overarching themes and subthemes. Some codes were linked to multiple themes and subthemes. Codes and themes that were not relevant to the research aims were discarded. These themes were then reviewed, defined and named.

5.0 Results

The sample consisted of 20 dog owners experiencing, or at risk of, homelessness, and 20 dogs belonging to these owners. An additional dog (dog 12) belonged to an owner (participant X) who gave consent for participation in the study but asked not to be involved in the interview. Dog 12 was assessed using the Petwise MOT but no corresponding interview data for the owner was collected. Study participants were recruited from seven locations in England; London, Nottingham, Lincoln, Spalding, Preston, Gillingham (Kent) and Plymouth. The geographical distribution of the participants was dictated by the responses gained from recruitment efforts. Eighteen males and two females took part in the study. Sixteen of the male participants owned one dog and two of the males had owned one dog between them however the dog had passed away prior to the interview taking place. The age of the participants ranged from 23 to 65 with both the oldest and youngest participants being male. Eighteen of the participants identified as homeless at the time of the interview and two identified as vulnerably housed or at risk of homelessness. Of the 20 participants, six were living in supported housing, six in council housing, three were living in homeless hostels, two were street homeless, one was sofa surfing, one was living in a van and one was in private accommodation but facing imminent homelessness. Seventeen of the participants owned one dog, one participant owned three dogs and two had had a dog that had died recently but with whom they had been street homeless. Nine of the participants lived alone with

their dog, four lived with a partner or family member and seven were in shared houses but occupied a single room with their dog. Demographic information regarding the dog owners who took part in the study can be viewed in Table 1.

Table 1: Participant demographic information

Participant Number	Gender	Age	Living Situation	Number of Dogs	Living with other people?
1	Male	65	Street Homeless	1	No
2	Male	49	Street Homeless	1	No
3	Male	55	Vulnerably Housed	1	No
4	Female	33	Council Housing	3	Yes - Partner
5	Male	32	Hostel	1	No
6	Male	56	Council Housing	1	No
7	Male	40	Council Housing	1	No
8	Male	46	Vulnerably Housed (Sofa Surfing)	1	Yes - Mum
9	Male	34	Van	1	Yes - Partner
10	Male	63	Supported housing	1	Yes - Shared house
11	Male	49	Supported housing	1	Yes - Shared house
12	Female	31	Supported housing	1	Yes - Shared house
13	Male	44	Supported housing	1	Yes - Shared house
14	Male	36	Supported housing	1	Yes - Shared house
15	Male	40	Supported housing	1	Yes - Partner
16	Male	55	Council Housing	1	No
17	Male	23	Hostel	1	No
18	Male	48	Hostel	1	No
19	Male	45	Council Housing	0 - deceased	Yes - Shared house
20	Male	49	Council Housing	0 - deceased	Yes - Shared house

Key themes have been developed from the interview transcripts and grouped under two overarching themes, 'The Nature of the H-CAB' and 'Implications of the H-CAB'. First level themes relating to the nature of the H-CAB between homeless owners and their dogs include; 'Animal as Kin', 'Responsibility', 'Anticipatory Grief' and 'Mutual Rescue'. Themes relating to the implications of this bond are explored under two distinct first level themes, 'Implications of the H-CAB on the owner' and 'Implications of the H-CAB on the dog'. These themes are further explored in second, third and fourth level subthemes. A schematic representation of these themes and subthemes is presented in Figure 1 and Figure 2.

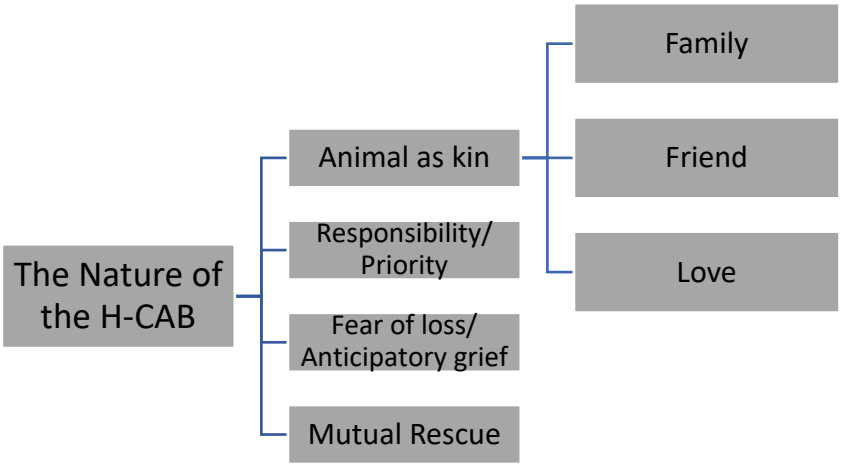

Figure 1: Schematic representation of sub-themes relating to the overarching theme of 'The Nature of the H-CAB'

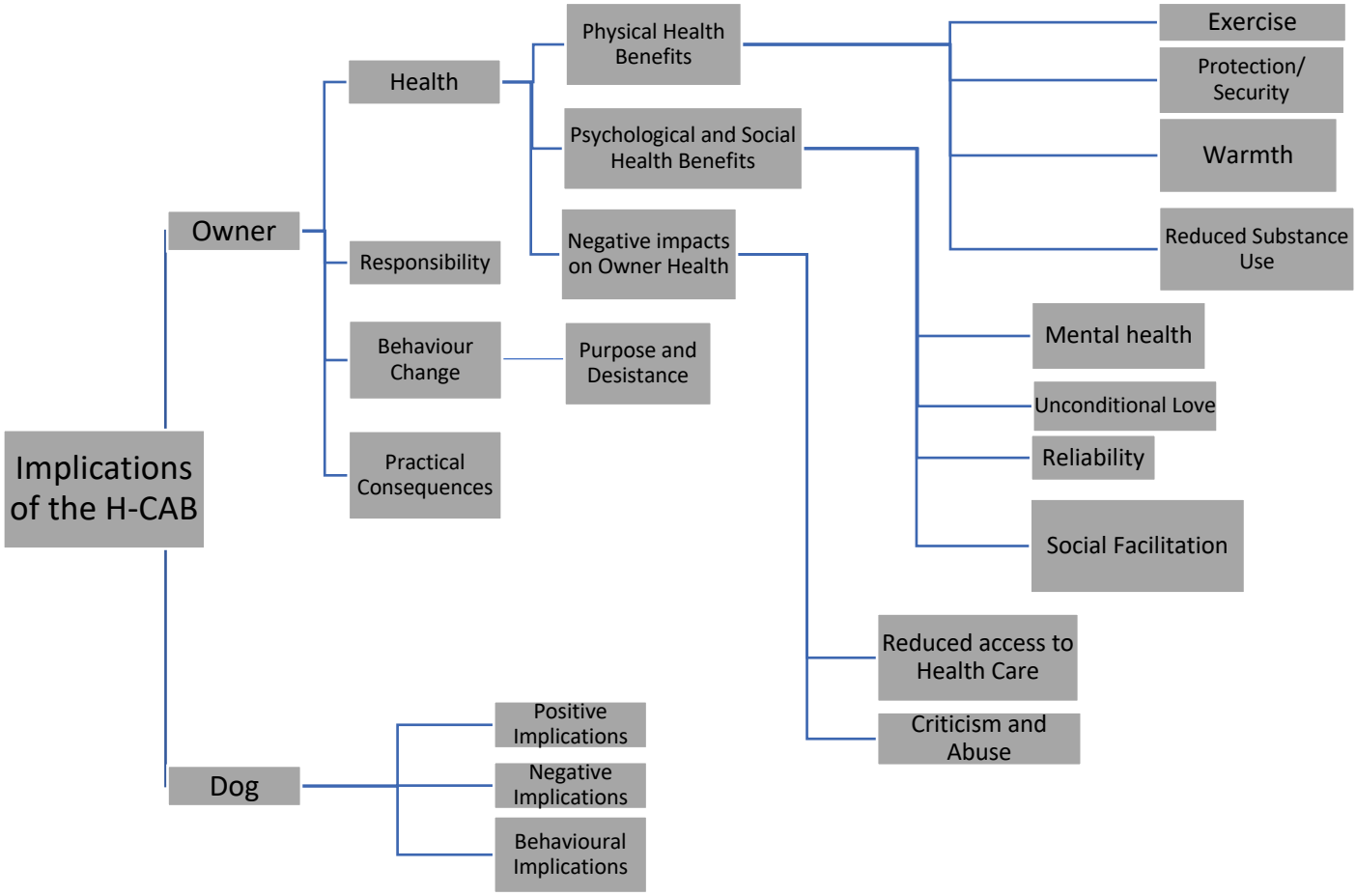

Figure 2: Schematic representation of subthemes relating to the overarching theme of 'Implications of the H-CAB'

5.1 The Nature of the Bond

The substantive theme that has been identified from the data surrounds how the relationship between homeless owners and their dog is dynamic, complex and often influential over the wellbeing of vulnerable people and their dogs. The following subthemes will explore this both as it relates to the nature of this bond from the perspective of the owner, and how it impacts the health and welfare of both parties.

5.1.1 Animal as Kin

Many of the participants attributed human characteristics to their dogs, with participant 1 describing how his dog was a person.

> *He's a person. He's not a ... he's a dog, but he's not human, he's a person. (Participant 1)*

5.1.1.1 Family

This anthropomorphisation of canine characteristics was reflected in the responses of the majority of the participants who went on to describe their dogs as being like a family member to them.

> *One of my kids, he's part of my family. He's a family member. He's ... I don't know, as much as anyone else in my family means to me, definitely. (Participant 14)*

Many of the participants expressed not only feeling that their dog was a part of their family unit, but that their dog was comparable to a child of theirs, seeing themselves as parents.

> *I've got four children, it's like having a fifth child, it's like having another child, simple as that, and I would look after him same way as I would look after any of my children. (Participant 18)*

Many of the participants spoke directly to their dogs during the interview, either when reflecting on a question, or when the dog had begun interacting with them. A number of participants called their dogs by affectionate nicknames, with many using the word 'baby' to address their dog.

5.1.1.2 Friend

The majority of the participants described their dog as providing them with a source of companionship and consistency, with many referring to their dog as their 'friend' and being 'always there'. Three participants claimed their dog was their 'best friend' with participant 16 describing loving his dog more than himself and described how he felt that the close relationship he had with his dog meant that they were unanimous in their thoughts and feelings.

> *He is my best mate. I love him, as much as I love myself. We are both the same. What he don't like, I don't like.*

What I don't like, he don't like. He is just me best mate. (Participant 16)

5.1.1.3 Love

Half of the participants involved in the study used the word 'love' to describe the relationship they had with their dog, speaking both about feeling love for their dog and how this love was reciprocated.

Yes, I know there's no ulterior motive around it. He's not out for himself to get what he can, you know. He is loyal, and that is pure love, you know what I mean? (Participant 12)

Participant 14 spoke about how he felt that providing love for a dog was crucial and should be the main incentive for wanting to have a dog. He described how dog owners (specifically those who are homeless) should not keep a dog for personal gain and went on to talk about how being loved was one of the most important needs of a dog. He also described a reciprocal love.

Don't keep hold of an animal if you think it's going to gain you. Like, keep him there because you love him and he loves you. And that's... that's all he wants. And that's all any dog wants, isn't it? To know that you love him, isn't it? (Participant 14)

When asked to describe what their dog meant to them, the majority of participants described their dog in one of two ways. The first was to use

the word ‘everything’. Participant 6 described his dog in this way and went on to reveal how his dog was at the forefront of his mind when he woke in the morning.

> *Everything. He's the first thing I think of when I wake up in the morning. (Participant 6)*

Other participants described their dogs as meaning ‘the world’ to them.

> *I don't know because, without sounding stereotypical or corny or whatever, he means ... He's my world. (Participant 14)*

5.1.2 Responsibility and Priority

The narrative of viewing their dog as kin drew out a sense of responsibility and commitment that was expressed by many of the participants. Participant 2 described how having a companion animal provided him with a sense of responsibility for something other than himself.

> *You get a companion like a dog come along; it really changes everything. Because again you got company, you know, it's a living, breathing thing you've got there and you're not just thinking about just yourself now, you're thinking about them. (Participant 2)*

Many of the participants expressed similar thoughts, with some commenting on how this led them to want to prioritise their dogs, in many cases over themselves. Participant 14 described how he felt this way towards his dog but also that other homeless dog owners he had encountered also exhibited a similar sense of priority and commitment.

> *They generally seem to care for their dogs. Like, anyone I know, when I was out there, anyone that I was with when I had these dogs and I met them with their dogs, they'd look after their dogs more ... Our dogs would eat before anyone else. And that's the people that I've met out on the street. (Participant 14)*

A number of the participants shared the similar views on wanting to provide for their dogs first before attending to their own needs, particularly when referring to accessing food. This was expressed clearly by participant 11.

> *I make sure he's alright. He'll eat before I do. (Participant 11)*

A small number of participants described how their desire to do the best they could for their dog had led them to consider difficult situations in which it may be necessary to give up their dog for the dog's best interest. This was largely influenced by the hypothetical situation in which they were no longer able to provide for the dog or feeling that the dog might

have a ‘better life’ elsewhere. Again, the theme of making the dog a priority was identified.

> *He comes first. Like I said, if I felt like he was being neglected, or in any sort of way I would do what was best for him, no matter how much it would kill us. (Participant 12)*

This was reiterated by participant 18 who also commented on wanting to put the dog first, even in a situation that might result in their separation.

> *I would certainly not want to give him up not unless, I mean if it was suffering or something it's a different case but as he is at the moment, I wouldn't dream of it. (Participant 18)*

Participant 3 spoke about the hypothetical situation that many dog owners within the general population are faced with, that of choosing to euthanise their dog when the animal becomes seriously or chronically unwell.

> *But if he starts to become unwell, I wouldn't hesitate to do the right thing by him, you know. I know it'd hurt me, but I don't want to see him suffering. (Participant 3)*

The participant’s comment links the sub themes of responsibility with anticipatory grief (explored later) and serve as an example of the high levels of emotional attachment that many of the owners expressed.

The commitment to care for their dogs exhibited by the majority of owners was also apparent through the way in which some participants described the dogs as being an integral part of their day-to-day lives, with two owners commenting on 'doing everything' with their dog (participants 3 and 6). The majority of the study participants revealed being reluctant to leave their dogs. There were two prominent reasons for not wanting to part with their dogs, the first being not wanting to leave the dog on a short-term basis due to concerns about the dog's behavioural wellbeing.

> *He's okay on his own usually, but I don't like to leave him on his own for too long, it's just it's not fair on him to be isolated on his own for long periods of time, that's all. (Participant 18)*

The second context in which owners described not wanting to leave their dogs related to situations in which they have been offered support, such as accommodation, at the expense of their dog. The majority of owners said that if they were put in a situation in which they would have to part with their dogs to gain access to shelter, they would not.

> *I would never leave her anywhere, so I'd have to stay under the stars with her. So yeah, that's the only thing, housing. It's been the only negative impact. (Participant 2)*

Almost all of the study participants described their dog as having been a barrier to them accessing housing at some point, with the majority

reiterating that they would sooner remain with their dog then give them up for accommodation. Participant 5 described the difficulties he had faced seeking support as a dog owner.

> *It's like you can't go into places to get food because dogs aren't allowed in there. Trying to get a house to house me and the dog is mission impossible. (Participant 5)*

The same participant went on to describe how this situation had instigated his homelessness as he refused to part with his dog.

> *I've already been down the road a bit of people told me to get rid of her, and I gave up my home. I made myself homeless for my dog. (Participant 5)*

Participant 8 described how he would consider giving up his dog if it meant he could access accommodation; however, it was revealed that this was because he had a family member who could look after the dog, therefore meaning he would still be able to see him.

A small number of the participants expressed how they did not want to be street homeless with their dogs as they felt it was not fair on their animals. Participant 3, who was vulnerably housed at the time of the interview spoke about his concern for finding somewhere for both him and his dog to live so they would not end up rough sleeping. In his response he speaks directly to his dog and alludes to the high levels of commitment

and responsibility he feels with regards to caring for his dog for its entire life.

> *Just, I don't want to be sleeping on the street with you, mate. So that's the only thing. I need to find somewhere for us so that we can still be comfortable together, can't we, baby? Yeah? Simply comfortable together. Grow old and grey and fat together, yeah? (Participant 3)*

Many of the participants expressed similar sentiments, describing how the only way they would part with their dogs was if the dog was to die, reinforcing that they were committed to their dogs for life, and that they endeavoured to prioritise them.

When asked what their dog meant to them, Participant 13 chose to use the word commitment and alluded to the mutually beneficial relationship he perceived to exist between him and his dog, a theme that will be explored later.

> *A commitment. A commitment I made from the start and I'll make to the end. I'll never let him down and he's the same with me. (Participant 13)*

5.1.3 Fear of Loss and Anticipatory Grief

All of the participants of the study expressed caring deeply for their animals and feeling emotionally attached to them. The subthemes of 'fear of loss' and 'anticipatory grief' emerged from many of the narratives when owners were discussing their dogs. A small number of participants described past experiences of losing a pet and how the fear of losing their dog had had an impact on their lives. Participant 16 broke down in tears during the interview when he reflected on the little time he suspected he may have left with his elderly canine companion.

> *I'm losing him. He is dying. (Participant 16)*

The participant was given a few minutes and asked whether he would like to end the interview. He agreed to continue and went on to say;

> *But in that weakness, you see my strength. I would do anything, to make sure that little [dog's name] is alright. (Participant 16)*

Many of the study participants expressed negative emotions when discussing the loss of their dog, with participant 5 suggesting that if their dog was to die, their life would end, perhaps suggesting suicide.

> *I already know her age, and it just made me upset now, just in case she goes. You know what I mean?*
>
> *If I lost my dog, then I'd probably follow her. (Participant 5)*

Participant 2 also described the negative effect that he anticipated the loss of his dog and the associated grief would have on him.

> *Yeah, I don't know what I would do, it would be a massive gap in my life. I'd probably stop eating. I'd probably go down to about seven stone and end up in hospital or something like that. And then I'd probably stop looking after myself. (Participant 2)*

Fear of loss was not exclusively related to the death of their dogs. A small number of owners revealed concerns over their dogs being unwillingly taken from them, either being stolen, lost or removed, for example if the owner was to be incarcerated or hospitalised.

> *I hate to leave her outside, especially now that, there's such a thing about dogs being stolen and stuff. It's even worse. (Participant 2)*

Participant 3 described 'missing' their dog when they were separated, even for short periods of time, and how this had 'devastating' emotional effects.

> *Yeah, he's everything. He's my little world. Devastated without him. Miss him like crazy when I'm not around him. (Participant 3)*

5.1.4 Mutual Rescue

Of the 20 participants, 14 spoke about having 'rescued' their dog either from animal rescue organisations, from lives of neglect or from abusive owners. This related to 14 dogs. Participant 12 made it clear she saw no option but to rescue her dog to prevent it from being killed.

> *I got him when he was 10 months old. I had a phone call asking me if I would take this dog before they drowned him. I didn't know what type of dog he was, or anything like that, but obviously I've said, "Of course I'll take him." (Participant 12)*

Two participants (participants 5 and 7) described acquiring their dogs from individuals dealing with issues relating to drugs and alcohol, who were looking to profit from the sale of the dog. Participant 5 described 'rescuing' the dog to prevent it being passed on to another owner who he deemed as unsuitable due to his drug habits.

> *Just had this little pup in his jacket, and he was just trying to sell it to get some drugs. He was going to sell it to some other smackhead, and I was having none of it. Just wanted to get her away from them people, yeah. (Participant 5)*

Participant 8 spoke about acquiring his dog through social media from an owner who was struggling to care for the dog as a result of a pregnancy. Whilst many of the participants had previous experiences of dog ownership and had a clear motivation to bring a dog into their lives,

participant 15 described not wanting a dog prior to rescuing his dog, and that it was only out of concern for the dog's welfare that made him decide to adopt him.

> *He was keeping him in unsuitable situations and beating him regularly. And then that was it. I wasn't having it. I paid the man some money and I took the dog off of him. I never would have owned a dog before that moment. Yeah, I wasn't prepared to let that happen. (Participant 15)*

The theme of 'owner rescuing dog' was identified repeatedly throughout the data and in contrast, eight participants also described situations in which they felt they had been rescued by their dogs. The majority of these had also reported rescuing their dog. Six of these eight participants described how they didn't feel they would 'still be here' without their dog, with one (Participant 12) stating she would likely have committed suicide if her dog hadn't come into her life.

Participant 6 spoke of a specific incident in which he collapsed due to health issues and explained how his dog alerted passers-by to his presence, physically rescuing him.

> *My COPD kicked in one morning and I woke up in a car park stairwell, but it's a stairwell that's not used as a public place unless there's a fire. It was a fire exit, so people didn't know we were there. Because I had him with me, he*

knew there was something wrong, so he was barking, barking, and barking. People picked up on, there's a dog barking somewhere, we need to find out what's wrong with this dog. (Participant 6)

The owner attributed the dog to saving his life, claiming that had it not been for the dog he may have died. The participant went on to describe how this had not been the only time he felt he had been rescued by his dog, physically as well as psychologically.

Well, he's saved my life in so many ways. He bettered my life in so many ways. It's just unbelievable. (Participant 6)

Participant 12 expressed how she felt that the dynamic of the relationship between her and her dog, the ways in which they supported each other, meant that both her and her dog would suffer at the loss of the other.

*He would be f****d without me, he would. As I would without him. (Participant 12)*

The theme of having a mutually beneficial relationship with their companion animals was expressed repeatedly by several participants, with participant 12 summarising this by describing how her and her dog 'need each other'.

5.2 Implications of the H-CAB on Homeless Owners

The nature of the H-CAB, as explored above, appears to have profound effects on the lives of homeless dog owners. As mentioned earlier, the results suggest that dog-ownership and the H-CAB has implications on owner physical, psychological and social health as well as practical consequences such as reduced access to services including accommodation, advice and healthcare. The following discussion reports results that concerns the benefits of the H-CAB for homeless owners, but also outlines key costs and liabilities.

5.2.1 Health

5.2.1.1 Physical Health Benefits

The primary benefit of dog ownership for physical health that was revealed in the interviews was the increase in physical activity and motivation to go outside that was associated with owning a dog. Five of the participants described how having their dog had increased their physical activity, with participant 2 linking this increase in activity to an improved state of health. In addition to this, Participant 1 commented on how the responsibility of looking after his dog had increased his motivation to take care of himself.

> *Yeah, because you got a dog, and you got to be healthy. You've got to look after yourself, and it's like looking after*

anything else. You've got to be strong. For a dog, you've got to be strong. (Participant 1)

Other physical benefits of dog ownership for the homeless owners in the study included providing warmth, security and protection. These factors were particularly prevalent in the responses of participants who were either currently or had a history of street homelessness. Participant 6 described how he saw himself in a more favourable situation than other homeless individuals sleeping rough as he was accompanied by his dog who kept him warm.

I'm better off than some of the other guys, because I've got a portable radiator. (Participant 6)

Four of the participants spoke of the security their dog provided them, making them feel safe while they were out on the streets or where they were living. Two participants described the protection they had received from their dog from individuals wanting to harm them; participant 6 described being kept safe from physical abuse by the public and the second, a female participant (participant 12), described how her dog had protected her from potential sexual assault.

If it weren't for him ... you know, within a few seconds I had been pushed in the tent, and the man would have right, had me where he needed me. But he obviously didn't see that the dog was in right there with him, in the tent,

and he was in the tent. I didn't even know the man coming there, until obviously I heard him barking and growling, turned around, and he's scaring the man off. (Participant 12)

Participant 13 described how he felt dogs play an important role in keeping their homeless owners safe, particularly those who are street homeless. He commented on their heightened senses, meaning that a dog is more aware of potential threats and how this was beneficial to vulnerable people.

Yeah definitely when you're on the streets because you haven't got the four walls, you haven't got a door locked to protect yourself or anything and you could be attacked at any time. But if you're asleep and if you're in a sleeping bag and you've got a dog, the dog has a heightened sense of awareness which is better than ours. They sense people coming, they sense good or bad people. He does. (Participant 13)

Participant 5 described the high levels of abuse that homeless individuals living on the streets are exposed to and went on to describe how having a dog has been beneficial for him, offering protection and reducing the abuse he receives.

A lot of abuse. That's one good thing with me having a dog, they don't come near the doorway because she'll growl at them. (Participant 5)

Further positive influences on owner health included reduced use of substances as a product of the responsibility felt towards the dog. This subtheme will be referred to later under 'Responsibility' and 'Motivation for Behavioural Change' but is important to mention here in the context of improving owner health. All of the participants reported a history of either alcohol or substance use, with the majority revealing they currently had, or had previously experienced, a problematic relationship with these substances. The majority of participants also described how the presence of their dog had reduced their use of drugs and/or alcohol.

I don't drink or do drugs any more. The buzz I enjoy more is him. (Participant 6)

A small number of the participants commented on how the presence of their dog gave them the 'high' they were looking for and reduced their desire to take substances.

If anything, it's helped out a lot, because I don't necessarily need anything apart from the dog, you know? (Participant 15)

Other participants associated their reduced reliance on substances to the responsibility to care and provide for their dog, which in turn benefited their health. They described their dog providing them with a purpose that reduced their substance use. The theme of the dogs providing their owners with a 'purpose' is also explored later under the theme of 'Motivation for Behavioural Change'.

> *And I'd have ended up doing a lot more drugs if I didn't have to get him food and look after him, see? So he probably kept me alive, he did, the boy. (Participant 14)*

5.2.1.2 Psychological and Social Health Benefits

The most significant influences of dog ownership, as identified by the study participants, on their health and well-being, was the perceived impact on their psychological and social health. Participant 18 described the positive emotions he experienced when he is greeted by his dog, and the sense of unconditional loved he felt.

> *I don't know I can't really explain it but it's a good thing, it just builds your spirit, I don't understand how that works you know but it does. And it's nice when you come home that you know the dog is always really pleased to see you, that kind of thing. (Participant 18)*

Participant 20 expressed similar views regarding the positive effect of having a dog around to interact with on their emotional wellbeing,

describing how they thought their dog ‘knew’ when they were feeling down and in need of support.

> *Just like being there with them you know. You know they make you feel good, and she was like, you know, she’d know if you were down and that you know come and you’d stroke her. And make you feel good you know, and she’s there for you. (Participant 20)*

5.2.1.2.1 Mental Health

Positive effects on mental health issues such as depression and anxiety were frequently discussed, with a number of participants saying that their dog had alleviated thoughts of suicide and prevented them from acting on such thoughts, because they provided them with a sense of purpose. Participant 2 described thinking that his dog could sense when he was feeling anxious and behaved in a way that mitigated these feelings.

> *She knows when I'm getting anxious. She will literally crawl up to my chest and put her head on my heart. She knows before it comes on sometimes, she'll usually come up really slowly and she'll go, ‘bumph’. (Participant 2)*

Participant 17 described the symptoms he experienced as a result of his mental health issues and went on to describe how these symptoms were made worse when he was separated from his dog while awaiting shelter.

Thoughts of self-harm. Thoughts, voices. That's where [dog's name] comes in as well. Since I've had [dog's name], obviously, when I was about to come here, I had to give up [dog's name] to my mate to look after, I was bad on the voices, the self-harming. (Participant 17)

The same participant went on to describe the effects that the return of his dog had on his emotional state.

I felt more, like, lively if you will. (Participant 17)

Participant 3 spoke about the therapeutic benefit of speaking to his dog when he was feeling depressed.

Yeah. Oh, yeah. I mean, when I was really down, I used to talk to him. I know he didn't talk back but just to have someone there. (Participant 3)

5.2.1.2.2 Unconditional Love

Participant 6 described how, in times when he felt very negatively about himself, his dog still wanted to be with him, still loved him unconditionally, and how this had a positive effect on his self-esteem and motivation.

*Look at the state of me, I'm ... I look like s**t. I feel like s**t. But this thing wants something to do with me. (Participant 6)*

5.2.1.2.3 Reliability

The theme of companion dogs providing a constant and reliable form of support was identified from the data, with a number of participants commenting on how their dogs were 'always there'. In addition, the physical contact they received from their pets was reported by a few of the participants when speaking about examples of when their pets had offered them support in times of emotional distress.

> *When you're a bit down, they always know. They'll come up and headbutt you or something, you know what I mean, nudge you and it's been absolutely really positive. (Participant 2)*

Participant 14 described his dog as a 'teacher' with participant 6 also commenting on how he had been supported by his dog in terms of learning from him.

> *He taught me so much. I am the person I am today through most of the things that we've done together, the way he's reacted to some people, the way he's brought so much. (Participant 6)*

Participants 2 and 14 supported this theme by commenting on how their dogs were intelligent with Participant 2 describing how they 'appreciated' the intelligence of their dog.

5.2.1.2.4 Social Facilitation

Almost all of the 20 study participants commented on the positive effect their dog had had on social encounters they have with other people. Nineteen of the participants spoke of their dog as social facilitators, increasing the number of occasions they interact with other people. Participant 14 described himself as being very sociable, however commented on the lack of socialising that takes place in society in general, largely as a result of technology such as mobile phones. He explained how having his dog with him encourages people to interact with him, a consequence he enjoys.

> *When we're walking down the street nowadays, you walk down the road and everyone's head down or in the phone. No one wants to say hello nowadays. But with a dog ... Like I'm very social, quite annoyingly I suppose. I talk to everyone walking past, and just to be polite, say hello. But no everyone's scared to say hello to people now, because they think you're going to rob them or beat them up. But I get to talk to a lot of people. I'll stop and talk to people all day long, I will. And he's good for that. (Participant 14)*

When asked what impact his dog has had on his interactions with other people, participant 3 commented on how many of the people he has met and had conversations with may not have approached him had his dog not been present.

Definitely. Definitely. Because a lot of conversations, or a lot of the associations, are through meeting other dog walkers when I'm walking him. There are people without a dog probably wouldn't even speak to me, would never have spoken to me in the first place, you know. And sometimes really, they're the only people that I do have a conversation with in a day. (Participant 3)

Two of the participants described how their dogs were 'ice breakers' and often became 'talking points' during encounters with people. Participant 15 described himself and his girlfriend as being 'not interactive' however commented on how their dog provided them with the motivation to go out and meet people and discussed how this benefited them emotionally.

Well we're not really interactive people, social people. The dog actually makes us go out to socialise. He brings so much joy to us. (Participant 15)

Participant 6 described how his dog had facilitated the building of friendships with other people and how this in turn had improved both his life and that of his dog.

He's turned my life around so much for the better...

...so many genuine friendships that, once those friendships were made, life for us turned around for the better. (Participant 6)

5.2.1.3 Negative Impacts on Owner Health

5.2.1.3.1 Reduced Access to Healthcare

Over half of the study participants described having issues with their physical health and almost all revealed they had suffered from mental ill-health. The primary way in which dog ownership had the potential to negatively impact the health of the study participants related to the reduced access to healthcare as a result of owning a dog. Three of the 20 participants described struggling to access healthcare services as a result of their dog, all of which were referring to a time when they had been street homeless with their dog and not able to leave their dogs with anyone.

> *Having (dog's name) has pretty much stopped up my ability to access any services really. I'm lucky enough that I went to school with my doctor and he will make some leeway. But I still can't take her into the surgery. I have to get someone to look after her, so I can't really access anything. (Participant 2)*

The same participant commented on how he felt that healthcare was the most important form of support to be able to access, above accommodation.

Participant 1 appeared reluctant to place any blame on their dog for their reduced access to healthcare, saying instead that they ‘don’t go to the doctors’ and that they ‘don’t need or want them much’ after speaking about not being able to access support.

5.2.1.3.2 Criticism and Abuse

In addition to having reduced access to healthcare, a number of participants described having received abuse from members of the public for being homeless and accompanied by a dog. Participant 13 described how they had received criticism for being in a situation of homelessness and how this had resulted in people wanting to remove the dog from him.

> *People wanting to take him from me, people calling me a neglectful dog owner, disrespecting me for having a dog as well. (Participant 13)*

Another owner with a history of rough sleeping with his dog described typical abusive interactions he might receive from members of the public criticising him for owning a dog:

> *Obviously, you're getting members of the public coming up to you. "Get rid of your dog. Get off the street." S**t like that. It's wrong. (Participant 5)*

Participant 9, an individual who was occupying a van at the time of participation, commented on feeling judged by people when he was seen out with his dog.

Some people, when I've been in town, some people are, "Oh, why are you homeless and have got a dog?" (Participant 9)

5.2.2 Responsibility

As has been mentioned earlier, the sub-theme of responsibility was clear from the narratives provided by the interview transcripts. Many owners spoke of their dogs as 'family' or 'friends' with a number referring to them as if they were children, describing the nature of the H-CAB to involve responsibility. The theme of responsibility was also identified as being a key influence of the bond on homeless dog owners. Having a dog meant providing food, water, shelter, companionship and veterinary care. This was summarised by participant 6 who described how this responsibility encouraged him to look forward and plan ahead, linking to the theme of dogs providing a purpose for their owner.

If you've got an animal who's reliant on you, whether you're homeless or not, you have to get up in the morning, you have to make sure that they're fed, you have to make sure they're walked, they're watered, their health has to come first before your own. Because of those reasons, you have to think in the future, if that sounds right. (Participant 6)

The majority of the study participants spoke about the responsibility they had to ensure their dog had access to veterinary care, with two commenting on how they felt they were responsible for contributing financially for this, even if the service they used only required them to offer donations.

> *It is really difficult. That's why I like, save up know what I mean? I like to contribute towards PDSA because I know their pain. They do a good job. (Participant 10)*

Participant 11 described the guilt he experienced when he was not able to pay for his dog's veterinary care, again in a situation when payment was not required.

> *I do give them a donation but sometimes I feel bad going up there. Even if they do look at you and know you'll be able to give them a tenner. And I'm like, "s**t ", It costs more than that. You know what I mean? (Participant 11)*

5.2.3 Motivation for Behavioural Change

Most of the study participants admitted that having a dog in their lives had altered their behaviour in one way or another. As has been mentioned under previous sub-themes, these included changes to drug and alcohol habits, changes in the way they behave in front of their dog, alterations to activity levels due to the responsibility owners felt to take

their dogs out and exercise them and changes in the way owners interacted with members of the public.

Many of the participating dog owners explained how the responsibility they felt towards their dog had affected their behaviour. Participant 15 described how the responsibility of dog ownership, and doing right by his dog, had led to a decrease in arguments with his partner as they did not want to fight in the presence of the dog.

> *We find ways of dealing with issues and situations we have, but we wouldn't fight or argue or anything in front of the dog, because he don't like it. (Participant 15)*

5.2.3.1 Purpose and Desistance

A few of the participants described their dog as 'a reason to get up in the morning' or 'a reason to live', suggesting that their dogs had affected their behaviour by providing them with a purpose, motivating them to act responsibly in order to care for their dogs. Participant 9 spoke about how having a dog had stimulated him to 'get his life back on track'.

As has been mentioned earlier, a small number of participants described how their dogs had prevented them from acting on thoughts of suicide and had encouraged them to keep living.

Gives me something to live for really. Dogs give you something to live for. (Participant 1)

Participant 12 described how the presence of her dog had changed both how she behaved, claiming he prevented her from doing anything 'stupid', but also how he had reduced negative emotions such as hatred.

I probably would have done something stupid by now, or I'd be ... probably just a nasty hateful person. Before I met him, I had so much hatred in me. He brought it out, it was nice. (Participant 12)

The presence of a companion dog reducing destructive behaviours and negative emotions was recurrent theme identified from analysis of the interview transcripts. Participant 11 described how the thought of being taken away from his dog had prevented him from acting in a way that may have resulted in him being arrested, suggesting having his dog had led to desistance. The participant expressed feelings of anger and wanting to seek revenge on those he had felt mistreated by. However, he also said that he had been restrained from seeking such action out of the perceived responsibility he felt towards his dog.

He calmed me down. It's just I think of him, and love him, I ain't gonna do anything and leave him to the mercy of someone else because I won't be around. (Participant 11)

A second participant, participant 16, also alluded to desistance as a result of dog ownership. He openly admitted to having spent time in a correctional facility and went on to speak about how it was his dog, and the responsibility he felt towards him, that had prevented him from re-offending.

> *Yeah, 100% he does. He prevents me, completely, from re-offending. (Participant 16)*

5.2.4 Practical Consequences

Unfortunately, many of the homeless study participants described experiencing difficulty with regards to accessing homeless support services including healthcare, day centres and notably accommodation as a result of their dog. The majority said this was often due to services not allowing them inside their facilities with a dog. Accommodation was regarded by most participants as the most important type of support with the majority saying they had experienced difficulty with accessing shelters that would accept both them and their dog. Most of the participants described refusing accommodation that would not allow them to bring their dog.

> *It was more the accommodation. Because you know they could say they could probably put us up in a B&B for the night or like a travel lodge or something like that, but they wouldn't, you know, if you've got a dog, they wouldn't*

accept it so we couldn’t go in there with (dog’s name). So, we wouldn’t accept it, you know what I mean? If she wasn’t going to be accepted, we weren’t going to accept it. (Participant 19)

Participant 6 described the difficulty he had had when trying to access night shelters. He explained that he had only found one service where he could take his dog inside, and even then, his dog would have to remain downstairs in the cellar away from him.

There isn't any night shelter that I know of that would accept me with a dog. One used to, but the dog was in the cellar, and you was upstairs. I wouldn't leave him on his own downstairs, even when we'd only been together a couple of years, because it's not fair on him. So I wouldn't use that facility. But now they won't allow people with dogs to stay in there anyway. (Participant 6)

Having issues with accessing privately rented accommodation was an experience described by a few participants. Participant 5 spoke about how most landlords had either refused to rent to him because of his dog, or had increased the rent.

We've rung nearly 50 odd landlords, and not one of them is interested because of the dog..

.. Because of the dog. Everything else is bang on perfect. Soon as you mention the dog it's, "Nope." (Participant 5)

Whilst access to accommodation was perceived by many of the participants to be the biggest restriction that dog ownership meant for them, this was not exclusive. Participants also revealed how they struggled to access other forms of support whilst with their dog including shops and day centres. One owner spoke about the difficulty he had faced attempting to access the internet at an internet café as he wasn't able to bring his dog in.

The majority of the owners described experiencing prejudice regarding their dog which had restricted their access to support. A few of the participants voiced opinions on how this needed to be addressed.

I just think things need to change around it all. You know what I mean? It's just awkward, being on the street with a dog. You can't get internet services whatsoever. You can't, literally. It's horrible. (Participant 5)

Participant 4 voiced a similar opinion on wanting a change in perceptions regarding homeless dog owners, comparing dogs to family members and children.

Yeah, but I think they do need to take in consideration a lot more about people that have got animals. They don't seem to understand how much some people's animals mean to

them. Like if I had a kid, they'd quick to give me a flat, because I had a child, but they're not quick to work around animals, and they don't seem to understand that a lot of the people on the streets have dogs. And that's their ... That's their best mate. That's their companion. That's their ... But they're not quick to ask you if you've got one, just because you've got dogs not a child. For a lot of people, they are their kids. (Participant 4)

There were some more general limitations imposed by pet ownership; for example, participants described how dog ownership had restricted their activities.

It'd probably be a lot easier, know what I mean. I'd be able to do a lot more things. I'd be able to go a lot more places. (Participant 10)

The following discussion will report results relating to the implications of the H-CAB on dogs belonging to homeless owners.

5.3 Implications of the H-CAB on Dogs Belonging to Homeless Owners

5.3.1 Positive Implications

Outreach initiatives are projects with the aim of 'extending critical care services beyond the current or usual limits' (Pittard and Marsh, 2012).

The majority of the participants said they had been able to access veterinary care for their dogs, with outreach services such as StreetVet, Dogs on the Streets and Nottingham's Vets in the Community clinic utilised by nine of the participants. Five participants reported to have received veterinary care from the PDSA (participants 11, 16, 3, 5 and 12) and a small number said they had used private veterinary clinics.

As has been discussed previously, many of the owners described prioritising their dog, ensuring that their dog's welfare needs were met. Participant 6, who had rescued his dog as a puppy, described the process he went through when he first acquired his dog.

> *I'd made sure he'd had a meal at least once a day. I got him his injections. I got him chipped. I'd done all the right things. (Participant 6)*

All of the study participants spoke about the high level of companionship they provided their dog. Most were reluctant to leave their dog for any length of time and none described leaving their dog on its own for more than a few hours. Participant 6 described a conversation he had frequently had with members of the public who criticised him for owning a dog and being homeless. He argued that he offered his dog a good quality of life due to the companionship he provided.

People's attitude, especially when we were street homeless. Until they saw how much he came first. When we first got together, a lot of people said;

> *'You shouldn't have a dog if you're homeless.' 'Why?' 'Well, I can look after him better than you.' 'How?' 'Well, he'll be at home with me in a nice, warm home.' 'Do you work?' 'Yes.' 'So where's the dog when you're at work?' 'Well at home in the warmth.' 'But is he or she on their own?' 'Well, yes.' 'So who's he better off with? With its owner, 24 hours a day, or locked in a house for however many hours a day?'*

And they couldn't see where I was coming from. But now people don't make silly little comments like that because they know he always comes first. (Participant 6)

Participant 12, a woman living in supported housing at the time of the interview, also argued that her dog was 'better off' in her care, justifying owning a dog in her situation.

> *I know for 100% fact with all my heart, he's better off with me, no matter what. (Participant 12)*

5.3.2 Negative Implications

Participants described the financial stress and 'worry' they had experienced as a result of owning a dog. Two of the participants (participants 19 and 20), who had shared ownership of a dog, commented on the financial cost of providing veterinary care for their dog.

> *You're always worried about how you are going to pay for it, you know. That was one of the things. (Participant 20)*

The other co-owner of the dog described delaying seeking veterinary treatment for their dog as they weren't able to afford it. This is likely to have had negative impacts on the welfare of the dog.

> *If we needed any treatment for (dog's name) we'd have to pay for it, you know with my vet that I'd always had her with, but sometimes it can be hard like, when you're on benefits, you know some of them don't, treat them. They say 'oh you've got to pay it in full' or you know, and you can't always. I waited two weeks and then I'll come and treat her even though she needs treatment now, you know. (Participant 19)*

Participant 2 also described the concern and 'worry' he had experienced over being able to afford veterinary care for his dog.

In the past when I've had money and I've been working; I would've paid for the vet care myself. But when you haven't got any money, it's a real worry. (Participant 2)

Another difficulty described by participant 16 related to being able to care for his sick dog while he was rough sleeping. He spoke about waking up on a cold night and not being able to see his dog properly to identify what was wrong.

The first time he got kennel cough. I didn't really know what it was. And, it was about three o'clock in the morning, on a very cold night. When you are out in the woods, it is completely black. Do you know what I mean? You get up, and you can't see anything, you try and bump your way through branches and that, to get back out of here. So, about three in the morning on a really frosty night. I thought he had swallowed something wrong. (Participant 16)

Three of the owners described having contemplated rehoming their dog as they did not want to subject them to a life on the streets. Participant 18, who at the time of interview was living in a dog-friendly hostel, spoke about the concern he had experienced over being street homeless with his dog.

The accommodation thing and before I knew I could have (dog's name) it was a lot of worry and a lot of stress

because I didn't want him to be on the street either so it was in the back of my mind I was thinking if I can't get him in here or get him in to a mate I might have to consider putting him up for adoption, which I really didn't want to do. (Participant 18)

5.3.3 Behavioural Implications

All of the dogs appeared well socialised and were interacting positively with the interviewer. A number of owners revealed that their dogs sometimes showed reactive behaviour to other dogs.

Behavioural concerns were voiced by the majority of owners, often occurring when the dogs were left on their own. These behaviours included vocalisation and inappropriate toileting. These signs may be associated with destress at being separated from the owner but could also be due to other circumstances, such as a lack of training or stimulation. None the less, many of the owners were reluctant to leave their dogs alone. Participant 13 described how he felt his dog was unsettled when it was left as a result of the frequent travelling they had done together, rarely in any one place for very long. This suggests that a lack of consistency might be a negative implication of homelessness on companion dogs.

Because we've moved and moved and moved and moved. I'm not confident enough to leave him so I take him out

and if dogs go to approach him, he's very wary. (Participant 13)

Behavioural issues when dogs were left alone were described on multiple occasions.

Well I can't leave her alone for very long because she barks and barks, so I've got to take her wherever. (Participant 7)

Participant 6 described how his dog would become distressed when he wasn’t in sight of his dog.

He'd be like panicking, barking constantly, because he couldn't see me. (Participant 6)

Two owners described other behavioural issues their dogs had had when they had acquired them and went on to discuss how they had worked with their dogs to overcome this. Participant 17 spoke about issues he had with his dog exhibiting separation anxiety and toileting inside the hostel he was living in and explained how he had tried to deal with this.

At first, when I first come here, it was toilet. We was having a few toilet problems. Again, at first she would chew a lot of things. But when I've been walking her more and taking her out regularly on the hour, instead of like two or three times a day, every hour, she's more chill. She relaxes a bit. She'll just chill out more, she'll sit on her bed and play with one of her toys. (Participant 17)

Participant 12 described how she had rescued her dog from an abusive past and how she was warned that the dog was fearful of people. She described thinking the dog connected with her and overcame this fear. During the interview, the dog appeared happy and friendly.

> *But when he turned up, he had some really big fat head but really skinny body. He was so gorgeous, and I was told he won't come up the stairs, he won't come near you, he won't do this and that. He must have picked up something from me, because he was straight to me. (Participant 12)*

5.4 PDSA Petwise MOT

Petwise MOTs were conducted on 21 dogs belonging to study participants. The results of these will be displayed in the five categories of canine health and welfare that are assessed in the Petwise MOT using the traffic light scheme as described in the Materials and Methods chapter. The criteria for assessment can be viewed in the Appendices (Appendix 2).

The majority of the dogs involved in the study were Staffordshire Bull Terriers (SBT) (16). Of the remaining five dogs, one was a Rottweiler, one was a beagle, one was a lurcher, one was a Dogue de Bordeaux and one was a crossbreed (Terrier X). The ages of the dogs ranged from 10 months to 15 years. All but three of the dogs were only dogs with the remaining three belonging to the same owner. Table 2 displays information relating to the age and breeds of the 21 dogs as well as

information on where they were located, what the living situation of their owner was at the time of assessment and whether their owner owned any other dogs. Figure 3 provides an overview of the Petwise MOT results which will be explored in more detail in the following discussion.

Table 2: Canine participant information

Canine Participant	Owner	Breed	Age (years)	Location	Only Dog?
Dog 1	Participant 1	Rottweiler	11	Kingston-Upon-Thames	YES
Dog 2	Participant 2	SBT	12	Travelling	YES
Dog 3	Participant 3	Beagle	9	Nottingham VIC	YES
Dog 4	Participant 4	SBT	8	Nottingham VIC	NO
Dog 5	Participant 4	SBT	6	Nottingham VIC	NO
Dog 6	Participant 4	SBT	6	Nottingham VIC	NO
Dog 7	Participant 5	SBT	11	Nottingham Hostel	YES
Dog 8	Participant 6	Lurcher	15	Lincoln	YES
Dog 9	Participant 7	SBT	4	Nottingham ViC	YES
Dog 10	Participant 8	Terrier X	15	Nottingham ViC	YES
Dog 11	Participant 9	SBT	1.5	Nottingham ViC	YES
Dog 12	Participant X	SBT	4	Medway, Kent	YES
Dog 13	Participant 10	SBT	12	Medway, Kent	YES
Dog 14	Participant 11	SBT	12	Medway, Kent	YES
Dog 15	Participant 12	Dogue de Bordeaux	7	Medway, Kent	YES
Dog 16	Participant 13	SBT	7	Medway, Kent	YES
Dog 17	Participant 14	SBT	9	Medway, Kent	YES
Dog 18	Participant 15	SBT	7	Medway, Kent	YES
Dog 19	Participant 16	SBT	9	Devonport, Plymouth	YES
Dog 20	Participant 17	SBT	8	Devonport, Plymouth	YES
Dog 21	Participant 18	SBT	0.8	Devonport, Plymouth	YES

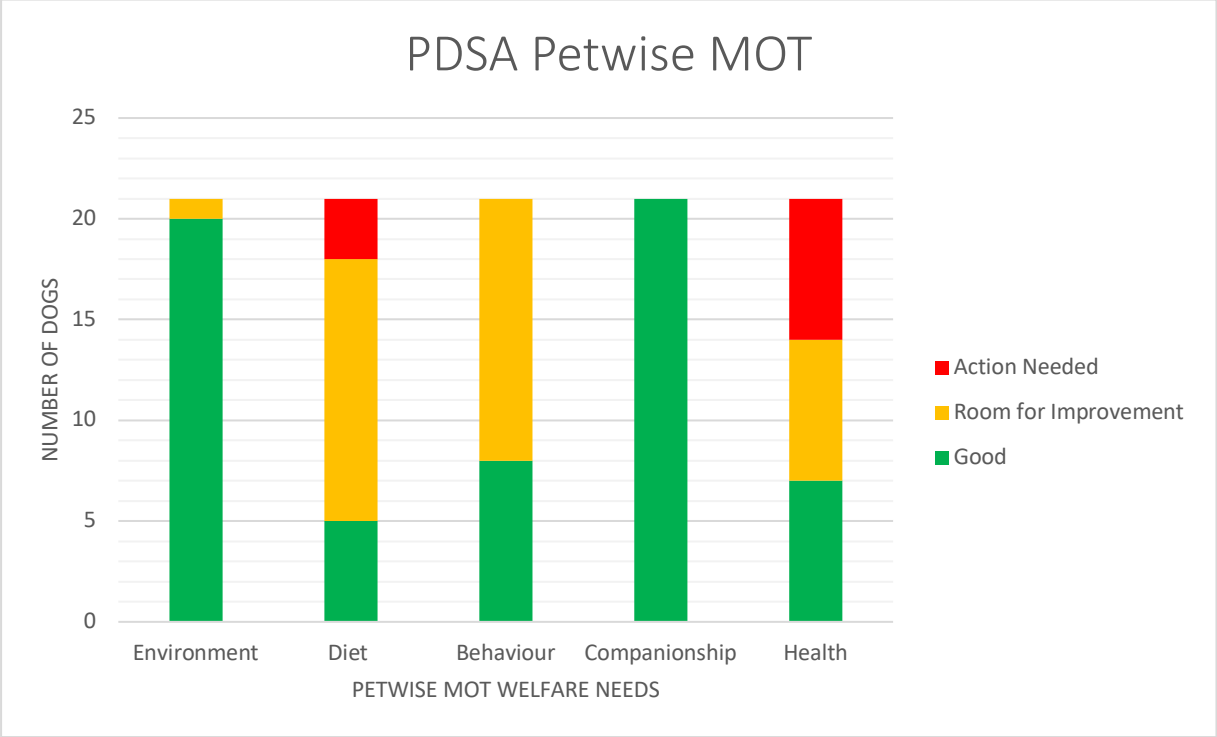

Figure 3: PDSA Petwise MOT Results for the 21 dogs in the study

5.4.1 Environment

As is shown in Figure 3, the environmental welfare of the majority of the study participants scored well overall, with all but one of the dogs assessed as inhabiting an environment that met their welfare needs. The remaining dog belonged to an individual who was street homeless at the time of the assessment. The dog was provided with its own bed, hazardous or poisonous items were kept out of reach of the dog and the dog was kept on a lead when travelling. However due to exposure to cold weather and rain, a result of street homelessness, the environmental welfare of the dog was scored as amber (Room to Improve).

5.4.2 Diet

The diet of the dogs belonging to the study participants varied with regards to how it scored on the Petwise MOT. All of the dogs involved in the study had constant access to fresh, clean water. Five of the dogs were assessed to have a diet that met their welfare needs. The majority of the dogs assessed (13) were placed in the amber category indicating room for improvement regarding their diet. For six of these dogs this was due to the dogs being overweight, with a Body Condition Score (BCS) of 4/5. Feeding ad-lib or frequent feeding of human food and treats also resulted in many of the dogs scoring amber for their diet. Three of the dogs were placed in the red (action needed) category for their diet. For all three of these dogs, this was a result of having a very high BCS of 5/5 and being overweight. None of the dogs involved in the study had a BCS of less than 3. The results of the BCS of all of the dogs can be viewed in Figure 4.

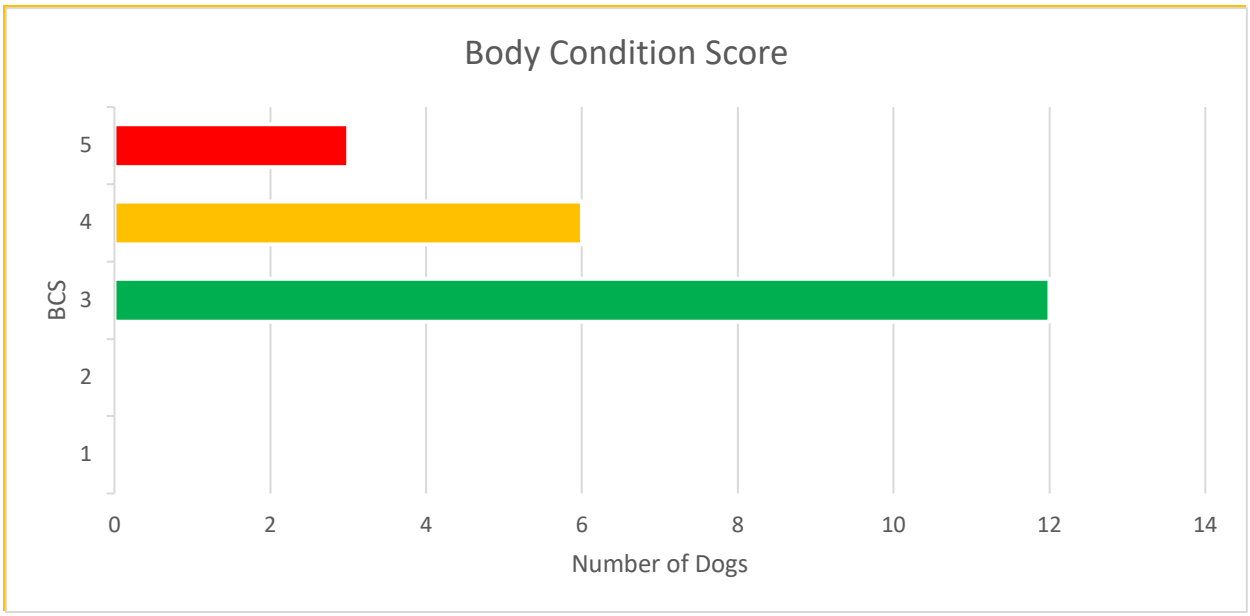

Figure 4: Body Condition Scores of dogs belonging to homeless participants. 3/5 is considered ideal, 4 is overweight and 5 is obese. No dogs scored 2 (thin) or 1 (emaciated).

5.4.3 Behaviour

Eight of the 21 dogs involved in the study exhibited no behavioural issues and owners reported no phobias, signs of aggression or aversion or symptoms of separation anxiety. Thirteen of the dogs scored amber for their behavioural welfare, this was largely due to signs of separation related distress that were described by the owner. These included barking, scratching, whining and chewing. Although these issues were present, none of the owners described these as causing 'serious problems' for them, as described in the Petwise MOT criteria, so these were deemed to be amber. Some of the dogs were described to have phobias, many of which are typical of most dogs, including fireworks, other loud noises, aversion to other dogs and fear of unfamiliar people.

All of the dogs were reported to be exercised on a daily basis with the majority of owners taking their dog out multiple times during the day. Duration of daily exercise ranged from 30 minutes to 5-6 hours of walking a day. Results for amount of exercised received by each dog, as described by the owner, can be viewed in Table 3.

Table 3: Amount and duration of exercise received by each dog per day

Dog Participant	Number of walks per day	Number of hours spent exercising per day
Dog 1	3	5-6
Dog 2	3	5-6
Dog 3	2	2
Dog 4	1	0.75
Dog 5	1	0.75
Dog 6	1	0.75
Dog 7	2	2
Dog 8	3	3
Dog 9	3	3
Dog 10	3	2
Dog 11	2	2
Dog 12	2	2
Dog 13	1	0.5
Dog 14	2	2
Dog 15	1	1
Dog 16	1	1
Dog 17	1	2
Dog 18	1	1
Dog 19	3	2
Dog 20	1	1
Dog 21	1	1

The two dogs that were described to receive over 5 hours of exercise per day belonged to individuals whose lifestyles meant they were very active during the day. Dog 1 belonged to participant 1 who was street homeless and described being out walking through town most of the day. Owner of

dog 2 (participant 2) was travelling at the time of the interview, again spending the majority of the day walking.

5.4.4 Companionship

The companionship received by all of the 21 dogs involved in the study met the Petwise MOT criteria for 'Good' welfare. None of the dogs were reportedly left alone for more than 4 hours, with the majority saying they rarely left their dog for any longer than an hour. Sixteen of the dogs belonged to owners who described arranging someone else, typically a friend or family member, to look after them if they were to be away any longer than a couple of hours. Participant 12 described not trusting other people with her dog but said she did have people she could ask to take care of her dog if it was an emergency. Participant 9 reported being with his dog constantly, never leaving him for any more than five minutes at a time.

5.4.5 Health

The PDSA Petwise MOT assesses health through questioning owners on the general health of their dog, visual inspection for obvious health issues and considering prophylactic veterinary care such as the use of antiparasitic treatments and vaccinations. In addition to this, for a dog to score green, meaning welfare standards are good, the dog also needs to be microchipped and neutered.

The results for the health welfare of the 21 dogs was divided, with seven dogs in each of the three categories. The majority of the dogs were up to date with worm and flea treatments, 18 and 20 respectively. All but one of the dogs were microchipped, and 19 out of 21 of the dogs were up to date with vaccination protocols. Nine of the dogs were neutered, six were not neutered with no plans to be neutered and six were not neutered either because it had not been considered by the owner, or because the owner had planned to neuter but had not yet done so. Thirteen of the dogs were generally in good health, with no current health issues, either observed by the interviewer or described by the owner. Six of the dogs had health issues that were receiving veterinary attention and the final two dogs had health issues that were not yet being treated. Reported health issues included various lumps and other growths, signs of dental diseases, lameness and one dog was reported to suffer from frequent seizures. The results of the health assessment of the Petwise MOT can be viewed below in Table 4.

Table 4: PDSA Petwise MOT Health Results

Participant Number	Worming	Flea Treatments	Microchipped	Vaccinated	Neutered	Health Issues	MOT Result
Dog 1	YES	YES	YES	YES	YES	Absent	GREEN
Dog 2	YES	YES	YES	NO	NO	Treated	RED
Dog 3	YES	YES	YES	YES	YES	Absent	GREEN
Dog 4	YES	YES	YES	YES	YES	Absent	GREEN
Dog 5	YES	YES	YES	YES	NO - planned	Treated	AMBER
Dog 6	YES	YES	YES	YES	NO - planned	Treated	AMBER
Dog 7	YES	YES	YES	YES	NO - planned	Absent	AMBER
Dog 8	YES	YES	YES	YES	YES	Absent	GREEN
Dog 9	YES	YES	YES	YES	YES	Absent	GREEN
Dog 10	YES	YES	YES	YES	YES	Treated	AMBER
Dog 11	YES	YES	YES	YES	NO - planned	Treated	AMBER
Dog 12	Sporadic Use	YES	YES	YES	NO - planned	Absent	AMBER
Dog 13	YES	NO	YES	YES	NO	Treated	RED
Dog 14	NO	YES	YES	YES	YES	Untreated	RED
Dog 15	YES	YES	YES	YES	NO	Untreated	RED
Dog 16	YES	YES	YES	YES	YES	Absent	GREEN
Dog 17	YES	YES	YES	YES	YES	Absent	GREEN
Dog 18	YES	YES	YES	YES	NO - planned	Absent	AMBER
Dog 19	YES	YES	YES	NO	NO	Absent	RED
Dog 20	YES	YES	YES	YES	NO	Absent	RED
Dog 21	NO	YES	NO	YES	NO	Absent	RED

6.0 Discussion

The results of this study support previous work demonstrating the instrumental role dogs play in the lives of their owners, specifically those experiencing homelessness or vulnerable housing (Lem, 2012, Rhoades et al., 2015, Irvine, 2013). Crucially, dogs have been demonstrated to benefit the psychological health of homeless owners by alleviating depression, loneliness, suicidal thoughts and drug and alcohol use. The intensity of the H-CAB and strong emotional attachment experienced by many of the owners towards their dogs, often renders services including accommodation and healthcare difficult to access. Although arguments against pet ownership by homeless individuals exist, suggesting that animal health and welfare is negatively affected by homelessness, evidence from the current study suggest elements of canine health and welfare such as environment and companionship may in some circumstances be well catered for. However, the study did reveal that dogs belonging to homeless owners may have a tendency to be overweight, not underweight, an issue that is also prevalent within dogs belonging to the housed population. These findings emphasise that dogs need not be separated from their homeless owners on welfare grounds and that changing policies regarding accommodating and supporting homeless pet owners is likely to benefit the health and welfare of both owner and dog.

6.1 H-CAB and Owner Wellbeing

One of the most prominent findings relates to the influential nature of the bond formed between homeless owners and their dogs. Homeless owners may regard their dogs as more than companion animals in the conventional sense, with many of the study participants attributing them with human characteristics and associating them with emotional and physical needs akin with those of humans. A conspicuous theme was that dogs were often viewed as family members, with many parallels to the role of parent and child. The theme of identifying a pet as kin or family has been identified previously in the literature in many owner pet relationships, not just those who are homeless (Archer, 1997, Beck and Katcher, 1996, Cohen, 2002, McNicholas et al., 2005). Charles and Davies (2011) conducted a study looking at changes in family life in South Wales. They utilised qualitative interviews as part of their research methods and through these questioned participants about who they viewed as family and kin. Out of 193 interviewees, 46 described their pets as being part of their network of kin and many considered them to be 'family'. They argue that the notion of kinship is socially constructed and that often the species barrier may be ignored, allowing for kinship to develop between humans and other animals (Charles and Davies, 2011). Many homeless individuals experience social isolation with limited emotional and physical support from friends and family who they may have lost or been estranged from. Dogs often take on the role of both family and friend and are thus treated as such, influencing owner's

behaviour, social and psychological health through the sense of responsibility and commitment evoked.

The theme of 'pet before self' has been cited in the literature (Lem, 2012) and is replicated within this study as it relates to the commitment to care that was expressed by many of the study participants. Prioritising their dog, foregoing food, healthcare and shelter in favour of them, was frequently described. This provides further evidence to support earlier work suggesting many homeless pet owners exhibit such high levels of pet attachment and commitment that they often sacrifice their own needs in order to remain with and care for their pet (Kidd and Kidd, 1994, Ailment et al., 2016, Howe and Easterbrook, 2018, Irvine, 2013, Rhoades et al., 2015, Taylor et al., 2004). Again, non-homeless pet owners have also been reported to prioritise the needs of their pets above their own. An example of this is pet owners risking their personal safety for companion animals during disasters, delaying evacuation or re-entering dangerous areas to protect their animal companions (Trigg et al., 2017).

High levels of attachment were also demonstrated within the current study when owners expressed anxiety surrounding the future loss of their pet, anticipating grief and other negative emotions. Whilst this predominantly related to the death of their dog, owners also described fear at their dog being stolen or forcibly removed from them, a stress that is likely to affect many homeless pet owners. The emotional implications

of potential disruption of the H-CAB were severe with owners expressing how they would expect to suffer depression and reduced motivation to care for themselves. This alludes to not only the high levels of attachment associated with the bond between homeless owners and their dogs, but also how the presence of a dog influences the wellbeing of the owner.

The majority of owners described a situation of 'mutual rescue'. There are a number of interpretations that can be drawn from this. It is important to note that the term 'rescue' was applied by the participants and is not clearly defined, though most of the participants reported attaining their dog from circumstances where they felt the dog's welfare needs were not being met. Acquiring a dog from rescue shelters, through social media or from other individuals experiencing homelessness was described frequently. Living in a situation with reduced monetary resources, acquiring a dog through 'rescuing' it may have a reduced financial cost, though this is not true in all cases as most rescue centres require adoption fees. Another explanation for the rescue narrative as described by the participants may relate to their own situation. A sense of guilt at being homeless with a dog, expressed by those who had experienced rough sleeping, was reported by a few. Feeling that it was their actions and not that of their dog that had resulted in their living conditions resulted in a sense of liability and remorse. Crediting themselves with having rescued their dog may be a mechanism for them to deal with this perceived accountability and guilt. Finally, participants also described

having been rescued by their dog, reporting that without their dog they doubted whether they would be alive. Describing their relationship with their dog as mutually beneficial in this way further demonstrates how the nature of the bond between homeless owners and their dogs is dynamic, complex and viewed by many owners as fundamental to their wellbeing.

6.2 H-CAB Saving and Changing Lives

Companionship was a key feature of the bond between the study participants and their dogs, speaking of their dogs as kin or referring to them as their 'best friend'. The positive impacts of this on owner psychological and social health is apparent. Issues with mental health ranging from depression, anxiety and loneliness to more complex conditions such as psychosis and personality disorders are increased in homeless populations (Bhugra, 2007, Crisis, 2009, Drake et al., 1991, Fischer and Breakey, 1991, Hemming, 2015, Mental Health Foundation, 2015, Rees, 2009). The positive emotional effects of dog ownership in managing mental health conditions was described repeatedly, supporting earlier work on the supporting role of pets (Brooks et al., 2018, Howe and Easterbrook, 2018, Lem et al., 2016, Rhoades et al., 2015, Zasloff R. L., 1994). Participants in this study also reported that pet ownership altered suicidal thoughts and intentions, describing how the love, responsibility and commitment they felt towards their dog prevented them from taking their own life. A BBC news article published in December 2018, revealed a 24% increase in homeless deaths over the last 5 years, over half of which

were linked to drug poisoning, liver disease or suicide (BBC Online, 2018). The same article reported that the average life expectancy of a homeless man is 44 and 42 for a homeless woman. Compare these results to that of the general population where the average life expectancy of a man and woman is 79.6 and 83.2 respectively (Public Health England, 2018), the adversity and dangers associated with homelessness are difficult to ignore. The results of this current study suggest that dogs have a protective effect on the lives of their owners through reducing both substance use and suicidal tendencies, giving them a purpose and a reason to keep living.

6.3 The Social Role of Companion Dogs

Dog ownership is strongly associated with increasing social interactions (Guéguen and Ciccotti, 2008, Hart, 2006, Hart, 2010, McNicholas and Collis, 2000, Wells, 2009), a theme that was supported by the current study. Owners reported how their dog attracted positive public attention and became an initiating stimulus for conversations, in some cases assisting the owner in developing friendships. This effect is likely to further improve owner perceptions of isolation and loneliness, develop owner social skills and improve confidence. In addition to this, the presence of a dog was also found to benefit existing relationships between participants and other people. Concern about the negative impacts of arguing in front of a dog had meant that arguments between the owner and other individuals were diffused and managed calmly, again

demonstrating how the presence of a dog assists in mediating negative emotions such as anger and frustration and facilitates human-human bonding. Dogs may serve as aids in helping their homeless owners develop crucial skills that will assist them in future efforts to rehabilitate themselves into society, helping them transition from isolation to integration.

6.4 Positive Implications of the H-CAB on Society

Physical health issues are more prevalent amongst UK homeless populations compared to the general population (Homeless Link, 2014), yet many participants reported beneficial effects of dog ownership on their physical health. Being accompanied by a dog provided the study participants with a sense of responsibility that motivated them to engage in more physical activity, taking their dog out for walks, and caring for themselves in order to care for their dogs. Dog ownership for homeless owners, particularly those who are rough sleeping, also provides owners with a sense of security and protection. Rough sleepers are at an increased risk of suffering verbal and physical abuse (Sanders and Albanese, 2016) and the presence of a dog may moderate this risk. Results of this study support this hypothesis and suggest this might be particularly important to rough sleeping women who experience increased vulnerability. Much of the literature regarding physical health benefits of companion animals suggests positive effects on cardiovascular function. Whilst this is not examined in the study, physiological health parameters

of homeless owners may also be affected by the presence of their dogs. It is possible that companion dogs provide homeless owners, a population with an increased need for physical health support, a means of reducing this demand. This in turn may reduce the strain placed on public health services that are already underfunded and understaffed, benefitting society as a whole.

The responsibility and sense of commitment towards dogs expressed by the majority of owners involved in the study appear to influence their behaviour in a largely beneficial manner. The results of this study suggest that dog ownership encourages future planning, financial management and the development of a routine for homeless or vulnerably housed pet owners. Describing their dogs as 'teachers' or as 'intelligent' highlights how dogs have the power to aid in their owner's personal growth and development. As well as assisting in the development of productive behaviours, the population of dog owners interviewed also suggested that dog ownership reduced self-destructive and anti-social behaviours. Fear of being separated from their dog, leaving them with no one to care for them, provided motivation for owners to refrain from activities that could result in their incarceration or removal of their dog.

Homelessness is often accompanied by issues relating to mental ill-health and/ or substance use (Crisis, 2009, Drake et al., 1991, Hemming, 2015, Mental Health Foundation, 2015, Rees, 2009). The majority of homeless

dog owners involved in the study described reducing drug or alcohol use as a result of their dog. This was largely reported as a product of the perceived sense of responsibility and commitment evoked by the bond they had formed with their dog, and the fear of disrupting this. This supports existing evidence suggesting a reduction in substance use in owners of dogs compared to non-owners (Baker, 2001). Reduced drug and alcohol use are likely to result in reduced criminal activity, need for medical attention and drug related deaths. These effects again lower the cost of homelessness on public resources, extending the benefits of pet ownership beyond the physical health of the owner to the wider community.

Through interviews with participants in prison-based animal programs, Furst (2007) explored how human-animal interactions can also result in desistance (the cessation of offending or antisocial behaviour) through influences on a person's sense of self (Furst, 2007). Furst (2007) concluded that participants developed a human-like social identity for the dogs they were working with, which in turn lead to the development of their own sense of self-identity which contributed towards criminal desistance and engagement in prosocial behaviours. As has already been explored, the participants involved in the current study often attributed their dogs with human characteristics and viewed them as kin. Homeless owners may experience similar issues as those experienced by prison inmates, social isolation, disconnect from society and separation from

friends and family. Companion dogs may lead to desistance in the population of UK homeless dog owners by providing a sense of responsibility and self-identity.

6.5 The Costs of the H-CAB for Homeless Dog Owners

There are costs associated with dog ownership for homeless owners as described in the results, challenging the tendency to assume that the H-CAB is predominantly positive. Many of the participants reported physical health issues and almost all described suffering from mental ill-health. Participants with a history of rough sleeping reported not being able to access healthcare as they had nowhere and no one to leave their dog with. Unfortunately, this is likely to be the case with many homeless dog owners who, in spite of an increased need for medical support, will be unable to access it as they lack a secure and safe place to leave their dog. Reduced access to services was not the only stressor that participants associated with dog ownership. Receiving criticism and abuse from the public who perceived them as unsuitable dog owners was reported by participants, balancing out the protective effects of pet ownership against physical abuse as mentioned previously. One participant in the study questioned what constitutes a responsible dog owner, claiming that the companionship and love he provides his dog with results in a better state of welfare than is experienced by dogs living in houses where they are left alone for extended periods. Similarly, in her qualitative assessment of the encounters between homeless pet owners and the public, Irvine also

identifies how homeless pet owners interrogate the definition of pet ownership, redefining what forms a responsible owner, arguing that the companionship and freedom their pet experiences provides them with a good quality of life despite their lack of housing (Irvine et al., 2012, Lem, 2012). The current study calls for a re-evaluation of existing misrecognition that homelessness is inevitably detrimental for canine welfare.

As expressed repeatedly in the existing literature, homeless dog owners are often unable to access support as a result of their dog (Ailment et al., 2016, Baker, 2001, Howe and Easterbrook, 2018, Irvine, 2013, Kidd and Kidd, 1994, Rhoades et al., 2015, Scanlon, 2017, Slatter et al., 2012, Williams and Hogg, 2016). This was reflected in the results of this study, with most of the participants reporting they had experienced particular difficulty accessing accommodation and healthcare. Arguments suggesting that pet ownership perpetuates homelessness may be rooted in this issue. However, pet relinquishment, forfeiting the H-CAB that reportedly provides extensive support for owner wellbeing, is likely to exacerbate conditions that may have initiated, or contributed to the owner's initial homelessness. Combatting homelessness is not simply a case of providing physical shelter but also requires addressing a range of issues that may have led to the loss of secure housing. As dogs appear to be supporting owners in multiple facets of wellbeing, arguably supporting both owner and dog provides the best chance of addressing homelessness. Restricted

access to homeless dog owners is not specific to homeless services, with a number of study participants reporting experiencing difficulties when attempting to secure privately rented or council accommodation. Landlords often refuse to rent to dog owners or increase deposits and rental rates resulting in housing becoming unaffordable. Making homeless accommodation more accessible to dog owners is crucial. However, for homeless dog owners, escaping homelessness ultimately relies on revaluating a deep-seated cultural discrimination against dogs in housing.

6.6 H-CAB and Canine Health and Welfare

In addition to having numerous implications on the wellbeing of homeless owners, the study also considers the implications of the H-CAB on the dogs belonging to homeless individuals. Although homelessness often results in restricted access to support and reduced financial resources, the majority of homeless owners reported being able to access veterinary care for their dogs. This may have been influenced by the sample of dog owners who took part in the study, some of whom were recruited through veterinary outreach initiatives. However, over half of the participants were not contacted through veterinary support teams and still reported being able to access veterinary care when necessary through larger veterinary organisations including Dogs Trust's Hope Project and the PDSA. There are a number of charity organisations providing free and affordable veterinary care to homeless owners and the results from interviews with homeless pet owners illuminates how crucial and effective

these are for homeless owners who may be physically or financially restricted from accessing private veterinary care. Owners without access to affordable veterinary care may delay seeking medical attention for their dog, as was described by one participant, negatively impacting canine health.

The results of this study suggest that dogs belonging to homeless owners do not suffer compromised welfare; on the contrary, aspects of welfare including environment, behaviour and companionship were well cared for. Owners generally demonstrated providing their dogs with a suitable environment, ensuring their dog had a comfortable place to sleep and keeping hazardous items out of reach. Only three of the participants were reported to be rough sleeping, one living in a tent, one in a van and the third living on the streets. This may have influenced the outcome of the environmental assessments. However, owners with a history of rough sleeping described paying special attention to providing their dog with somewhere warm and dry to sleep, often in close proximity to them providing each other with warmth and companionship. Whilst walls and a roof may be the ecological niche that we as humans have become accustom to, for a domestic dog, their niche is their owner. Dogs have been domesticated to provide companionship to humans, and arguably it is this companionship that is fundamental to their wellbeing. As long as their physiological demands are met; as outlined by the five welfare

needs, is likely that dogs rate their environment not by what is around them, but whom.

Although the diet of the dogs in the study was varied, as is the case with housed dogs, their Body Condition Scores (BCS) produced intriguing results. The majority of the dogs assessed had a BCS of 3/5, indicating ideal condition. Although owners described experiencing difficulty with accessing food for themselves in times of hardship, none of the dogs appeared malnourished, with a BCS of 1/5 (emaciated) or 2/5 (thin), supporting reports of homeless owners providing for their dog before themselves. In addition, a number of participants reported receiving charitable donations from the public in the form of dog food and treats, which may also explain why none of the dogs appeared nutritionally deficient. This finding may be surprising to many as it is often assumed that homeless-owned dogs would have a poor BCS, being malnourished as a result of the restricted access to food experienced by their owners. Obesity is the most common nutritional disorders in companion animals (German, 2006), with vets and vet nurses estimating that 46% of the dogs seen in practice on a weekly basis are overweight or obese (PDSA, 2018). This is replicated in the study sample population where 9/21 of the dogs (43%) were considered overweight or obese, with a BCS of 4/5 or 5/5. It is likely that, as with housed dogs, this is a product of the feeding of inappropriate foods such as those intended for humans, and frequently offering high calorie treats. It has been demonstrated that there may be

discrepancies between owner and veterinary perceptions of canine obesity, with owners often failing to recognise issues with their dog's weight (White et al., 2011, Eastland-Jones et al., 2014). Education and support for both homeless and housed owners is likely to be crucial in combatting canine obesity in the national population.

Behavioural issues amongst housed dogs appear to be more prevalent than in the study population of homeless-owned dogs. According to the latest PDSA PAW report, up to 78% of housed owners stated that their dog exhibited at least one problem behaviour that they would like to change, including pulling on the lead, fear of fireworks, jumping up and aggression towards other pets or people (PDSA, 2018). The current study participants reported their dogs to be generally well behaved, exhibiting no problem behaviours that caused them serious issues. During the assessment and interview, none of the dogs in the study displayed, or were described to show, signs of aggression towards people. Dogs belonging to homeless individuals, particularly those who spend a lot of time on streets in busy towns and cities, are likely to received high levels of socialisation and mental stimulation which may explain why most of the dogs involved in the study were reported to be well-behaved and socialised with people. One participant did describe their dog as being wary of strangers. As has been discussed previously, close companionship between owner and dog results in an intense bond and may lead to dogs being wary of strangers, as described. In addition, due to the increased

levels of abuse street homeless owners are at risk of, dogs belonging to these individuals may become protective of their owners and distressed when separated. There are alternative interpretations of this behaviour. It could be that the dogs find encounters with strangers unpredictable and behave aggressively as a result of the anxiety they feel. It is also possible that dogs pick up on the anxiety of their owners in these situations and are reacting to this.

Previous studies regarding the health and welfare of dogs belonging to homeless owners in England reported that homeless-owned dogs exhibited reduced levels of separation-related distress compared to dogs belonging to housed owners (Williams and Hogg, 2016). The homeless study participant in Williams and Hogg's study were approached on the street, likely resulting in a larger proportion of their participants being rough sleepers at the time of participation. Rough sleeping dog owners often experience uninterrupted companionship from their dog and do not often leave them. As a result, it is unlikely owners from this population would report symptoms of separation related distress in their dogs. Conflicting results were obtained from the homeless population involved in the current study, many of whom were occupying hostels or supported housing facilities where they were afforded a room where they could leave their dog. Signs of potential separation related distress, including destructiveness and distress vocalisation, were reported in this population when questioned on the behaviour of their dog when left alone. A study

by Flannigan and colleagues suggested that dogs living in a single-adult household where 2.5 times as likely to exhibit separation related distress, as were dogs who formed hyper attachment to their owners as a result of spoiling activities (Flannigan and Dodman, 2001). This may explain the increased incidence of this behaviour within the study population. It is important to consider that there may be a number of other explanations for these behaviours that are not related to separation from the owner. The dog may be frustrated, having not received enough mental or physical stimulation and as a result resorts to destructive or vocalisation behaviours. In addition, chewing or scratching furniture may be a behaviour that the dog enjoys and engages in in the absence of the owner. Finally, behaviours often associated with separation related distress, such as house soiling, may be a result of a lack of training. Whatever the reason, these behavioural issues are likely to exist as a key challenge when attempting to house homeless owners as many accommodation services may be reluctant to accommodate dogs that express destructive or disruptive behaviours. Providing resources such as pet behavioural counselling and training may offer resolutions for this. In addition, as has been adopted by some pet-friendly homeless services (Scanlon, 2017), introducing pet policy agreements that stipulate regulations for the keeping of companion animals may provide useful tools for successfully accommodating dog owners. These may include responsibility to clean up after pets, not leaving pets for long periods of

time or providing the name of an additional person to look after the animal should the owner be away.

Comparing the results of this study to that of the PDSA Paw Report reveals differences in the level of exercise received by companion dogs. Within the population of housed dogs, 48% were reported to be walked once a day or less. All of the homeless owners in the current study described walking their dog at least once a day, with only one owner (participant 10) walking their dog (dog 13) for less than 45 minutes per day. Dog 13 was lame at the time of participation which had led to a restricted exercise regime. Daily exercise is important for maintaining canine physical and psychological health, managing weight and mitigating behavioural issues. As with the findings of Williams and Hogg's earlier work, dogs belonging to the homeless participants in the study seemingly received more exercise than housed dogs as reported by the PDSA PAW Report. There are a number of possible explanations for this. First relates to the nomadic lifestyle experienced by some homeless owners, moving frequently throughout the day. In addition, lack of occupation and employment may provide owners with more time in which they are able to walk their dogs. Financial restrictions may mean that homeless owners use cars and public transport less frequently than housed owners, meaning that they walk with their dog more often. Finally, owners who lack a safe space or trusted individual to leave their dog with, may take their dog with them wherever they go, increasing daily exercise past what

is experienced by housed dogs. Again, these results question existing perceptions of what constitutes good canine welfare and contests public misrecognition of homeless people as unsuitable dog owners.

Another possibly positive implication of the H-CAB between homeless owner and dog on the wellbeing of the dog was apparent in the level of companionship received by the dog, as discussed previously. According the 2018 PDSA PAW Report, 24% of pet dogs in the UK are left alone for more than five hours in a typical weekday (PDSA, 2018) whereas none of the dogs involved in the study were reported to be left for any more than four hours at any one time. The majority of the participating owners said they rarely left their dogs for any more than an hour. Dogs are sociable animals by nature and spending long periods of time alone will likely have negative consequences on their health and wellbeing. The results of this study support previous work evidencing how dogs belonging to homeless owners receive above average levels of companionship (Irvine, 2013) when compared to dogs belonging to the general public, and it is likely that this will also affect their behaviour. Having said this, it is important to consider whether such high levels of companionship may also be detrimental for canine welfare. Research has shown benefits to animal welfare by allowing animals to make choices within their environment (Laura, 2015). If dogs spend the majority of time in close proximity to their owners, are they denied the ability to choose, for example to retreat to a safe space on their own?

A further conclusion for which this study is in agreement with the earlier work of Williams and Hogg relates to the health of the dogs. Most of the dogs involved in the study appeared generally healthy, with some health issues being treated. Only two of the dogs had ongoing health concerns that were not addressed at the time of participation. As has been discussed previously, concerns over financial cost and accessibility of veterinary care is likely to reduce access of homeless owners to veterinary care. In addition, existing stigma towards homeless owners, and related guilt and anxiety experienced by the owner, may reduce veterinary support seeking behaviour. The study dogs ranged in age from less than a year to 15 years old, with the majority of the dogs aged over seven years suggesting that the homeless condition of their owner had not severely reduced life expectancy. The majority of the dogs involved in the study were Staffordshire Bull Terriers (SBT) supporting existing research highlighting the popularity of the breed in the UK (Westgarth et al., 2013). Staffordshire Bull Terriers are abundant in the UK, filling rescue centres throughout the country largely due to perceived irresponsible ownership and breeding practices (Stavisky et al., 2017). Breed popularity and accessibility may explain the high incidence of the breed in the study.

Over half of the study dogs were not yet neutered, with some of the owners saying they were not planning on neutering their dogs. This

decision may be due to a lack of education regarding the benefits of neutering, a trend also exhibited in housed dog owners (PDSA, 2018). Financial concerns about the cost of neutering may also exist as a barrier to neutering however, for some, a financial incentive to breed from their dog may influence decisions on neutering. Compared to the 24% of housed dogs who have not received a primary course of vaccinations, and 23% who have not received regular booster vaccinations, only 2 of the 21 dogs (9%) were not up to date with vaccination schedules. Again, recruitment of some of the participants through veterinary initiatives, and increased accessibility of free or subsidised veterinary care, may have influenced this figure. High levels of microchipping and preventative parasite treatment use reported by the study population may have been influenced in a similar way.

Veterinary support services are crucially important for homeless pet owners, the majority of which seem to fundamentally care about their dog's health and welfare yet may lack access to support. If provided with the education and resources to cater to the health needs of their dogs, the health of these dogs needn't be compromise by the living condition of the owner. Not every homeless owner will be suitable for dog ownership, in the same way that many housed owners are not. Canine health and wellbeing are arguably predominantly a product of owner commitment and nurture, not the environment they inhabit.

6.7 Study Implications

One of the most profound implications of this study is how the relationship between homeless owners and their dogs has the ability to change lives, and possibly even save them. Companion dogs not only help homeless owners manage the adverse effects of homelessness; stresses on physical, psychological and social health, but may also protect against the leading causes of homeless deaths in the UK, suicide and substance use. Not only does this provide tangible benefits to the homeless dog owner, but also benefits society as a whole, reducing strains on public resources.

There appears to be a failure within the UK general population to see homelessness as a broad issue, with many viewing homeless people as victims of their own poor choices and misfortune (O'Neil et al., 2017). This provides a poor grounding for public perceptions on homeless pet ownership to be anything other than negative. With a growing body of evidence suggesting that homelessness does not necessarily compromise the welfare of companion dogs, support for homeless owners is warranted. In order to achieve this, both policy and public perceptions regarding homeless pet ownership should be reconsidered. Further research into the influence of pet ownership for homeless owners, and the welfare state of homeless-owned dogs, would benefit efforts to achieve this. However, results from the current study suggest that this

misrepresentation should begin to be addressed simultaneously. Both the media and wider society have a role to play in changing attitudes towards homeless pet ownership. Improving support for homeless owners relies on this change in attitude.

A demand that far outweighs supply exists for dog-friendly homeless accommodation services in England (Scanlon, 2017). Homeless dog owners often forgo assistance that is not inclusive of their dog, meaning that whilst dogs aid their homeless owners, they often cost them the use of services. As well as changing the public's perception of homeless pet ownership, this study also calls for a change in how homeless dog owners are treated by the homeless and housing sector. Maintaining and supporting the H-CAB between homeless owners and their dogs is likely to be the most economical, efficient and effective means of helping vulnerable people, and their dogs, recuperate from the pervasive effects of homelessness.

7.0 Critical Review of the Study

The demographics of the study participants is likely to have affected their responses to questions concerning both the benefits and challenges experienced as homeless pet owners, and the implications of homelessness on their dogs. Homelessness is broad in definition and as a result, the study aimed to examine a population of individuals representative of varying contexts of homelessness and vulnerable housing. Participants were primarily recruited through contacting homeless services that were accepting of dogs, as well as veterinary initiatives providing care to pets belonging to homeless owners. Had owners of dogs who were lacking access to support been interviewed, different stressors may have been identified. In addition, triangulation of data by using multiple methods for data collection (Jick, 1979), for example by including the perspectives of vets and homeless support services would improve research validity.

It is possible there may have been a response bias in the data as the PDSA Petwise MOT relies heavily on assessing animal health and welfare as reported by the owner. Housed owners often exaggerate information relating to the care of their animal, including exercise regimes and time spent with their dog, as they do not want to appear to be neglectful. Homeless owners may too exaggerate aspects of pet care for fear of being judged in a similar way. Many homeless owners have experienced criticism for owning a dog and it would be reasonable to assume that this

might increase reluctance to reveal issues they have identified regarding their dog's wellbeing or overstate caring behaviours. In addition, although the interviewer made attempts to establish a non-judgemental atmosphere, there was only limited time available for study participants to familiarise and establish trust with the interviewer. Complete reliability is therefore difficult to guarantee, as is the case with all qualitative research of this nature (Norris, 1997, Onwuegbuzie and Leech, 2007, Chenail, 2011). Data from the interviews may also have been affected in a similar way, with owners exaggerating the beneficial effects of pet ownership, downscaling the costs and withholding information regarding drug or alcohol use for fear of losing their pet. Inaccuracies in owner-reported data may also have been a result of participants having difficulty recalling events truthfully.

The study dogs generally exhibited few behavioural issues however results from focused behavioural assessments would provide more accurate data regarding the behavioural welfare of the dogs. The PDSA Petwise MOT, while useful for conducting basic health and welfare assessments and providing owners with a resource of information, likely provides only a rudimentary assessment of canine health and welfare. Assessment of health is heavily dependent on vaccination and neuter status, microchipping and preventative parasite treatments. While these do decrease the risk of some associated diseases, a dog that does not meet the above criteria may still be in good health. Utilising more

accurate tools for assessing current canine health alongside the Petwise MOT, including full clinical exams, may provide a more reliable representation of current health status. Examining human health in a similar way would also provide more detailed information regarding the physiological effects of pet ownership for homeless owners, many of which suffer health issues.

In further research, it would be beneficial to gather data from a larger population of homeless or vulnerably housed participants and their dogs, specifically relating to the nature and implications of the H-CAB for homeless owners. Distributing questionnaires to owners through veterinary initiatives and homeless services would be a useful tool for expanding participant engagement, though it is likely that this study benefited from the rapport created from face-to-face interviews. In addition, gathering data from homeless service providers relating to their policies regarding homeless pet owners may provide evidence for how strategies can be adopted and adapted to better support homeless people and their dogs. Perspectives from veterinary initiatives working with dogs belonging to homeless owners would also provide valuable insights into the health and welfare status of this population of dogs and the challenges they face.

8.0 Conclusion

The principle study aims were to explore the nature of the relationship between homeless owners and their canine companions as well as objectively assessing the implications of this bond on the health and welfare of both parties. The results suggest that the H-CAB between homeless owners and their dogs is highly influential. Canine companionship has a commanding effect on the lives of homeless owners, influencing multiple components of their wellbeing. As reported by homeless dog owners, dogs provide physical health benefits, increasing activity levels, reducing harmful substance use and offering warmth and protection. Implications of dog ownership on the psychological and social health of owners has been demonstrated to be overwhelmingly beneficial and, in many cases, essential. High incidences of mental ill-health amongst homeless populations emphasises the importance of psychologically supportive canine companions for homeless owners. In 2018, over 600 homeless individuals lost their lives in England and Wales last year, many as a result of suicide or substance use. Companion dogs offer therapeutic effects for mental health conditions including depression and anxiety. They provide a sense of responsibility that encourages owners to engage in prosocial behaviours, reduce substance use and motivates them to go on living. In this way, benefits of companion dogs for homeless owners may extend to the wider community as dog ownership leads to desistance and reduced demand on public resources, including health and social care.

Accessing support services such as accommodation and health care remains a key challenge for homeless dog owners. Benefits of dog ownership for homeless people seemingly far outweigh the liabilities as many refuse access to services that are non-inclusive of their dog. The cost of losing a dog on owner wellbeing is likely to be more significant than remaining homeless with their dog. Seeing homeless owners and their dog as a single entity that requires tailored support is likely to produce the most favourable results on the health and welfare of both owner and dog and lead to the most successful strategy for ending homelessness.

Although pet ownership by homeless people remains a controversial issue, the findings from this study indicate that the welfare of homeless people's dogs is generally good, and they play an important role in their owner's lives. It is likely that dogs belonging to homeless owners may receive increased levels of socialisation, exercise and companionship, often surpassing what is granted to many housed dogs. Veterinary support services play a pivotal role in supporting the health of these dogs, and in turn the health of the vulnerable people that accompany them.

This study highlights the importance of homeless services, and other parties, recognising the significance of the H-CAB and how this relationship is likely to be beneficial for human and animal health and

welfare. The argument of dogs owned by homeless individuals experiencing compromised welfare appears to be invalid and thus calls in to question the need to separate homeless owners from their dogs. According to the UK homelessness charity Crisis, a home is not just a physical space: it also provides roots, identity, security, a sense of belonging and a place of emotional wellbeing (Crisis, 2018a). Many of the participants of the study have described their dogs to provide these things. It seems that for many homeless dog owners, their dog, more than their physical surroundings, is their home.

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Appendices

Appendix 1: Semi-Structured Interview Schedule

Interview Schedule

The Impact of Pet Ownership on Homeless Individuals

Opening Remarks

Overview of the project

This interview is linked to a research project conducted by the University of Nottingham School of Veterinary Medicine and Science in partnership with Dogs Trust. We are investigating the impact of dog ownership on individuals experiencing different degrees of homelessness as well as assessing the health and welfare of their pets.

This interview will be recorded and later transcribed. Your participation in this study is completely voluntary and your response will be treated anonymously and kept confidential. Data will be stored securely in a locked location. You will have received a participant information sheet and been asked to signed an informed consent form. Please let me know if you have any questions or concerns about your participation in this study before we begin.

Thank you very much for your time and cooperation. Your input into this research is very important to us.

Gender

Male ☐ Female ☐ Prefer not to say ☐

Age

Under 18 ☐ 18-29 ☐ 30-50 ☐ Over 50 ☐ Prefer not to say ☐

Q1. Homelessness – Please could you tell me about your current living situation?

- What type of accommodation are you currently in? – B&B, supported housing, rental, sleeping rough, shelter, hostel, staying with friends or family
- Who do you live with?
- Would you mind talking about how you became homeless?
- How long have you been homeless/ in this situation for?

6 months or less ☐ over 6 months to a year ☐ over a year to 3 years ☐ over 3 years to 5 years ☐ over 5 years to 10 years ☐ over 10 years ☐

Q2. Health – How would you describe your current health?

- What is your overall health like? (Physical and mental health)
- Do you / or have you previously suffered from any issues with your mental health such as depression/ anxiety/ loneliness? (consider warning client this is a potentially sensitive question)
- Do you/ or have you previously suffered from any issues relating to drug or alcohol use such as addiction?
- What affect has your living situation had on any of the above?
- What affect has owning a dog had on any of the above?

Q3. Service Provision – Have you been able to access homeless support services to assist you?

- Accommodation services
- Day Centres
- Health services
- Advice centres

- Meal services/ food banks
- Others?
- Which services/ forms of support are particularly important to you?
- What challenges (if any) do you face when trying to access support services?
- What impact has owning (dog's name) had on your ability to access support services?

Q4. Could you tell me about (dog's name) and your relationship with him/her?

- Where did you get (dog's name) from?
- How long have you had (dog's name)?
- Did you have (dog's name) before you became homeless?
- What reasons did you have for wanting to own a dog?
- Are you able to access veterinary services for (dog's name)? If so, where from and for what?

Q5. If any, what NEGATIVE impacts/ has owning (dog's name) had on your life?

- What do you consider to be the biggest challenges you face as a dog owner?
- Have you ever received criticism or abuse for owning (dog's name)? from who? Public? support services? Veterinary services?
- Housing/ barrier to housing?
- Financial cost of dog ownership?
- Employment difficulties? Why?
- Any other challenges? Leaving dog alone? Is there anyone you can leave your dog with if needed?
- Effect on interactions with other people?

Q6. What positive impacts has owning (dog's name) had on your life?

- Companionship?
- Support?
- Protection?
- Health?
- Financial benefits?
- Effect on interactions with other people?

Q7. Do you think your life would be different if you did not have (dog's name)? How?

- Has owning (dog's name) caused a change in your life?
- For better or worse?
- Reason for answer?
- How would you feel if you had to give up (dog's name)?

Q8. What does (dog's name) mean to you?

- This question is open to interpretation by the participant

Closing Remarks

Q. Is there anything else you would like to tell me about your experience as a pet owner?

- Thank the participant again for their time and confirm they have my contact details should they have any follow up questions or concerns

Appendix 2: PDSA Petwise MOT

Is your dog happy and healthy?

BCS = Body Condition Score

	Red Action needed	Amber Room to improve	Green Great job!
Environment	• No suitable resting/sleeping area • Usually in crate • High risk of poison hazard • Not secured when travelling	• Own bed but unsuitable location or type • Often in crate • Some risk of poison/hazard • Minimally secured when travelling	• Own comfortable bed in a suitable location • Crate occasionally used • Poisonous/hazardous items kept safely out of reach • Safely secured when travelling
Diet	• BCS of 1 or 5 and weight incorrect • Diet unsuitable, often given human food • Water not always available • No exercise • Lots of treats	• BCS of 2 or 4 and weight not quite correct • Diet not ideal for age, lifestyle or health • Frequently given treats	• BCS and weight correct • Fed a suitable diet for age and lifestyle • Water always available • Minimal treats
Behaviour	• Behaviour causing serious problem for owner • Significant phobia • Serious distress when left alone • Aggressive • Walked rarely or never	• Some problem behaviour that owner would like to change • Limited exercise or no time off lead	• No problem behaviour reported • No phobias • No separation distress • Well exercised, including off lead
Companionship	• Regularly left alone for more than 4 hours • No provisions made if owner away – left in house on own	• Regularly left alone for more than 4 hours • Basic provisions made if owner away	• Not left alone for more than 4 hours at a time • Proper provisions made if owner away
Health	• **Untreated health problems** • Not microchipped • Not vaccinated or has lapsed • Not neutered and no plans to • Rarely/never treated for worms/fleas	• Flea and worm treatments used sporadically • Vaccinations lapsed by less than 3 months • Not neutered: not considered/too young • Overall health OK	• **Overall health good** • Flea and worm treatments up to date • Microchipped • Vaccinated • Neutered

6

My Action Plan

Date: / /

	Things to do	Comments
	Body condition score: Current ☐ Target ☐ Weight: Current ☐ Target ☐	
	Treatment ◯ Worming ◯ Flea treatment ◯ Microchipping ◯ Vaccinations ◯ Neutering	

Top 3 actions

1.

2.

3.

Checkup recommended ☐ Date

7

Appendix 3: Participant Information Sheet

The University of Nottingham

UNITED KINGDOM • CHINA • MALAYSIA

Participant Information Sheet

Title of Study: Homelessness and Pet Ownership: Investigating the relationship between welfare, the Human-Animal Bond and service provision

Researcher: Miss Louise Scanlon

Research Supervisors: Dr. Jenny Stavisky, Dr. Pru Hobson-west, Dr. Anne McBride, Dr. Katy Cobb

This document will provide you with details of the research we are conducting. Please read this information carefully before deciding whether or not you would like to take part. Please make the researcher aware if you would like the information included in this document to be read to you. If you agree to participate in this study you will be asked to sign an informed consent form.

What is the purpose of this research?

This study is part of a Master of Research program being run at The University of Nottingham and is supported by Dog's Trust. The aim of the study is to characterise the relationship individuals experiencing homelessness have with their dogs, assess access to services and to provide an objective evaluation of animal health and welfare.

Why have you been asked to participate in this research?

You have been asked to participate as you have indicated that you are a dog owner and are experiencing homelessness.

What will your participation in this research involve?

Your participation in this study will involve a brief health and welfare assessment of your dog and a semi-structured interview with yourself. The health and welfare assessment will be conducted using the PDSA's Petwise MOT. This will involve a brief physical exam of your dog as well as some questions directed at you regarding your dog's general health and wellbeing. This should take no more than 15-20 minutes.

The interview will be focused on your experiences being homeless and a dog owner. This should take between 30 to 40 minutes. This interview will be recorded and transcribed at a later date and your participation will remain anonymous. Some of the questions may have a personal nature and it is important that you understand it is entirely optional whether you answer these. If you would like to refrain from answering any of the questions asked, you may do so.

What do you gain from participating in this project?

To show our appreciation for your participation in the study we have some dog toys, accessories and treats we would like to offer you. You will also receive the results of your dog's health and welfare assessment.

What will happen to the information you provide?

The session today will be recorded and transcribed. All names will be removed so any comments you make will be kept anonymous in any future analysis. Both the recording and the transcription will be securely stored in a locked location, in line with current data protection laws. Only the principle researcher and project supervisors will be able to access this data.

What will happen to the results of the research?

Results of this research may be included in one or more articles in an open-access journal as well as being included in a summary that may be circulated to homelessness service providers. Should you

wish to see the results of the project they will be made available to you. Please use the contact details provided in order to request this.

What happens if you change your mind?

Your participation in this research is entirely voluntary and you may ask for any information you provide to be removed at any time. Please use the contact details below if you would like to withdraw from the study.

Where can you access more information on this research?

Should you have any further questions or concerns regarding the nature of the research, your involvement in it or how your information will be used, please do not hesitate to contact ***Louise Scanlon*** using the details provided.

Contact Details:

Email Address:	svxls1@nottingham.ac.uk
Phone Number:	07934 059585
Contact Address:	Miss Louise Scanlon School of Veterinary Medicine and Science University of Nottingham Sutton Bonington Campus Sutton Bonington LE12 5RD

Thank you for the time you have taken to familiarise yourself with this information. If you would like to participate in this study, please make this known to the researcher.

Appendix 4: Informed Consent Form

The University of Nottingham

UNITED KINGDOM • CHINA • MALAYSIA

Consent Form

Title of Study: Homelessness and Pet Ownership: Investigating the relationship between health and welfare, the Human-Companion Animal Bond and service provision

Investigator: Miss Louise Scanlon

Project Supervisors: Dr. Jenny Stavisky, Dr. Pru Hobson-West, Dr. Anne McBride, Dr. Katy Cobb

Purpose of Study: The aim of the study is to characterise the relationship individuals experiencing homelessness have with their dogs, investigate access to services and to provide an objective evaluation of animal health and welfare.

Study Procedure: You will be asked to take part in a simple health and welfare assessment of your dog. This should take no longer than 15 minutes. This will be followed by an interview lasting between 30 to 40 minutes.

The session today will be recorded and transcribed. A chaperone may be present during data collection who will also respect your confidentiality. All names will be removed so any comments you make will be kept completely anonymous in any future analysis. Both the recording and the transcription will be securely stored in a locked location, in line with current data protection laws. Only the principle investigator and the project supervisors will be able to view this data.

This study has been approved by the ethical review committee of the School of Veterinary Medicine and Science at The University of Nottingham. Any information you supply will be stored and accessed safely and no individual or organisation will be identifiable in the output.

Further information about the study can be found in the participant information sheet provided to you.

If you have any questions about the project, or about the handling of the data acquired, please contact the principle investigator using the details provided in the **'Participant Information Sheet'.**

Should you like to see the results of the research they can be made available to you. Please use the contact details provided in the **'Participant Information Sheet'** to request these.

I agree and understand that:

- This study is being conducted for the purpose of research and that my participation will remain anonymous.
- Participation in this study is voluntary and I may ask for any information I provide to be removed at any time.
- Information that I provide may be used in a report or published paper.
- I can request to see a summary of the findings once the study is complete.

Name: _____ **Date:** _____

Signed: _____

Appendix 5: Participant Recruitment Poster

ARE YOU AND YOUR DOG HOMELESS?

THEN WE'D LIKE TO HEAR FROM YOU!

Nottingham Vet School in Partnership with Dogs Trust are looking into the effects of owning a dog on the health and welfare of both you and your dog, and how having a dog affects access to services.

WHAT'S INVOLVED?

- An interview with you
- A short health and welfare assessment of your dog

WHAT YOU GET?

- Free dog food, toys or accessories
- A health and welfare assessment of your dog

HOW TO GET INVOLVED

Please use either the phone number or email address below to express your interest and we'll arrange to come and meet you.

PHONE: 07934 059585
EMAIL: svxls1@nottingham.ac.uk
FACEBOOK: @Homelesspetownersproject

Your involvement in this study will be completely anonymous and information you provide will be stored securely in line with current data protection laws.

Homeless People and their Pets – Two studies investigating the difficulties of homelessness and pet ownership, health and welfare of pets belonging to homeless owners and the Human-Companion Animal Bond (HAB) between homeless people and their pets.

It is not uncommon to see homeless people accompanied by pets, and the most frequent animal companion to homeless individuals appears to be dogs. The aims of the two studies described were:

1. To characterise the provision made by accommodation services for homeless people who own pets, and the reasons for their policy decisions
2. To provide an objective assessment of the health and welfare of dogs belonging to homeless owners
3. To investigate the positive and negative impacts of keeping a pet by homeless owners.

Over a three month period between July and September in 2016, a research project was conducted to investigate the accessibility of homeless accommodation services to homeless pet owners. A survey was designed and distributed amongst 523 homeless accommodation providers throughout England. Responses were gathered from 116 homeless accommodation providers (response rate of 22%), most of which offered supported housing to homeless individuals. Three quarters of the participating organisations reported that up to 25% of people who sought their services did so with a pet. Only around 21% of services involved stated that they had no homeless pet owners seeking their services. In contrast to these figures, only 36% of services said they did accommodate homeless pet owners. The most prominent reason for not accommodating homeless pet owners was found to be health and safety considerations, as well as hygiene and lack of space.

The results confirmed that the most common pet accompanying homeless owners were dogs. The survey suggests there is a discrepancy between the number of service providers accommodating homeless people and their pets, and the number of homeless pet owners in need of accommodation. The primary barriers to providing accommodation to homeless pet owners, such as health and safety, may be issues that could be addressed with changing perspectives on pets owned by homeless owners as well as employing pet policy agreement forms and potentially behaviour and training advice for owners.

The second part of the project was conducted between September and December of 2016. Pet health was assessed using the PDSA Petwise MOT, and owners were interviewed about their relationship with their pet and the impact on their life of pet ownership. Participants were recruited from respondents to the first phase of the study. Additionally, a small number were recruited through The University of Nottingham's Vets in the Community (ViC) clinic. In total, 18 homeless dog owners with a combined total of 19 dogs were interviewed.

The majority of the participants were in supported housing however a few were rough sleepers or lived in hostels.

Overall the study revealed that, contrary to public opinion, the health and welfare status of dogs was not severely compromised by the homelessness of their owner. In fact aspects such as companionship and behaviour were well catered to. It is likely that elements of health, such as vaccination and neutering status of the dogs, which did not score as well, were affected by the financial difficulties experienced by the owner.

The most striking finding of the project was the unique characteristic of the bond between homeless owners and their dogs. For many, their dogs were their primary social, emotional and physical support system and play a pivotal role in their psychological and even physical well-being. Many of the participants said their dog meant 'everything' to them. A number of participants described how the responsibility they felt towards their dog prevented them from abusing drugs and alcohol. A small number of the participants described how their dog provided them with a sense of security and protection or helped facilitate social situations. One participant even described his dog acting as a service dog, alerting him to imminent epileptic episodes.

In many ways the relationship between these individuals and their animals surpassed a typical owner-pet bond and has many similarities with the bond that exists between service or therapy animals and their human counterparts. They provide vital companionship that may otherwise be lacking, but crucially also provide psychological and physical health benefits. As was predicted from the results of the first study, many of the participants in this study commented on the difficulty of accessing homeless services, particularly accommodation, as a result of owning a dog. In light of the results of both projects it appears there is a need to recognise the importance of the Human-Companion Animal Bond (H-CAB) between homeless people and their pets, change the existing stigma against homeless pet ownership and make progress towards making homeless services more accessible to homeless pet owners.

Appendix 7: Code Diary

Code	Description
Ability to access veterinary care	Speaking about accessing veterinary care for their dog
Veterinary outreach team	Mentioning using veterinary outreach teams
Access to Services	Any description service access
Barriers to accessing services	Any description of barriers to accessing services
Bureaucracy	Describing how excessively complicated systems are which may affect access to services
Dog as barrier to accessing services	Specifically describing how their dog has prevented them from accessing services
Lack of knowledge of support systems	Speaking about a lack of understanding of how support systems work and how to access them
Importance of access to advice	Speaking about how important being able to access advice is
Importance of access to day centres	Speaking how important access to day centres is
Importance of access to healthcare	Speaking of the importance of being able to access healthcare services
Reduced access to healthcare	Describing having reduced ability to access health services
Anthropomorphism of dog	Attributing human characteristics or behaviours to the dog
Comparing an animal life to a human life	Directly comparing the life of their dog, or another animal, to a human life
Comparison to child	Comparing their dog to a child
Dog as kin	Referring to their dog as a member of their family, or 'feeling like family'
Attachment to dog	Description of the bond they share with their dog
Animal as a friend	Describing the animal as a friend
Best friend	Describing their dog as their best friend
Describing dog as their world	Using the word 'world' to describing what their dog means to them
Dog as physical part of the owner	Describing the dog as being a physical part of the owner
Doing everything with the dog	Describing how they all/ most activities with their dog

Code	Description
Everything	Using the word ‘Everything’ to describe what their dog means to them
Human Animal Bond	Referring to a ‘bond’ that the owner has with the dog
Not wanting to leave dog	Description of not wanting to, or refusing, to part with the dog
Physical closeness of dog	Description of being physically close to the dog
Protective of dog	Feeling protective over their dog
Refferring to the dog as inteligent	Speaking about the dog as being intelligent
Sense of emptyness without dog	Describing a situation without the dog to be ‘empty’
Benefits of Dog Ownership	Describing any benefits they have experienced from dog ownership
Dog acting as social facilitator	Speaking about their dog increasing or enhancing social interactions
Dog as a reason to get up in the morning	Describing the dog as a reason to get up in the morning
Dog as a reason to live	Describing how the dog is a reason to live
Dog improving life for the better	Describing how the dog improves their life
Dog providing social support	Describing how their dog provides them with social support/ companionship
Dog providing warmth	Describing how their dog provides them with warmth
Dog rescuing owner	Describing how they feel their dog has rescued them/ saved their life
Happiness	Mentioning happiness in relation to their dog
Learning from the dog	Describing how their have learnt from the dog
Positive effects on mental health	Describing the dog having a positive effect on their psychological health
Protection from dog	Describing how their dog provides them with physical protection
Caring about dog's wellbeing	Considering the health and wellbeing of their dog
Providing for the dog	Describing providing for the needs of their dog
Putting the dog first	Prioritising the needs of the dog above their

Code	Description
	own
Wanting to rehome the dog	Speaking about having wanted to regime the dog for the wellbeing of the dog
Commitment to dog	Owner describes the commitment they have made to the dog
Companionship	Speaking about companionship in general, with their dog or with people
Companionship for dog	Speaking about the companionship that the dog receives
Friendships	Speaking about friendships (with people, with the dog, between the dog and other people)
Coping Strategies	Describing coping strategies used
Meditation	Describing using meditation to help themselves
Self medicating	Describing self medicating with drugs or alcohol as a coping strategy
Difficulties of homelessness	Describing the challenges of homelessness generally
Challenges of dog ownership and homelessness	Speaking specifically about the difficulties of being homeless with a dog
Difficulties of street homelessness	Speaking specifically about the difficulties of being homeless on the streets
Stigma around homelessness	Speaking about experiencing stigma surrounding homelessness
Stigma around homelessness and dog ownership	Experiencing stigma surrounding dog ownership and homelessness
Disappointment	Describing being disappointed or let down by a person or system
Dog benefitting from relationship	Describing how their dog has benefitted from the relationship between the dog and the owner
Dog separation anxiety	Alluding to separation anxiety exhibited by the dog
Employment	Reference to current or past employment
Dog as barrier to employment	Dog existing as a barrier to employment
Employment difficulties due to dog	Speaking about challenges surrounding past, present or future employment
Military	Having previously served in the military

Code	Description
Reference to having a skill or qualification	Speaking about having a skill or qualification
Existing stigma against homeless pet ownership	Speaking about past or present stigma against homelessness and pet ownership
Finances	Speaking about their own finances
Financial difficulty	Speaking about past or present financial difficulties
Future uncertainty	Describing being uncertain about what the future holds
Gratitude	Describing being grateful for something or someone
Having dog after becoming homeless	Mentioning acquiring the dog after becoming homeless
Having dog prior to becoming homeless	Speaking about having had the dog prior to becoming homeless
Independence	Speaking about their own independence/ taking care of themselves
Interactions with People	Speaking about interacting with other people
Being well known in the local community	Describing being well known in a community
Caring for other people	Showing empathy or concern for other people
Negative interactions	Describing negative interactions they have had with other people
Abused by younger generations	Speaking about receiving abuse from younger generations specifically
Criticism for owning a dog	Describing receiving criticism for owning a dog
Disliking people	Expressing a dislike of people in general
Feeling others wouldn't understand circumstance	Expressing that they do not feel other people would understand their situation
Receiving criticism for being a homeless dog owner	Speaking about receiving criticism or abuse for being homeless with a dog
Positive Interactions	Speaking about positive interactions they have had with other people/ members of the public
Community Support	Speaking about how communities have supported them
Members of the public helping more than services	Making a specific comparison to the amount of support they have received from members of the public compared to services

Code	Description
Public concern about dog health and welfare	Describing members of the public showing a concern for the dog
Loss	Speaking about loss
Loss of dog	Speaking about losing or having lost a dog
Describe missing the dog	Describing experiencing the emotion of 'missing' their dog when they are separated
Euthanising dog	Speaking about euthanasia of their dog
Having to relinquish dog to get housing	Speaking about having experienced a situation where they were told to give up their dog for accommodation
Negative emotions relating to loss of dog	Expressing a very negative feeling at having been asked to leave their dog, or at the prospect of having to leave their dog
Loss of employment	Describing having lost employment
Loss of family	Describing the loss of family
Loss of housing	Describing losing their housing
Love	Referring to loving someone or something
Love of animals	Describing having a love for animals in general
Mental health	Speaking about mental health
Anxiety	Speaking about issues relating to anxiety
Depression	Describing experiencing depression
Effect of homelessness on mental health	Describing the effect of homelessness on their mental health
Positive effects on mental health	Speaking about things that have had a positive effect on their mental health
Self-loathing	Expressing self-loathing
Stress	Describing experiencing stress
Suicide	Speaking about suicide
Negative impacts of dog ownership	Speaking about the negative impacts of dog ownership on their lives
Dog as barrier to employment	Dog existing as a barrier to employment
Not able to go away because of the dog	Restricted ability to travel because of their dog

Code	Description
Not wanting to blame dog	Describing not wanting to place blame on their dog
Owner separation anxiety	Owner expressing separation anxiety when being away from their dog
Physical health	Speaking about physical health
Dog increasing owner physical activity	Speaking about dog ownership increasing owner physical activity
Effect of homelessness on physical health	Speaking about the effect of homelessness on physical health
Medication	Describing medication being taken to manage health
Positive effects of dog ownership on physical health	Describing positive impacts of dog ownership on owner physical health
Planning ahead	Speaking about planning ahead/ for the future
Political interest	Expressing an interest in politics or policies
Poverty	Speaking about poverty
Prejudice	Speaking about experiencing prejudice
Discrimination against dog	Describing experiencing discrimination against their dog
Higher cost of housing with a dog	Speaking about having found the cost of housing to be higher when you have a dog
Landlords not accepting dogs	Speaking about private landlords not accepting dogs
Owner not accepting reasons for not accepting dogs	Not wanting to accept reasons given for not accepting dogs in accommodations
Previous dog ownership	Speaking about having previously owned a dog
Reckless bahaviour	Speaking about reckless behaviour
Reference to death	Speaking about death
Reference to other homeless dog owners	Speaking about other homeless dog owners
Relationship with other people	Speaking about relationships with other people
Break up of relationships	Mentioning relationship breakups
Family	Speaking about (human) family
Rescuing dog	Describing how they rescued their dog
Resilience	Speaking about being resilient
Responsibility	Speaking about having a sense of responsibility
Self Blame	Blaming themselves for their situation

Code	Description
Self Improvement	Describing wanting to improve themselves
Social isolation	Speaking about being socially isolated
Living alone with a dog	Describing how the owner lives alone with their dog
Loneliness	Speaking about experiencing loneliness
Substance use	Speaking about drug or alcohol use
Accessibility of alcohol	Speaking about the accessibility of alcohol
Addiction	Speaking about addiction
Alcohol use	Mentioning alcohol use
Dog reducing drug use	Describing how their drug use has been reduced as a result of having a dog
Drug seeking behaviour	Referring to drug seeking behaviour
Drug use	Mentioning drug use
Dual use of drugs and alcohol	Speaking about dual use of drugs and alcohol
Justifying drug use	Justifying the use of drugs
Quantifying drug use	Quantifying their drug use
Recovering addict	Speaking about recovering from being a habitual drug user
Recovering alcoholic	Speaking about recovering from being a habitual alcoholic
Substance use and physical health	Speaking about the effects of drug or alcohol use on physical health
Wanting to stop using substances	Speaking about wanting to stop using drugs or alcohol
Talking directly to the dog	Speaking directly to the dog during the interview
Therapeutic nature of dog ownership	Alluding to the therapeutic nature of their relationship with their dog
Trust	Speaking about trust
Violence	Speaking about violence
Vulnerability	Speaking about experiencing vulnerability
Wanting a change	Talking about wanting a change
Wanting revenge	Speaking about wanting revenge