

**EXAMINING THE SOCIAL BENEFITS OF HUMAN-ANIMAL INTERACTION IN
URBAN BANGLADESH**

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ABSTRACT

Companion animals have the potential to provide friendship and support to their owners by decreasing loneliness and promoting social interaction with other humans. Despite a myriad of anecdotal evidence, there is limited published information in Bangladesh on the role that human-companion animal interaction may have in the well-being of humans. Research on human-animal interaction (HAI) with companion animals has received very little or no attention in Bangladesh, focusing almost exclusively on zoonotic disease transmission.

Guided by the concept of *zooeyia* – which acknowledges the positive health impacts of animals in human lives, this exploratory study aimed to understand the historic and contemporary roles of and perceptions about the social benefits and challenges of having a companion animal in urban Bangladesh. In addition, my study examined the role of HAI in strengthening the social interaction of pet owners with other individuals and its impact on human well-being. Thirty-five qualitative interviews were conducted with companion animal owners (20), companion animal sellers (10), and livestock service officers (five) from two major cities of Bangladesh, namely Dhaka and Khulna. Drawing on some relevant and key concepts of the One Health framework, symbolic interaction theory, social support theory and attachment theory, thematic analysis was applied to analyze and explain the findings of my study.

The findings relay that in the past, companion animals were considered a symbol of aristocracy, a means of security for households, and a subject of entertainment for the owners. Nowadays, owners feel an attachment to their companion animals due to receiving emotional, social, and physical support from them. Companion animal ownership is contributing to social problems, including conflict between animal owners and others. Further, religious identity, ownership of residence, and the likelihood of transmitting diseases are key determinants for not owning companion animals. The perceived benefits of social interaction far outweigh the costs of pet ownership.

To my knowledge, this is the first study of its kind that examined the social impacts of HAI in Bangladesh. Therefore, the findings of this study can make a significant contribution toward understanding the role of companion animals in human well-being in Bangladeshi society.

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DEDICATION

This thesis is dedicated to my father, M.A. Mannan, who enlightened my mind to come abroad for higher studies. I am also dedicating this thesis to all my family members and to those who somehow contributed to my academic and personal life and helped me come to this stage of life.

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LIST OF ABBREVIATIONS

AAI – Animal Assisted Intervention

HAI - Human Animal Interaction

HAB - Human-Animal Bond

ICR - Intercoder Reliability

WHO – World Health Organization

LIST OF DEFINITIONS

anthrozoology: is an interdisciplinary study of the interaction between humans and non-human animals (Franklin, 2007).

Companionship: describes the state of trusting someone to spend time with and/or stay together (Hart, 2006).

dignity: Merriam-Webster dictionary defines dignity as “the quality or state of being worthy, honored, or esteemed” (Nordenfelt, 2021).

extended family: an extended family refers to a household where parents, their children, aunts, uncles, grandparents, and cousins live together (Schwarze & Winkelmann, 2011).

fatwa: an opinion or decree given by an Islamic religious scholar (Agrama, 2010).

friendship: a state of durable attachment and trust between friends (Policarpo, 2015).

health: the World Health Organization (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (Sartorius, 2006).

nuclear family: parents and their dependent children living in the same household (Schwarze & Winkelmann, 2011).

sociology: is the scientific study of social life, social relationships, social changes, and social institutions (Abercrombie et al., 2001).

well-being: refers to a combination of an individual’s positive social, mental, and physical health factors (Ruggeri K et al., 2020).

CHAPTER 1- INTRODUCTION AND BACKGROUND

1.1 Context

Human-companion animal (pet) interaction (HAI) has become a common part of modern life and has been proven to be beneficial for the psychosocial and physical well-being of both humans and animals (Gee et al., 2017; Hurley, 2014; DeMello, 2012). Literature shows that most western households have at least one companion animal (Carlisle et al., 2020; Owens & Grauerholz, 2019; McCune et al., 2014a; Slatter et al., 2012). In North American countries, over 50% of households have companion animals, and most of them think of their pets as their family members (Hodgson et al., 2017; McCune et al., 2014a; Irvine, 2008). Studies have shown numerous benefits to HAI. For instance, HAI can help to strengthen community bonding, reduce mental stress, increase mobility of elderly people, and enhance immunity function (McCune et al., 2014). A 2017 study in the United States found that HAI can promote healthy aging of humankind (Gee et al., 2017). Growing evidence also shows that early exposure to companion animals can reduce the risk of childhood colds and asthma (Hesselmar et al., 2018; Jhun & Phipatanakul, 2016). Having companion animals in the household might also help children and adults be healthier through increasing their physical exercise because people with companion dogs engage in more physical activity when walking their dog (CDC, 2021; Westgarth et al., 2019; Hodgson et al., 2017; Hohenhaus, 2012). HAI is considered a significant catalyst that can make the life of the owners as well as other members of the household healthier and happier (Walsh, 2009). Benefits of HAI may be a key reason behind the significant increase of companion animal owners across the world in the last couple of decades (Fox & Gee, 2016, 2019).

Ownership of animals has certain social benefits as well. For example, companion animals act as a friend and can provide unconditional support for their owners by decreasing their sense of loneliness, by promoting community spirit, and through civic engagement (McClaskey, 2019; Bryant, 2016; Toray, 2004). Nettings et al. (2013) identify HAI as one of the conduits of social capital. For them, companion animals have the potential to help their owners pursue collective objectives and facilitate cooperation for shared benefits (Netting et al., 2013). They also argue that dog walking can create opportunities for sharing information among the dog owners and increase outdoor physical activity. Likewise, McCune et al. (2014) argued that companion animals can help their owners to strengthen communities by

inspiring social interaction. Thus, HAI may help humans to develop relationships with community members (Netting et al., 2013).

Companion animals also have impact on the mental health of the owners. Research shows that through relationships, pets may help their owners be more relaxed and less stressed than in their interpersonal relationships with humans (Carlisle et al., 2020; Ratschen et al., 2020; Amy, 2019; Hohenhaus, 2012). Therapeutic functions of HAI concerning social support have been widely recognized. For instance, HAI can be a significant source of mental support for elderly people given that it reduces loneliness (Brooks et al., 2018; Netting et al., 2013). Pets can also create opportunities for social interaction, friendship networks, and shared pleasure which contribute to reducing loneliness (Brooks et al., 2018; Netting et al., 2013; Hodgson & Darling, 2011).

1.2 Sociological Significance of HAI

Major sociological perspectives, including functionalism, symbolic interactionism, and conflict perspective, are significant lenses through which to understand human-animal interaction, although the ways of viewing and understanding HAI among scholars within these and other sociological perspectives varies (Wrenn, 2020). The functionalist perspective advocates animals' roles as invaluable in human companionship, scientific advancement, and fulfilling needs for food and labor (Echeverri et al., 2018). Among others, key scholars of this perspective include Flynn, Ian, Jamieson and Aliyu (Aliyu et al., 2014; Flynn, 2001; Jamieson, 1986). The theorists of the conflict perspective argue that significant inequalities and power relations in human-animal interaction leads to systems oppression against animals (Echeverri et al., 2018). The conflict perspective suggests radical social change to eradicate inequalities in the human-animal relationship (Wrenn, 2020). Key theorists of the conflict perspective in HAI studies include Forcey, Galtung and Rubenstein (Bhatia, 2021; Rubenstein, 1990; Galtung, 1969). Symbolic interactionists, such as Sanders (1990), Irvine (2004), and Myers (2003), acknowledge HAI as an effective agent of socialization and building a sense of belonging among pet owners and others (Echeverri et al., 2018). Although there is variation among the sociologists in viewing HAI, all address their role in social change. The following paragraphs explain this.

Non-human animals are strongly intertwined into the fabric of society and human lives. As such, they have become an integral part of human civilization (Kompatscher, 2019; Dell, 2017; Irvine, 2008). From the hunting and gathering society to the modern industrial

world, animals have been used by humans to fulfill their needs of clothing, food, work, entertainment, research, and companionship (Tarazona et al., 2020; Dhont et al., 2019; Coleman, 2018). However, a great number of early sociological scholars neglected animals in sociology, given that sociology was focused on human society (Peggs, 2013; Irvine, 2008). For example, Herbert Mead (1934) argued about not studying animals in the discipline because they do not have any verbal language (Dell, 2017). It was not until 1996 that Arnold Arluke and Clinton Sanders ignited interest with their book *Regarding Animals* (Dell, 2017; Irvine, 2008). They applied Mead's symbolic interactionist approach to an ethnographic study of people who work with animals, ranging from high kill shelters to animal testing laboratories.

Although animals were ignored in sociology for a long time, there is enormous possibility for sociology as a discipline to benefit from the study of human and animal interactions. Irvine (2008) argues that "it could enhance our understanding of work and occupations, criminology, and the sociology of the family, just to name a few areas" (p.4). An emerging body of literature shows that animal owners consider their pet to be a member of their family (Bouma & Reijgwart, 2021; Carver, 2019; Dell, 2017; Walsh, 2009b; Belk, 1995). Use of animals by law enforcement agencies to detect narcotics, bodies, evidence, missing persons, and as therapeutic treatments for both officers, guards, and inmates is widely known in many countries of the world (Whiting, 2013). Also, the therapeutic use of companion animals is playing a key role in treating psychiatric patients and prisoners (Dell et al., 2022; Brooks et al., 2019; Brooks et al., 2018; Pérez-Manrique & Gomila, 2018) and pets are being used as a preventive tool to control suicidality and address substance use concerns among military veterans diagnosed with post-traumatic stress disorder (Pavelich, 2021; Williamson et al 2021).

Non-human animals' contribution to human society has been marked as a catalyst of social change. Animals being recognized as companions and as family members by their owners is leading sociologists to think about the changing pattern of family relationships in the modern era. Further, the recognition of animals as a means for preventing suicide and social pathologies including crime and deviance, and drug addiction among individuals is related to well-being of human society. Non-human animals' contributions to the development of human societies and landscapes in urban and rural settings is a relatively unexplored area of sociological research. Yet, the history of human and non-human animals' interdependence is crucial to understanding our historical society and the benefits derived

from their inclusion in contemporary society (Kirk et al., 2019; Amiot et al., 2016). Therefore, sociological research on HAI has become essential.

1.3 Rationale of this Study

DeMello (2012) states that human-animal studies, or anthrozoology, is “an interdisciplinary field that explores the space that animals occupy in human social and cultural worlds and the intersections humans have with them. Central to this field is an exploration of how animal lives intersect with human societies” (p.3). Additionally, Linden (2009) defines sociology as “the systematic study of human society and social interaction” (p.237). Historically, it is evident that humans are directly or indirectly dependent on animals for their survival and needs. In the previous section, I discussed how humans are dependent on animals for their survival. Likewise, animals also depend on humans for their shelter, protection, and survival. Thus, I would argue that HAI should be an integral part of sociology because it mediates human to human interactions.

The importance of the multi-dimensional connections between humans and non-humans – including touch, relationship, love, and bond - is yet to be addressed within sociology and from a sociological lens (Irvine, 2012; Ellen, 2000). To date, there is very limited sociological literature on HAI outside western countries (Chalmers et al., 2020; Hodgson & Darling, 2011). Importantly, studies on human-animal interaction outside western countries are mostly focused on the transmission of zoonotic diseases, which sidesteps the possibility of socio-cultural integration and well-being of humans and animals (Chalmers & Dell, 2015; Osbjør et al., 2015). Thus, it is important to investigate how HAI can enhance interconnection between communities and individuals outside western countries (Irvine, 2008). Therefore, scholarship and exploration of HAI in urban Bangladesh is a valuable endeavor that opens many interesting areas of sociological study.

People of Bangladesh, which is an overpopulated and resource-limited country, face problems related to social determinants of health and income inequality such as drug addiction, crime, juvenile delinquency, unemployment, mental illness, mental disability, violence against women, and physical health complications (Mohinuddin, 2017). Literature shows that over 90% of the total population suffering from mental illness in resource-limited countries, like Bangladesh, remains untreated today (Nuri et al., 2018). Further, the health systems of Bangladesh are not capable of providing optimal treatment to patients suffering from mental health complications (Nuri et al., 2018; Mohinuddin, 2017). It is evident that

people of all ages experience mental health issues. However, some parts of the population are more vulnerable and less likely to access the care they need - especially children, elderly people, women, and the unemployed, and they often suffer more from depression, stress, and anxiety (Hasan et al., 2020). A recent study shows that the prevalence of mental health problems among adults in Bangladesh has become much higher in the post COVID-19 pandemic period (Hasan et al., 2021). Furthermore, several non-communicable diseases may develop due to long term suffering from mental illnesses, such as cardiovascular diseases, cancer, diabetes, and respiratory diseases (Hasan et al., 2021; Hasan et al., 2020; Stein et al., 2019; Nuri et al., 2018). Although the role of HAI in the mental well-being of humans has already been documented in many studies across the world, there is very limited published information in Bangladesh (Chakma et al., 2021). Therefore, my study aimed to understand the role of HAI in the mental wellness of humans.

Recent studies show a high prevalence of diabetes and pre-diabetes, heart diseases, hypertension, obesity, and stroke in Bangladesh (Akhtar et al., 2020; Riaz et al., 2020; Biswas et al., 2016; Islam et al., 2016). Previous studies on HAI suggest that pets can help owners to exercise regularly due to taking them for walks and general care that requires outdoor exercise and socialization of pets (Hodgson et al., 2015). Pets can also help owners lead a disciplined life through giving up or helping manage smoking and drug addictions (Kosteniuk and Dell, 2020; Matchock, 2015). Regular exercise is also helpful to control blood cholesterol and sugar levels (Siddiquee et al., 2015). Literature further shows that regular physical activity and cessation of smoking can lower the risk of cardiovascular diseases, stroke, and hypertension (Biswas et al., 2017) and it is evident that good mental health can decrease the risk of heart diseases (Dphil et al., 2016; Steptoe, 2019). Despite having global evidence, there is a lack of published information about the role of HAI in physical health in Bangladesh. Therefore, findings of this study are expected to gather evidence about the physical health impacts of HAI in Bangladesh.

The association between rapid urbanization and powerlessness, anomie, alienation, and social isolation has long been discussed in sociological literature (Fischer, 1973). Wong et al. (2019) conducted a quantitative study in Hong Kong to examine the role of pets in metropolitan areas and found that loneliness and social isolation can be prevalent in densely populated urban centers. Likewise, economic growth, rapid industrialization, and urbanization is causing multifarious social challenges in Bangladesh (Hossain et al., 2014). Challenges of rapid urbanization include substance use, alcoholism, family disintegration,

crime and delinquency, vandalism, psychoses, and psychopathy, just to name a few (Bhuiyan, 2019; Trivedi et al., 2008). Research also shows that the rates of emotional and financial dependency on family members, especially in children and senior citizens, as well as social isolation, are high in urban Bangladesh (Tenzin et al., 2015; Hossain et al., 2014; Amin, 1998). Yet, to my knowledge, my study is the first of its kind in the locality to examine the roles of HAI in the mental well-being of the companion animal owners.

To my best knowledge, interests in and understanding about the psychosocial and physiological benefits of HAI are growing across the world (Beetz et al., 2012). Furthermore, considering socio-cultural and economic differences, it is problematic to generalize the findings of the studies on HAI in the west in Bangladesh. To date, the ‘One Health’ approach in Bangladesh has entirely focused on the risks of interspecies transmission of diseases through bypassing the benefits of HAI (Chakma et al., 2021; Siddiq & Habib, 2016). Additionally, changes in family structure and increased social mobility have had dramatic effects on human-animal relationships in urban areas of Bangladesh (Habiba et al., 2016; Runa et al., 2016; Toray, 2004). In recent decades, rearing pets in households has become a popular practice in urban areas of Bangladesh, although there is no published information about its impact on humans and society (Runa et al., 2016). There is a need for sociological studies to examine the benefits and challenges of owning companion animals as well as how it impacts human well-being.

Considering the knowledge gap in Bangladesh, as well as lack of sociological studies on HAI, my study aimed to examine the historical and contemporary changing roles of companion animals in Bangladesh. I also examined the perceptions among companion animal owners about the social benefits and challenges of having a companion animal in urban Bangladesh. Finally, my research aimed to understand the role of HAI to strengthen the social relationships individuals have with other humans in urban Bangladesh. As an important note, in my study I defined companion animals as all non-human animals, excluding livestock (e.g., cow, goat, hen, duck, and sheep), living with the owners and their families. In addition, animals reared for commercial purposes and/or consumption were not considered companion animals in this study.

Overall, this study is a key step to enhancing understanding of the roles of companion animals in Bangladesh in general, and urban areas to be more specific. Furthermore, this study makes a significant contribution to a better understanding of the nature of human-

animal relationships in the country, and identification of its importance can contribute to the well-being of the people living in urban Bangladesh and similar settings.

1.4 Thesis Structure

This thesis will begin by reviewing literature that describes studies on animals carried out in the sociology field, current data pertaining to HAI on the social and physical well-being of humans across the world, and available data on HAI in Bangladesh. Then, I will present my research questions. Next, I will introduce the theoretical concepts I chose from the One Health framework, symbolic interaction theory, social support theory, and attachment theory. Afterward, I explain the conceptual framework I am applying for my analysis, then my thematic coding methodology, and the analytic strategy I used. The findings of this study on historical and contemporary changing roles of companion animals, perceived social benefits and challenges of owning companion animals, and roles of companion animals in human well-being will then be presented. Following is the discussion on the importance and impacts of this study as well as the theoretical understanding that I come to. I will conclude with a discussion on the limitations of my study and future avenues for this research area.

CHAPTER 2- LITERATURE REVIEW AND RESEARCH QUESTIONS

The relation between humans and animals is as old as human civilization, although the everyday positive impact of HAI is only becoming a popular topic of interest in recent decades. Existing global literature on HAI shows that companion animals serve three major purposes to their owners: improving physical well-being and reducing risks associated with developing some chronic diseases, improved mental health of the owners and, to some extent, members of the households, and improved social interactions and supporting healthy behavioural and social growth by helping children to learn how to take responsibility for others (Puzycki et al., 2018; Srimoragot et al., 2021; Overgaauw et al., 2020; Kruger & Serpell, 2010; Kruger & Serpell, 2010). On the contrary, the challenges of owning companion animals include functional limitations of the owners because of the associated caretaking responsibilities, trauma and grief due to loss of pets, possibility of disease transmission, disruption of social interaction due to fear about animals among non-pet owners, conflict with lifestyle of the owners due to owning pets, and expenditures to maintain pets (Obradović et al., 2021; Anderson et al., 2015; Buller & Ballantyne, 2020; Shore, 2005). In this chapter, I will explain these factors to share what the existing literature conveys about common benefits and challenges of owning companion animals and how HAI can contribute to human well-being. As a note, I will mostly draw from multidisciplinary global literature with a specific focus on the social impacts of HAI on society and humans, given that there is scarce literature on benefits of HAI in Bangladesh and, in general, in the neighboring countries; literature on HAI in South Asia is mostly focused on the possibility of animal to human diseases transmission (Chakma et al., 2021; Hossain et al., 2013; Runa et al., 2016). This chapter will be concluded with an overview of the reviewed literature and the gaps I intend to fill with my study.

2.1 History of HAI

The history of humans' dependence on animals is long (Siddiq & Habib, 2016; Irvine, 2009). Cave paintings, religion, mythology, and ancient architecture are proof of the kinship and interactions between humans and non-human animals (Linder, 2021). Humans have always used non-human animals to fulfill their needs for food, comfort, companionship, household security, land management, and also worship in some religions (Chakma et al., 2021; Dell, 2017; Siddiq & Habib, 2016). However, the relation between humans and animals in the past was mostly limited to fulfilling humans' needs rather than considering the

need for equal comfort, companionship, and support of the animals. Historically, humans near exclusively hunted animals to meet their food demands. Later on, they began the domestication of animals for their support in agriculture and land management (Clutton-Brock, 2012). Humans provided shelter and food to their domesticated animals, but it was only in order to use them (Siddiq & Habib, 2016). While these were the facts, HAI has much more to contribute to the well-being of both humans and animals, which has been unexplored until recently.

2.2 Benefits of HAI

The nature of HAI has changed in recent decades. Emerging literature shows, in addition to using animals for needs of food, comfort, companionship, household security and land management, humans are increasingly considering the social, psychological, and physical health benefits of HAI (Shapiro, 2020; McCune et al., 2014; Arluke, 2002). Given that the scope of my study is to understand the well-being of humans due to interaction with companion animals, I will limit my discussion in this sub-section to social, mental, and physical health benefits of HAI with special focus on companion animals.

2.2.1 Social Benefits of HAI

HAI has become a central feature of social life in the contemporary world. Interaction with animals can promote social well-being of the owners through increasing social interaction with humans and building social networks (Dell, 2017; Hodgson et al., 2015). Pets can be an integral part of the identity of the owners and prevent social pathologies including suicidality, cruelty towards all living beings, crime, and deviant behaviour (Pavelich, 2021; Kerman et al., 2019; Cullen, 1999).

Recent literature shows that HAI has a positive role in social interaction and social support, which in turn can promote the overall well-being of humans. Robins et al. (1991) conducted a participant observation study in a public park to understand the role of dogs in promoting interaction among unacquainted individuals. The findings of the study reveal that dogs encourage their guardians in public places to meet and interact with unfamiliar persons. The study also found that dogs can help to build trust among newly acquainted persons in some situations (Robins et al., 1991). Similarly, Skerrett (2015) suggests that pets have a role in social connections. The findings of his study demonstrate that pets are more than companions to the owners, and that pet owners usually meet more of their neighbors, other

pet walkers, and unacquainted persons than their counterparts without pets. As a result, they can create friendships with other humans and gain social support from them. Companion animals have the potential to act as a catalyst to connect individuals and to create opportunities for owners to get involved in diverse forms of social interaction (L. Irvine, 2004). Due to regular meetings, there is a possibility of developing shared understanding among individuals with pets. Through frequent interaction, owners may consider others a member of their social group or circle, which in turn can help to develop a sense of belonging (Irvine, 2012). Consequently, a shared understanding and a sense of belonging among pet owners can help develop a cooperative mentality to provide support to each other when in need.

As demonstrated in recent studies, pet owners treat their pets like their family members (Bouma & Reijgwart, 2021; Amy, 2019). McConnell et al. (2019) also argue that some pet owners prefer the companionship of their pets rather than other humans. It is evidenced that pet owners share their lifestyle, including habitats, emotions, and foods with their pets (Carver, 2019). They talk to their pets, include pets in family events, spend time to arrange outfits for them, go for outings with them, and post videos and statuses on social media with them (McConnell et al., 2019). These activities give us an idea how guardians treat their pets, and how they feel attached to them. For Sanders (2012), companion animals are communicative and emotional; animals share their feelings and intentions with human companions. Therefore, as Sanders states, owners consider their pets as ‘conscious’ and as a ‘purposeful partner’. Although there is a debate about animals’ abilities to communicate, since they do not have verbal language (Ewing, 2015), several studies suggest animals can engage in meaningful and conscious communication with humans through exchanging love, showing hostility, and reacting in response to human behaviour (Karl et al., 2020; Berns & Cook, 2016).

Recent studies found an association between cruelty, domestic violence, and non-pet ownership. For instance, Petersen and Farrington (2007), Zilney (2007), and Flynn (2000) found in their research that the practice of cruelty towards animals during childhood, especially in adolescence, can lead to domestic partner abuse in later life. Petersen and Farrington (2007) also argue that many of the documented serial killers studied and interviewed were cruel to animals in their childhood. Furthermore, Ascione et al. (2007) examined the relationship between domestic violence and cruelty towards pets. The study shows that in most cases the perpetrators (domestic partners) had either killed or hurt pets.

The findings of these studies indicate that those who are not kind towards animals might not be kind towards humans as well. It also suggests that the practice of being kind towards animals might help to develop humanitarian qualities among pet owners. For example, prisoners are training service dogs, which indicates pets' abilities to mediate the development of social skills (Villafaina-dom et al., 2020). Similarly, Robins et al. (1991) argue that HAI might help to develop attachment with pets, which can bring positive changes in owners' lifestyles, including developing certain skills and qualities. They argue that through taking care of pets, humans learn how to take care of others and how to be kind towards all living beings.

Although some scientists do not see any direct correlation between ownership of animals and prevention of suicide (Douglas., Kwan., & Gordon, 2021; Stoewen, 2015), emerging literature suggests pet ownership can reduce premature death, such as suicide. Previous studies show that pets can reduce suicidal tendencies among owners. For example, based on their empirical findings, Barcelos et al. (2021) claimed that 'attachment with dogs' and the 'need to take care of the animals' prevented a majority of autistic adults from taking their own lives (Barcelos et al., 2021). David and Steven (2018) also found that companionship of animals reduces suicide rates, which is one of the leading causes of premature death across the world (David and Steven, 2018). Clinical psychologist Valerie Douglas (2021) discussed the opposing views about the role of pets in reducing suicide rates and took a middle position. According to her, suicide is associated with the feeling of being isolated. Thus, attachment with and affection for pets might help individuals avoid suicidal ideation (Douglas, 2021). Pavelich (2021) conducted a qualitative study in Canada to explore the role of human-animal bonds in reducing suicide risk among military veterans. She found that pets can play a positive role in decreasing self-harm and suicidality. The study also indicates that the human-animal bond can facilitate feelings of hope among the participants. Therefore, the therapeutic role of HAI is significant for increasing the feeling of hope in humans' lives and to overcome challenges as well stress in everyday life. In addition to the therapeutic role, sociological studies are required to understand socio-cultural roles of HAI, such as effects on social interaction.

The above discussion demonstrates that HAI can promote social interaction and community building. It also shows the potential of HAI to benefit pet owners in family life through understanding the role of pets as companions. Additionally, it demonstrates the

therapeutic role of pets in preventing suicidality and other mental health concerns. These roles are related to the well-being of humans in their social life by receiving social support, extending social networks, and leading less stressful lives.

2.2.2 Physical Health Benefits of HAI

HAI has physical health benefits, including the reduction of associated risks for hypertension, cardiovascular diseases, stroke, and diabetes, and an increase of physical activity of the owners (Antonacopoulos & Pychyl, 2010; Matchock, 2015; Siegel, 1990). Research shows that interaction with pets has the potential to improve biological parameters, such as lowering blood pressure and blood sugar levels (Maranda & Gupta, 2016). Hodgson et al. (2011) argue that pets can influence owners to initiate regular physical exercise and partake in balanced diet patterns. Owen et al. (2010) found in their study that nine to 10 year-old children with dogs were significantly more active compared to their counterparts. Similarly, a study by Brown and Rhodes (2006) reveals that increased physical activity is helpful to reduce obesity of both humans and pets. It also helps to minimize the risk for myocardial infraction.

Pets can have healthy impacts on the lifestyles of their owners. Antonacopoulos and Pychyl (2010) and Siegel (1990) found in their studies that respondents without a dog had to visit the doctor more frequently and took more regular medication compared to their counterparts. HAI also reduces the health expenditures of pet owners. HAI helps to decrease the levels of cortisol (a stress-related hormone) in the human body which helps to control hypertension (NIH, 2018). HAI can work as an agent of harm reduction, or a catalyst for healthy behaviour changes (Hodgson et al., 2015). For example, concern about the effects of second-hand smoking on pets works as a strong motivating factor for owners to quit smoking at home (Milberger et al., 2009). However, more research is required to gather empirical evidence about how concern about pets' health is an effective indicator to quit smoking and other health impacting behaviours. Findings of several studies show that the direct and indirect impacts of smoking can cause several chronic diseases, including respiratory illnesses, cancer, and cardiovascular diseases (Srimoragot et al., 2021; Puzycki et al., 2018). Based on this literature, it can be suggested that HAI has a direct and indirect impact on the physical well-being of the pet owners. It can help owners to maintain a disciplined and routine life which can in turn reduce the risk of some health complications.

2.2.3 Mental Health Benefits of HAI

Along with social and physical health benefits, HAI can contribute to the mental wellness of pet owners. The mental health benefits of HAI with pet ownership may include decreasing loneliness, depression, anxiety, and stress as well as increasing self-esteem (Clements et al., 2021; Mueller et al., 2021; Krause-Parello et al., 2019; Zasloff & Kidd, 1994). Podberscek (2006) argues that attachment with pets can help owners to be mentally relaxed, which in turn can reduce risk factors associated with cardiovascular diseases, high blood pressure, and can improve the general physical health of owners (e.g., reducing indigestion and headaches).

Recent studies show that pets have a positive impact on reducing the loneliness of their owners. For instance, Morgan et al. (2020) conducted a study to understand the perception of the participants about social isolation during the COVID-19 pandemic. The findings of the study demonstrate that the rate of adopting dogs increased dramatically during the pandemic. The participants of the study perceived dogs as their companions during the quarantine situation. The authors argued that interaction with dogs helped participants feel hopeful about life during isolation (Morgan et al., 2020). This finding is similar to the study of Applebaum et al. (2021). Their study suggests that respondents older than 65 years felt less lonely due to having companion animals. However, some studies conducted during the pandemic did not find significant association between pet ownership and mental well-being (Bennetts et al., 2022; Jezierski et al., 2021; Phillipou et al., 2021)(Phillipou et al., 2021). It is difficult to predict the actual situation, but possible reasons for those studies might include being infected with COVID, death of close relatives, joblessness, and concern about managing expenses for pets, behavioural changes of pets for not being able to take for regular exercise, and/or similar situations.

Review of the relevant literature on positive impacts of HAI indicates that pets help their owners to be physically more active due to exercising their animals and taking care of them. Similar engagement of the owners was found to help reduce the risk of cardiovascular diseases, and to control diabetes and high blood pressure. Literature also suggests that general health problems, such as headache and indigestion, could be reduced through the companionship of pets. It was evident in many articles that pets provide mental support to their owners through comforting them and reducing loneliness.

Pets can help increase self-esteem among owners (Hosey & Melfi, 2014). Increasing self-esteem can help owners cope with challenges of life (Saunders et al., 2017). Regarding social benefits, existing literature indicates that pets have an influence with their owners for expanding their social networks via opportunities for interaction. It was also found in some literature that cruelty towards animals is associated with violence towards humans as well as family members (Becker & French, 2004). Most owners perceived their pets as family members.

2.3 Potential Challenges of Owning Companion Animals

There are challenges to owning companion animals. These challenges range from impacts on individuals' social lives (e.g., caretaking responsibilities) (Sanders, 1990), mental health (e.g., grief and loss) (Adrian et al., 2009), and physical health (e.g., interspecies diseases transmission) (Carr et al., 2021). I will discuss these challenges in this section. Most owners worry about emotional trauma due to death or illness of their pets in the future. Some literature indicates that pets sometimes limit their owners' social interaction with their neighbors, friends, and relatives; sometimes people do not feel the need to visit a family if they have pets. Additionally, owners can find it challenging to manage the time to take care of their pets. Along with other challenges, the risk of transmitting zoonotic diseases were found most concerning. It was found that intimate exposure between owners and pets increases the risk of zoonoses. I will explain these factors in this subsection.

The physical mobility of owners can be a challenge to pet ownership. Obradović et al. (2021) claim pet care-related concerns are a major challenge for owners. For them, functional limitations make owning a pet difficult. They add that it becomes challenging for owners who are physically ill to take their pets for regular exercise, washing, preparing food, buying outfits, and taking them to the veterinarian in case of health issues. Similarly, Meier and Maurer (2017) found in their study that pet ownership was less common among respondents 75 years of age and older. Likewise, Friedmann et al. (2018) found young and middle-aged people (less than 50 years of age) were more likely to own pets compared to their older counterparts. The study also found an association between poor health status of the respondents and a decrease in interest for owning pets. The respondents perceived that taking care of pets was a burden for them. The reason behind less pet ownership among older adults and persons with physical complications may be about their own physical ability to take care of pets.

Owning pets is also a financial concern for owners. Rauktis et al. (2020) conducted a study in the USA to assess the impact of the socio-economic status of pet owners on pet owning behaviours. The study suggests that low-income pet owners were more concerned about the food costs of their pets, which negatively impacted their interest in owning pets (Rauktis et al., 2020). Similarly, Obradovi´c et al. (2021) suggest that the associated financial costs for owning pets was a major challenge for the owners (Obradovi´c et al., 2021). Several other studies identified financial concerns as one of the major challenges for owning pets because it increases their own cost of living due to purchasing pet food and services, such as high veterinarian costs (Meier & Maurer, 2022; Friedmann et al., 2018).

Concern about grief caused by the possible death of pets was identified in numerous studies as another mental health challenge for owning pets. Pet owners also suffer from significant grief at the loss of a pet (Tzivian & Friger, 2014; Adrian et al., 2009). They are also concerned for the future care of their pets, should they fall ill or die (Fleming, 2002; Lavorgna & Hutton, 2019; Tzivian & Friger, 2014). Anderson et al. (2015) argue that elderly pet owners are usually more concerned about the care of their pets, and what would happen if they became sick or if they died. The concern about pets' illnesses might be also related to functional limitations of elderly pet owners because it is difficult to take sick pets to the vet. Hunt et al. (2008) conducted a study among hurricane Katrina survivors to investigate the psychological effects of pet loss. The findings of the study show that pet loss was associated with psychopathology of the owners. Given this, loss of pets might make owners suffer from symptoms of stress and depressive disorders, which is evidenced in the study of Brown et al. (2016). They found significant relations between pet loss and emotional distress as well as complicated grief. Similarly, Adrian et al. (2009) suggest that a significant number of pet owners had severe symptoms of post-traumatic stress disorder due to the death of their companion animals. I discussed earlier in this chapter that most pet owners treat their pets as family members. As a result, it becomes challenging for them to recover from the grief caused by the death of their pets.

In contrast to promoting social interactions, HAI can also restrict owners' close relationships. The findings of a recent online survey suggests that interactions of pet owners with their family members, relatives, friends, and neighbors were interrupted due to owning pets. The pet owners reported that they could not go everywhere, such as hotels, restaurants, tourist spots, and relatives' houses with their pets due to social restrictions. Similarly, some

people did not visit their homes due to them having pets (Buller & Ballantyne, 2020). Furthermore, Podberscek (2006) indicates that certain pet behaviours, such as aggression in dogs, is considered undesirable in society. He argued that due to pets showing aggression, friends, neighbors, and even family members do not feel comfortable interacting with or meeting such pet owners. In addition, he asserts that fear and phobias of pets, urination, and defecation by pets in the household, and indoor marking/spraying are some other common reasons why some people are uncomfortable in visiting a household with pets. Blackwell et al.'s study (2008), relayed that pet owners experienced some forms of undesirable behaviour from their pet dogs, including aggression and reactions towards other dogs. The respondents of the study mentioned it as a challenge for their own socialization with others.

Owners sometimes face problems adjusting their lifestyle due to owning pets. Shore (2005) conducted a qualitative study with 78 participants from the United States to assess the experiences of pet owners who surrendered their pets to shelters. The findings indicate that most returnees had problems adjusting their lifestyles to accommodate pets. For example, the study suggests that some participants had conflict with their family members. The behavioural problems of the pets, such as not mixing with children or other pets, were also major reasons behind surrendering them to shelters. Greenebaum (2006) argues that due to “impulse purchase”, in most of these cases owners are unfamiliar with maintenance commitments for pets, and which often lead to lifestyle conflicts.

Risk of zoonotic disease transmission is considered one of the key challenges for owning pets. Mani and Maguire (2009) claim that rodent diseases, rabies, and avian diseases are the most common zoonotic diseases that can be transmitted from pet animals to humans and humans to animals (Rutherford et al., 2022). They also claimed that immunocompromised pet owners are those most at risk of developing zoonoses. Rahman et al. (2020) argued that over 60% of human pathogens are zoonotic in origin. They also indicated that the changing pattern of interaction between owners and pets is increasing the risk of zoonotic disease transmission from animals to humans (Rahman et al., 2020). Sharing beds and food with pets and allowing pets to lick wounded areas are some common factors that can accelerate zoonotic disease transmissions. Similarly, Overgaauw et al. (2020) claimed that bite accidents, sleeping with pets on the same bed, licking the face and wounds, and owning exotic animals increase the risk of disease transmission from pets to humans. The

authors also argue that lack of awareness or education among owners and extreme affection for pets sometimes increase disease transmission risks (Overgaauw et al., 2020).

Several studies have identified the gap between knowledge and practices regarding the transmission of zoonotic diseases. For instance, Stull et al., (2012) conducted a study to assess the knowledge, attitudes, and associated risks to pet ownership and exposure to animals in southern Ontario, Canada. The findings suggest that over half of the total respondents had immunocompromised senior and minor family members living with them in the same household. Further, over 60% of the participants did not have any information regarding the risks of transmitting diseases from pets. Lack of knowledge about the possibility of transmitting diseases from animals to humans is also evidenced in the study of Bingham et al. (2010). Their study identified that almost half of the total respondents were unaware about the possibility of being infected with rabies due to dogs' bites. In contrast to animal to human disease transmission, HAI is considered a risk of human to animal disease transmission. For instance, Dixon (2021) identifies the risk of transmitting parasitic infection, such as giardiasis, from human companions to animals. Overall, review of relevant literature on the risk factors of the transmission of zoonotic diseases demonstrates a lack of knowledge among pet owners and non-owners, gap between knowledge and practice, and frequent and close contact between owners and pets.

2.4 HAI in Bangladesh

As identified above, there is a lack of available published information about HAI in Bangladesh, as well as in South Asian countries generally. Thus, most of the literature of this sub-section has been derived from different online portals and newspaper articles along with a few journal articles. In this sub-section, based on available literature, I discuss the history of HAI in Bangladesh. It is important to understand the history of HAI in Bangladesh given that one of the research questions of my exploratory study seeks to understand the historical and changing roles of companion animals in Bangladesh.

2.4.1 History of HAI

People of Bangladesh have had a historical and multi-dimensional relationship with animals. Siddiq and Habib (2016) state that roughly 100 years ago, animals were domesticated by most households in Bangladesh. There was substantial interdependence between humans and livestock and/or wildlife. Cows, goats, and buffalos were raised for their

milk and meat. Cows and buffalos were used to cultivate agricultural lands. Chickens and ducks were raised for eggs and meat. Additionally, wild animals were hunted for meat and skins to make shoes, bags, jackets, and similar necessary goods. In the past, cats were used to hunt and kill insects in households. Additionally, dogs were used for hunting, as well as securing safety and assets of the owners. The following paragraphs will discuss each of these areas in more detail.

Emerging literature shows that roughly two decades ago, the concept of companion animals was not popular in Bangladesh; dogs, cats, and rabbits were considered roaming and/or street animals (Habiba et al., 2016; Runa et al., 2016; Hossain et al., 2013). During that time, animals were considered loyal, attractive, and playful companions of humans in Bangladesh (Habiba et al., 2016; Hossain et al., 2013). Most people used to own dogs for household security (Runa et al., 2016). In addition, birds were reared as a source of entertainment for children (Habiba et al., 2016; Runa et al., 2016; Toray, 2004). Cows and buffalos were owned for assistance in agriculture and for meat and milk. Similarly, goats, ducks, and chickens were owned for consumption purposes. Sport animals, such as pigeons and different type of birds, were largely kept for the entertainment of owners and, to some extent, as a companion (Habiba et al., 2016).

Within the last decade, the number of companion animal owners has increased in Bangladesh, although there is a lack of statistics about the exact number. According to information published in different blogs and newspapers, many households have cats and dogs, and some people take care of their pets like their family members. There are some people who consider owning rare species of pets a matter of pride (PetRelocation, 2022). Runa et al. (2016) claimed that contemporarily, dogs, cats, rabbits, and different types of birds are the most common pets in Bangladesh. They also mentioned an increasing rate of companion animal ownership, although all owners do not rear pets within their homes.

Research on HAI in Bangladesh is mostly focused on zoonotic disease transmission. To my best knowledge, the study of Chakma et al., (2021) is the first ever published study in Bangladesh that investigated the association between pet ownership and depression among people aged 13 years and above. The study reported that pet-owners in Bangladesh were less depressed compared to non-pet owners. The study also suggests non-pet owners in Bangladesh suffer more from different forms of mental health complications, such as

loneliness and being mentally stressed, compared to their counterparts. Additionally, authors found that non-pet owners were more obese than pet owners and that the companionship of animals improved the mental health of owners through the development of strong emotional attachments.

The limited available literature on HAI indicates gender, economic status, and occupational status as the dominating factors behind owning pets. Bhowmik et al., (2020) conducted a qualitative study among 100 pet owners in a veterinary hospital to explore the socio-economic status of the pet owners and the health and nutritional status of the pets in Bangladesh. The findings indicate that comparatively young and male citizens were interested in owning pets. The data shows that most of the cat owners were women and students; further, the most popular pet was a common local breed of cat followed by Persian cats. In addition, most of the dog owners were male businesspeople or government officers. The participants reported that dogs were mostly reared for security purposes, and this is one of the reasons why businesspeople were more likely to own dogs.

Literature on HAI in Bangladesh indicates a lack of knowledge and awareness among pet owners about the possibility of transmitting diseases. For example, Bhowmik et al., (2020) found that approximately 60% of dog and cat owners vaccinated their pets regularly. However, the findings of their study is not representative of all pet owners in Bangladesh because they only recruited participants who visited a specific veterinary hospital. Similarly, Kabir (2022) conducted a survey in Bangladesh among students to understand their fascination with pets. The findings of this study suggests that more than 88% of the students were sympathetic about animals and over 50% had pets at their households. A majority of the respondents mentioned that they were not aware of the possibility of transmitting any diseases other than rabies.

A recent newspaper article indicates an increase in pet-related facilities in Bangladesh. Although it is difficult to claim since there is no published statistics of the pet population in Bangladesh, a recent article published in the 'Daily Financial Express' reveals that the tendency of owning pets as a companion has increased in urban areas of Bangladesh (Haroon, 2022). The article also shows that most private pet clinics are in higher economic status areas of the large cities. This information indicates the possible financial condition of pet owners in urban Bangladesh. The author claimed that peoples' choices about owning

types of pets has changed in recent decades; in the past people used to own more dogs, which have recently been replaced by cats.

A more recent article published in the Daily 'Business Standard' indicates some challenges of owning companion animals in Bangladesh. According to the author, the main challenges for keeping and rearing pets in Bangladesh are: risk of zoonotic disease transmission, lack of veterinary clinics, the high cost of veterinary care, religious stigmas related to owning dogs, negligence of local urban animal populations, and lack of animal-friendly government policies. The article states that due to fears of transmitting diseases from animals to humans, there was low rate of owning pets in the past although the article does not mention anything about this at present (Sayem, 2022). Bangladesh is a country with a high risk for zoonotic disease transmission (CDC, 2022), and Hossain and Kayesh (2014) claim that there is a great likelihood of transmitting zoonotic diseases from pets to their owners due to frequent and close contact. Similarly, Samad (2011) argued that more than 61% of human pathogens in Bangladesh are of zoonotic origin. Among those, as he identified, rabies is the major concerning zoonotic disease. The article indicates that people of Bangladesh are concerned about the transmission of diseases from animals to humans. Religion is another key factor that determines peoples' interest in pets. Regarding religious stigma, existing literature indicates the restriction of Islam about owning dogs, pigs, and some other animals as pets (Sayem, 2022).

The findings of the very limited available literature show that owning a companion animal has become an emerging trend in Bangladesh, although there is no published statistics about the pet population to justify this. At the same time, there is a lack of published information about the benefits and challenges of owning companion animals in Bangladesh. However, it is important to understand the role of pets in the country considering its significance in the owners' social lives, as well as the consequences it might create in the overall social environment. It is also important to understand how owners perceive the benefits and challenges of owning pets in the country.

2.5 Knowledge Gap

A few available studies on HAI in Bangladesh show an increasing trend of owning pets in the country. Existing literature indicates an association between socio-demographic characteristics of the owners and ownership of pets. It was found that women, younger

people, and elite or those considered upper class used to own more pets in Bangladesh although there is no published information on the reason behind this claim. Other literature identifies peoples' increasing interest in owning companion animals and treating them as a family member in Bangladesh (Sayem, 2022). Most of the studies in Bangladesh indicate the risk of zoonotic disease transmission from pets to humans. Much of the literature shows a lack of awareness among owners and non-owners about the risk of zoonoses.

Overall, the existing literature on the impacts of HAI is related to western countries and does not overlap meaningfully with the history of HAI in Bangladesh. Moreover, studies conducted in Bangladesh are currently focused on transmission of zoonotic diseases. As a result, there is a lack of available, authentic information about the social benefits and challenges of HAI. Being informed by the gaps in the existing literature, my study aimed to examine the social roles of HAI in urban Bangladesh. The research questions of my study will be discussed in the following subsection.

2.6 Research Questions

Being informed and inspired by gaps in the existing literature and the lack of research on the social aspects of HAI in Bangladesh, my thesis aimed to seek answers for the following research questions:

1. What are the historical and changing contemporary roles of companion animals in Bangladeshi society?
2. What are the perceptions among companion animal owners about the social benefits and challenges of having a companion animal in urban Bangladesh?
3. Does human-companion animal interaction strengthen the social relationships individuals have with other humans in urban Bangladesh?

Given this, the subsequent chapter will introduce the theoretical and conceptual framework that was used to guide my research questions and interests.

CHAPTER 3- THEORETICAL AND CONCEPTUAL FRAMEWORK

This study aimed to examine the changing and contemporary roles of companion animals in Bangladeshi society. This study also aimed to explore the perceptions of companion animal owners about the benefits and the challenges of owning companion animals in urban Bangladesh as well as the impacts of HAI on human well-being. Theoretical concepts from the One Health framework, symbolic interaction theory, attachment theory, and social support theory are outlined in this chapter and applied in this study; the framework and theories help to both analyze my data and explain my findings. I chose relevant concepts from the framework and theories that correspond with the HAI research field. I conclude this chapter by describing the conceptual framework of this study and its relation to the theoretical concepts.

3.1 One Health Framework

One health is a multidisciplinary framework that aims to optimize the health of humans, animals, and the environment (Mackenzie & Jeggo, 2019; Chalmers & Dell, 2015). The idea of this framework is rooted in comparative medicine of the 19th century (Chalmers & Dell, 2015). Animal models were used in comparative medicine to develop human medicine (Mackenzie & Jeggo, 2019). Calvin Schwabe introduced the term ‘One Medicine’ in 1984 considering “the close systematic interaction of humans and animals for nutrition, livelihood and health” (as cited in Zinsstag et al., 2011, p. 151). Afterward, the Wildlife Conservation Society first coined the term ‘One Health’ by replacing ‘One Medicine’ to integrate human health, animal health, and environmental health (Mackenzie & Jeggo, 2019; Chalmers & Dell, 2015). One of the key priorities of ‘One Health’ was to prevent the transmission of diseases from animals to humans and humans to animals (Rock et al., 2017).

Instead of focusing solely on the possibility of disease transmission, Hodgson and Darling (2011) first introduced the term *zoeyia* to refer to “the positive inverse of zoonosis” (p.189). They state that human-animal interaction (HAI) has multiple benefits for both humans’ and animals’ health including physical, emotional, and psychological support for each other. This framework argues that HAI can be beneficial for the mental and physical health of pet owners (Overgaauw et al., 2020). For example, human-companion animal interaction can promote mental, physical, and social well-being of both humans and animals (Overgaauw et al., 2020; Carver, 2019; Hodgson et al., 2015; Hohenhaus, 2012; Hodgson & Darling, 2011). Additionally, the One Health framework also states that people’s efforts to

care for animals are related to public health because the interaction between humans and animals has the possibility of transmitting diseases (Rock & Degeling, 2015). However, the One Health framework is commonly criticized for paying less attention to diagnosing and treating animal diseases (Munyua et al., 2019). Herten et al. (2019) also criticize the One Health Framework for not being able to produce evidence for how humans, animals, and the environment can be mutually beneficial. For example, they claim that the culling of healthy animals for the sake of human health is a moral dilemma as well as a violation of animals' rights (Herten et al., 2019).

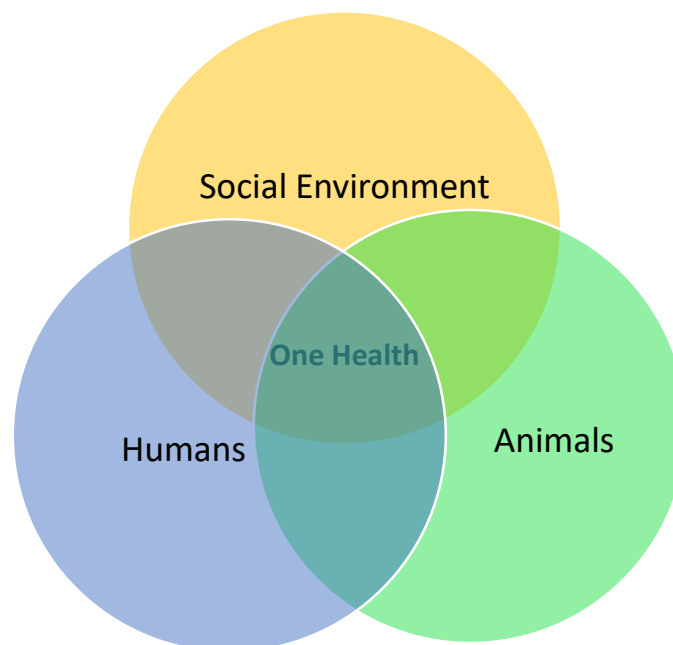
Human-animal interaction has changed over time. For example, the role of companion animals has changed to social functions including companionship, instead of solely labour functions (e.g., safeguarding house, killing mice) (Hediger et al., 2019). Despite being a potential source of zoonoses, pets are helpful to build social capital, as an agent to reduce harm, as a motivator for a healthy and disciplined lifestyle, and a key player in therapeutic treatment plans (Hodgson & Darling, 2011). Although the interaction between animals and humans are old and complex, pets have become common participants in daily social lives of owners in recent decades, especially in western countries (Rowan, 2018). Nowadays, celebrating a pet's birthday and purchasing gifts for them is a well-known phenomenon (Hodgson et al., 2015). It appears that pets are gradually becoming part of family and social life.

Interaction with companion animals can improve the health of the owners and reduce healthcare expenditures (Day, 2016). Companion animals can provide support to the owners in cases of family transition, loneliness, death of close person(s), and help with quick recovery during physical illnesses (Overgaauw et al., 2020). HAI has the potential to reduce associate risks for cardiovascular diseases, hypertension, stroke, and diabetes. HAI can reduce stress hormones (cortisol) in the human body (Beetz et al., 2012). Increase of the cortisol hormone may also enhance blood sugar levels in the human body (Dphil et al., 2016). The contribution of HAI to improve social interaction as well as the mental and physical health of the owners can lead to improve quality of life.

Previous sociological studies on HAI mostly focused on the fear of spreading disease instead of considering the cultural aspects associated with the interaction of humans, animals, and nature. Consequently, the benefits of HAI remain obscure in sociological theory (Rock et al., 2017; Walby & Doyle, 2009). However, companion animals are gradually becoming part

of social relations and sometimes they are complementary to human-human relationships (Rock & Degeling, 2015; Stambach & Turner, 1999). The study of HAI has the potential to encounter the anthropocentric views that bypass the possible benefits of the interaction between humans and companion animals. The psychosocial and emotional attachment between companion animals and humans has become an integral part of social relationships as well as emotional communities (Stambach & Turner, 1999). It is important to examine both the benefits and challenges of owning companion animals to understand the impacts of HAI. HAI has social and cultural impacts given that it leads to new forms of sociality and social environments (Chalmers & Dell, 2015). A sociological understanding of HAI is important because both humans and animals exist in social environments. Social environments are a focus of the One Health framework. Therefore, I chose this framework to investigate the perceptions of companion animal owners about the benefits and the risks of owning companion animals in urban Bangladesh. It also helped me to understand the changing social and cultural contexts of HAI in the locality. Figure 3.1 explains how the relationship between humans and animals overlaps in the social context.

Figure- 3.1. One Health Framework for Sociology from adapted from Chalmers and Dell, 2015



3.2 Additional Theoretical Considerations

In addition to employing the One Health framework, I am applying key related concepts of Symbolic Interaction theory, Attachment theory, and Social Support theory to analyze and explain the perceptions of the participants about the benefits and challenges of owning companion animals. Symbolic interactionism is a micro-level sociological theory that explains shared meaning and values attached to verbal and non-verbal interaction of humans with others (Aksan et al., 2009). I chose relevant concepts from symbolic interaction theory because one of my research questions aimed to understand the role of HAI in strengthening social interaction among humans. Symbolic interactionist theorists argue that HAI can play a pivotal role in expanding social interactions and communications with pet owners and non-owners (Jerolmack, 2009). Increasing communications among pet owners and non-owners is helpful for socialization, building community, and developing emotional relationships (Myers, 2003). Similarly, Sanders (1990) states that companion animals can help their owners to build friendship with other pet owners and non-owners as well as increase social contacts through expanding networks or communication. Companion animals can assist in social identity because they are a catalyst for socialization and interaction and can lead into new social opportunities. Sanders (2003) argues that human-companion animal interaction can create new social identity for the owners as well as for the animals. For Sanders, owners establish intersubjective connections between themselves and pets through gazing, playing, and speaking with the animals. These aspects of symbolic interaction theory are applied to better understand the role of HAI in social interaction and the well-being of pet owners. I created a list of attributes of symbolic interactionist theory and checked those against interview quotations that I coded in the first open coding round (Williams & Moser, 2019). Though I chose symbolic interactionism as one of my guiding sociological theories, one of the major limitations of this perspective is it fails to consider the macro-social aspects of HAI, such as norms and culture (Aksan et al., 2009).

Theories on human relationships, such as Attachment theory, are applied to help consider the emotional and the supportive features of HAI. This theory also helps to analyze the nature and forms of attachment relationships between humans and companion animals to further explain the human-companion animal attachment in the current study. Pet attachment scholars argue that many owners consider human-companion animal interaction as emotionally similar as human attachment, meaning that owners sometimes prefer interacting with their pets over close human partners (Sable, 1995). For instance, they show grief and

suffering when their pets die or suffer from illnesses (Lavorgna & Hutton, 2019; Tzivian & Friger, 2014). These sorts of emotional responses from owners demonstrate the depth of their attachment. It indicates how emotional connections can be transferred into the social life of the owners, including family relations. Attachment theory in HAI study is often criticized for not recognizing the influence of social issues, such as culture, social class, and gender, in developing attachment between humans and animals (Rockett et al., 2014).

Social support is usually conceptualized as the societal resources on which social actors can rely while dealing with problems and stressors in life (Kort-Butler, 2018; Thoits, 1995). This theory suggests a positive association between social support and well-being. Increased social interactions lead to positive emotions and a sense of social belonging. Companion animals can provide belonging support directly or as a mediator (Amiot et al., 2016). These aspects of attachment theory are used to analyze how instrumental, informational, and emotional support from companion animals can help owners to cope with life challenges and community support. Social support theory is often criticized for not taking personality factors of the actors into account when receiving or not receiving community support (Wang et al., 2018).

3.2 Conceptual Framework

Based on my understanding from the existing literature and theories on HAI, there is an absence of information about the benefits of HAI compared to the overwhelming focus on zoonotic disease transmission in Bangladesh. However, as I discussed in my theoretical framework, sociological understanding of HAI is important, as it is related to the social well-being of humans and animals and offers insight on the social environment. While these are all factors, and the most important facet of my study is to understand the well-being of humans, the experience of the animals and society as well as their interactive role in exchanges needs also to be considered. Accounting for this, I chose zooeyia as my conceptual framework. Here I will discuss the zooeyia approach and its sociological links with the One Health framework I am using in my study.

The World Health Organization (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (as cited in Sartorius, 2006, p.1). The goal of ‘One Health’ is not restricted to the prevention of zoonoses; it also aims to incorporate the health benefits of humans from animals (Hodgson, & Darling, 2011). The term ‘zooeyia’ is used to describe the positive impacts of animals on

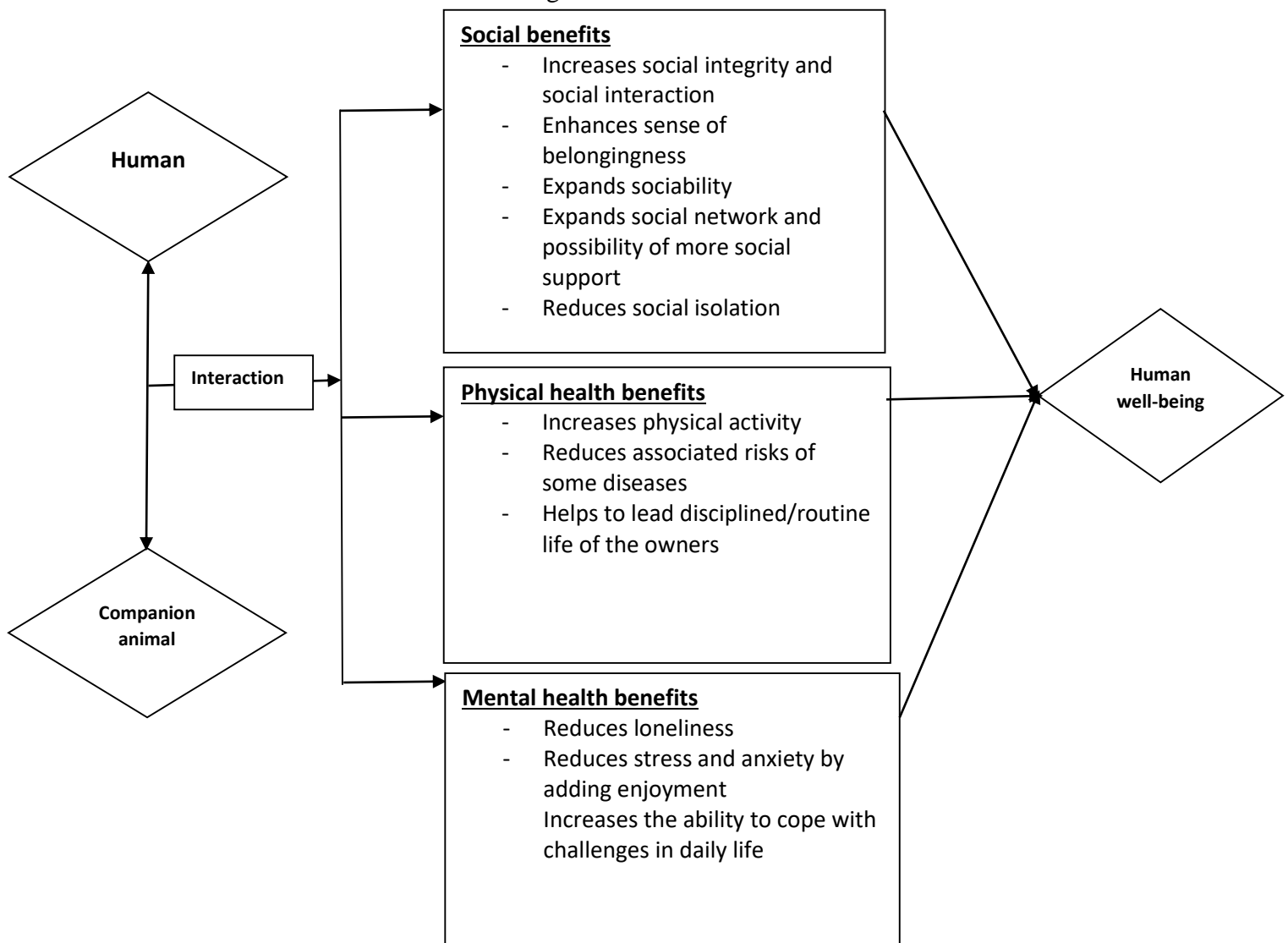
the physical, mental, and social well-being of humans, such as smoking cessation, strengthening the community, increasing physical activity, and controlling hypertension (Hodgson, & Darling, 2011). Companion animals can help to reduce stress and anxiety by adding enjoyment to daily life (Kushner et al., 2006). That said, companion animals can provide a sense of security, companionship, and a feeling of being loved to their owners (Siegel, 1990). In addition, interaction with pets can be perceived as relational to owners' broader connections to the social environment. For instance, existing literature frequently reflects HAI as a marker to improve sociality, community feelings, and social interaction (Carver, 2019; Mackenzie, J. S., & Jeggo, 2019; Walsh, 2009b). It has also been repeatedly documented as an indicator to improve the overall markers of psychological and physical well-being of pet owners (McConnell et al., 2011; Uehara et al., 2011). However, Herzog (2018) criticizes the zooeyia approach because there is still a lack of sufficient evidence to claim that HAI can lead to an increase in health for owners. It is an ever-increasing area of study. Additionally, some studies suggest less or no impact of HAI in mental and physical health of pets owners (McCune et al., 2014; Hohenhaus, 2012; Walsh, 2009). Therefore, more interdisciplinary study is required to produce conclusive results about benefits of HAI.

Despite the potential psychosocial and health benefits of HAI, the One Health framework, as well as the existing literature, suggests that there are risks from HAI. Social challenges regarding HAI includes disruption of social interaction. For instance, Sanders (1990) argues that companion animals can disrupt the contexts of smooth interaction of the owners with other humans. He claims that sometimes companion animals, especially dogs, violate conventional social expectations. For him, the violation of social order results in social disintegration and disruption of the consensual course of human-to-human interaction. In addition, literature frequently indicates mental stress and trauma of pet owners due to the death of their pets (Cacciatore et al., 2021; Fleming, 2002; Lavorgna & Hutton, 2019; Tzivian & Friger, 2014). Regarding the physical health risks of HAI, myriad studies have identified animals, including pets, as a potential source of zoonotic diseases (Adhikari et al., 2020; Amiot et al., 2016; Jezierski et al., 2021; Matchock, 2015). Therefore, owning companion animals can force the owners to encounter several challenges in their social life.

My study conceptualized HAI as a construct that has immense potential in human well-being through increased social interaction, community feelings, and shared understanding among pet owners. It can decrease social isolation among pet owners through expanding social networks. HAI can ensure mental well-being of pet owners through mutual

exchanging of companionship, love, and attachment. Furthermore, interaction with pets can help owners lead a disciplined life through cessation of smoking, being physically active, and following a routine. Considering all these, my study conceptualized HAI as a potential marker to ensure well-being of pet owners. My study also accounted for the mental, physical, and social challenges of owning companion animals and how doing so might impact well-being. Figure 3.2 summarizes the social, mental, and physical benefits of HAI and how humans might benefit from it. While HAI has the potential to benefit both humans and animals, the scope of my study is to understand the well-being of humans due to interacting with companion animals.

Figure 3.2. Visual representation of the conceptual framework of human-companion animal interaction in relation to the well-being of humans



The literature review, and my own conceptual framework and the concepts I am using to understand the findings of my study indicate HAI should contribute to social well-being of humans in several ways; for instance, by increasing interactions among pet owners and non-owners. HAI can also increase the possibility of exchanging social supports among pet owners. Pets can contribute to mental well-being of owners by reducing loneliness, social isolation, and increasing self-esteem to cope with challenges of life. Moreover, pets can be helpful to reduce the associated risks of non-communicable diseases including diabetes, cardiovascular diseases, and hypertension. The following chapter will explain the methodological approaches I used to find the answers to my research questions.

CHAPTER 4- METHODOLOGY

This exploratory study investigates the social impacts of companion animals in urban Bangladesh (Stebbins, 2011). Exploratory study refers to investigating an area which has not being studied in-depth before (Waters, 2007). As shared, to date, there is a scarcity of published information about the social roles of companion animals in the country. Specifically, both the One Health approach and research on companion animals' interactions with humans have received little attention in Bangladesh, focusing almost exclusively on zoonotic disease transmission. I aimed to gather insight in this study about the significance of human-animal interaction (HAI) and its impacts on the social, mental, and physical well-being of humans in urban Bangladesh. To do this, in this chapter I outline my study design and introduce my sample population, followed by the sampling technique. I will also present the data collection and analytic strategy through the use of thematic analysis.

4.1 Study Design and Methods

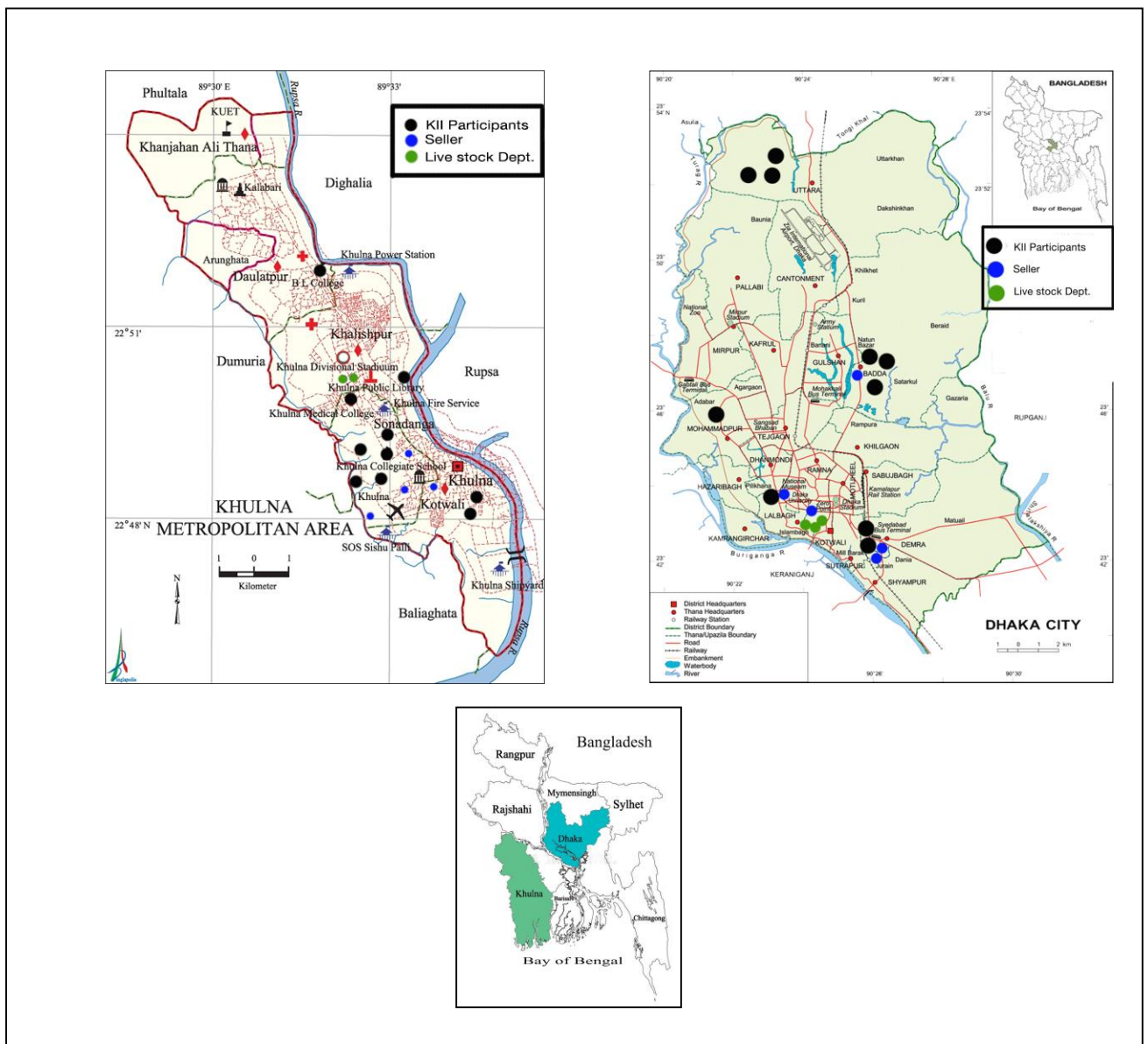
I chose an exploratory research design given that there is little available research in this area, especially in Bangladesh. I chose a qualitative method because it allowed me to provide rich descriptions of complex phenomena. This method also helped me to track unique and unexpected experiences of the participants to begin to understand perceptions in Bangladesh about HAI and how this dynamic can impact other forms of social interaction between humans (Sofaer, 1999). This research design helped me to understand the experiences of the individual participants in their terms and from their own perspectives (Green & Thorogood, 2018). There are potential policy implications for the government of Bangladesh because this a new area in which empirical data is needed.

4.2 Study Site and Population

A total of 35 participants were interviewed in my study. Companion animal owners (20), sellers (storekeepers and breeders) (10), and employees of the livestock service departments (five) from Dhaka and the Khulna metropolitan areas were included (see Figure 4.1). Dhaka, the capital of Bangladesh, is the 11th largest megacity (typically considered a city consisting of more than 10 million population) in the world and has ranked the sixth most populous city in the world, with approximately 22.5 million people (23,234 people/ square kilometer) (BBS, 2022; Opu, 2022). Khulna is the third largest and fastest-growing city in

Bangladesh with a total population of 9.5 million (18,889 people/ square kilometer) (BBS, 2022; Opu, 2022). The rationale behind selecting these two metropolitan areas was to understand the social challenges as well as benefits of owning companion animals in urban Bangladesh. Bangladesh, and the specific study areas, are densely populated, however, literature shows the prevalence of loneliness and weak social interactions in similar densely populated urban settings (Hammoud et al., 2021; Wong et al., 2019).

Figure 4.1. Map of the study area



4.2.1 Inclusion and Exclusion Criteria

Bangladeshi citizens over the age of 18 years were included in this study. Other inclusion criteria required companion animal owners to have owned an animal(s) for a minimum of one year and to be living in Bangladesh during the data collection period. The companion animal sellers were either animal store owners, employees of the store, or breeders and were selling animals in the study area for at least one year. The participating Livestock Service Department (LSD) officers must have been working for at least one year in the study area. Importantly, non-human, domesticated animals, like dogs, cats, rabbits, all sorts of birds, turtles, horses, tortoises, aquarium fishes, snakes, and so on were defined as companion animals in this study. Furthermore, I included pet owners with at least one animal listed above but excluded those who reared them to eat them. Furthermore, livestock, such as cows, goats, ducks, hens, and similar animals which are reared for commercial purposes and/or profit-making, were not considered companion animals in this study.

4.2.2 Sampling Technique

I used a combination of a purposive (Whitehead & Lopez, 2016) and snowball (Dragan & Isaic-Maniu, 2013) sampling technique to recruit participants that fit the study requirements. A recruitment poster (Appendix B) was posted on my Facebook page, as well as on Facebook pages focused on pet animals in Bangladesh, so that interested participants with the required characteristics could contact me to participate in the study. I shared the recruitment poster to those groups and on my Facebook account between December 17, 2021 (the day I received the ethics approval) and February 02, 2022. As a note, there were possibilities of acquiescence bias and social acceptability bias among participants. Acquiescence bias occurs when the participants chose to agree with the researcher (Costello & Roodenburg, 2015). To prevent this, I framed open-ended questions so that the participants could not simply agree or disagree (Galdas, 2017). Again, social desirability bias can occur when participants try to respond inaccurately so that their responses could be accepted (Grimm, 2010). To minimize this bias, I asked participants to explain what other members of their society would do and/or think about a similar situation (Galdas, 2017). Furthermore, there was a possibility of selection bias given the participants were recruited from a small sample. Consequently, there was a possibility of having participants from similar socio-economic and cultural backgrounds (Parker et al., 2020). I choose purposive sampling

techniques to recruit participants from diversified age, gender, religious, socio-cultural, and economic backgrounds (Costello & Roodenburg, 2015).

Seven of my Facebook ‘friends’ shared the poster with people who had the potential characteristics and interests required for this study. In addition, 15 other Facebook contacts contacted me over the phone to share Facebook accounts, cell phone numbers, and addresses of potential participants. I contacted those pet owners to invite them to participate in my study. The Facebook pages where I shared the recruitment poster mostly consisted of members who either loved companion animals and/or owned pets. I also shared the recruitment poster to approximately 10 animal rights activist groups. I used two keywords - ‘pet lovers in Dhaka’ and ‘pet lovers in Khulna’ – to find the Facebook groups. A great majority of the participants (owners, sellers, and LSD officers) referred me to various Facebook pages to locate more study participants.

Though I recruited a great majority of the participants using snowball sampling, I purposefully excluded some participants because they did not stay with their companion animals, or their animals stayed at their hometown - instead of residing with them in Bangladesh - where either family members or household assistants took care of the animals. I also excluded some participants because they used to rescue animals in danger and adopt these animals to interested persons but did not have any companion animals in their homes. In total, I excluded approximately eight study participants. The purposive sampling technique helped me to recruit participants from different socio-demographic statuses, which in turn helped me to gather diverse perspectives for the study.

4.3 Data Collection Tools and Pre-test

I developed separate semi-structured interview guides for key informant interviews and in-depth interviews (the interview guides of this study are in Appendix A). Due to the lack of published information about HAI in Bangladesh, I reviewed interview guides from other similar studies to develop my own (for example, Pavelich, 2021; and Friedman and Krause-Parello, 2018). All the questions were open-ended which helped me maintain the flexibility to probe deeper on emerging issues identified by the participants during the interview process. These guides helped to guide the conversation during the interviews.

The guides were piloted with three pet animal owners, two pet animal sellers, and one LSD officer who all lived in the study areas. They had the required characteristics but were not included in this study (why not?). They were recruited by following the same strategies I

used later to recruit the participants in my study. The piloting of the interview guides helped me to revise the guides based on the findings (Poon, 2007). As a result, I added questions about socio-demographic characteristics such as religious status, ownership of house, and type of family in the interview. I also modified the wording of several of my questions for clarity.

4.4 Data Collection

Data were collected through face-to-face interviews for a period of 45 days starting December 20, 2021. Even though I would have liked to interview all family members, I had restraints in time and budget. One participant from each companion animal owning household was selected to participate in the study. I attempted to use a wide variety of respondents based on age, gender, occupation, and marital status. Key informant interviews (KII) helped me to understand the impact of companion animals on social interactions, role of pets on mental and physical health, perceptions about companion animals as well as owners, and challenges of having companion animals in the study areas, including the risk of zoonotic disease transmission.

In addition, I conducted 10 in-depth interviews (IDI) with pet-animal shop owners and sellers to understand the type of customers (e.g., age, sex, occupation, and perceived socio-economic status) as well as the perceived potential reasons for purchasing the animals. In-depth interviews with animal sellers helped me to investigate the historical roles of companion animals in Bangladesh. In addition, the animal sellers were selected to understand their perspectives and help contextualize and compare different understandings based on different ways they approach the human animal interaction (i.e., loving versus selling). I also collected information about the perceived risks of zoonotic diseases from the animal sellers. This information was gathered to understand whether the participants perceived the possibility of disease transmission as a challenge for owning companion animals or not.

Finally, I conducted five IDIs with Livestock Service Department (LSD) Officers working in Dhaka and Khulna metropolitan areas to examine peoples' perceptions of companion animals and owners, perceived risks of transmitting zoonotic diseases, and perceived social, physical, and mental benefits of owning companion animals. I chose to focus on multiple groups because I wanted varying perspectives to help triangulate and bring more richness to the data since it is a new area of research in this locality. Using the sampling

technique of this study, an equal number of companion animal owners and sellers were recruited from each city. Three LSD officers were selected from Dhaka with two from Khulna.

Participation in this study was voluntary. No incentives or payment were offered for participation in this study. The consent form was sent to each participant through email at least one day before the interview date so that they could review it and decide about participating in this study. None of the participants declined participating after reviewing the consent forms. Before conducting the interviews, I explained the research process – specifically confidentiality, the rights of the participants to withdraw from this study, and their right to skip answering any specific questions if they feel uncomfortable in answering them. Informed written consent was obtained from the participants once they were informed of the overall research process. All the interviews were audio-recorded for transcription purposes. The average duration of the KIIs was 54.25 minutes (range: a high of 124 minutes and a low of 20.51 minutes). The average duration of the IDIs with the animal sellers was 29.40 minutes (range: a high of 61 minutes and a low of 15 minutes). The average duration of the IDIs with the LSD officers was 25.54 minutes (range: a high of 31.44 minutes and a low of 18.48 minutes). The interviews may appear to be short, on average, but the length coincides with published research(Irvine, 2011).

A Microsoft Excel file was maintained in a password protected and secured folder to keep a record of the names, pseudonyms, mobile numbers, and addresses of the participants for contract tracing for potential COVID-19 infection transmission. This information was kept separate from the research data to ensure the identity of the participants would not be connected to the participants' responses and was kept for contact tracing for 14 days from the interview date. Further, this information was deleted from the excel file after 14 days from the interview date and was not used for any other purpose. None of the participants reported any COVID-19 symptoms within the contact tracing timeline. To avoid potential risks of transporting physical copies of the consent forms across international borders, the physical copies of the consent forms were destroyed after scanning and uploading to the USask server (OneDrive). To ensure the confidentiality of the participants, I used pseudonyms while renaming the audio files. The same pseudonyms were used in the transcriptions. All the electronic data, including audio recordings of the interviews, digital copies of the consent forms, and the interview transcriptions, was uploaded to the OneDrive and then deleted from

the recording device and local hard drives. Only the principal investigator and I have access to the electronic data.

4.5 Data Management and Analysis

To understand the social impacts of HAI, I thematically analyzed the data using NVivo 12 software as my primary organizational software (Woods et al., 2016). My data analysis was guided by Braun and Clarke's (2006) six-phase framework for doing a thematic analysis. The six phases for doing a thematic analysis include: familiarization, coding, generating themes, reviewing themes, defining and naming themes, and writing up (Braun & Clarke, 2006). At first, I transcribed all the audio-recorded interviews verbatim in Bengali and then translated into English. Then, I read the interview transcripts repeatedly to become familiar with the data. Next, I coded the data. At this stage, I highlighted phrases and sentences and took notes on data related to my research questions to generate initial codes. I used open coding – meaning that there was no pre-set codes, but were developed and modified as I worked throughout the coding process (Kiger & Varpio, 2020). In order to minimize the biases in open coding, I frequently checked possible alternative explanations of the codes (Mills et al., 2012). I highlighted phrases with different colors corresponding to various codes. Afterwards, I looked over the codes I had created to identify the patterns among them as well as to generate themes. I combined similar codes into one code. For example, participants mentioned social, mental, and physical benefits of companion animals. I combined these three codes and labeled them under the umbrella term 'benefits'. I also discarded a few codes, such as violation of animals' rights, common pets, and misinformation, given the vagueness and lack of relevance to the research questions of my study. Additionally, those codes did not appear frequently in my data. Once the initial list of themes was prepared, I started reviewing the list to ensure coherence of the data and adequacy of supporting data. I defined each theme once I finalized the themes. Defining themes included formulating exactly what I meant by each. I tried to figure out how each theme could help me to understand the data. I also focused on understanding how the themes are related to each other. Finally, I focused on transparent and straightforward reporting of the research process, expansive description of the information, special attention to and expansion on unusual cases, and the potential analytic interpretations (Connor & Joffe, 2020).

4.6 Reliability of the Data

Employing an interrater coder is an optional step to ensure the reliability of the data. Inclusion of intercoder reliability (ICR) is a common technique that is often deployed in qualitative research to improve the communicability, uniformity, credibility, and transparency of the coding process (Connor & Joffe, 2020). However, I decided not to include inter-coder reliability given that my application to the research ethics board indicated that only my supervisor and I would have access to the raw data collected for this study. Because of time constraints and lengthy review times of the research ethics board, I did not apply to modify my ethical certificate. This is a limitation of my study.

4.7 Ethics approval

Prior to my data collection, I submitted my research proposal to the Behavioural Research Ethics Board (Beh-REB) at the University of Saskatchewan on August 19, 2021, for review and approval. The ethics board considered this research a low-risk study given that gathering and analyzing the lived experiences of the companion animal owners, sellers, and LSD officers would cause minimal and/or no harm. The protocol was approved by the ethics board [Beh-REB 2973] on December 17, 2021.

4.8 COVID-19 safety protocols

To ensure the safety of the participants and myself, I maintained several safety protocols given that the interviews were conducted in-person during the COVID-19 pandemic, especially during the prevalence of the Omicron variant. I alone was responsible for collecting data for this study. Interviews were conducted at participants' preferred locations. All the animal owners agreed to be interviewed at their residences and LSD officers and pet animal sellers were interviewed at their workplaces as per their preference. I carried my vaccine certificate while visiting the participants for interviews. Additionally, I maintained physical distancing (two meters apart) and arranged facemasks and hand sanitizers for both myself and the participants. Although none denied using facemasks, there was an exception if anyone had breathing issues or any other difficulties with wearing a mask. Sanitizing of hands prior to the interview and before touching any documents was required for all the participants and for myself. I minimized the risk of carrying the virus from one site to the next by conducting a maximum of two interviews in a day - one in the first half of the day and the other in the second half. Overall, it was a challenge to collect data through face-to-face interviews during the pandemic. A few pet owners expressed their

concern about the possibility of transmitting coronavirus from myself to their pets. Some people were hesitant to allow anyone inside their homes due to the risk of coronavirus transmission although they were assured of my vaccination status.

Because of the pandemic, there are some cohort effects and situational constraints in my work. I could have stayed longer at the owners' houses to observe the interaction between companion animals and their owners if the study had not been conducted during a global viral outbreak. There were also restrictions on gathering more than one person inside LSD officers' rooms. Thus, I had to prompt the interviewees to leave the room so that they could allow others, including the pet guardians, inside the room. The data collection experiences and difficulties I experienced during this pandemic could help myself and other researchers in the case of any pandemic in the future by demonstrating that safe primary research could continue with adequate protocols in place.

CHAPTER 5- RESEARCH FINDINGS

The findings of this study are presented in this chapter. After sharing the socio-demographic characteristics of the participants, I detail the historical and contemporary roles of companion animals in Bangladesh, as well as how and why they have changed. Next, I present the perceived challenges and benefits of owning companion animals in urban Bangladesh according to my limited sample. This chapter concludes by synthesizing the overall findings of my study.

5.1 Socio-demographic Characteristics

The socio-demographic characteristics of the companion animal owners, sellers, and LSD officers interviewed in this study are as follows: a total of 20 pet owners, 10 sellers, and five LSD officers. Most of the companion animal owners were young, male, higher educated, and employed. Further, most were Muslim and belonged to nuclear families. Additionally, all the animal sellers and LSD officers were male. Both the sellers and LSD officers had longitudinal work experiences in their sector. As an important note, the socio-demographic characteristics of the participants may not be representative of all companion animal owners, sellers, and LSD officers in Bangladesh. However, the findings of this exploratory study might help future researchers in this field look for potential participants in this context. In addition, it will help me to contextualize the perceived benefits and challenges of owning companion animals by the owners, but both gender and religious affiliation.

5.1.1 Socio-demographic Characteristics of Companion Animal Owners

Companion animal owners were recruited from diverse socio-demographic backgrounds (Table 1). Half of the companion animal owners (10/20) were between 18 and 30 years of age, and just over half were male (11/20). The number of married and never married participants was equal; each category contained nine participants. Further, one widower and one divorced participant were included in this study. Most of the companion animal owners had a bachelor's degree or higher educational qualifications. Additionally, a majority of the owners were Muslim (15/20), one was Hindu, and the remaining were Christian with one member of the Indigenous community. Again, half of the owners were employed. Just over half of the participants (12/20) mentioned that they owned companion animals between one to 10 years, and five participants owned companion animals for more

than two decades. Thirteen out of 20 animal owners said that they lived in rented apartments, and most of the owners lived in a nuclear family. In contrast, seven participants belonged to extended families. Finally, the average monthly familial income of the companion animal owners was CAD \$1,856.57 (range: a high of \$14,520.49 and a low of \$232.32) (see Table 1).

Table 1. Socio-demographic information of companion animal owners

Characteristics	No. of participants (%)
Age (year)	
18-30	10 (50)
31-50	8 (40)
50 and above	2 (10)
Gender	
Male	11 (55)
Female	9 (45)
Marital status	
Never married	9 (45)
Married	9 (45)
Divorced	1 (5)
Widower	1 (5)
Education	
Grade 10-12	5 (25)
Bachelor and above	15 (75)
Religion	
Muslim	15 (75)
Hinduism	4 (20)
Christianism	1 (5)
Occupation	
Employed	11 (55)
Unemployed	3 (15)
Homemaker	2 (10)
Student	4 (20)
Duration of owning pets (year)	
1-10	12 (60)
11-20	3 (15)
21 and above	5 (25)
Household ownership status	
Own house	7 (35)
Rented house	13 (65)
Family type	
Nuclear family	10 (50)
Joint family	3 (15)
Extended family	7 (35)
Average monthly family income (CAD)	1,856.57 (range: minimum 232.32; maximum 14,520.49)

5.1.2 Socio-demographic Characteristics of Companion Animal Sellers

A total of six animal breeders and four animal storekeepers were included in this study. Out of the 10 interviewees in this category, two were store employees and the others were owners of breeding firms or animal stores. The animal storekeepers and employees were recruited from both animal wholesale stores and retail markets to obtain diversified responses from the participants. All the sellers were male, which is a cultural norm in patriarchal Bangladeshi society. The average age of the participants was 31.70 years, with a high of 42 years and a low of 19 years. Seven out of 10 sellers were Muslim. Most of the sellers completed their grade 10 (equivalent to SSC = secondary school certificate) to grade 12 (equivalent to HSC = higher secondary school certificate HSC) year of schooling. Two sellers completed their bachelor's degrees or completed further higher education. Four out of 10 sellers were involved in breeding dogs for commercial purposes. In addition, some participants mentioned that they sold various types of animals including dogs, cats, birds, rabbits, and aquarium fish at their stores. The average duration of being involved in this profession was 8.4 years, with a high of 26 years and a low of one year (see Table 2).

Table 2. Socio-demographic information of companion animal sellers

Characteristics	No. of participants (%)
Age (mean)	31.70 (range: minimum-19 ; maximum-42)
Sex	
Male	10 (100)
Religion	
Islam	7 (70)
Hinduism	2 (20)
Christianism	1 (10)
Education	
Below 10 Grade	1 (10)
Grade 10- 12	7 (70)
Bachelor and above	2 (20)
Type of animals bought and sold	
Bird	2
Dog	4
Cat	1
Dog and cat	1
Bird, cat, and rabbit	1
Bird and aquarium fish	1
Average duration of selling pets (in years)	8.4 (range: minimum-1 ; maximum-26)

5.1.3 Socio-demographic Characteristics of LSD Officers

A total of five participants worked in livestock service departments in the study areas (three from Central Veterinary Hospital, Dhaka and two from Divisional Livestock Service Office, Khulna). The average age of the LSD officers was 47 years, with a high of 58 years and a low of 33 years. All the participants were male. Three out of five participants completed a Doctor of Veterinary Medicine degree (DVM). Further, three out of five participants were Muslim. The average duration of participants working in this sector was 21 years, with a low of eight years and high of 33 years (see Table 3).

Table 3. Socio-demographic information of LSD officers

Characteristics	No. of participants (%)
Average age (year)	47(range: minimum-33; maximum-58)
Sex	
Male	5 (100)
Name of the academic degree	
Doctor of Veterinary Medicine (DVM)	3 (60)
M.Sc in Parasitology	1 (20)
M.Sc in Animal Husbandry	1 (20)
Religion	
Islam	4 (80)
Hinduism	1 (20)
Average duration of service in the department (year)	21(range: minimum-8; maximum-33)

5.2 Role of Companion Animals in Urban Bangladesh

Participants mentioned changes in the present roles of companion animals in Bangladesh compared to the past 10 to 20 years.. The roles of companion animals in the past and present will be discussed separately in this section. Afterwards, the motivational factors behind the changes will be discussed.

5.2.1 Role of Companion Animals in the Past – Pet Owners

Animal owners mentioned that in the past decade or two that animals, specifically dogs, were only used to ensure personal and household security. Presently, the participants stated that role has shifted to be more of a companion. Some participants claimed that owning companion animals was considered a symbol of aristocracy. A 31-year-old LSD officer said:

“...having a dog was considered as a sign of aristocracy. It was also thought that having a pet animal is a sign of novelty.”

This finding echoed with the opinion of many companion animal owners.

Additionally, a few participants mentioned that companion animals were kept to entertain the owners, control insects, and to control household garbage in addition to providing companionship. A 35-year-old female bird owner said:

“My father used to own cats to control rats and other insects. Likewise, it was a common mindset among other people of the urban areas.”

One participant reported that pets were considered as members of the family in the past. Animal sellers did not mention any other roles of companion animals.

5.2.2 Changing Roles of Companion Animals- Pet Owners

Examining the views and experiences of the companion animal owners, Table 4 shows the changing roles of companion animals in recent decades in urban centers of Bangladesh by examining the views and experiences of companion animal owners. All the participants argued that the roles of companion animals have changed significantly compared to the previous few decades. Although almost all companion animal owners shared that in the past, dogs were used for the security of the owners and the household, most owners now considered their dogs as members of their family. A 65-year-old female participant said,

“Now it is thought more from a humanitarian ground. Now, pets are considered as family members... Pet owners nowadays take care of their pets like their own kids. They sleep on our side at night. They have become like our family members.”

Some participants reported that in the past people used to play or pass time with their extended family members including grandparents and cousins. In addition, participants said there were more open spaces and playgrounds for kids. However, due to the increase of nuclear families, kids rarely find anyone except their parents to pass time. Participants also mentioned that open spaces reduced significantly in urban areas in the last couple of decades due to rapid industrialization. As a result, parents acquired pets as a playmate for their children.

Considering the socio-cultural circumstances of the study area, many owners said that at present animals provide companionship to senior citizens, women with no children, and kids with no siblings. Most of the owners mentioned the positive roles of animals in managing day-to-day stressors and ability to work as a “source of mental support system”. Some participants said passing time with animals helped them to handle difficult situations in their lives and not to feel depressed and/or demoralized. One female participant thought

the companionship of her cats helped her not to act on suicidal ideation. A 35-year-old female participant said:

“I had a very hard time when my husband left me alone in the abroad. During that time he [Puchu] supported me mentally a lot. Without his mental support I could have committed suicide- this is my assumption. At that time he worked as my ‘mental support system’.

Some participants thought that taking animals for walks and providing food and other necessary items to the animals helped them to be physically active. A 61-year-old male participant said,

“You are having physical movement due to having your pets. You are walking around your home to bring the necessary things for your pets. Thus, pets help us to be physically active. I run with my pets, bring food for them. So, I could sit idly if they were not with me. It is beneficial for those who have diabetes or cardiovascular disease. Dogs help them to exercise due to their physical movement.”

In addition to the changing roles of companion animals in family life and managing mental and physical health, participants mentioned changes in the social roles of companion animals. Some participants noted that the use of animals in law enforcement in Bangladesh is a recent development and has brought positive impacts in controlling law-and-order. They shared that police and other elite forces use dogs to detect narcotics and explosives in Bangladesh. The majority of the participants stated that companion animals helped them to expand social networks through building friendship with unknown persons as well as developing regular communication with known persons. Some participants opined that companion animals were creating new social identities for them. According to a 35-year-old male dog owner:

“People identify my house as the dog owner’s house. Also, my neighboring people, relatives and friends respect me for my affection and care towards animals.”

In brief, the findings of my study reveals that the roles of HAI have changed in recent decades in Bangladesh. Nowadays, HAI is considered a catalyst to improve the mental and physical wellbeing of the owners and members of the owning families. My study also identified that attachment with pets can play a significant role in reducing loneliness of their

human companions by providing emotional support. Moreover, HAI has the potential to increase physical activity of the owners. From a social point of view, HAI can increase interaction among pet owners as well as non-owners by expanding social networks. Taking these factors into account, HAI from the perspectives of this sample living in urban Bangladesh, can be considered an important catalyst for the well-being of companion animal owners.

Table 4. Summary of owners’ perception of changing role of companion animals

Type	Changing roles
Role in family life	Source of income
	Like family members
	Means to show off
	Create attachment with owners and owning family members
	Source of mental and emotional support
	Dogs ensure security of household assets and owners
	Insect control
	Can help cognitive development of kids of the owning house
Role in mental and physical health management	Companion of the owners and the family members
	Stress management
	Reduce loneliness and depression
	Make owners physically active
Social roles	Use by law enforcement agencies
	Pig is used as food
	Used in scientific experiments
	Increase social dignity and create social identity
	Help to expand social networks among pet owners
	Helps to keep ecological balance

5.2.3 Changing Roles of Companion Animals- Pet Sellers and LSD officers

Table 5 illustrates the opinions of the pet sellers and LSD officers regarding the roles of companion animals at present in urban Bangladesh. Apart from the roles mentioned by pet owners, most of the sellers claimed their businesses were profitable given that the companion animal sector was rising in Bangladesh; the tendency of purchasing animals was increasing and contributing to the national economy. One of the dog sellers said:

“Increasing demand for companion animals among the people of Bangladesh is creating employment opportunities for the young entrepreneurs in Bangladesh.”

Like the companion animal owners and sellers, the LSD officers also mentioned the role of the companion animal market in the economy of Bangladesh.

A 52-year-old seller argued that having companion animals was helping people to avoid certain habits such as smoking and drinking alcohol. Most of the companion animal owners took their animals for walks. As such, he suggested that companion animals were making the lives of the owners more disciplined which echoes the opinion of the pet owners. Some sellers reported that in addition to ensuring the security of the owners, large industry owners were deploying dogs to ensure the security of their businesses.

Both the LSD officers and the animal sellers argued that companion animals were preventing young people from becoming addicted to the Internet and to drugs. A 35-year-old LSD officer said:

“...they [psychiatrists] suggest that pets would help to reduce boredom among the children. According to the experts, children might suffer from different types of psychotic problems or might become addicted to mobile phones, computers, or other harmful drugs. Thus, pets are safeguarding them from these sorts of problems.”

Table 5. Changing role of companion animals

Sellers	LSD Officers
Profitable business	Use in the laboratory for research purposes
Entertaining owners	Companion animals helps to prevent addition to internet and drugs
Symbol of aristocracy	Act like a family member
Make life disciplined	Companion animals are contributing to the national economy
Mental and emotional support	Mental and emotional support
Ensure personal and family security	Dog is used by law enforcement agencies to identify and control criminal activities
Ensure security at large industries	Ensure personal and household security
Companion of the owner and family members	Helpful to expand social network
Like a family member	Companion of the owner and family members
Helps to develop humanitarian values	Helping to develop humanitarian values
Dog is used by law enforcement agencies	
Helpful to expand social network	
Saving young generation from internet and drug addiction	
Helps to reduce stress of the owners	
Mental attachment between owner and animals	
Animal as gift	

5.2.4 Contributing Factors behind the Changing Roles of Animals

All the participants were asked about the contributing factors behind the changing roles of companion animals. Many participants argued that the mentality of the general population, as well as animal owners, changed due to increased awareness of the importance of pets and their rights, especially among young people. Most of the participants argued that social media played a key role in raising awareness about the positive roles of companion animals through motivational posts. A 38-year-old female cat owner said:

“There are several groups on Facebook on cats and dogs. Both pet owners and non-owners are joining in those groups. So, they are observing the activities. Sometimes they post some posts to raise awareness.”

Some participants stated that the attitudes and behaviours of western society towards pets has greatly influenced the people of urban Bangladesh. They stated that due to availability of the internet, people can see how animals are being treated as well as the benefits of HAI. A 23-year-old male dog owner reported:

“In the past, [in Bangladesh] animals used to live on the street and people sometimes used to feed them. To me, the reason behind this change is, love for animals are growing in our mind due to being influenced by western culture. We see, dogs and cats are being loved in the west; they treat them [dogs and cats] as a family member. Thus, love for animals is growing in our minds due to the influence of Western culture. Therefore, I think it has improved compared to the past.”

Facilities where people can own companion animals as well as veterinarian services have increased in Bangladesh. Some participants argued that the availability of both companion animals and treatment facilities has increased compared to the past. Some participants also mentioned that promotional activities by the sellers, and in-person group activities organized by the animal lover groups, motivated them to own pets. In addition, enactment of the law for animal welfare, and initiatives taken by the Bangladeshi government to vaccinate animals, influenced owners to purchase companion animals as they had more support from their family members.

A 25-year-old companion animal seller said that an Islamic scholar motivated people by saying that “owning a cat is *Sunnah*”. As a result, the seller observed an increasing trend of purchasing cats among Muslims. Additionally, most of the participants mentioned that

there was a rapid increase of owning companion animals during the COVID-19 pandemic and the lockdown situation in Bangladesh. A 45-year-old female dog owner argued that people could not go outside during the lockdown and thus started owning animals to pass time. Additionally, a 35-year-old LSD officer said:

“...pets helped their owners to overcome distressing situation during COVID-19 pandemic. Psychiatrists are recommending to own pets considering this importance.”

Socio-demographic characteristics, such as age, gender, occupation, and socio-economic status of the owners influenced the choice to own animals as well as the kind of animals they owned. The perceptions of companion animal owners, sellers, and LSD officers about the ‘influence of socio-demographic factors of the owners on owning behaviour’ coincides in most of the cases. Animal sellers mentioned that newly married couples living in small apartments and people with kids owned more birds. Additionally, most of the male animal owners were interested in owning birds and dogs given that they required more time and labor and they had it. They added that birds’ cages need to be cleaned regularly. They also shared that dogs are bigger in size and it can become difficult for females to control them. Most of the LSD officers and animal sellers reported that females were more interested in owning cats. For them, cats were soft in nature and looked more beautiful compared to other pets. Additionally, they shared their views that women’s motherly instinct and attraction for beauty and/or cuteness made owning cats more attractive to them. All the LSD officers suggested that many companion animal owners in the study areas were female. Further, most of the pet owners were either students (aged between 18 and 25 years) or senior citizens (aged 50 years and above). Like the LSD officers, the animal sellers reported that economic status was a contributing factor behind owning pets. This is to say that high and middle-income people owned animals at a larger rate compared to people with lower socioeconomic statuses. A 42-year-old pet seller said:

“It is expensive to own pets since it requires food and treatment. It is difficult for the lower income groups in urban Bangladesh to lead their lives with limited income. Thus, in general they rarely own pets.”

Moreover, the animal sellers shared that government officials, factory owners, and law enforcement agencies owned dogs for personal and security purposes. Older adults,

retired people, and people who had enough space at home were more interested in owning dogs.

5.3 Owners’ Perceptions about Benefits of Owning Companion Animals

Owners perceived several benefits of owning companion animals, including social, religious, mental, physical, financial, and ecological benefits. Table 6 outlines the benefits of owning companion animals as perceived by the owners. Each category of perceived benefits is discussed separately.

Table 6. Owners’ perceptions about social benefits of companion animals

Type	Benefits
Social	Make a balance of the ecosystem
	Household garbage management
	Ensure social balance
	Helps to expand social networks
	Ensure balanced relations within the family
	Ensure social security
	Control pests in the household
	Religious benefits
	Restricts bad companies and habits
	Help to prevent addiction to drugs and internet
	Helps to maintain law and order
	Source of income
	Creating employment opportunities
Mental health	Source of mental and emotional support
	Reduce loneliness
	Help to reduce stress and depression
	Help to reduce the rate of suicide
	Consume negative energy
Physical health	Make owners physically active
	Helpful for persons with cardiovascular diseases and diabetes
	Reduce hypertension
	Birds can reduce breathing problems and allergic problems of kids
	Helpful for mental and physical development of kids
	Helpful for sound sleep
	Helps to reduce diabetes
	Helps to maintain disciplined life
	Companion animals helps to prevent drug addiction
	Companion animals are used for experiment purpose to invent medicines
Helps to cessation of smoking	

5.3.1 Social Benefits

Several social benefits of pets included social change, extended interaction with family members as well as others, and religious benefits. Each of the perceived social benefits are discussed below. My study suggests that HAI has the potential to make positive changes in society. Findings indicate that HAI can help to bring social balance through developing humanitarian qualities among humans. This study indicates that owners can attribute and recognize the feelings of their pets due to their attachment with them. For example, through feeding animals, owners could learn to feed a human being. A 35-year-old dog owner said:

“... social change is possible through it [owning an animal] - if we can start with loving animals then our human values will reemerge. Then we will be able to realize that we should love both human beings and animals.”

A 61-year-old male cat owner stated that companion animals have positive impacts on psycho-social and empathy development of children. He said:

“...kids become more tolerant, humanitarian due to close contact with animals in their childhood. They feel the pains of humans more compared to those who did not have close contact with pets in their childhood. Even the mentality of bullying other kids does not grow if they have contact with pets.”

Similarly, a 25-year-old female cat owner said companion animals broaden thoughts of the owners. According to her:

“[Companion animals] they have broadened my horizon; they have broadened my way of looking at things. They have changed my perspective; they have affected my attitude towards the non-human beings. I think I am much kinder than I used to be when I was not that committed towards the non-human beings. So, I think I am a changed person because of the animals that I am bonded with.”

A 38-year-old female cat owner argues that love and affection for animals enhance social dignity. For her:

“...people know me because of my love for animals. For example, one of my senior colleagues somehow came to know from others that I feed, and provide treatment to street animals. I know him personally because he is a senior professor; thus, known to all. One day I met him in a seminar. He

called me by my name. After that, he told me, ‘You are junior to me but I feel like if I could salute you! I am amazed to hear about your affection for animals.’ So, this is a huge achievement for me.”

5.3.2 Helps to Expand Social Interactions and Networks

Most of the companion animal owners reported that pets have a positive role in expanding their social networks. All of the participants mentioned that their companion animals were helping them to enhance their interactions with their neighbors, family members, colleagues, as well as with known and unknown persons. Participants also argued that building and/or improving interaction with their societal members was benefiting humans, animals, as well as the whole of society. They argued that companion animal ownership can create social bonding between themselves. A 35-year-old female bird owner said:

“People in the urban areas of our country rarely visit their neighbors’ and/or relatives’ houses. But there are three families in this building who own pets. So, we talk with each other about our pets. They come to my house to see my birds. Also, I go to their house to see their pets. However, we could not know each other if we did not have our pets. Even we could not visit each other’s house if we had not our pets.”

A 61-year-old male cat owner reported that many of his relatives used to visit his residence only to see his cats. For him, these sorts of visits were not limited to seeing animals. Rather, it helped him relate to his family and strengthen their relationships. A 26-year-old female dog owner said she and her family members never felt upset due to having their dog. For her, the dog united them and helped them to interact with each other. A 35-year-old female dog owner also opined that owning and taking care of animals requires teamwork. Thus, she could not quarrel with her family members given that they needed to take care of those animals together. Likewise, a 35-year-old male dog owner said:

“On my return to home from my work, I play with Jack [the dog]. My two years old kid also join us. Additionally, Jack accompanies me every day in the evening when the members of our family meet in the drawing room to watch TV. My 70 years old father enjoys playing and passing time with Jack. Every member of my family love Jack a lot. Thus, Jack has become like a common subject of our attention.”

A 38-year-old dog owner and animal activist reported that she was a member of several animal lover associations. All the members of those associations had their own companion animals. According to her, the members of that association worked together to protest all sorts of violence against pets as well as stray animals. The members of those associations lived in the same town, and they used to meet bi-weekly. When asked about being a member of these associations, she mentioned that she felt a sense of belonging and closeness with the other members. She said:

“We are meeting each other because we own and love animals; there is no other reasons behind meeting each other. When these humanely people are meeting each other, it helps us to exchanging positive ideas for the well-being of humans and animals. I am having very good mental attachment with some other people due to having my pets. I feel better to get introduced with unknown people. Also, I come to know who my true friends are.”

All of the participants mentioned that there were several Facebook pages available online that promoted activities related to pet animals. More specifically, they posted about animal adoption, notified others of when animals were in danger, provided information about proper ways to own animals, and raised funds to feed and provide treatment to stray animals. Further, the participants noted that the Facebook groups focused on violence against animals and spread information about rights of tenants who faced problems finding housing if they were pet owners. A 26-year-old female dog owner said there were approximately 400,000 followers of her Facebook page. Importantly, to her, several Facebook users from different countries followed the page.

This study suggests that pets have the potential to initiate friendship between people. It can also improve interaction among family members due to taking care of the pets. Pets can help to develop friendships with hardly known and unknown people due to having companion animals. Therefore, HAI can play a key role in expanding social networks.

5.3.3 Religious Benefits

All of the participants mentioned that religion is one of the key factors that influenced their decision to own animals, particularly for the Muslim participants. They mentioned that owning dog inside a bedroom and/or as a companion animal is “*haram*” (strictly forbidden) in Islam. On the other hand, owning cat is considered “*sunnah*” (everything Prophet Hazrat Mohammad said, did, and approved) in Islam. A 35-year-old

female participant said:

“Many people consider Abu Hurairah as one of the favorite companions of the prophet (SM). The meaning of Abu Hurairah is the father of cats; we do not know his exact name. He used to take cats to the mosque. Also, cats used to sit on his shoulder while saying prayer. Thus, people might think that they will be awarded after death if they own cats.”

A 19-year-old male cat owner considered cats sacred (*pobitro*) animals given that one day the prophet Hazrat Muhammed (SM) made ceremonial washing before prayer (“*wudu*”-) with the same water that a cat drank. Further, a 23-year-old male dog owner said, “...rearing any innocent (*obola*) animal is a matter of virtue (*soab*).”

5.3.4 Mental Health Benefits of Pets

One of the key features of pets, perceived by the majority of participants, was that they are very efficient at reducing depression and loneliness. Almost all of the companion animal owners (19/20) mentioned that their animals provided mental and emotional support to them. Findings of my study indicate that participants felt that to combat symptoms of depression, people were acquiring companion animals, spending time with animals was needed to help their mental state. A 27-year-old pet owner said:

“In recent times people of our country are becoming depressed due to several reasons. As a result, people are increasingly owning pets to get rid of from depression. They think, passing time with companion animals might help them to get mental peace. Pets are very useful for society given that humans are gradually becoming robotic. So, pet owners are sharing emotions with their pets. Both pets and the owners are understanding the emotions of each other.”

Some participants mentioned, cats can consume negative energies from its owners and help them to be relaxed. Similarly, a 61-year-old retired male participant said that companion animals helped him to reduce loneliness and get rid of stress. A 23-year-old male participant said that young people nowadays suffer from depression given that they become worried about their lives and careers. As such, he used to pass time with his pets whenever he felt worried. For him:

“I feel relaxed when I see my birds are chirping. Pets help us to get mental peace. I mean, it helps us to improve our mental health condition.”

A 35-year-old female participant said she did not feel a reduction in stress by simply passing time with her pets. Rather, she found relief in passing time by taking care of her animals. She also said:

“I am a divorcee- it is a ‘mental pain’ for the members of my family. We never feel that pain due to my pets. They reduce our mental pain a lot. We could think about the painful past of my life if they were not with us; it could distress the lives of my family members as well. Due to my cats and dogs, we forget our bitter life experiences and feel refreshed.”

Participants felt that companion animals may also reduce suicidal tendencies among their owners. A 26-year-old female cat owner reported that sometimes she thought about committing suicide, but her affection and attachment towards her pets made her think positively about life and the world. Similarly, a 35-year-old female participant mentioned that she had a very difficult time in her life and could have committed suicide if she did not have companion animals. One of the participants stated that one might suffer from depression if loneliness lingers in his/her life. He added that anyone can decide to commit suicide because of long-term depression.

5.3.5 Physical Health Benefits

Analyzing the perceptions of the participants, Table 8 presents the health benefits of owning companion animals perceived by the participants. Major physical health benefits of HAI perceived by the participants include controlling associated risks of cardiovascular diseases, diabetes, stroke, and hypertension. Participants argued that mental support received from companion animals also helped them to have sound physical health. One of the participants opined that physical health, mental health, and well-being are interrelated. He added that companion animals can keep their owners both mentally and physically fit. Most of the participants mentioned that their pets helped them to be physically active. According to them, physical activity arose from caring for companion animals and this helped people with diabetes and cardiovascular diseases. A 61-year-old male cat owner said:

“You are having physical movement due to having your pets. You are walking around your home to bring the necessary things for your pets. Thus, pets help us to be physically active. I run with my pets, bring foods for them. However, I could sit idly if they were not with me. It is beneficial for those who have diabetes and

cardiovascular diseases. Dogs help them to have exercise due to the physical movement.”

Some participants mentioned that companion animals could help to increase physical activity. A 21-year-old cat owner said he was an engineering student and used to study for a long time and therefore felt mentally and physically tired. Thus, he used to walk around the house with his cats to combat fatigue. He said, “I might not take a walk around my house if Minu [the cat] were not with me.” A 65-year-old female dog owner said she has diabetes and was overweight. A doctor suggested she walk regularly in the morning to control her sugar levels and to reduce body weight. However, she had trouble waking up in the morning. As such, the doctor suggested she own a dog so that she can take her dog outside for a walk in the morning. The participant reported that she successfully reduced her weight after acquiring a dog. Some pet owners claimed that interaction with their pets helped them to be mentally relaxed, which in turn was helpful to control their hypertension and insomnia. A 35-year-old male bird owner argued that mental and physical well-being are interrelated. He said that mental happiness caused by HAI has the potential to reduce the risk of stroke, cardiovascular diseases, and hypertension. A 38-year-old male dog owner reported that since he acquired a companion animal, he enjoyed sound sleep at night. According to him:

“I had very high blood pressure in the past. Additionally, I had sleep disturbances at night. Since I owned the dog, I try to pass at least one hour with my dog before I go to bed. It helps me to feel mentally refreshed. Believe it or not- I do not take any medication for my blood pressure since then. I also do not feel any sleep disturbance now.”

A 35-year-old LSD officer reported that he saw several YouTube channels where psychiatrists suggest parents provide companion animals to their children instead of mobile phones or other electronic devices. For him, the psychiatrists are convinced that HAI has a positive role in mental and physical development of the children. He added that HAI can teach young people in their childhood about ways to be responsible for others. He also stated that companion animals could help children spend better quality time at home.

5.4 Challenges of Owning Companion Animals-Pet Owners

In contrast to the perceived benefits, owners also indicated certain challenges of owning companion animals in urban Bangladesh. The challenges are grouped into three

broad categories: familial, social, and religious factors. Table 7 presents those factors to illustrate the challenges perceived by companion animal owners.

Table 7. Owners’ perception about challenges for owning companion animals

Type	Challenges
Familial challenges	Family members do not like pets (especially parents and elder members)
	Misunderstanding with husband due to pets
	Family members feel disturbed
	Impacts on family events (Lack of facility to keep pets temporarily)
	Expenses for owning pets
	Lack of space in the household
	Trauma/grief due to sickness and death of pets
	Difficulties to manage extra time for pets
Social challenges	Misinformation and superstition about pets
	Negative impacts on social interaction
	Complain of the house owners and neighbors (Tenants do not show interest to rent house; Cat kills neighbor's chicken and pigeon; Pets were killed by neighbors through poisoning)
	Fastidiousness of neighboring people
	Aggressive and hunting instinct of dogs
	Campaign against rearing pets
	Rat is considered as state's enemy in Bangladesh
	Lack of awareness among mass people about animals' rights
	Lack of treatment facilities
	Lack of pet friendly environment
	Lack of implementation of the law for animals' welfare
Social stigma	
Religious challenges	Religious fatwa
	Rearing bed dog is haram

5.4.1 Familial Challenges

Most of the participants mentioned that they had issues with their family members for owning companion animals. They mentioned that their family members did not like them owning pets. For instance, a 35-year-old female cat owner said she had conflicts with her brothers due to owning cats. She said:

“My elder brothers told me that they won’t come to my house due to owning cats; they did not like the smell caused by urines and feces of cats. I asked them, ‘do you abandon your kids for their pee and potty inside your houses?’”

Some participants said that their family members felt disturbed due to them having pets. A 35-year female companion animal owner said:

“I did not like attitudes of my husband towards my dog. I could not tolerate, but I had to stay calm because I did not have anything else to do because we live in a patriarchal society. So, I had to tolerate all these behaviors of my husband to survive in the society.”

A 25-year-old female companion animal owner reported that her family members, especially her mother and elderly members of the household, did not want her to own a cat given that they were concerned about the smell of cat urine and the cleanliness of the litter box. They were also concerned that cats might make the household dirty. Due to these issues, she had to live with her cats in a separate rented house apart from her own house located in the same town. A 35-year-old male bird owner said most of the middle-class families of Bangladesh struggle throughout their lives to simply survive. Thus, pets became a burden for them. He added:

“I must purchase additional foods for my birds which is expensive too. I also care about their emergency treatment and other care. So, people of our society sometimes say that ‘he who cannot arrange his own foods is wasting money for animals’.”

Some participants mentioned that it became challenging for them to organize family reunions outside their home or make long travel plans due to having pets. As they explained, companion animals sometimes hampered family events. A 61-year-old cat owner said:

“There are only 2-3 shelter houses in my town. So, it is a challenge for us that we cannot go out for a long time. Once we took them with us and it was only possible because the hotel allowed pets. But it is a sort of disadvantage because we need to reconsider our family events for them.”

Some owners reported that it was difficult for them to manage extra time for taking care of and training their pets. A 23-year-old male bird owner said he had quail birds along with case birds. However, he had to sell the quails because he could not manage time for them. Likewise, A 34-year-old male cat owner also surrendered one of his cats to a shelter given that it became troublesome for him to take good care of more than one cat.

Many participants were concerned about the possible sickness and death of their pets. A 25-year-old female dog owner said she was unable to eat due to anxious thoughts about her dog becoming ill. Further, a 23-year-old male cat owner mentioned that he was concerned about grief due to the future death of his cat. According to him:

“I do not know how I will control my emotion when my Minu [the cat] will die in the future! It would be a real hard time for me to overcome the situation. Therefore, sometimes I think of adopting another cat from now so that it can help me to overcome the mental trauma of Minu’s loss.”

5.4.2 Social Challenges

Common social challenges of owning pets include fear of social stigma associated with pets, superstitions, and lack of spaces in urban households to own pets. Almost all the participants mentioned that Bangladeshi people in general are afraid of dogs and cats for fear that they might bite and/or scratch. A 27-year-old male dog owner said:

“They [general people] might be afraid of dogs and cats due to negative counseling about dogs by their family members.”

Some participants mentioned the issue of owning companion animals in urban areas as the density of households and the housing pattern in Bangladesh can be problematic. For example, neighbors of people who own dogs will often complain about the noise dogs make when they bark. Also, there is no open space in urban households for pets to walk or exercise. A 35-year-old female companion animal owner said:

“...the housing pattern of our urban areas is different compared to other countries. The apartments are very small in size. Movements become very difficult in small apartments. Thus, rearing companion animals in a small apartment is almost impossible.”

A 25-year-old female cat owner claimed that there were some common social beliefs and/or superstitions about pets among the Bangladeshi people. For her, sometimes the color of the animal can influence how individuals and the general population feel toward it. She purchased her first cat at a cheaper price as the seller was having a hard time selling it due to its color. She added:

“I had fascination for black cats since my childhood. However, people

of our country believe that black color is a symbol of ‘misfortune’.

Thus, they have same perception about black cats. There is a superstition in our country that black cats are a symbol of bad luck. So, I took an antiracist agenda and owned black cats.”

Many participants mentioned social stigma towards animal owners. For instance, one of the participants mentioned that people laughed at them for owning animals given that they did not believe that animals should have rights like humans. A 65-year-old female cat owner reported that she did not want to let people know about her pets because members of the community rebuked her for feeding street dogs. Thus, she went to feed animals in the evening so that no one, especially her neighbors, would see her. She rarely faced her neighbors because they used to scold her. She said:

“I feel upset due to my neighbors’ comments; I feed them [stray animals] with my own cost; I do not seek help or money from them to feed these animals. I do not know about their actual problem! That’s why I do not want to face them.”

Many participants mentioned the lack of facilities, including treatment facilities, pet friendly transportation systems, adequate open space for taking pets for walks, and no being able to take animals to work. A 35-year-old male bird owner said:

“In our country context as well as considering my workplace environment, it is not feasible to take pets with me to my workplace.”

Some participants claimed that there was a lack of implementation of laws related to animal welfare. One of the owners claimed that there was no government authority to oversee this issue. Meanwhile, a 25-year-old female participant said she wanted to own a rat, but it was a challenge given that rats were considered the state’s enemy in Bangladesh. She said:

“Rats are considered as state enemies in our country, because they damage food and clothes. At a certain time, the government of Bangladesh declared awards for killing rats. As such, it was another reason behind not getting rats’ acceptance in my family. Also, I was told to own an alternative pet except for rats.”

5.4.3 Negative Impacts on Social Interaction

Some companion animal owners reported their negative experiences with social

interaction. A cat owner said many of his friends told him that it was not possible to visit his house due to him owning so many cats. His friends had allergic reactions to cats and had trouble breathing around them. A 23-year-old female companion animal owner said:

“Many of my friends do not like dogs. That is the reason why I cannot invite them to my residence. They are afraid because they might find furs in foods in our house. Thus, many of my friends do not come to my house. Many of my relatives do not come to my house with their children. They think cats and dogs might bite them and scratch on their body with nails. Even that’s why I do not offer anyone foods in my house.”

All the companion animal owners reported that they had bitter experiences related to living in rented houses with companion animals. A 25-year-old female dog owner said:

“...you have to be very submissive if you have a dog and you want to rent a house in Bangladesh.”

A 38-year-old female participant said she had to change her residence several times for owning pets. The landlords felt disturbed by the animals and notified her to leave. Her neighbors and landlords were fastidious and used to complain against her frequently. Further, her parents were also unhappy since her neighbors quarreled with her. She explained it as a humiliating situation. According to the participants, most landlords do not allow any pets; they think that pets make the house dirty. In fact, it is mandatory to have permission from the landlord if you want to own pets. One of the female bird owners said:

“I have seen several posts on Facebook. For example, one person wrote that she was given notice due to having five cats. The house owner had problem due to washing the pets on the roof top.”

A 25-year-old male cat owner said he had a dog in the past, but it was killed by one of his neighbors through poisoning. Similarly, a 38-year-old female cat owner said she had conflict with her neighbors several times given that they assumed that their pigeons and chickens were killed by the cat. A 26-year-old female dog owner had problems with finding suitable residences to stay at with her dog. She had to bargain with her landlords. One of them said to her:

“...furs, saliva, feces, and urines of animals are unholy (napak). Also, you should be ashamed of staying with your dog in a haji’s house.”

In contrast to the benefits of owning companion animals, a 34-year-old male cat

owner raised negative as well as ethical concerns. For him, “Owning pets have some negative impacts on ecological balance.” A 25-year-old female companion animal owner said she never owned birds in cages given that she could not morally justify it. Moreover, she was taught by her grandparents in her childhood that confining birds to a cage is a sin and violation of their rights to fly in the open sky. Likewise, a female bird owner said there are several Facebook pages where owning pets is discouraged through raising ethical concerns about violating animals’ rights.

Two companion animal owners claimed that religious scholars have given fatwas that are not aligned with the principles of Islam. A 25-year-old (Muslim) companion animal owner said:

“...all the religions have told to be kind towards animals. In fact, Prophet (SM) himself told to be kind towards animals. In Islam, there is a well-known story that a non-Muslim woman gave water to a dog and due to that she was granted *Jannah*. So, these are the stories which help to grow animal friendly, especially dog-friendly attitude among us. In my opinion, Islam cannot forbid owning dog. I think, not only Islam but also all other religions cannot allow to be animal unfriendly.”

A 23-year-old Muslim male companion animal owner was also raised with similar concerns. He was dubious about the depth of knowledge scholars had about the basic principles of Islam, given that it is a religion of peace. For him, Islam cannot be so rigid and rude about any creature of Allah. He also said:

“This is the problems of the Islamic scholars. They [scholars] do not like animals. They would tell you half explanation (fatwa) and won’t tell you the rest. For example, many companions of the prophet owned cats, but no scholar tell people to own cats. It is said in Islam that owning dogs inside bedroom is not allowed, but you can own them for guarding your house. At the same time, Islam does not permit brutality against any animals. But the Imams’ do not tell this hadith.”

However, all the companion animal owners argued that as a Muslim majority country, basic principles of Islam about owning animals like dogs, pigs, turtles, and tortoises becomes a key challenge for the people of Bangladesh. A 34-year-old male cat owner argued that from a religious point of view, all Muslims must consider the issue of *halal* and *haram*. For instance, he said the saliva of dogs is unholy. Thus, one must wash themselves if any

dog touches them. Likewise, a 23-year-old male cat owner said:

“It has been said in Islam that dogs cannot be kept inside the living room. It means, inside the boundary of the house. It is because the angel of kindness (rahamat) does not enter the house if there is any dog inside the territory of the house. So, we cannot challenge the principles of Islam.”

I discussed the perceived benefits of owning companion animals which contradicts with the perceived challenges in this sub-section. For example, owners argued that companion animals have a positive impact on making friendship with other pet owners and non-owners. It also helped them to expand their networks. However, the findings of this sub-section indicate that religious dogmas, perceptions, and attitudes of the societal members are restricting their social interactions. Despite the challenges mentioned by the owners, they were still owning pets.

5.4.4 Challenges of Owning Companion animals- Pet Sellers and LSD Officers

Examining the opinions of the pet sellers and LSD officers, Table 8 presents the challenges of owning companion animals in the urban areas of Bangladesh from the perspective of pet sellers and LSD officers. As a note, most of the points overlap with the perspectives of the companion animal owners. Thus, only points that were not discussed in the previous section will be explained here.

Table 8. Challenges of owning companion animals- sellers and LSD officers

Companion animal sellers	LSD Officers
Neighboring people raise complain	Owners suffer from psychotic problem
Lack of open space in the household	Lack of support from the law enforcement agencies regarding animals' rights
House owners do not allow tenants with pets	Lack of awareness among the owners regarding maintenance of companion animals
Rearing pets is expensive	Lack of awareness among the owners
Fear about transmission of diseases among family members	People are afraid of dogs
Lack of knowledge about maintenance of pets	Expensive to own pets
Lack of expert veterinarians	Lack of space in urban households to own pet
Lack of family support	Neighbors and apartment association hardly allow tenants with pet
Religious beliefs about dog	Religious barriers in owning dog
People rebukes for earning livelihood through selling animals	
Lack of pet-friendly transportation facility	
High taxes on animal food and medicines	
No legal provision of exporting animals	
Lack of implementation of animal welfare law	

From the perspective of animal sellers, some participants mentioned that people rebuked them for earning their livelihood through selling animals like dogs. A 52-year-old animal seller said he did not sell dogs because he felt uncomfortable earning a livelihood that way. Likewise, a 26-year-old animal seller mentioned religious beliefs of other sellers in the market about selling dogs. He said:

“Most of the storekeepers of this market are Haji. Thus, we do not sell dogs here. It is because selling dogs is haram as per Islamic religious principles. All the sellers are committed not to sale any dog in this market.”

Like the pet owners, some animal sellers reported that a lack of implementation and updated laws governing animal welfare in Bangladesh is making it difficult for them to sell animals. They argued that this sector could expand and contribute more to the national economy if they were allowed to export animals from Bangladesh. One of the animal breeders argued that animals are not allowed to be exported outside the country’s borders, given that Bangladesh lies in the red zone of zoonotic disease, especially avian influenza. In addition, high taxes on animal foods and medicines are a barrier for owning animals at a personal level.

Compared to the opinions of the animal sellers and owners, the LSD officers mentioned two additional challenges. First, some LSD officers claimed that companion animal owners suffered from different forms of psychotic problems due to having extreme affection and attention towards their animals. As a result, loss of companion animals could cause mental and emotional problems like traumatization from grief. A 35-year-old LSD officer stated that owners sometimes give more priority to their animals than their immediate family members, which leads to conflict, even separation, with family members.

5.4.5 Perceived Risks of Zoonotic Disease Transmission

All the participants were asked about the potential risks of transmitting diseases from pets to humans and humans to pets. This question was asked to understand whether the risks of disease transmission influenced the participants’ pet owning behaviours. Most participants indicated that pet owners were less concerned about the possibility of disease transmission although most of them heard about the likelihood of transmitting rabies, allergic problems, and diarrheal diseases. However, the LSD officers reported a lack of awareness among pet owners about taking preventive measures against zoonotic diseases. They also stated that

there is a high chance of contracting diseases from animals including pets.

Table 9. Perceived risk of zoonotic diseases transmission

Participants	Risks
Companion animal owners	Dog's and cat's bite leads to rabies
	Chance of transmitting COVID-19 from humans to animals
	Dog's and cat's saliva reduce immunity of human body
	People might become paralyzed due to exposure to dog's and cat's saliva
	Feces, feathers and the bad smell might cause diseases
	Chance of skin disease due to close contact with cats
	Possibility of transmitting unknown or emerging diseases from pets
	Have not heard about human to animal disease transmission
	Dog's and cat's furs might cause diarrhea
	Dog's and cat's furs might cause diphtheria
	People bitten with rabies-infected dog or cat might give birth of puppies or kitten
	Birds might carry the germ of typhoid
	Birds might cause Nipah virus among humans
Animal sellers	Dog's and cat's bite leads to rabies
	Feces, feathers and the bad smell might cause diarrhea
	Might cause allergic problems
	Likelihood of breathing problems due to dusts and furs
	Possibility of transmitting bird flu
	Cats and dogs might carry germs of unknown diseases
	Can be a carrier of coronavirus
	Humans can be carrier of diseases for pets
LSD officers	Feline infectious peritonitis infection among cats has increased significantly due to the human coronavirus outbreak
	Human coronavirus has emerged from animals
	High possibility of transmitting rabies
	Likelihood of transmitting Toxocariasis through cat
	Parasitological diseases are transmitted through pets
	Emerging diseases that are most probably emerging from animals
	Animals are transmitting some re-emerging diseases
	Likelihood of spreading worm, and flea, from cats or dogs to humans
	Majority of the viral diseases of humans are of animal origin

Almost all the pet owners (19/20), all the sellers, and all the LSD officers mentioned several possibilities of transmitting diseases from humans to animals and animals to humans. However, a 35-year-old male bird owner said:

“To my best knowledge, humans cannot spread diseases among pets. Also, I have not heard about it.”

Other than that, almost all the participants mentioned the likelihood of suffering from rabies due to bites from dogs and cats. According to a 22-year-old male dog owner:

“There is a common perception among the people of our country that dog bite leads to rabies. So, it is better to stay away from them.”

One companion animal owner said that he heard about the possibility of transmitting COVID-19 virus from companion animals to the owners. A 22-year-old cat owner said there is bacteria in dogs’ saliva which reduces immunity in human body; people might become paralyzed due to being infected with those bacteria.

A 25-year-old female cat owner said there was a common belief in Bangladesh that anyone with bite or scratch with cats or dogs would suffer from rabies. The infected person would give birth of kitten or puppies. Further, many participants mentioned that animal fur, feces, and saliva carry typhoid, diarrhea, and diphtheria. Some participants also claimed that they suffered from allergic problems and breathing problems due to having close contact with birds and cats. A 35-year-old female bird owner said:

“Many people say that cats’ furs can cause dysentery, but I do not agree with them. You can call it as a “social taboo”. Also, some people tell that birds will transmit Nipah virus among the humans. Even my mother-in-law told it to me. I told her that Nipah is mainly transmitted from bats. But she told me that it can be transmitted from all birds.”

One of the LSD officers reported that more than 70% of the viral diseases of humans are of animal in origin. Similarly, another 58-year-old LSD officer argued that there is a great likelihood of transmitting diseases from animals to humans. He believes that the recent coronavirus has also emerged from animals, although there is a controversy about the animal that transmitted the virus. He said:

“60% to 70% of the total diseases are transmitted from animals to humans. Also, there are some emerging diseases that are most probably emerging from animals. Animals are transmitting some re-emerging diseases as well. In addition, there are some zoonotic diseases as well-meaning that these diseases can be transmitted from animals to humans and humans to animals.”

Further, a 33-year-old LSD officer expressed his concern about the transmission of

zoonotic diseases due to a lack of awareness among the animal owners in Bangladesh. He said:

“I assume, roughly 30% of the animal owners are concerned about the transmission of zoonotic diseases and they are taking precautions. I mean to say, they are vaccinating their pets. However, the rest of the pet owners are careless due to not being aware.”

A 52-year-old LSD officer reported an unprecedented increase of coronavirus in cats since the onset of the COVID-19 pandemic. He was dubious about the source of infection but recommended further research to identify the root cause. He said:

“...cats are the carriers of coronavirus; they had corona in the past. The corona is an animal origin virus. In the past, we used to call cats with coronavirus as the feline infectious peritonitis, which is a coronavirus, coronavirus of the cats. The feline infectious peritonitis infection among cats has increased significantly due to the human coronavirus outbreak. We receive a lot of cats infected with this virus.”

The animal sellers were also concerned about the possibilities of transmitting diseases from animals to humans and vice versa. In addition to the possibilities of transmitting rabies, diarrhea, and allergies, most of the sellers reported that they suffered from breathing problems due to close exposure to fur and dust over long periods of time. Some participants were concerned that there is a chance of transmitting bird flu from birds to humans and other animals. Moreover, they mentioned the likelihood of transmitting coronavirus and similar emerging and unknown diseases from animals to humans. At the same time, they were aware about the chance of transmitting diseases from humans to animals.

Overall, findings of my study indicate HAI has the potential to promote social interactions, decrease loneliness through providing companionship, and reduce the risks of health problems. Findings also indicate participants perceived several social challenges such as conflict with family members, neighbors, friends, and colleagues. They were also concerned about the possibility of transmitting zoonotic diseases. Participants also identified the contributing factors, such as increasing awareness among people about positive impacts of HAI, availability of pets, as well as influence of Western pet culture.

CHAPTER 6- DISCUSSION AND CONCLUSION

To recap, I recognized the concept of zooeyia in this study and examined the social, psychological, and physical health benefits of owning companion animals in urban Bangladesh. In addition, I applied the general One Health Framework to understand the perceptions and the challenges of owning companion animals in urban Bangladesh as well the impacts of HAI in human well-being. I used some relevant concepts of symbolic interaction theory, social support theory, and attachment theory to understand how social, psychological, and physical health from companion animals may impact the well-being of the owner. To explore the perceptions of the pet owners, sellers, and LSD officers, I utilized an explorative research design.

Drawing from the key findings, this chapter will discuss the results pertaining to human-companion animal interaction: (1) the changing roles of companion animals and the contributing factors behind those changes, (2) contextualization of HAI in strengthening social relationships and well-being, (3) perceived social benefits and challenges of companion animals. Next, I will point out the linkages between the findings of this study and the theoretical and conceptual framework described in Chapter 3. Finally, before drawing concluding remarks, I will discuss the limitations and potential future avenues for animal-related research in Bangladesh.

6.1 Changing Roles of Companion Animals and Contributing Factors behind the Changes

6.1.1 Changing Roles

The findings of my study indicate that participants believed and provided evidence that there are changing, as well as conventional, interactions between humans and companion animals in two urban centers in Bangladesh. Regarding the traditional roles of companion animals, my results points out that approximately two decades ago, most people in Bangladesh owned livestock, including cattle, goats, buffalos, ducks, and hens. The findings also relay that the primary purpose of owning livestock was to use them for agriculture purposes to produce milk, meat, and eggs for families. To meet household demands, milk from cattle and eggs from chickens and ducks were a source of income for the owners, especially for women in the household (Siddiq & Habib, 2016; Rahman et al., 2014).

The data also suggest that the concept of companion animals is evolving in Bangladesh. In the past, almost all households used to feed stray dogs and cats but owning them inside the houses and/or bedrooms was rare. This study indicates that, other than livestock, a few elite classes of people used to own foreign breeds of cats, dogs, and local breed birds, including mynah and parrots. Participants described how the elite class used their dogs to secure their household, and others used cats to control pests such as rats and cockroaches. Evidence from my study suggests that in the past, very few owners considered pets as companions or treated pets as members of their family. Having pets was previously considered a symbol of aristocracy. Most people in the middle socioeconomic and some in lower socioeconomic classes owned livestock to make money and to have a secure source of food. (Siddiq & Habib, 2016; Rahman et al., 2014; Hossen et al., 2010).

Compared to the previous couple of decades, participants stated that companion animals have become more popular in Bangladesh. This research indicates that due to rapid industrialization and urbanization, people in urban centers are feeling lonelier given the increase of nuclear family and less interaction with their neighbors. Findings of this study also suggests that the availability of pets, related information on the internet about pet maintenance, as well as increasing awareness about animal companionship were the key factors behind growing interests in owning pets. Additionally, pet-related culture in western countries made people aware about the potential benefits of HAI.

Religion was identified as one of the major determining factors of pet ownership as well as types of pets being owned. It was believed by a majority of Muslim participants that owning a cat is rewarding because it is aligned with their religious belief. Whereas owning dogs as pets was less common among the Muslims, given that it is forbidden to own a dog except for guarding and hunting. This principle of Islam was found to be highly influential among the Muslim pet owner participants. This finding echoes several studies on HAI across the world as well with the Islamic literature (Knobel et al., 2008; Subasi, 2011). Perry and Burge (2020) also suggest religion as an influential factor behind HAI. Although they found church attendees were more interested in owning dogs (Perry & Burge, 2020), I found several restrictions in owning dogs.

Compared to the past, most participants agreed that increased industrialization and urbanization in Bangladesh left a lack of open space to take companion animals for walks and left less room for outdoor exercise. Moreover, due to changes in family structure (from

extended to nuclear), children most often do not receive as much time and affection from family members. Consequently, parents are choosing pets as companions since pets assist with mental and physical development in children (Purewal et al., 2017). For example, many participants argued that pets can help children to be kind and responsible towards other animals, which can extend to humans. Additionally, most of the pet owners mentioned that passing time with pets can help children stay away from bad habits such as smoking, alcoholism, and keeping bad company.

My study shows that unlike the previous decades, nowadays very few people considered keeping dogs for ensuring household security or cats to control insects. Rather, companion animals were treated as family members by most of the owners who participated in my study. Findings indicate that pets were treated as companions and were used as a means to reduce stress and loneliness. Similarly, a recent study conducted in Bangladesh found that pet owners were less depressed compared to non-pet owners (Chakma et al., 2021). However, Chakma et al. (2021) only examined the mental health impacts of pets in Bangladesh, while my study focused on social, mental, and physical wellbeing of the owners.

My study shows that companion animals help owners expand their social connectivity through creating opportunities for social interaction and socialization which is aligned with findings of previous studies on HAI (Belk, 1995; Hurley, 2014; Kerman et al., 2019). Findings of my study also suggest that companion animals can increase social dignity of the owners as well as create social identity. People respect pet owners for their love and care for animals. This finding is similar to Sanders' (1990) argument about animals' role in creating social identity. However, my study conversely indicates negative perceptions of social group members about owning pets. Despite negative comments and perceptions, the participants owned pets. One reason might be they were convinced with the benefits of HAI in promoting social interaction and social support. To recap, the symbolic interactionist theorists argue that pet ownership can create social opportunities to expand social networks and socialization of pet owners (Sanders, 2003). Moreover, social support theorists state that increased social interaction can serve as a catalyst to enhance social support among community members (Amiot et al., 2016). Therefore, pet owning behaviour in my study suggest a possible connection between HAI and the social well-being of companion animal owners.

6.1.2 Contributing Factors behind Changing Roles of Companion Animals

My study shows that demographics of the owners such as age, occupation, religion,

home ownership, marital status, family type, and gender were contributing factors behind owning companion animals in urban Bangladesh. Findings show that young and elderly people were more interested in owning pets. A 2019 study conducted in the UK also found a higher tendency of owning pets among adolescents (Purewal et al., 2019). My study additionally found a relationship between pet ownership and professional status. For example, students and service holders owned pets more compared to other professionals. Regarding gender, this study found that women were more interested in owning pets than men. I also found that people who lived in nuclear families were more interested in owning pets for their kids. Middle and high-income groups were found to be more interested in owning pets. Wong et al. (2019) also found that females, younger people, homeowners, and higher educated people had a higher tendency of owning pets, which reflect my findings regarding pet owners with higher educational status.

Interestingly, I found that religion was an important factor that influenced what types of pets people chose to own. For example, most of the Muslim pet owners did not own dogs due to their religious principles, instead they owned cats. Similarly, that same population did not own pigs as it is considered *haram* (forbidden) in Islam (Bergeaud-Blackler et al., 2016). Muslims' perspectives about owning cats, as this study shows, partially contradicts the findings of Perry and Burge's (2020) study conducted in the USA. Perry and Burge argue that most often, church attendees were less interested in owning pets, especially cats (Perry & Burge, 2020).

6.2 Contextualization of HAI in Strengthening Social Relationships

My thesis aimed to understand if HAI has any impact on strengthening the social relationships individuals with companion animals have with other humans in urban Bangladesh as defined in symbolic interactionism and attachment theory. I also posit that this in turn has an impact on human well-being. The findings of this study show that HAI strengthens as well as interrupts and/or restricts social interactions in urban Bangladesh. My research demonstrates that pets are increasing communication within families, friend groups, relatives, and neighbors, as well as unknown persons who are interested in pets. Recent studies show that pets are playing a significant role in promoting sociability of the owners through increased interaction with pet owners and non-owners (Gartland et al., 2022; McDonald et al., 2021).

As discussed earlier, several studies found that pets can have familial roles (Amy,

2019; Chandler et al., 2015; Walsh, 2009). My study shows pets are enhancing communication between family members in urban Bangladesh. The findings suggest that, with a few exceptions, all members of the owning family liked pets. Taking care of pets, such as feeding, bathing, exercising, and visiting the veterinarian, were activities done together by the entire family. Additionally, some participants argued that through interacting with their pets, they forgot their family tragedies, including loss of family members. This in turn helped them to deal with the conflicts and stresses of their everyday life. In addition to enhanced communication between family members, this study also revealed that extended family members, relatives, neighbors, and friends used to visit the pet owners' homes only to see and pass time with their pets. Some participants mentioned that due to their 'robotic lifestyle' most of the urban neighbors in Bangladesh did not interact with each other. Most of the urban dwellers did not know who their neighbors are. However, pets became a catalyst for them to meet relatives and neighbors. Similar to this finding, Wood et al. (2015) argue that HAI can be helpful to improve social interaction with community members, which in turn facilitated good friendships and social support among pet owners.

Additionally, my study found that social media is playing a crucial part in connecting people based on their feelings for, and interest in, pets. The data suggested that increased communication between people using social media was helping them to expand social networks and socialize with members of society through organizing online and offline pet lover gatherings, which in turn enhanced cooperation among people living in the city centers. The online-based pet lovers' groups were more active than the in-person associations. My study shows that social media was playing a crucial role in study participants getting connected with known and unknown pet owners. It was evident that non-pet owners were also members of these online groups. The online based pet owners used to meet in-person and organize get-togethers and pet fairs. As a result, the activities of online groups helped them to have a sense of belonging and/or community. Literature also shows the role of social media as a significant platform to promote social interactions among pet owners (Charmaraman et al., 2020; Wood et al., 2015; Golbeck, 2011). For example, a 2016 survey conducted in the USA shows that owners post about their pets on social media almost two times a week. Furthermore, one in every six respondents opened a social media account specially for their pets (PetWants, 2021).

Conversely, my study shows that pets sometimes hamper interactions between owners and their household family members, relatives, neighbors, and friends. Some

participants mentioned that their friends sometimes did not visit their home because they were afraid of animals. They (the persons who did not visit anymore) thought pets, such as dogs and cats, might bite or scratch them. Participants mentioned that non-pet owners were more concerned about the possibility of pet to human transmission of diseases including rabies, diarrheal diseases, allergy problems, and Nipah virus which is aligned with myriad studies across the world (Carlisle et al., 2020; Emergency et al., 2020; Brooks et al., 2019).

The increasing interest of people about pets in Bangladesh shows that current pet owners and those interested in pets think the positive impacts of pets in social interactions outweigh the negative impacts, or they are not concerned about the negative effects of ownership. It might be of interest for future researchers to explore how pet owners consider and overcome the negative impacts of pets on their social human-to-human interactions.

6.3 Perceived Benefits and Challenges of Owning Companion Animals in Bangladesh

The second research question examined the benefits and challenges of owning companion animals in urban Bangladesh. In this sub-section, I start with summarizing the findings related to perceived benefits of owning companion animals. Afterwards, I summarize the perceived challenges of owning companion animals in the study area.

6.3.1 Perceived Benefits

Participants acknowledged the mental, physical, ecological, financial, and social benefits of companion animals. To begin with, my study suggests pets can enhance cognitive development of kids, provide mental support for the owners and members of the owners' households, and reduce loneliness and anxiety. Findings also suggest that HAI helps to build attachment with owners through showing love and affection.

In the previous sub-section, I referred to the study of Chakma et al. (2013) who found an association between depression and owning pets. As an important note, this is the only study I have found in Bangladesh that measured the impact of pets on human mental health. However, positive mental health effects of pets have been found in myriad studies across the world (Bussolari et al., 2021; Wong et al., 2019; Brooks et al., 2018). This study found that pets were helpful for the mental health of the homemakers through reducing perceived loneliness. Moreover, the findings suggest that pets helped the participants to increase self-esteem and to face life challenges. For example, one of the participants argued that she learned how to overcome challenges and cope with a new environment through observing her

pets. Some participants also reported that pets helped them not to commit suicide during challenging situations. The role of pets in reducing suicidal tendencies among the military veterans in Canada diagnosed with post-traumatic stress disorder has also been documented by Pavelich (2021).

My study indicates an association between mental health and physical well-being of participants. Participants mentioned that passing time with pets helped them to be mentally more relaxed, which in turn can help control insomnia. In addition, many participants argued that pets helped them to be more physically active, i.e., regular exercise due to taking their pets for walks. Participants argued that regular exercise helped them to reduce health risks of diabetes, obesity, hypertension, and cardiovascular diseases. Moreover, owners believed that pets helped them to lead a healthy and disciplined life through doing regular exercise and avoiding smoking and similar bad habits. The physical health benefits indicated in my study are aligned with several recent studies (Kerman et al., 2019; Chandler et al., 2015).

6.3.2 Perceived Challenges

Despite identifying numerous benefits of owning companion animals, participants of my study acknowledged some potential challenges. Findings demonstrate that major challenges for owning companion animals included: conflict with people, problems managing extra time for pets, the expenses associated with owning pets, negative impacts on social interaction/socialization, social stigma, risk of zoonotic disease transmission, lack of facilities that allow owning pets, lack of awareness among people about animals' rights, and lack of governmental supervision to ensure animals' rights.

My study suggests that pet owners most often had conflict with their family members, neighbors, and landlords. Family members did not like pets or felt disturbed due to fur, feces, and urine of pets. This study indicates that some pet owners valued their relationship with their pets over their relationship with their family members. As a result, sometimes they had conflict with their family members, including life partners, parents, and siblings. Some LSD officers argued that extreme affection for pets was causing psychotic disorders among the pet owners in urban Bangladesh. In some reported cases, pet owners did not eat meals or talk with anyone including family members due to the illness or death of their pets. My findings reinforce phenomena already documented; that is, that some pet owners prefer the company of pets instead of humans (Bussolari et al., 2021; Owens & Grauerholz, 2019; Brooks et al., 2019; Sanders, 2003; Belk, 1995).

Findings show that study participants were concerned about the possibility of transmitting rabies, diarrheal diseases, allergic problems, Nipah virus, and avian influenza from pets to humans. Examples of zoonotic disease transmission have been researched in several studies globally (Rahman et al., 2020; Alam et al., 2019; Vmd et al., 2015; Stull et al., 2012; Samad, 2011; Bingham et al., 2010). However, participants of this study did not hear about the possibility or examples of human to animal disease transmission. Consequently, the owners and others were more concerned about human safety rather than thinking about and taking precautions for securing animals from the risk of being infected with diseases from humans. That said, there is a lack of awareness among people about zoonotic disease transmission in Bangladesh. To my knowledge, there is no published information about human to animal disease transmission in Bangladesh, which causes risk for both animal and human health.

The government of Bangladesh replaced the century old ‘Cruelty to Animals Act 1920’ by enacting the ‘Animal Welfare Act’ in 2020 (Sayem, 2022; The Daily Star, 2019). My study found a lack of implementation of the Act in Bangladesh. As such, animals, including pets, faced different forms oppression and violence. Several study participants reported that their pets were killed by their neighbors through poisoning. Although my study did not aim to examine violence against animals, many of the participants reported cruelty towards animals in Bangladesh, especially mass culling of stray canines by city corporation authorities.

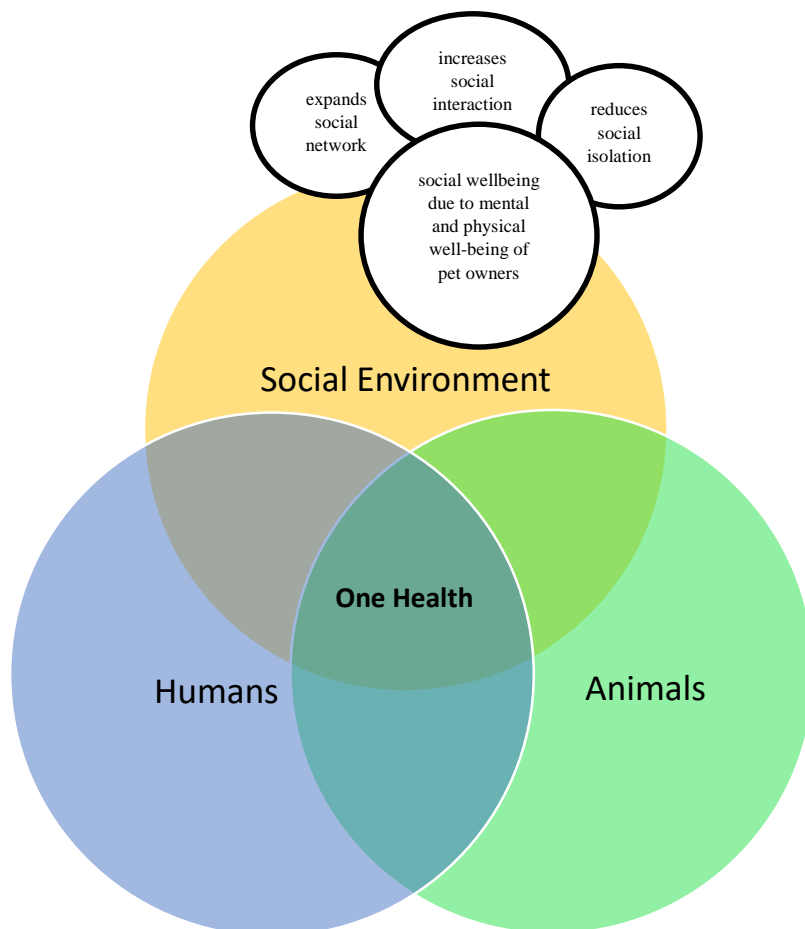
6.4 From Theory to Data

I detailed the findings of my study in Chapter 5 and summarized them earlier in this chapter. Now, in this sub-section, I draw from the literature and the key findings of this study to understand theoretically how those coincide, or differ, with the concepts I chose from the One Health framework, symbolic interaction theory, social support theory, and attachment theory. The aim is to offer understanding of my findings grounded in a sociological perspective.

I used the One Health Framework (Mackenzie & Jeggo, 2019; Chalmers & Dell, 2015) in my study to understand the changing social context of HAI in urban Bangladesh cities and its perceived effects on the overall well-being of humans. The findings of my study indicate a changing role of companion animals in the locality. Companion animals are considered more as friends instead of as work animals, like it was in the past. Even a decade

ago, it was commonly believed that animals, including pets, were a major source of zoonotic diseases. The changing roles of companion animals in Bangladesh indicate that owners perceive that human-companion animal interaction can play a significant role in improving mental and physical well-being of owners. Pets can promote social well-being of the owners through creating opportunities for social interaction between owners and non-owners, which can in turn enrich social capital. Due to increasing interaction between humans and animals, socio-cultural changes are taking place in the study area. Findings of this study suggests that due to owning pets, owners are making friendships with others who have interests in pets. These findings of my study overlap with the One Health framework, and specifically the concept of One Health. Figure 6.1 indicates the effect of HAI in the social environment in urban Bangladesh.

Figure 6.1. Revised One Health Framework for Sociology Based on This Study Findings



I applied symbolic interaction theory, attachment theory, and social support theory as additional theoretical considerations to understand the social impact of HAI. These are key concepts within the field of HAI. Similar to the findings of previous studies, my study speaks to the fact that HAI can be a conduit of social interaction. These findings echo with symbolic interactionist theorist Sanders' (1990) theorization about the impact of HAI in promoting social interaction. For Sanders, interaction with pets helps owners to learn others' perspectives. In turn, it helps to build friendship with other humans (Sanders, 1990). Both Sanders (1990) and Myers (2003) argue that HAI can create scope to extend interaction and social networks of the owners. Regular interaction between individuals can help to develop "sense of belongingness" and/or community feelings among owners (Myers, 2003; Sanders, 1990). These aspects of the symbolic interaction theory are aligned with the findings of my study.

My study shows that owners treated their pets as family members. Through passing time with pets, they were able to better deal with challenging life events. By observing their pets, they learned how to cope with new environments. As a result of HAI, owners reported feeling more relaxed and less stressed. Findings also suggest that during tough times, owners seek proximity to their pets to get mental support, care, and affection. This finding coincides with attachment theorist Ainsworth's (1991) idea about "proximity seeking (PM)" behavior of humans to their primary attachment figure (AF) (Archer et al., 2011; Sable, 1995; Stammbach & Turner, 1999). For the pet attachment theorists, owners may find their companion animals are a "secure base (SB)" and "safe haven (SF)" during hardships.

My study shows that pets helped the owners and their children to lead healthy and disciplined lives. Due to owning companion animals, some participants gave up the habit of smoking. Many participants chose pets as companions for their children. They thought, along with developing humanitarian qualities, pets helped their children to stay away from potentially negative influences, drug addiction, and smartphones, as well as internet addiction. Further, it demonstrates that through having love and affection for pets, children with companion animals learned not to be cruel and/or violent towards other living beings. Additionally, pets helped them to relate to other pet owners and non-pet owners, mostly through social media. As a result, they accessed social support from their extended social networks. Social support theory helps to explain how pet ownership can strengthen social ties among pets owners and non-owners through increased social interaction (Meehan et al., 2017).

Based on the discussion, it can be said that my study demonstrated that in a new context (urban Bangladesh), HAI has a contribution to overall well-being of pet owners. HAI can help owners to be mentally relaxed due to receiving companionship from pets. HAI has a significant role in reducing the loneliness of pet owners. -HAI can help owners to have a healthy life by taking regular exercise and maintaining a disciplined life. From the social point of view, pets can work to promote social well-being through increasing the extent of social interaction and shared understanding among pet owners.

Despite the benefits, my study identified the challenges of owning pets in the locality. One of the major challenges for the owners is conflict with their family members. Sometimes, family members do not like pets, which can lead to disruptions in social interaction. In addition to family members, many participants had conflict with their neighbors and relatives; friends and relatives did not visit their houses due to owning pets. This finding echoes with Sanders' views (1990, 1990a). For him, companion animals can promote as well as disrupt social interactions of the owners with other humans.

6.5 Recommendations to Pet Owners, Researchers, and Policy Makers

Based on the findings of this study, the following recommendations for the pet owners, future researchers, and policy makers are made. First, the findings of my study supports others' work which demonstrates psychosocial and physical health benefits of HAI (Gartland et al., 2022; Overgaauw et al., 2020; Kirk et al., 2019; Hodgson et al., 2015; Hodgson, K., & Darling, 2011). Decisions to own a companion animal need to weigh the benefits (increase sense of belonging, social support, social interaction, and decrease social isolation) against the drawbacks (conflict with family members and others, financial burden, and conflict with personal life style). Second, this research area would benefit from more qualitative and mixed method studies in developing countries, and the use of various lenses to analyze findings beyond the theories I relied upon here. Building on the gaps in my own work, I would recommend a gender-based study on HAI in Bangladesh, and a wider questionnaire so we can establish differences based on urban-rural complexities, and other socio-demographic categories. Third, public health authorities in Bangladesh can take note of the findings of my study to formulate policies about the possibilities of incorporating pets in therapeutic treatment procedures.

6.6 A Return to the Foundations of Sociology

Sociology is the scientific study of social life, social changes, cause and consequences

of human behavior, social relationships, and institutions. This focus reflects different aspects of the findings of this study. For example, my study indicates how HAI is impacting social relationships of pet owners and how it is affecting familial relationships in urban Bangladesh. This study also demonstrates how HAI is creating opportunities for sociability for owners. Finally, this study echoes Cooley's (1964) idea of "self" formation and/or modification of "self" through interacting with other pet owners and non-owners. However, more sociological studies are required to gather evidence on the social impacts of HAI in Bangladesh and other non-western countries.

6.7 Limitations and Strengthen of the Study

My study has some limitations as well as strengths. First, one of the limitations of my study is that it was an exploratory study with a small sample size which leads to the generalizability problem of the findings. A cross-sectional study with a larger sample size could enhance the internal and external validity, however considering the time and funding limitations of my MA degree, this will have to be explored as future research? Second, there is limited published literature on HAI in Bangladesh and this created another challenge for me when formulating the interview guide. As such, I had to review published scholarly articles, books, and newspaper articles based on findings of studies conducted in other parts of the world. To overcome this limitation, the interview guides were modified through pre-testing with non-participating persons who lived in the study area and met the inclusion criteria of my study. Third, the research that exists in the HAI field is emerging; for example, a recent study found associations between interactions with dogs and decreased heart rate (Herzog, 2022). Fourth, I had to conduct the interviews during the COVID-19 pandemic, especially during the peak period of the Omicron variant. It was difficult to ask anyone to meet in-person for interviews. The reasons behind not conducting online interviews have already been discussed in the methodology chapter. However, as per the recommendation of the Behavioural Ethics Board at the University of Saskatchewan, I maintained the health and hygiene protocol to minimize the health risks for myself and participants. Despite the above-mentioned limitations, my study is the first known attempt to explore the social impacts of HAI in urban Bangladesh. The findings of this study will help future researchers to explore different social dimensions of HAI in Bangladesh as well as countries with similar socio-cultural settings.

6.8 Future Research Directions

There is a scarcity of published information about HAI in Bangladesh. This study can

be considered a baseline for future researchers. For example, the findings of my study have identified that there is no known formal therapeutic use of pets in Bangladesh. Future animal researchers might be interested to conduct an interventional study with psychiatric patients to examine the effect of HAI in reducing mental health complications. Similarly, to investigate the impacts of HAI on physical health, future researchers might conduct studies on patients suffering from cardiovascular diseases, hypertension, sleep disturbances, and obesity. Likewise, it has already been discussed that the ratio of people suffering from mental health complications is very high in Bangladesh, and there are inadequate treatment facilities. To date, there is no published information about the incorporation of animals in therapeutic treatment in Bangladesh. Based on the findings of this study I would also recommend assessing the role of HAI on particular age groups, such as young and elderly people, to understand how pets help these groups. One of the important insights of my study is the role of HAI on reducing suicidality, although it was not the scope of my study to understand this process. It can be of interest for future sociologists to investigate the reasons behind suicide in Bangladesh and the potential role of HAI in preventing suicidality among the people at risk. Finally, my study found evidence of violence against animals and a lack of implementation of the laws protecting animals. This too requires future study.

6.9 Concluding Remarks

In closing, I would like to reiterate that the conventional roles of animals have changed in Bangladesh in recent decades. Instead of using animals for survival, entertainment, and security, people are increasingly owning pets as companions. I would like to acknowledge that not all owners are aware of the positive benefits of pets. In the course of owning pets, owners are increasingly understanding the positive social, mental, and physical health effects of HAI in the urban areas of Bangladesh. It is noteworthy that western media, especially social media, is playing a key role in Bangladesh to make people understand the positive roles of HAI. Social media, banner, leaflet, and mainstream printing and electronic medias can play an effective role to make people aware of the benefits of HAI. This is a new finding in Bangladesh that human-companion animal interaction can be an effective mechanism for social interaction, community building, and socialization. My study has also demonstrated that HAI can lead to perceived improvements mental well-being of owners and other caregivers. Thus, pets can be explored further as a cost-effective therapeutic treatment tool in Bangladesh to assist persons suffering from various forms of mental health complications. In addition to this, interaction with pets is helping owners to reduce their physical health

complications. Despite the positive impacts of HAI in Bangladesh, there is a lack of awareness among people about the effective role of animals for well-being of humans and society. To date, there is no known government or private authority who identify animals in therapeutic treatment. On the contrary, non-human animals, including pets, experience several forms of violence. The livestock services department of the government of Bangladesh should oversee the reasons behind the lack of implementation of the animal welfare law. The public health authority of the government of Bangladesh should take note of the findings of this study as well as similar previous and future studies to best utilize the benefits of HAI for the well-being of humans and society in urban Bangladesh cities.

REFERENCES

- A Phillipou, EJ Tan, WL Toh, TE Van Rheenen, D Meyer, E Neill, P. S. S. R. (2021). Pet ownership and mental health during COVID-19 lockdown. *Australian Veterinary Journal*, 99(10), 423–426. <https://doi.org/10.1111/avj.13102>
- Abercrombie, N., Hill, S., & Turner, B. S. (2001). The Penguin dictionary of sociology. In *Penguin*. <https://doi.org/10.1021/jf9037387>
- Adhikari, S. P., Meng, S., Wu, Y. J., Mao, Y. P., Ye, R. X., Wang, Q. Z., Sun, C., Sylvia, S., Rozelle, S., Raat, H., & Zhou, H. (2020). Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID-19) during the early outbreak period: A scoping review. *Infectious Diseases of Poverty*, 9(1), 1–12. <https://doi.org/10.1186/s40249-020-00646-x>
- Adrian, J. A. L., Deliramich, A. N., & Frueh, B. C. (2009). *Complicated grief and posttraumatic stress disorder in humans ' response to the death of pets / animals*. 73(3), 96720.
- Agrama, H. A. L. I. (2010). Ethics, tradition, authority: Toward an anthropology of the fatwa. *American Ethnologist*, 37(1), 2–18. <https://doi.org/10.1111/j.1548-1425.2009.01238.x>
- Aksan, N., Kisac, B., Aydin, M., & Demirbukan, S. (2009). Symbolic interaction theory. *Procedia - Social and Behavioral Sciences*, 1(1), 902–904. <https://doi.org/10.1016/j.sbspro.2009.01.160>
- Amiot, C., Bastian, B., & Martens, P. (2016). People and companion animals: It takes two to tango. *BioScience*, 66(7), 552–560. <https://doi.org/10.1093/biosci/biw051>
- Archer, J., Ireland, J. L., Archer, J., & Ireland, J. L. (2011). The Development and Factor Structure of a Attachment to Pet Dogs The Development and Factor Structure of a Questionnaire Measure of the Strength of Attachment to Pet Dogs. *Anthrozoös*, 24(3), 249–261. <https://doi.org/10.2752/175303711X13045914865060>
- Arluke, A. (2002). A Sociology of Sociological Animal Studies. *Society & Animals*, 10(4), 369–374. <https://doi.org/https://doi.org/10.1163/156853002320936827>
- Barcelos, A. M., Kargas, N., Packham, C., & Mills, D. S. (2021). Understanding the impact of dog ownership on autistic adults : implications for mental health and suicide prevention. *Scientific Reports*, 11(1), 1–17.
- Batty, G. D. and B. S. (2018). Animal Companionship and Risk of Suicide. *Epidemiology*, 29(4), 29–30. <https://doi.org/10.1097/EDE.0000000000000817>
- BBS. (2022). *Dhaka Population 2022 (Demographics, Maps, Graphs)*. <https://worldpopulationreview.com/world-cities/dhaka-population>
- Becker, F., & French, L. (2004). Making the Links : Child Abuse , Animal Cruelty and. *Journal of the British Association for the Study and Prevention of Child Abuse and Neglect*, 13(6), 399–414. <https://doi.org/10.1002/car.878>
- Beetz, A., Uvnäs-Moberg, K., Julius, H., & Kotrschal, K. (2012). Psychosocial and psychophysiological effects of human-animal interactions: The possible role of oxytocin. *Frontiers in Psychology*, 3, 1–15. <https://doi.org/10.3389/fpsyg.2012.00234>

- Belk, R. W. (1995). Metaphoric relationships with pets. *Society & Animals*, 4(2), 121–145.
- Bennetts, S. K., Crawford, S. B., Howell, T., Ignacio, B., Burgemeister, F., Burke, K., Nicholson, J. M., Bennetts, S. K., Crawford, S. B., Howell, T., Ignacio, B., Burgemeister, F., Burke, K., & Companionship, J. M. N. (2022). Companionship and Worries in Uncertain Times : Australian Parents ' Experiences of Children and Pets During COVID-19 Companionship and Worries in Uncertain Times : Australian Parents ' Experiences of Children and Pets During COVID-19. *Anthrozoös*, 0(0), 1–14. <https://doi.org/10.1080/08927936.2022.2051931>
- Berns, G. S., & Cook, P. F. (2016). Why Did the Dog Walk Into the MRI? *Current Directions in Psychological Science*, 25(5), 363–369. <https://doi.org/10.1177/0963721416665006>
- Bhatia, S. (2021). More Than Just No Conflict : Examining the Two Sides of the Coexistence Coin. *Frontiers in Conservation Science*, 2(June), 1–4. <https://doi.org/10.3389/fcosc.2021.688307>
- Bouma, E. M. C., & Reijgwart, M. L. (2021). Family Member , Best Friend , Child or ' Just ' a Pet , Owners ' Relationship Perceptions and Consequences for Their Cats. *International Journal of Environmental Research and Public Health*, 19(1), 193.
- Braun, Virginia & Clarke, V. (2017). Applied Qualitative Research in Psychology. *Applied Qualitative Research in Psychology*, 0887(2006). <https://doi.org/10.1057/978-1-137-35913-1>
- Brooks, H., Rushton, K., Lovell, K., McNaughton, R., & Rogers, A. (2019). He's my mate you see': A critical discourse analysis of the therapeutic role of companion animals in the social networks of people with a diagnosis of severe mental illness. *Medical Humanities*, 45(3), 326–334. <https://doi.org/10.1136/medhum-2018-011633>
- Buller, K., & Ballantyne, K. C. (2020). Living with and loving a pet with behavioral problems : Pet owners ' experiences. *Journal of Veterinary Behavior: Clinical Applications and Research*, 37, 41–47. <https://doi.org/10.1016/j.jveb.2020.04.003>
- Cacciatore, J., Thieleman, K., Fretts, R., & Jackson, L. B. (2021). What is good grief support? Exploring the actors and actions in social support after traumatic grief. *PLoS ONE*, 16(5 May), 1–17. <https://doi.org/10.1371/journal.pone.0252324>
- Carlisle, G. K., Johnson, R. A., Wang, Z., Brosi, T. C., Rife, E. M., & Hutchison, A. (2020). Exploring Human–Companion Animal Interaction in Families of Children with Autism. *Journal of Autism and Developmental Disorders*, 50(8), 2793–2805. <https://doi.org/10.1007/s10803-020-04390-x>
- Carr, D., Friedmann, E., Gee, N. R., Gilchrist, C., Sachs-ericsson, N., & Koodaly, L. (2021). Dog Walking and the Social Impact of the COVID-19 Pandemic on Loneliness in Older Adults. *Animals*, 11(7), 1852. <https://doi.org/10.3390/ani11071852>
- Carver, L. F. (2019, January 6). When pets are family, the benefits extend into society. *The Conversation*. <https://theconversation.com/when-pets-are-family-the-benefits-extend-into-society-109179#:~:text=This can be particularly significant,who do not have pets.>
- CDC. (2022). *High-Risk Countries for Dog Rabies*. <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/high-risk.html>

- Chalmers, D., & Dell, C. A. (2015). Applying One Health to the Study of Animal-Assisted Interventions. *EcoHealth*, 12(4), 560–562. <https://doi.org/10.1007/s10393-015-1042-3>
- Chakma, S. K., Islam, T. T., Shahjalal, M., & Mitra, D. K.. (2021). *Depression among pet owners and non-pet owners : a comparative cross- sectional study in Dhaka , Bangladesh. September.* <https://doi.org/10.12688/f1000research.53276.1>
- Charmaraman, L., Mueller, M. K., & Richer, A. M. (2020). The Role of Pet Companionship in Online and Offline Social Interactions in Adolescence. *Child and Adolescent Social Work Journal*, 37(6), 589–599. <https://doi.org/10.1007/s10560-020-00707-y>
- Clements, H., Valentin, S., Jenkins, N., Rankin, J., Gee, N. R., Snellgrove, D., & Sloman, K. A. (2021). Companion Animal Type and Level of Engagement Matter : A Mixed-Methods Study Examining Links between Companion Animal Guardianship , Loneliness and Well-Being during the COVID-19 Pandemic. *Animals*, 11(8), 2349. <https://doi.org/10.3390/ani11082349>
- Clutton-Brock, J. (2012). Animals as domesticates: A world view through history. *Animals as Domesticates: A World View through History*, 1–189. <https://doi.org/10.2752/175303714x14023922798020>
- Connor, C. O., & Joffe, H. (2020). Intercoder Reliability in Qualitative Research : Debates and Practical Guidelines. *International Journal of Qualitative Methods*, 19(1609406919899220), 1–13. <https://doi.org/10.1177/1609406919899220>
- Costello, S., & Roodenburg, J. (2015). Acquiescence Response Bias. *Australian Educational and Developmental Psychologist*, 32(2), 105–119. <https://doi.org/10.1017/edp.2015.11>
- Day, M. J. (2016). Human-Animal Health Human-Animal Health Interactions: The Role of One Health. *American Family Physician*, 93(5), 344–346. <https://www.clinicalkey.com/#!/content/playContent/1-s2.0-S0002838X16300557>
- Douglas, V. J., Kwan, M. Y., & Gordon, K. H. (2021). Pet Attachment and the Interpersonal Theory of Suicide. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 1–19. <https://doi.org/10.1027/0227-5910/A000822>
- Douglas, V. (2021). *Are fluffy and fido keys to suicide prevention?* netECR. <https://netecr.org/2021/09/10/suicide-prevention-the-role-of-pets/>
- Dphil, B. L., Floud, S., Pirie, K., Jane, P., Dphil, G., Richard, P., Frs, P., Valerie, P., Frs, B., Women, M., & Collaborators, S. (2016). Does happiness itself directly affect mortality ? The prospective. *The Lancet*, 387(10021), 874–881. [https://doi.org/10.1016/S0140-6736\(15\)01087-9](https://doi.org/10.1016/S0140-6736(15)01087-9)
- Dragan, I.-M., & Isaic-Maniu, A. (2013). Snowball Sampling Completion. *Journal of Studies in Social Science*, 5(2), 160–177. <https://core.ac.uk/download/pdf/229607586.pdf>
- Duvall Antonacopoulos, N. M., & Pychyl, T. A. (2010). The possible role of companion-animal anthropomorphism and social support in the physical and psychological health of dog guardians. *Society and Animals*, 18(4), 379–395. <https://doi.org/10.1163/156853010X524334>
- Echeverri, A., Karp, D. S., Naidoo, R., Zhao, J., & Chan, K. M. A. (2018). Approaching human-animal relationships from multiple angles: A synthetic perspective. *Biological Conservation*, 224(March), 50–62. <https://doi.org/10.1016/j.biocon.2018.05.015>

- Ewing, K. (2015). The Sociology of Human-Animal Interaction and Relationships-Clinton R. Sanders. In *H-Animal Net* (pp. 1–5). <https://networks.h-net.org/node/16560/pages/32228/sociology-human-animal-interaction-and-relationships-clinton-r-sanders>
- Fleming, K. M. and S. J. (2002). Grief resulting from euthanasia and natural death of companion animals. *OMEGA-Journal of Death and Dying*, 44(2), 169–188.
- Flynn, C. P. (2001). Acknowledging the “ Zoological Connection ”: *Society & Animals*, 9(1), 71–87. <https://www.animalsandsociety.org/wp-content/uploads/2015/11/flynn.pdf>
- Francis T. Cullen, J. P. W. and M. B. C. (1999). Social Support and Social Reform: A Progressive Crime Control Agenda. *Crime & Delinquency*, 45(2), 188–207. https://heinonline.org/HOL/Page?collection=journals&handle=hein.journals/cadq45&id=179&men_tab=srchresults
- Franklin, A. (2007). Anthrozoology. *The Blackwell Encyclopedia of Sociology*. <https://onlinelibrary.wiley.com/doi/abs/10.1002/9780470015902.a0000466.pub3>
- Galdas, P. (2017). Revisiting Bias in Qualitative Research: Reflections on Its Relationship With Funding and Impact. *International Journal of Qualitative Methods*, 16(1), 1–2. <https://doi.org/10.1177/1609406917748992>
- Galtung, J. (1969). Violence, peace,. *Journal of Peace Researc*, 6(3), 167–191.
- Gartland, L. A., Firth, J. A., Laskowski, K. L., Jeanson, R., & Ioannou, C. C. (2022). Sociability as a personality trait in animals: methods, causes and consequences. *Biological Reviews*, 97(2), 802–816. <https://doi.org/10.1111/brv.12823>
- Green, J., & Thorogood, N. (2018). *Qualitative Methods for Health Research*. Sage.
- Grimm, P. (2010). Demand Effects . *Wiley International Encyclopedia of Marketing*, 1999, 2010. https://zhangjianzhang.gitee.io/management_research_methodology/files/readings/sdb_intro.pdf
- Habiba, U., Islam, R., & Hossain, M. (2016). The emerging disease occurrence of pet animals in Bangladesh. *Journal of Advanced Veterinary and Animal Research*, 3(4), 413–419. <https://doi.org/10.5455/JAVAR.2016.C182>
- Hammoud, R., Tognin, S., Bakolis, I., Ivanova, D., Fitzpatrick, N., Burgess, L., Smythe, M., Gibbons, J., Davidson, N., & Mechelli, A. (2021). Lonely in a crowd: investigating the association between overcrowding and loneliness using smartphone technologies. *Scientific Reports*, 11(1), 1–12. <https://doi.org/10.1038/s41598-021-03398-2>
- Haron, J. U. (2022, January 1). Of man and animals as companion. *Daily Financial Express*. <https://today.thefinancialexpress.com.bd/metro-news/of-man-and-animals-as-companion-1640969395>
- Hart, L. A. (2006). Community context and psychosocial benefits of animal companionship. In *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd Ed)* (pp. 73–94).
- Hediger, K., Meisser, A., & Zinsstag, J. (2019). A One Health Research Framework for Animal-Assisted Interventions. *International Journal of Environmental Research and Public Health*, 16(4), 2–7. <https://doi.org/10.3390/ijerph16040640>

- Herzog, H. (2022, August 11). Does Interacting With Pets Reduce Blood Pressure and Stress? *Psychology Today*. https://www.psychologytoday.com/us/blog/animals-and-us/202208/does-interacting-pets-reduce-blood-pressure-and-stress?fbclid=IwAR0IFyhQyCqyHZSkL32PaFqdGC0174HZx9ZEXQC16j-I0mIws131MurpM_g
- Hodgson, K., & Darling, M. (2011). Zooeyia: An essential component of “One Health.” *The Canadian Veterinary Journal*, 52(2), 189.
- Hodgson, K., Barton, L., Darling, M., Antao, V., Kim, F. A., & Monavvari, A. (2015). Pets’ impact on your patients’ health: Leveraging benefits and mitigating risk. *Journal of the American Board of Family Medicine*, 28(4), 526–534. <https://doi.org/10.3122/jabfm.2015.04.140254>
- Hodgson, K., & Darling, M. (2011a). Zooeyia: an essential component of “One Health.” *The Canadian Veterinary Journal*, 52(2), 189.
- Hodgson, K., & Darling, M. (2011b). Zooeyia: An essential component of “One Health.” *The Canadian Veterinary Journal*, 52(2), 189.
- Hohenhaus, A. (2012). *Zooeyia: The Positive Health Benefits of Animals in our Lives*. Animal Medical Center.
- Hosey, G., & Melfi, V. (2014). Human-Animal Interactions, Relationships and Bonds: A Review and Analysis of the Literature. *International Journal of Comparative Psychology*, 27(1). <https://doi.org/10.46867/ijcp.2014.27.01.01>
- Hossain, M., Ahmed, K., Swi, A., Marma, P., Hossain, S., & Azmat, M. (2013). A survey of the dog population in rural Bangladesh. *Preventive Veterinary Medicine*, 111(1–2), 134–138. <https://doi.org/10.1016/j.prevetmed.2013.03.008>
- Hurley, K. B. (2014). Development and human-animal interaction: Commentary on Mueller. *Human Development*, 57(1), 30–34. <https://doi.org/10.1159/000357795>
- Irvine, A. (2011). Duration, Dominance and Depth in Telephone and Face-to-Face Interviews: A Comparative Exploration. *International Journal of Qualitative Methods*, 10(3), 202–220. <https://doi.org/10.1177/160940691101000302>
- Irvine, L. (2004). A Model of Animal Selfhood : Expanding Interactionist Possibilities. *Symbolic Interaction*, 27(1), 3–21. <https://doi.org/10.1525/si.2004.27.1.3>
- Irvine, L. (2009). Teaching and Learning Guide for : Animals and Sociology. *Sociology Compass*, 3(2), 372–380.
- Jerolmack, C. (2009). Humans , Animals , and Play : Theorizing Interaction When Intersubjectivity Is Problematic. *Sociological Theory*, 27(4), 371–389.
- Jeziarski, T., Camerlink, I., Peden, R. S. E., Chou, J., & Marchewka, J. (2021). Changes in the health and behaviour of pet dogs during the COVID-19 pandemic as reported by the owners *. *Applied Animal Behaviour Science*, 241(September 2020), 105395. <https://doi.org/10.1016/j.applanim.2021.105395>
- Johnson, Amy, and L. B. (2019). Pets and relationships: How animals help us understand ourselves and our connections with others. In *Clinician’s Guide to Treating Companion Animal Issues* (pp. 173–191). Academic Press. <https://doi.org/10.1016/b978-0-12-812962-3.09998-6>

- Karl, S., Boch, M., Zamansky, A., van der Linden, D., Wagner, I. C., Völter, C. J., Lamm, C., & Huber, L. (2020). Exploring the dog–human relationship by combining fMRI, eye-tracking and behavioural measures. *Scientific Reports*, *10*(1), 1–15. <https://doi.org/10.1038/s41598-020-79247-5>
- Kerman, N., Gran-Ruaz, S., & Lem, M. (2019). Pet ownership and homelessness: a scoping review. *Journal of Social Distress and the Homeless*, *28*(2), 106–114. <https://doi.org/10.1080/10530789.2019.1650325>
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data : AMEE Guide. *Medical Teacher*, *42*(8), 846–854. <https://doi.org/10.1080/0142159X.2020.1755030>
- Kirk, R. G. W., Pemberton, N., & Quick, T. (2019). Being well together? Promoting health and well-being through more than human collaboration and companionship. *Medical Humanities*, *45*(1), 75–81. <https://doi.org/10.1136/medhum-2018-011601>
- Knobel, D. L., Laurenson, M. K., Kazwala, R. R., Boden, L. A., & Cleaveland, S. (2008). A cross-sectional study of factors associated with dog ownership in Tanzania. *BMC Veterinary Research*, *4*(5), 1–10. <https://doi.org/10.1186/1746-6148-4-5>
- Kort-Butler, L. A. (2018). *Social Support Theory*. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1783&context=sociologyfacpub>
- Krause-Parello, C. A., Gulick, E. E., & Basin, B. (2019). Loneliness, Depression, and Physical Activity in Older Adults: The Therapeutic Role of Human–Animal Interactions. *Anthrozoos*, *32*(2), 239–254. <https://doi.org/10.1080/08927936.2019.1569906>
- Lavorgna, B. F., & Hutton, V. E. (2019). Grief severity : A comparison between human and companion animal death. *Death Studies*, *43*(8), 521–526. <https://doi.org/10.1080/07481187.2018.1491485>
- Linder, D. O. (2021). *Animals and Humans: A Brief History*. <https://famous-trials.com/animalrights/2604-animals-and-humans-a-brief-history>
- Lynn A. Planchon, Donald I. Templer, Shelley Stokes, and J. K. (2002). Death of a Companion Cat or Dog and Human Bereavement : Psychosocial Variables. *Society & Animals*, *10*(1), 93–105.
- Mackenzie, J. S., & Jeggo, M. (2019). The One Health Approach — Why Is It So Important ? *Tropical Medicine and Infectious Disease*, *4*(2), 88.
- Matchock, R. L. (2015). Pet ownership and physical health. *Current Opinion in Psychiatry*, *28*(5), 386–392. <https://doi.org/10.1097/YCO.0000000000000183>
- McConnell, A. R., Brown, C. M., Shoda, T. M., Stayton, L. E., & Martin, C. E. (2011). Friends with benefits: On the positive consequences of pet ownership. *Journal of Personality and Social Psychology*, *101*(6), 1239–1252. <https://doi.org/10.1037/a0024506>
- Mccune, S., Kruger, K. A., Griffin, J. A., Esposito, L., Lisa, S., Hurley, K. J., Bures, R., Centre, W., Lane, F., & Mowbray, M. (2014). Evolution of research into the mutual benefits of human–animal interaction. *Animal Frontiers*, *4*(3), 49–58. <https://doi.org/10.2527/af.2014-0022>

- Meehan, M., Massavelli, B., Pachana, N., Meehan, M., Massavelli, B., & Pachana, N. (2017). Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Figures Using Attachment Theory and Social Support Theory to Examine and Measure Pets as Sources of Social Support and Attachment Fig. *Anthrozoös*, 30(2), 273–289. <https://doi.org/10.1080/08927936.2017.1311050>
- Meier, C., & Maurer, J. (2022). Buddy or burden? Patterns, perceptions, and experiences of pet ownership among older adults in Switzerland. *European Journal of Ageing*, 1–12. <https://doi.org/10.1007/s10433-022-00696-0>
- Milberger, S. M., Davis, R. M., & Holm, A. L. (2009). Pet owners' attitudes and behaviours related to smoking and second-hand smoke: A pilot study. *Tobacco Control*, 18(2), 156–158. <https://doi.org/10.1136/tc.2008.028282>
- Mills, A., Durepos, G., & Wiebe, E. (2012). Encyclopedia of Case Study Research. *Encyclopedia of Case Study Research*, 156–157. <https://doi.org/10.4135/9781412957397>
- Morgan, L., Protopopova, A., Birkler, R. I. D., Itin-Shwartz, B., Sutton, G. A., Gamliel, A., Yakobson, B., & Raz, T. (2020). Human–dog relationships during the COVID-19 pandemic: booming dog adoption during social isolation. *Humanities and Social Sciences Communications*, 7(1), 1–11. <https://doi.org/10.1057/s41599-020-00649-x>
- Mueller, M. K., Richer, A. M., Callina, K. S., & Charmaraman, L. (2021). Companion Animal Relationships and Adolescent Loneliness during COVID-19. *Animals*, 11(3), 885. <https://doi.org/10.3390/ani11030885>
- Munyua, P. M., Njenga, M. K., Osoro, E. M., Onyango, C. O., Bitek, A. O., Mwatondo, A., Muturi, M. K., Musee, N., Bigogo, G., Otiang, E., Ade, F., Lowther, S. A., Breiman, R. F., Neatherlin, J., Montgomery, J., & Widdowson, M. (2019). Successes and challenges of the One Health approach in Kenya over the last decade. *BMC Public Health*, 19(3), 1–9.
- Nazmin sultana Runa, Ahmed Sagir Uddin, Asmaul Husna, Nurjahan Yasmin Runa, Yesmin Sabina, A T M Badruzzaman, Islam Md Sadikul, Monira Noor, K. J. A. and M. M. R. (2016). Prevalence of diseases in pet animals at Dhaka city of Bangladesh. *Ann Vet Anim Sci*, 3, 1–5.
- NIH. (2018, February 18). The Power of Pets | NIH News in Health. *The Power of Pets Health Benefits of Human-Animal Interactions*. <https://newsinhealth.nih.gov/2018/02/power-pets>
- Nordenfelt, L. (2021). The concepts of dignity : an analysis. *Ersta Sköndal Bräcke Högskola Arbetsrapportserie*. <https://philpapers.org/rec/NORTCO-27>
- Opu, M. H. (2022, January 14). *Dhaka ranks world's sixth most populous city*. <https://www.dhakatribune.com/bangladesh/2022/01/14/dhaka-ranks-worlds-sixth-most-populous-city>
- Overgaauw, P. A. M., Vinke, C. M., Hagen, M. A. E. Van, & Lipman, L. J. A. (2020). A One Health Perspective on the Human – Companion Animal Relationship with Emphasis on Zoonotic Aspects. *International Journal of Environmental Research and Public Health*, 17(11), 3789. <https://doi.org/10.3390/ijerph17113789>
- Obradović, N., Lagueux, É., Latulippe, K., & Provencher, V. (2021). Understanding the

- Benefits, Challenges, and the Role of Pet Ownership in the Daily Lives of Community-Dwelling Older Adults: A Case Study. *Animals*, 11(9), 2628.
- Parker, C., Scott, S., & Geddes, A. (2020). Snowball sampling. *SAGE Research Methods Foundations*, 2019, 0–2. <https://doi.org/10.4135/9781526421036>
- Pavelich, A. R. (2021). *Exploring Mattering and the Human-Animal Bond: The Impact of Service Dogs for Military Veterans at High Risk for Suicide*. University of Saskatchewan.
- PetRelocation. (2022). *Bangladesh & Pets!*
<https://www.petrelocation.com/blog/post/bangladesh-pets>
- Policarpo, V. (2015). What is a friend? An exploratory typology of the meanings of friendship. *Social Sciences*, 4(1), 171–191. <https://doi.org/10.3390/socsci4010171>
- Poon, J. P. H. (2007). Commentary: Instrumentation rigor and practice. *Environment and Planning A*, 39(5), 1017–1019. <https://doi.org/10.1068/a39314>
- Purewal, R., Christley, R., Kordas, K., Joinson, C., Meints, K., Gee, N., & Westgarth, C. (2017). Companion Animals and Child/Adolescent Development : A Systematic Review of the Evidence. *International Journal of Environmental Research and Public Health*, 14(3), 234. <https://doi.org/10.3390/ijerph14030234>
- Puzycki, K., Bidaisee, S., & Keku, E. (2018). Tobacco smoke exposure and household pets: A systematic literature review examining the health risk to household pets and new indications of exposed pets affecting human health. *International Public Health Journal*, 10(1), 11–24.
<http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=131348028&site=ehost-live>
- Rahman, T., Sobur, A., Islam, S., Ievy, S., & Ashour, H. M. (2020). Zoonotic Diseases : Etiology , Impact , and Control. *Microorganisms*, 8(9), 1405.
<https://doi.org/10.3390/microorganisms8091405>
- Rauktis, M. E., Lee, H., Bickel, L., Giovengo, H., Nagel, M., & Cahalane, H. (2020). *Food Security Challenges and Health Opportunities of Companion Animal Ownership for Low-Income Adults ABSTRACT*. 17(6), 662–676.
- Robins, D. M., Sanders, C. R., & Cahill, S. E. (1991). Dogs and their people: Pet-facilitated interaction in a public setting. *Journal of Contemporary Ethnography*, 20(1), 3–25.
<https://doi.org/10.1177/089124191020001001>
- Rock, M. J., & Degeling, C. (2015). Social Science & Medicine Public health ethics and more-than-human solidarity. *Social Science & Medicine*, 129, 61–67.
<https://doi.org/10.1016/j.socscimed.2014.05.050>
- Rock, M. J., Rault, D., & Degeling, C. (2017). Social Science & Medicine Dog-bites , rabies and One Health : Towards improved coordination in research , policy and practice. *Social Science & Medicine*, 187, 126–133.
<https://doi.org/10.1016/j.socscimed.2017.06.036>
- Rockett, B., Collective, T. C., & Carr, S. (2014). Animals and Attachment Theory. *Society & Animals*, 22(4), 415–433. <https://doi.org/10.1163/15685306-12341322>
- Rowan, A. N. (2018). *WellBeing International WBI Studies Repository Companion Animal*

Statistics in the USA.

<https://www.wellbeingintlstudiesrepository.org/cgi/viewcontent.cgi?article=1002&context=demscapop>

- Rubenstein, R. E. (1990). Basic Human Needs Theory : Beyond Natural. In *Conflict: Human needs theory* (pp. 336–335). Palgrave Macmillan.
- Ruggeri K, Garcia-Garzon E, Maguire Á, Matz S, & Huppert F. (2020). Well-being is more than happiness and life satisfaction: A multidimensional analysis of 21 countries. *Health and Quality of Life Outcomes* [revista en Internet] 2020 [acceso 4 de julio de 2021]; 18(1): 1-16. *Health and Quality of Life Outcomes*, 18(1), 1–16. <https://hqlo.biomedcentral.com/track/pdf/10.1186/s12955-020-01423-y.pdf>
- Rutherford, C., Kafle, P., Soos, C., Epp, T., Bradford, L., & Jenkins, E. (2022). Investigating SARS-CoV-2 Susceptibility in Animal Species : A Scoping Review. *Environmental Health Insights*, 16, 11786302221107786. <https://doi.org/10.1177/11786302221107786>
- Sable, P. (1995). Pets , Attachment , and Well-Being across the Life Cycle. *Social Work*, 40(3), 334–341. <https://www.jstor.org/stable/pdf/23718087.pdf>
- Sartorius, N. (2006). The meanings of health and its promotion. *Croatian Medical Journal*, 47(4), 539–548. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2080455/pdf/CroatMedJ_47_0662.pdf
- Saunders, J., Parast, L., Babey, S. H., & Miles, J. V. (2017). Exploring the differences between pet and non-pet owners: Implications for human-animal interaction research and policy. *PLoS ONE*, 12(6), 1–15. <https://doi.org/10.1371/journal.pone.0179494>
- Sayem, S. N. (2022, January 2). The dire state of animal rights in Bangladesh. *The Business Standard*. <https://www.tbsnews.net/thoughts/dire-state-animal-rights-bangladesh-352003>
- Schwarze, J., & Winkelmann, R. (2011). Happiness and altruism within the extended family. *Journal of Population Economics*, 24(3), 1033–1051. <https://doi.org/10.1007/s00148-010-0326-8>
- Shapiro, K. (2020). Human-animal studies: Remembering the past, celebrating the present, troubling the future. *Society and Animals*, 5(1), 1–37. <https://doi.org/10.1163/15685306-BJA10029>
- Siddiq, A. B., & Habib, A. (2016). Anthrozoology - an emerging robust multidisciplinary subfield of anthropological science. *Green University Review of Social Sciences*, 3(1), 45–67.
- Siegel, J. M. (1990). Stressful Life Events and Use of Physician Services Among the Elderly : The Moderating Role of Pet Ownership. *Journal of Personality and Social Psychology*, 58(6), 1081–1086.
- Sofaer, S. (1999). Articles Qualitative Methods: What Are They and Why Use Them? *Health Services Research*, 34(2), 1101–1118.
- Srimoragot, P., Sudsakorn, P., Suwannaphirom, P., & Ruchisereekul, K. (2021). Survey of knowledge and opinion among thai veterinarians on nicotine toxicity and second-hand smoke effects on pets' health. *Thai Journal of Veterinary Medicine*, 51(1), 69–74. <https://doi.org/10.14456/tjvm.2021.10>
- Stammbach, K. B., & Turner, D. C. (1999). Understanding the human-cat relationship:

- Human social support or attachment. *Anthrozoos*, 12(3), 162–168.
<https://doi.org/10.2752/089279399787000237>
- Stebbins, R. (2011). What Is Exploration ? In : Exploratory Research in the Social Sciences. *Sage Research Methods*, 2–17.
- Stoewen, D. L. (2015). Veterinary Wellness Bien-être vétérinaire Suicide in veterinary medicine : Let ' s talk about it. *The Canadian Veterinary Journal*, 56(1), 89.
- Subasi, V. (2011). Dogs in Islam [University of Vienna]. In *Unpublished master's thesis*.
<https://core.ac.uk/download/pdf/11593682.pdf>
- Thoits, P. A. . (1995). Stress , Coping , and Social Support Processes : Where Are We ? What Next ? *Journal of Health and Social Behavior*, 53–79.
<https://www.jstor.org/stable/pdf/2626957.pdf>
- Tzivian, L., & Friger, M. (2014). Grief and Bereavement of Israeli Dog Owners : Exploring Short-Term Phases Pre- and Post-Euthanization. *Death Studies*, 38(109), 109–117.
<https://doi.org/10.1080/07481187.2012.738764>
- Uehara, T., Ishige, Y., & Su, M. (2011). Animal-Assisted Interventions; Effects on Human Mental Health -A Theoretical Framework. In *Psychiatric Disorders - Worldwide Advances* (pp. 121–138). <https://doi.org/10.5772/26312>
- van Herten, J., Bovenkerk, B., & Verweij, M. (2019). One Health as a moral dilemma: Towards a socially responsible zoonotic disease control. *Zoonoses and Public Health*, 66(1), 26–34. <https://doi.org/10.1111/zph.12536>
- Villafaina-dom, B., Collado-mateo, D., & Merellano-navarro, E. (2020). Effects of Dog-Based Animal-Assisted Interventions in Prison Population : A Systematic Review. *Animals*, 10(11), 2129.
- Walby, K., & Doyle, A. (2009). Their risks are my risks': On shared risk epistemologies, including altruistic fear for companion animals. *Sociological Research Online*, 14(4), 8–18. <https://doi.org/10.5153/sro.1975>
- Walsh, F. (2009a). Human-animal bonds I: The relational significance of companion animals. *Family Process*, 48(4), 462–480. <https://doi.org/10.1111/j.1545-5300.2009.01296.x>
- Walsh, F. (2009b). Human-Animal Bonds II : The Role of Pets in Family. *Family Process*, 48(4), 481–500.
- Wang, J., Mann, F., Lloyd-evans, B., Ma, R., & Johnson, S. (2018). Associations between loneliness and perceived social support and outcomes of mental health problems: a systematic review. *BMC Psychiatry*, 18(1), 1–16.
- Waters, C. K. (2007). The nature and context of exploratory experimentation: An introduction to three case studies of exploratory research. *History and Philosophy of the Life Sciences*, 29(3), 275–284.
- Whitehead, D., & Lopez, V. (2016). Sampling data and data collection in qualitative research methods. *Nursing and Midwifery Research*, March 2019, 111–126.
<https://www.researchgate.net/publication/255950308>
- Williams, M., & Moser, T. (2019). The Art of Coding and Thematic Exploration in Qualitative Research. *International Management Review*, 15(1), 45–55.

- Wong, P. W. C., Yu, R. W. M., & Ngai, J. T. K. (2019). Companion animal ownership and human well-being in a metropolis—The case of Hong Kong. *International Journal of Environmental Research and Public Health*, 16(10). <https://doi.org/10.3390/ijerph16101729>
- Woods, M., Paulus, T., Atkins, D. P., & Macklin, R. (2016). Advancing Qualitative Research Using Qualitative Data Analysis Software (QDAS)? Reviewing Potential Versus Practice in Published Studies using ATLAS.ti and NVivo, 1994–2013. *Social Science Computer Review*, 34(5), 597–617. <https://doi.org/10.1177/0894439315596311>
- World Health Organization. (2020). *Mental health and psychosocial considerations during the COVID-19 outbreak, 18 March 2020* (No. WHO/2019-nCoV/MentalHealth/2020.1). World Health Organization.
- Wrenn, C. (2020). *The Sociological Perspectives on Other Animals*. <https://www.vegansociology.com/2020/05/25/the-sociological-perspectives-on-other-animals/>
- Zasloff, R. L., & Kidd, A. H. (1994). Loneliness and pet ownership among single women. *Psychological Reports*, 75(2), 747–752. <https://doi.org/10.2466/pr0.1994.75.2.747>
- Zinsstag, J., Schelling, E., & Tanner, M. (2011). From “one medicine” to “one health” and systemic approaches to health and well-being. *Preventive Veterinary Medicine*, 101(August 2009), 148–156. <https://doi.org/10.1016/j.prevetmed.2010.07.003>

APPENDIX A- INTERVIEW GUIDELINES সাক্ষাৎকার নির্দেশিকা

Examining the Social Benefits of Human-Animal Interaction in Urban Bangladesh

বাংলাদেশের শহর অঞ্চলে মানুষ এবং সঙ্গী প্রাণী-এর মিথস্ক্রিয়ার সামাজিক সুফল অনুসন্ধান

Key Informant Interview Guideline for Household Members with Companion Animal যে

সকল গৃহস্থলি সদস্যদের সঙ্গী প্রাণী আছে তাদের কেআইআই সাক্ষাৎকার নির্দেশিকা

1. Socio-demographic information জনমিতিক তথ্য

- a. Age, sex, marital status, educational status, occupational status, monthly family income, type of family (e.g. nuclear, joint, or extended family). বয়স, লিঙ্গ, বৈবাহিক অবস্থা, শিক্ষাগত যোগ্যতা, পেশা, মাসিক পারিবারিক উপার্জন, পরিবারের ধরণ (একক, যৌথ অথবা বর্ধিত পরিবার)
- b. Do you have any pets? আপনার কি কোন পোষা প্রাণী আছে?
- c. What is your pet (s) (e.g. dog, cat, rabbit, bird, and so on)? আপনার পোষা প্রাণীটি ধরণ কি (কুকুর, বিড়াল, খরগোশ, পাখি বা অন্যান্য)?
- d. How long have you been rearing your pet (s)? কত দিন যাবত আপনি এই প্রাণীটি পালন করেছেন?

2. History of Pet in the Society

- a. Can you tell me about your history of having pet(s)? {Please probe-what pets have you lived with (e.g., cat, bird, dog, rabbit)? For how long? সমাজে পোষা প্রাণীর ঐতিহাসিক অবস্থান আপনার পোষাপ্রাণী পালনের প্রেক্ষাপট অনুগ্রহ করে আমাদেরকে বলবেন কি? (দয়া করে প্রোব করুন: কোন কোন প্রাণী পালন করেছেন, কতদিন যাবত পালন করেছেন?)
- b. What was the role of pets in your society in the past? (please probe details) আপনার সমাজে অতীতে পোষাপ্রাণীর ভূমিকা কি ছিল? (অনুগ্রহ করে বিস্তারিত জানুন)
- c. Is there any changes in the role of pet animals in your society compared to previous decades? If yes, please discuss the changes in detail. অতীতের সাথে তুলনা করলে আপনার সমাজে পোষাপ্রাণীর ভূমিকায় কোন ধরনের পরিবর্তন এসেছে কি? হ্যা হলে, পরিবর্তনের ধরণগুলি দয়া করে আলোচনা করুন?

3. Perceived Social Benefits of Having Pet(s) পোষা প্রাণী থাকার সামাজিক সুফল

- a. What is the roles of pet animals in your society? আপনার সমাজের বর্তমানে পোষাপ্রাণীর ভূমিকা কি?
- b. What is the role of pets in your life? (please probe details about mental support, facilitating social interaction, stress management, etc.) অনুগ্রহ করে আপনার ব্যক্তিগত জীবনে পোষাপ্রাণীর ভূমিকা বর্ণনা করুন। (প্রোব করুন: মানসিক সাপোর্ট, সামাজিক মিথস্ক্রিয়া, স্ট্রেস ম্যানেজমেন্ট, ইত্যাদি)

Perceived Social Challenges of Having Pet (s) - Impact of HAI on Social Interaction

Social Relationships পোষাপ্রাণী থাকার ফলে সামাজিক ঝুঁকি, সামাজিক মিথস্ক্রিয়া এবং সামাজিক সম্পর্কের উপর মানুষ- পোষা প্রাণী সম্পর্কের প্রভাব

- a. Who takes care of your pet? (please ask if there is anyone else in the household who takes care of the pet) আপনার পোষা প্রাণীটির রক্ষণাবেক্ষণের কাজ মূলত কে করেন? (আপনি ব্যতিত আর কেউ আছে কিনা যিনি এই প্রাণীটির/গুলির রক্ষণাবেক্ষণ করেন?)
- b. What sort of care do you provide your pet? আপনার পোষা প্রাণীর কি কি ধরনের রক্ষণাবেক্ষণের কাজ আপনি করেন?
- c. How much time do you spend daily with your pet? What do you do together? দৈনিক কতটা সময় আপনি আপনার পোষা প্রাণীর সঙ্গে কাটান? কি কি ভাবে প্রাণীটির সাথে আপনার সময় কাটে?
- d. What was your initial goal (s) for having the pet (s)? (please probe the reasons in detail) পোষাপ্রাণী পালনের ক্ষেত্রে আপনার প্রাথমিক কি উদ্দেশ্য ছিল? (দয়া করে বিস্তারিত জানুন)
- e. Do you know anyone who has pet (s)? If yes, how do you know him/them? আপনার পরিচিত আর কারো পোষা প্রাণী আছে কিনা আপনি জানেন কি? হ্যা হলে, আপনি কি ভাবে তার/তাদের সম্পর্কে জেনেছেন?
- f. How often do you meet with person (s) with pet(s) together with your pets? আপনার পরিচিত যাদের পোষা প্রাণী আছে (যদি পরিচিত কেউ থেকে থাকে) তাদের সাথে আপনার পোষা প্রাণী সহ কত ঘন ঘন দেখা হয়?
- g. Is there any organization/group in your area where people with pet (s) meet? আপনার এলাকায় এমন কোন সংগঠন/গ্রুপ আছে কি যেখানে পোষা প্রাণী সহ লোকজন একত্রিত হয়?
- h. If yes, what are the activities you do there in the group? হ্যা হলে, সেখানে দলগতভাবে কোন ধরনের কর্মকাণ্ড করেন কি?
- i. Do you think your pet (s) is/are facilitating your interaction with other people? If yes, please discuss how? আপনি কি মনে করেন যে আপনার পোষা প্রাণী কোনভাবে সমাজের অন্য কোন মানুষের সাথে আপনার মিথস্ক্রিয়ায় প্রভাব ফেলে? হ্যা হলে, দয়া করে বিস্তারিত বলুন।
- j. Do you face any social challenges for having your pet (s)? If yes, please discuss the challenge(s) you face (please probe- perception of people about pets in Bangladesh)? How do you mitigate the challenge(s)? গৃহপালিত প্রাণী থাকার কারণে আপনাকে কোন ধরনের সামাজিক অসুবিধার মধ্যে পড়তে হয় কি? হ্যা হলে, দয়া করে বিস্তারিত বলুন- কি কি ধরনের অসুবিধা মোকাবিলা করতে হয়? (প্রোব করুন-পোষা প্রাণী সম্পর্কে বাংলাদেশের মানুষের ধারণা কি)? কিভাবে এই সমস্যাগুলি আপনি মোকাবিলা করেন?
- k. What do you do if your pet(s) become sick? আপনার প্রাণীটি অসুস্থ হলে আপনি কি কি করেন?

Thank you very much for your time and participation. আপনার সময় এবং অংশগ্রহণের জন্য ধন্যবাদ

In-depth Interviews (IDI) with Pet Animal Shop Owners পোষা প্রাণী বিক্রেতাদের সাথে একান্ত সাক্ষাৎকার

1. Socio-demographic information - age, sex, educational status. জনমিতিক তথ্য- বয়স, লিঙ্গ, শিক্ষা

2. Tell us about your business. অনুগ্রহ করে আপনার পেশা সম্পর্কে আমাদেরকে বলুন
3. How long have you been involved in this business? এই পেশায় সাথে আপনি কতদিন ধরে জড়িত আছেন?
4. What sort of animals do you sell in your shop? আপনার এই দোকানে কি কি ধরনের প্রাণী বিক্রয় করেন?
5. Please explain the supply chain of these animals? এই সকল প্রাণীর উৎস সম্পর্কে দয়া করে আমাদেরকে বলুন
6. Do you maintain any record of sales of animals at your shop? If yes, please tell me আপনার দোকানে যে সকল প্রাণী বিক্রয় হয় তার কোন রেকর্ড কি রাখা হয়? হ্যা হলে, দয়া করে বলুন-
 - a. How many pets do you sale on an average everyday? গড়ে দৈনিক কতগুলি পোষ প্রাণী আপনার দোকানে বিক্রয় হয়?
 - b. Which pet (type of pet) is most popular in your locality? Why? কোন পোষ প্রাণীর চাহিদা আপনার দোকানে সবচেয়ে বেশি? কেন?
 - c. How do you keep records (e.g. log books, database, etc.) of the sales of animals at your shop? আপনার দোকানে প্রাণী বিক্রয়ের তথ্য কিভাবে সংরক্ষণ করেন (লগ বুক, ডাটাবেস, ইত্যাদি)?

Historical roles of companion animals (সঙ্গী প্রাণীর ঐতিহাসিক ভূমিকা)

7. What do you think are the roles of pet animals in Bangladeshi society? বাংলাদেশের শহুরে সমাজব্যবস্থায় পোষ প্রাণীর ঐতিহাসিক ভূমিকাগুলি দয়া করে বিস্তারিত বলুন
8. What do you think are the general perceptions of people about having pets? পোষ প্রাণী সম্পর্কে আপনার সমাজের সাধারণ মানুষের ধারণা কি?
9. Is there any change(s) of trends in rearing pets in your country compared to the past? If yes, please explain the changes? অতীতের সঙ্গে তুলনা করলে আপনার সমাজে পোষ প্রাণী পালনের ক্ষেত্রে কোন পরিবর্তন এসেছে? হ্যা হলে, পরিবর্তনগুলি দয়া করে বর্ণনা করুন
10. Who are the most common customers of pet animals in your shop? [please probe: age(tentative), sex of the customers] আপনার দোকানে কোন ধরনের ক্রেতা সাধারণত পোষ প্রাণী ক্রয়ের জন্য আসেন? প্রোব করুন: ক্রেতাদের (আনুমানিক) বয়স সীমা, লিঙ্গ]
11. What do you think are the most common reasons for rearing pet animals in your society?(probe details about the potential role of pets in healing mental illnesses, and creating social networks) আপনার সমাজে পোষ প্রাণী পালনের প্রধান কারণগুলি কি কি? প্রোব করুন: মানসিক স্বাস্থ্য-বিষাদ গ্রহণতা দূরীকরণে, সামাজিক যোগাযোগের বলয় সৃষ্টি, ইত্যাদি ক্ষেত্রে পোষ প্রাণীর কোন ভূমিকা আছে কিনা
12. What do you think are the common challenges of having pet in your society? আপনার সমাজে পোষ প্রাণী পালনের ক্ষেত্রে সাধারণত কি কি ধরনের অসুবিধা মোকাবিলা করতে হয়

Thank you very much for your time and participation. আপনার সময় এবং অংশগ্রহণের জন্য ধন্যবাদ

In-depth Interviews (IDI) with Livestock Service Officer লাইভস্টক সার্ভিস কর্মকর্তার একান্ত

সাক্ষাৎকার

13. Socio-demographic information - age, sex, educational status, designation, length of service at this institution. জনমিতিক তথ্য- বয়স, লিঙ্গ, শিক্ষা, পদবি, চাকুরীর সময়কাল অনুগ্রহ করে
14. Please explain the supply chain of pet animals? পোষা প্রাণীর উৎস সমূহ সম্পর্কে বলুন
15. Is there any provision by the government to count the number of pets and pet suppliers? আপনার এলাকায় সরকারী উদ্যোগে পোষা প্রাণী পালনকারী এবং সরবরাহকারীদের কোন তালিকা প্রস্তুতির ব্যবস্থা আছে কি?
 - a. If yes, please tell me details of the process? হ্যা হলে, অনুগ্রহ করে আমাদেরকে বিস্তারিত বলুন
 - b. Which body of the government is responsible to conduct the census and keep the record? সরকারী কোন সংস্থা এই তালিকা প্রস্তুতির কাজ গুলি করে থাকে?
 - c. What is the procedure to open a pet animal store in Bangladesh? বাংলাদেশে পোষা প্রাণী বিক্রয়ের দোকান করার জন্য কোন প্রক্রিয়া অনুসারণ করতে হয়?
16. What do you think are the roles of pet animals in Bangladeshi society? বাংলাদেশের শহুরে সমাজে পোষা প্রাণীর ভূমিকা কি বলে আপনি মনে করেন?
17. What do you think are the general perceptions of people about having pets? পোষা প্রাণী পালন সম্পর্কে সাধারণ মানুষের ধারণা কি বলে আপনি মনে করেন?
18. Is there any change(s) of trends in rearing pets in your country compared to the past? If yes, please explain the changes? অতীতের সঙ্গে তুলনা করলে আপনার সমাজে পোষা প্রাণী পালনের ক্ষেত্রে কোন পরিবর্তন এসেছে? হ্যা হলে, পরিবর্তনগুলি দয়া করে বর্ণনা করুন
19. Does your department keep any record of crime statistics involving animals? If yes, please tell me details about the process (please seek permission to see and take a copy of the records)? আপনার দপ্তরে প্রাণীর মাধ্যমে সন্ত্রাস নিয়ন্ত্রণ সংক্রান্ত কোন তালিকা কি সংরক্ষন করা হয়? হ্যা হলে দয়া করে বিস্তারিত বলুন। (প্রোব করুন: তথ্যদাতার অনুমতি সাপেক্ষে ছবি তুলুন/ ফটোকপি করুন/ ই-কপি থাকলে সেটি/সেগুলি সংগ্রহ করুন)
20. Which people mostly rear pet(s) in your society? [please probe: age(tentative), sex of the customers] সমাজের কোন ধরনের মানুষ সাধারণত পোষা প্রাণী ক্রয়ের পালন করেন? প্রোব করুন: পালনকারীদের (আনুমানিক) বয়স সীমা, লিঙ্গ]

21. In your opinion, what are the most common reasons to have pets in your society? (Please probe- to get mental support from pets, creating social networks, commercial interest, etc.) আপনার মতে কি কি কারণে এই সমাজের মানুষ পোষাপ্রাণী পালন করেন? (প্রোব: মানসিক সাপোর্ট, সামাজিক যোগাযোগের বলয় সৃষ্টি, অর্থনৈতিক স্বার্থে)
22. What do you think are the common social challenges to have pet at your home? পোষা প্রাণী পালনের কি কি ধরনের সামাজিক অসুবিধা আপনার এই সমাজে আছে বলে আপনি মনে করেন?

Thank you very much for your time and participation.

আপনার সময় এবং অংশগ্রহণের জন্য ধন্যবাদ।

Department of Sociology University of Saskatchewan

Examining Social Benefits of Human-Animal Interaction in Urban Bangladesh বাংলাদেশের শহর অঞ্চলে মানুষ এবং সঙ্গী প্রাণী-এর মিথস্ক্রিয়ার সামাজিক সুফল

We are looking for volunteers to take part in a study of the role of companion animals in facilitating social interaction in urban Bangladesh.
বাংলাদেশের শহর অঞ্চলে সামাজিক মিথস্ক্রিয়ায় সঙ্গী প্রাণীর ভূমিকা শীর্ষক একটি গবেষণায় অংশগ্রহণের জন্য আমরা আগ্রহী অংশগ্রহণকারী অনুসন্ধান করছি।

As a participant in this study, you would be asked to: participate in a one-time interview with adequate precautions (e.g. physical distance, use of face mask and hand sanitizer, etc.) for COVID-19 in place.

অংশগ্রহণে আগ্রহীদেরকে একবারের জন্য স্বাক্ষাৎকারে অংশগ্রহণ করার জন্য অনুরোধ জানানো হবে। বর্তমান বৈশ্বিক মহামারীর বিষয়টি বিবেচনায় নিয়ে সকল প্রকার সুরক্ষাব্যবস্থা (যেমন- সামাজিক দূরত্ব, মাস্ক এবং হ্যাণ্ড স্যানিটাইজারের ব্যবহার, ইত্যাদি) নিশ্চিত করা হবে।

Your participation would involve one interview, which is approximately 60 to 90 minutes. Your participation in this study is voluntary – meaning that the study requires no payment to participate. Similarly, the researchers will not pay you for participating in the study.

For more information about this study, or to volunteer for this study, please contact

এই গবেষণায় আপনার অংশগ্রহণের অংশ হিসেবে আপনাকে ৬০ থেকে ৯০ মিনিটের একটি স্বাক্ষাৎকারে অংশ নিতে হবে। এই গবেষণায় আপনার অংশগ্রহণ একান্তই আপনার ইচ্ছার উপর নির্ভর করবে। উল্লেখ্য যে এই গবেষণায় অংশগ্রহণের জন্য আপনার কোন অর্থ ব্যয়ের যেমন প্রয়োজন হবেনা, তেমনি গবেষকদলও আপনাকে কোন ধরনের অর্থনৈতিক সুবিধাও প্রদান করবে না। এই গবেষণা সম্পর্কে আরও বিস্তারিত জানার জন্য অথবা এই গবেষণায় অংশগ্রহণের জন্য

অনুগ্রহ করে যোগাযোগ করুন:

Abu-Hena Mostofa Kamal

Department of Sociology, University of Saskatchewan, Canada

at

আবু-হেনা মোস্তফা কামাল, স্নাতকোত্তর গবেষক,

সমাজবিজ্ঞান বিভাগ, স্নাচ্চুয়ান বিশ্ববিদ্যালয়, কানাডা।

+1 306-966-8868 or

Email: m.kamal@usask.ca

This study has been approved by the University of Saskatchewan Behavioural Research Ethics Board

স্নাচ্চুয়ান বিশ্ববিদ্যালয়ের বিহেবিয়োরিয়াল রিসার্চ এথিকস বোর্ড এই গবেষণাটির অনুমোদন প্রদান করেছে



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APPENDIX C- PHOTOS FROM THE FIELD



Participants with her pet and family members



Participants with pets



Participants with pets



Notice on the entrance of house says 'be aware of dog'



Largest pet animals' market in Bangladesh



Inside store



Inside store



Exposure of seller with pigeon



Dog firm/breeding house



Dog firm/breeding house