Exploring the influence of pet ownership on the mental health and well-being of at-risk children and youth in rural KwaZulu-Natal, South Africa

by
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Thesis presented in fulfilment of the requirements for the degree of
Master of Arts in Psychology in the Faculty of
Arts and Social Sciences at
Stellenbosch University

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March 2026

DECLARATION

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

Introduction. Mental health conditions (MHCs) among children and young people (CYP) are a major public health concern. In low- and middle-income countries like South Africa, factors such as poverty, crime, and environmental degradation disproportionately increase CYP's risk of MHCs. Limited access to mental health services means only one in ten receive adequate support. Consequently, there is a pressing need for innovative, and contextually relevant approaches to support mental health and well-being among CYP. While early intervention efforts are growing and promising, they are mostly small pilot studies, leaving gaps in understanding what protects mental health in CYP. Evidence suggests that dog companionship can promote emotional regulation, empathy, and social connection by providing unconditional support and companionship. Together, these factors have shown to be protective of mental health. However, little is known about pet companionship in resource-limited settings like semi-rural KwaZulu-Natal. This study explored how at-risk children in South Africa experience and make sense of their relationships with pet dogs and how these may support mental health and well-being. The research was guided by the thriving through relationship (TTR) theory.

Methods. Twenty-two participants, aged 7-14 years, were recruited for semi-structured interviews at an NGO, Funda Nenja, based in a semi-rural area of KwaZulu-Natal. Additionally, the study incorporated observations during NGO gatherings, a focus group discussion among the NGO staff, and letters written by the children addressing their dogs to obtain an in-depth understanding of the relationship. This data was transcribed and analysed using reflexive thematic analysis, facilitated by computer-assisted software, Atlas.ti.

Findings. Overall, through the lens of the TTR theory five themes were identified each with various sub-themes that provided insight on the relationship between children and their dogs, as well as their experiences at Funda Nenja, the NGO. The themes are: (1) Children's environmental context, (2) Relationship characteristic of the companionship (3) Dogs provision of emotional, social, and psychological support (4) Centrality of dogs in children's lives, and (5) Funda Nenja's influence on CYP lives. Children viewed their dogs as family, and bonds were fostered through care responsibilities and joint participation in leisure activities. They described their dogs as sources of comfort, reducing negative and nervous thoughts through play, care and physical affection. Funda Nenja allowed for training, support, and connection, offering a weekly routine that boosted self-esteem and reduced risky behaviour.

Discussion. As stipulated by the TTR theory, social support is provided by significant others who possess supportive characteristics applicable to the lives of those receiving support, in this instance the children. The children in the present study experienced social, emotional,

and psychological support due to their relationship with their pet dog. Through the companionship, the pet dogs provided a close-loving relationship centred around trust, respect, and emotional comfort. Children reported that, due to their pet's emotional attunement and consistency, they experienced stress relief, enhancements in self-esteem, and mood regulation. Furthermore, the children explained that shared care practices with friends and family allowed for improved connections in human relationships. Although limitations included the dogs' aggression towards other humans, increased home orientation and pet loss, the education and support provided by Funda Nenja enabled the children to forge meaningful bonds with their pets, often referring to them as they would significant others. These findings further underscore the vital importance of investigating dog ownership as a potential preventative strategy for at-risk children in low- and middle-income countries.

ACKNOWLEDGEMENTS

I dedicate my thesis to my late sister, Suzanne Moolman. Who not only as a teacher had a heart for those children commonly overlooked but was also one of my biggest supporters. I hope by conducting this research I can contribute to what her vision was for the children of South Africa. Nothing will ever fill the gap you left behind! Suz, we miss you.

Firstly, I would like to express my gratitude towards my two supervisors, Prof Bronwyne Coetzee and Dr Estelle van den Berg. Thank you both for your continuous guidance and encouragement. Dr Coetzee thank you for taking me as novice researcher under your wing and bestowing some of your wisdom on me regarding qualitative research with children, I will be forever grateful that you held me to a higher standard and allowed me to gain my full potential as a researcher. Dr van den Berg thank you for assisting me in every logistical, and cultural question I had regarding KwaZulu-Natal and always having a kind word of encouragements in the comments to help me throughout the process. And then finally, I want to thank both of you for exposing me to Funda Nenja, through this I not only got to experience a completely different culture but also saw that the love of a dog encompasses all possible barriers.

Secondly, I would like to thank Funda Nenja's founders, Adrienne and Lisa, and the staff at Funda Nenja. Adrienne and Lisa, thank you for giving me the opportunity to conduct my research at your wonderful NGO. I saw the difference you made in the lives of both the children, their animals and the community of Mpophomeni. This NGO might have started focussed on the enhancement of animal welfare, but you have subsequently done so much more and touched the lives of many children. The staff at Funda Nenja, you are stars, you never said no to any of my requests! I am so glad I got to meet all of you, and I hope to see you again in the foreseeable future.

Thirdly, I would like to thank my partner, friends and family for their encouragement and support throughout the way. Thank you for my partner and best friend who were always open to hear about which chapter, and draft I am currently busy with. Always excited for my next submission deadline, ready to celebrate every milestone throughout the two years. I am so grateful to have both of you in my life!

Finally, I would like to express my sincere gratitude to the children and staff taking part in my study. Your willingness to share stories regarding your relationship with your companion animal, not only motivated me further to conduct my research, but also gave me a sense of purpose when I needed it most. I hope that I have portrayed your voices and relationship with

your dog in the spotlight it deserves. Thank you for trusting me, a stranger, and enlightening us as researchers regarding your life and relationship.

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ABBREVIATIONS

AAT	Animal-assisted therapy
ACE	Adverse Childhood Experience
CES-D	Centre for Epidemiological Studies Depression Scale
HAB	Human-animal bond
HAI	Human-animal interactions
HAR	Human-animal relationship
HIC	High-income countries
HIV	Human Immunodeficiency Virus
LAPS	Lexington Attachment to Pets Scale
LMIC	Low- and middle-income countries
MDORS	Monash Dog Owner Relationship Scale
MH	Mental health
MHC	Mental health condition
NGO	Non-governmental organisation
PAS-M	Pet Attitude Scale-Modified
PHQ	Patient Health Questionnaire
PSS	Perceived Stress Scale
RC	Relationship Catalyst
RTA	Reflexive Thematic Analysis
SCARED	Screen for Child Anxiety and Related Disorders
SOS	Source of Strength
SW	Social worker
TA	Thematic analysis
TTR	Thriving Through Relationships
WHO	World Health Organisation

GLOSSARY OF TERMS

Animal-assisted therapy the intentional inclusion of an animal in a treatment plan (Nimer & Lundahl, 2007).

At-risk children young children who are subjected to known environmental risk factors associated with development of chronic behavioural and emotional disorders (Conroy & Brown, 2004).

Attachment an affectionate bond that an individual or animal forms between himself and another, a bond that binds them together in space and persists over time (Ainsworth & Bell, 1970).

Children individuals that have not yet reached their 18th birthday (UNICEF, 1989).

Emotional support the demonstration of care, love, concern and interest, particularly during times of upset or stress (Burleson, 2003).

Empathy the affective experience of another person's existing or inferred emotional state, and some minimal recognition and compassion of another's emotional state (Decety & Jackson, 2004).

Eudaemonic wellbeing well-being based on a person's extent of functioning, measured through significance and self-realisation in one's life (Ryan & Deci, 2001).

Hedonic wellbeing well-being defined in terms of pleasure attainment and pain avoidance (Ryan & Deci, 2001).

Human animal bond a mutually advantageous and dynamic relationship between people and animals that is affected by behaviours that are necessary to the health and well-being of both (Hosey & Melfi, 2014).

Human animal interactions the reciprocal and dynamic interactions between people and animals and how these exchanges may affect physical and psychological health and well-being of individuals (Griffin et al., 2012).

Mental health a state of well-being in which the individual realises his or her own abilities, can cope with the stresses of life, can work productively and fruitfully, and is able to contribute to his or her community (WHO, 2004).

Mental well-being	a positive state of emotional, psychological, and social health characterised by a sense of contentment, resilience, and the ability to cope with life's challenges (Gautam et al., 2024).
Middle childhood	a developmental stage of childhood, typically between the ages of six and twelve years (Coll & Szalancha, 2004).
Reflexive thematic analysis	thematic analysis characterised by the researcher's reflexivity and subjectivity (Braun & Clarke, 2019).
Resilience	both the ability of individuals to direct their way to the psychological, social, cultural, and physical resources to preserve their wellbeing, and their capacity independently and communally to negotiate for these resources to be offered and experienced in culturally meaningful ways (Ungar & Theron, 2019)
Second quantile schools	children are not expected to pay school fees, and these schools cater for the second poorest twenty percent of children (Dass & Rinquest, 2017).
Social support	support provided through social relationships (House et al., 1988)

CHAPTER 1
INTRODUCTION

In this chapter, I examine the global prevalence of mental health conditions (MHCs) among children and adolescents, with a specific focus on South Africa. I critically explore the array of risk and protective factors that shape children and adolescents' vulnerability to developing MHCs, particularly those from low- and middle-income countries (LMIC). Further, I contextualise the role of animal-assisted interventions, specifically highlighting the preventive benefits linked to dog ownership and emotional attachment in children. The chapter centres on South African children who are at an elevated risk for MH challenges, while also highlighting the potential protective influences of dog companionship. Finally, I outline the scope of the current research project and present the research rationale, aims and objectives.

MHCs in children and adolescents (hereafter referred to as children) represent a significant burden on global health systems. Evidence from high-income countries (HICs) indicates that approximately 75% of adult MHCs manifest during childhood, with nearly half of these conditions emerging by the age of 14 (Solmi et al., 2022). According to Solmi et al. (2022) the peak age of onset for common MHCs like anxiety disorders is 5.5 years, while mood disorder only occurs at 20.5 years. These ages of onset are important to note as this information is essential for the development of optimal intervention and prevention strategies (Solmi et al., 2022).

1.1 Prevalence of mental health problems in children globally

Recent estimates by Kieling et al. (2024), who drew on the Global Burden of Disease (GBD) Study (Abrams et al., 2020; GBD 2019 Mental Disorders Collaborators, 2022), provides significant insights into the global prevalence of MHC across four distinct age groups. Their analysis included 1 243 studies and revealed that the prevalence of MHC in children aged five to nine years was reported to be 6.80%, and 13.9% for those aged 10 to 14 years. This data pertains to children who have been diagnosed with at least one MHC as classified by International Classification of Diseases-9, International Classification of Diseases-10, and Diagnostic and Statistical Manual of Mental Disorders (4th edition, text revision) criteria (Kieling et al., 2024). Moreover, Kieling et al. (2024) highlight that approximately one in 10 individuals between the ages of five and 24 have at least one diagnosable MHCs, with anxiety disorders being the most prevalent. However, Kieling et al. (2024) also point out that while these statistics provide a comprehensive overview of prevalence, a notable lack of data from lower-income populations and regions remains.

In a recent systematic review, Ramdhonee-Dowlot et al. (2025) examined the prevalence of anxiety and depression among children in LMICs. The review included 51 studies across 23 LMICs, three conducted in South Africa (Cortina et al., 2013; Hiscox et al., 2021; Sabet et al., 2009). Ramdhonee-Dowlot et al. (2025) reported that the prevalence of emotional problems in children living in LMICs ranged from 1% to 41%. These estimates are significantly higher than those reported by Kielings et al. (2024). Given the large population of children residing in LMICs, this prevalence estimate indicates a substantial disease burden (Ramdhonee-Dowlot et al., 2025).

In LMICs there is lower detection of common MHCs, like depression and anxiety disorders, by primary caregivers (Fekadu et al., 2022). This trend is troubling, considering the immediate and long-term effects these disorders can have on the lives and well-being of affected children (Erskine et al., 2015). Poor MH in childhood has been linked to various developmental and health issues, including substance misuse, interpersonal conflicts, academic struggles, aggressive behaviour, and legal challenges (Lund et al., 2018; Radez et al., 2021; Suldo et al., 2014). While early identification and treatment of children's MHCs are crucial, implementing preventative strategies may prove to be the most effective approach to alleviating the global MH burden (Erskine et al., 2015; Solmi et al., 2022).

Prevalence of mental health conditions in children in low-income and sub-Saharan African countries

In LMICs, including South Africa, children are disproportionately exposed to adverse childhood experiences (ACEs) and various risk factors that can contribute to the development of MHCs (Weine et al., 2020). The situation is often exacerbated by limited access to MH care services (Human et al., 2024; Skeen et al., 2019). A systematic review conducted by Jörns-Presentati et al. (2021) qualitatively synthesised findings from 37 studies that examined the prevalence of MHCs among children aged 10 to 19 years across 16 sub-Saharan African (SSA) LMICs. The results indicated median prevalence rates as follows: 26.9% for depression, 29.8% for anxiety disorders, 40.8% for emotional and behavioural disorders, 24% for post-traumatic stress disorder (PTSD), and 11.6% for suicidality. These findings suggest that children in SSA exhibit a higher prevalence of MHCs compared to their peers in other LMICs (Jörns-Presentati et al., 2021).

Prevalence studies focusing on MHCs among South African children have been limited to small and unrepresentative samples, often coupled with diagnostic instruments that have not been validated in the local context (Mokitimi et al., 2019; UNICEF South Africa, 2024). However, even without relevant data, one can gather that children in South Africa struggle to thrive due to

widespread poverty, discrimination, and violence (Kleintjies et al., 2022; Mkhize et al., 2024; Stansfeld et al., 2017; Ward-Smith et al., 2024).

Currently, there is a lack of national prevalence data on MHCs. However, Kleintjies et al. (2006) conducted a systematic review aimed at estimating the prevalence of all DSM-IV conditions in both adults and children in the Western Cape. The review accounted for risk factors specific to the South African context, including poverty, HIV-infection, unemployment, and exposure to crime, violence, and other forms of trauma. Based on their findings, Kleintjies et al. (2006) estimated a prevalence rate of 17% for MHCs among children in the Western Cape.

Recent research conducted among 621 children aged 10 to 14 in the Western Cape has revealed concerning MH trends. Mkhize et al. (2024) reported that 34% (n=208) of participants exhibited symptoms of depression as assessed by the Patient Health Questionnaire for Adolescents (PHQ-A). Furthermore, 21% (n=130) reported experiencing symptoms of anxiety, evaluated using the Generalised Anxiety Disorder 7-item scale (GAD-7). At the national level, data from the District Health Information System (Statistics South Africa, 2022a) indicates that approximately 20% of adolescents under the age of 18 have either a diagnosed or undetected MHC. However, this is only an estimate and should be interpreted with caution.

1.2 Childhood risk factors for poor mental health

I discuss the various risk factors through the lens of the biopsychosocial model. This model integrates biological and psychosocial elements, emphasising the significance of predisposition, maturation, and environmental characteristics that influence an individual's developmental trajectory throughout life (Engel, 1977). By examining the biological, social, and psychological roots of MH issues, we can effectively illustrate the interactions between biological, environmental, and behavioural influences on the development of MH problems during childhood (see Figure 1, Naicker et al., 2022).

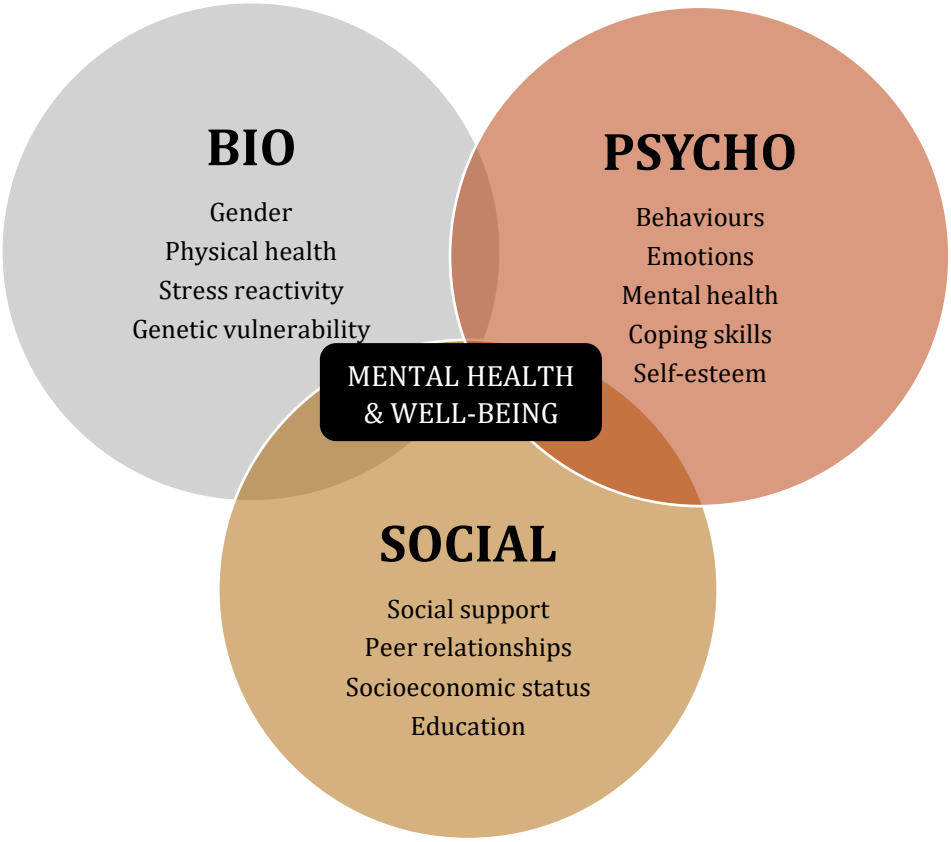

Figure 1. *Biopsychosocial model of stress and mental health in children* (Adapted from Naicker et al., 2022)

Research identifies several known risks associated with the development of MHCs in childhood (Rapee et al., 2019). These risks include inherited and temperamental susceptibility, social and cognitive vulnerabilities, and familial risk factors. Such influences can alter the typical developmental trajectory for children, leading to the emergence of MHCs (Rapee et al., 2019). It is important to note that these risk factors may affect each child differently, depending on their developmental stage (see Table 1) and their social context during transitional periods (Rochat & Redinger, 2022).

Table 1

Key risks during different developmental stages

Developmental stage	Key risks
Pregnancy	Inadequate health and nutrition, along with high levels of stress and exposure to adverse conditions can result in immediate negative outcomes for children, such as low birth weight and poor growth. Additionally, these factors can lead to longer-term consequences, including MH issues and non-communicable diseases (NCDs).
Early childhood	Inadequate health, nutrition, stress, and suboptimal parental care can contribute to stunting, restricted brain development, and limited cognitive capacity. Additionally, genetic predispositions and the effects of stress on the social response system may be exacerbated in dysfunctional family environments.
Middle childhood	The ability to regulate emotions and exercise cognitive control can be significantly impaired by adverse childhood experiences (ACEs) and negative social exposures. Individuals who face high levels of vulnerability to ACEs, whether in the home, community, school environment, or online, are particularly at risk. This has been linked to an initial increase in the prevalence of MHCs.
Early adolescence	Inadequate educational opportunities and negative social environments may hinder the development of crucial skills such as self-control and problem-solving, while also increasing the risk of both perpetrating and experiencing violence. Additionally, physiological changes during puberty can heighten the likelihood of risk-taking behaviours and unhealthy lifestyle choices, including the use of alcohol, tobacco, and a sedentary lifestyle.
Late adolescence	The population exhibits a heightened risk of school dropout or incomplete education, as well as early pregnancy and injuries. There is also an increased vulnerability to both non-communicable and infectious diseases, including HIV. Furthermore, this group experiences a peak onset of MHCs, accompanied by suicidal ideation and behaviours.

Adapted from Rochat and Redinger (2022)

Biological risk factors

Biological risk factors are influenced by a complex interplay of hereditary characteristics, such as temperament and lower prosocial traits, alongside various other genetic components (Naicker et al., 2022). A child's individual vulnerability can be affected by several elements, including the perinatal environment (Liu et al., 2017) and the mother's MH status during pregnancy (Rochat & Redinger, 2022). Other elements are shifts in secular trends in the timing of adolescent puberty onset and the rate at which it progresses, which influences both physical health and MH (Susman & Rogol, 2004). Data gathered from South African children by Kowalski et al. (2021) has indicated that early pubertal onset and a heightened tempo of pubertal progression cause higher engagement in risky behaviour and increased risk for

psychological distress. Lastly, alterations in sleeping and eating patterns place children at risk, especially during early childhood (Matricciani et al., 2012; von Soest & Wichstrøm, 2014).

Psychosocial risk factors

Risk factors such as exposure to violence and substance abuse in a child's family, peer group, or school environment can contribute to MH regressions during childhood (Naicker et al., 2022). A child's family dynamics significantly influence their resilience and vulnerability to these issues. Factors such as parental depression (Rajyaguru et al., 2021), experiences of parental maltreatment (Kisely et al., 2018), and parental loss, particularly in LMICs where AIDS is prevalent (Cluver et al., 2007), can profoundly affect a child's mental well-being (Azuike et al., 2022).

A subsequent aspect that influences children's vulnerability is extra-familial relationships and psychosocial influences, for instance bullying (Lund et al. 2022) and stressful educational experiences (Schulte-Körne, 2016). Finally, children's broader socioeconomic and cultural factors can contribute to psychosocial risks (Collishaw, 2015; Lund et al., 2018). These social and economic factors that influence children's MH are referred to as *social determinants,* which place strain on children's living conditions, access to services, and exposure to adversities (Lund et al., 2018).

Research indicates a significant correlation between poverty, adverse socio-economic conditions, and the heightened prevalence of MH issues, such as anxiety and depression, among children residing in LMICs (Harrison et al., 2021; Stansfeld et al., 2017). Children experiencing poverty often encounter various social determinants that adversely affect their well-being. These include increased exposure to substance abuse, violence (including child abuse and trauma), risk of HIV/AIDS, racial and cultural inequities, diminished social support, and lower educational attainment (Bukola et al., 2020; Lund et al., 2018; Richter et al., 2021).

Social Causation Theory. The social causation theory was developed in response to the view that psychiatric disorders are the consequence of socioeconomic status (stress and adversities), rather than genetic predisposition or social selection (Dohrenwend et al., 1992). The theory has shown strong and consistent findings that socio-economic status and mental conditions have a negative correlation (Hudson, 2005; Link et al., 1993). According to the social causation theory, while certain MHCs like schizophrenia may be more strongly linked to genetic or biological factors, most MHCs like depression, anxiety and personality disorders are more closely linked with social causation (Dohrenwend et al., 1992).

The theory suggests that MHCs are mediated by stress related to economic status (i.e., poverty, housing unaffordability and unemployment), accompanied by a lack of familial cohesiveness or support, geographical drift (movement from higher to lower socio-economic

communities), socioeconomic drift (declining employment), and intergenerational drift (decline in adolescents' socio-economic status during adulthood). However, the leading cause of MHCs, according to Dohrenwend et al. (1992) is economic stress and family fragmentation (Hudson, 2005).

In a study by Lund and Cois (2018), the social causation and the social drift theory hypotheses were presented as explanations for poor MH status. The findings revealed that in a nationally representative sample from South Africa, the relationship between depression and poverty reveals elements of both theories. Specifically, their results partially support Dohrenwend et al.'s (1992) social causation hypothesis regarding the connection between depression and poverty. At the same time, the social drift hypothesis emerged as a contributing factor, as the impact of depression further exacerbates participants' already lower socioeconomic status.

1.3 Childhood protective factors with respect to mental health

According to Patel and Goodman (2007), protective factors contribute to a reduced likelihood of individuals developing MH issues. These factors serve as buffers that can mitigate the long-term physical and psychological effects associated with adverse childhood experiences and exposure to risk factors (Crouch et al., 2019). The protective factor model, which is rooted in the resiliency theory of Garmezy (1991), posits that specific attitudes and resources can enhance resilience by modifying the relationship between risks and adverse outcomes (Zimmerman, 2014). Garmezy (1991) categorised protective factors into three primary domains that are widely used in recent research. The three primary domains include the establishment of supportive relationships; the presence of safe, equitable, and protective environments; and the development of adequate emotional and social skills (Child Information Gateway, 2020; Harper Browne, 2016; Schofield et al., 2013).

The presence of a loving and stable adult in a child's life significantly contributes to their sense of safety, while residing in a nurturing and secure neighbourhood or household serves as a protective factor against the long-term consequences of adverse childhood experiences (Moore & Ramirez, 2016; Walker et al., 2011). The complex interplay between relational and environmental factors ultimately shapes children's development and resilience (Lund et al., 2018). Significantly, within the relational domain, infants and young children rely heavily on their family members and primary caregivers for essential support, nurturing, and protection (WHO, United Nation Children's Fund & World Bank Group, 2018). Establishing consistent daily routines, modelling appropriate interactions and behaviours, and attentively responding to the non-verbal cues of young children are crucial for fostering a supportive environment that promotes their development (Catalano & Kelogg, 2020; Naicker et al., 2022).

Consequently, the treatment and prevention of MH and substance use disorders present significant challenges due to the complex interplay between various risk factors, including poverty, childhood adversity, genetic predispositions, and parental mental illness, all of which are difficult to modify (Erskine et al., 2015). However, by identifying modifiable risk factors such as child abuse and neglect, intimate partner violence, and bullying, targeted intervention strategies can be developed with the potential to reduce the likelihood of children developing both MH and developmental conditions (Erskine et al., 2015).

Multi-systemic resilience

Human resilience relies on a complex interplay between ecological, biological, and psychological systems, as articulated by Ungar and Theron (2020). In a systematic review examining children subjected to abuse, various individual and ecological determinants were identified as influencers of positive MH outcomes (Fritz et al., 2018). At the individual level, factors such as high rumination, cognitive reappraisal, elevated distress tolerance, reduced emotional suppression, secure attachment, and low expression of aggression can facilitate resilience in abused children. At the social level, parental involvement, family cohesion, extended family support, and positive parenting practices also significantly affect resilience. Furthermore, within the child's community, increased social support affects psychosocial and behavioural outcomes. It is important to observe that these systematic reviews (Fritz et al., 2018; Niitsu et al., 2019) indicate that single factors rarely establish a climate associated with resilience, and thus multiple factors across specific systemic levels are required. This understanding motivated Ungar and Theron (2020) to propose a systemic model of resilience, as illustrated in Figure 2.

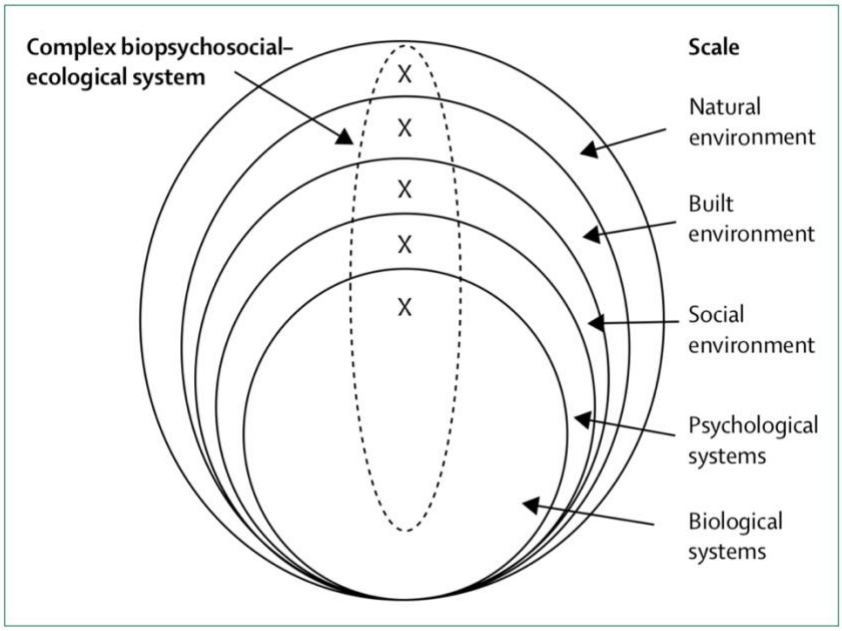

Figure 2. *A systemic model of resilience.* The Xs symbolise protective and promotive factors at the various scales, which develops a single multilevel system that is represented by the dashed eclipsed (Ungar & Theron, 2019).

1.4 The mental health treatment gap in South Africa

Despite the high levels of MHCs in South Africa according to cross-sectional research, a substantial number of citizens lack access to the necessary treatment services. Research indicates that approximately 75% of individuals experiencing common MH issues such as anxiety, depression, or substance use disorders, are unable to access the care they require (Sorsdahl et al., 2023). This treatment gap widens to 92% when considering those with more severe MHCs (Docrat et al., 2019). Consequently, only about one in 10 South Africans living with MHCs receive appropriate care (Sorsdahl et al., 2023). Various barriers contribute to this situation, including financial constraints, stigma associated with MH problems, time limitations, and a lack of confidence in the available treatment options (Mokomane et al., 2017).

Despite the growing global awareness of children's MH, there remains a significant treatment gap for vulnerable populations, particularly for children and individuals residing in LMICs, including those in sub-Saharan Africa (Jakobsson et al., 2024; WHO, 2020). In South Africa, it is estimated that 90% of children with MHCs do not have access to adequate MH care (Kleintjies et al., 2022). The unmet needs due to limited resources can result in a range of adverse outcomes, including engagement in risk-taking behaviours such as substance misuse and criminal involvement, as well as decreased academic performance (Golberstein et al., 2019) These factors can subsequently hinder children’s developmental trajectories, affecting their acquisition of essential skills and their preparedness for adulthood (Golberstein et al., 2019).

Understanding the underlying factors contributing to South Africa's notable MH treatment gap requires a comprehensive examination of the country's broader socio-political context. The historical influences on South Africa's MH care system are significant (Kleintjies & Scheiner, 2023). The nation is reliant a dual public and private healthcare framework, with over 80% of the population relying on the public sector. However, this sector has historically experienced varied levels of financial support across different provinces, particularly between urban and rural areas (Statistics South Africa, 2022b).

Key challenges contributing to this inequality include the shortage of MH professionals in public hospitals, as approximately 80% of psychiatrists in South Africa are engaged in private practice (Janse van Rensburg et al., 2022). Additionally, in the past, a disproportionate share (86%) of government expenditure on MH has been directed at inpatient care, leaving just 14% for outpatient services in 2017 (Docrat et al., 2019). Currently, the available financial resources in South Africa are predominantly allocated to specialised psychiatric hospitals and district MH care facilities, with a mere 8% of the MH budget designated for medication costs for individuals with severe MHCs (Sorsdahl et al., 2023). This distribution highlights the urgent need for reform in the allocation and utilisation of MH resources to better address the needs of the entire population.

Current models of service delivery for child and adolescent MH in South Africa face significant challenges (Mokitimi et al., 2019). As of April 2019, the country had only 15 practising child and adolescent psychiatrists (Janse van Rensburg et al., 2022). This acute shortage of MH providers, including psychologists, occupational therapists, speech therapists, social workers, and psychiatric nurses, further exacerbates the difficulties of an already strained system (Sorsdahl et al., 2023).

1.5 Mental health preventative strategies in South Africa

In light of growing concerns regarding the affordability of MH treatment and the scarcity of resources in South Africa, there is a pressing need to develop preventative strategies. MH promotion and targeted preventative measures for at-risk populations could play a crucial role in breaking the cycle between poverty and MHCs. These strategies can address the social determinants that contribute to poor MH and enhance individuals' capacity to thrive, even when faced with adversity (Lund et al., 2011; Petersen, 2010).

The primary objective of preventative strategies is to avert the development of MHCs (Petersen et al., 2012). Interventions aimed at promoting positive psychological health empower children to realise their full potential and equip them with the necessary skills to cope with life’s challenges (Singh et al., 2022). Preventative strategies reinforce resilience (Dray et al.,

2017) or modify risk factors within a specific context or regarding children's response to them (WHO, 2004).

In South Africa, the predominant approaches to prevention and early intervention efforts have relied on school-based (Caldwell et al., 2010; Coetzee et al., 2024), community-based (Mueller et al., 2011), and family-based (Bhana et al., 2014; Cluver et al., 2016; Eloff et al., 2014) frameworks. However, the implementation of global MH prevention interventions in school settings has not been explored adequately in LMICs (Bradshaw et al., 2021; Yu et al., 2023). This lack of research leaves a gap in our understanding of the potential benefits these prevention interventions may offer to children facing significant hardships (Birell et al., 2025; Coetzee & Loades, 2025). Nevertheless, in some LMICs (Vietnam, South Africa and Nepal), there has been some evidence that locally adapted, skill- and resilience-based approaches has promise for promoting children's mental well-being and preventing MHCs (Laurenzi et al., 2024; Fisher et al., 2023).

In the South African Child Gauge 2021/2022, Sherr (2022) emphasises the importance of employing a combination of interventions that integrate financial support and additional forms of care. This notion is reinforced by findings from the Community Care study conducted in South Africa and Malawi (Sherr et al., 2016; Mebrahtu et al., 2022). The study conducted by Sherr et al. (2016) involved 446 children affected by HIV/AIDS, aged nine to 13, who were attending a community-based organisation. Their scores on MH questionnaires (Child Depression Inventory, Child PTSD Checklist, and the Trauma Symptoms Checklist for Children) were compared to those of 1 402 children within the same age range, randomly selected from urban and rural communities characterised by high HIV-prevalence rates. The finding of Sherr et al. (2016) highlights the effectiveness of community-based organisations in supporting children through the provision of financial assistance alongside other resources. This multifaceted approach resulted in notable improvements, including reduced suicidal ideation, diminished depressive symptoms, lower levels of stigma, improved peer relationships, fewer conduct problems, and a decrease in incidents of domestic violence in comparison to children receiving solely monetary grants.

Furthermore, Sherr (2022) advocates for the integration of parenting interventions with support grants or food assistance, as this holistic combination has been shown to enhance MH outcomes in children affected by HIV/AIDS. These findings align with the work of scholars focussed on children in LMICs with MH problems and preventative interventions (Titi et al., 2022; Van der Westhuizen et al., 2023). They found that adopting a holistic approach that addresses the child's overall circumstances will likely maximise the positive MH benefits that children experience.

Given the limited number of studies evaluating the effectiveness of preventative intervention strategies and the predominance of pilot studies, there is a need to validate preventative approaches, particularly those that incorporate a holistic perspective. Given the severely constrained financial resources allocated to MH initiatives in South Africa, it is imperative to explore innovative alternatives, such as human-animal interactions (HAI). Currently, prevention initiatives have been mainly school-based and primarily implemented in the Western Cape region. Broadening the scope to include the bonds between humans and animals presents a promising, cost-effective, and holistic prevention and early intervention method. Such an approach could be especially pertinent in addressing the social determinants that affect children's lives in South Africa. While much of the existing research on HAI has mainly concentrated on elderly and adult populations, emerging evidence, albeit limited, suggests that meaningful human-animal relationships could significantly enhance MH and overall well-being in children.

1.6 Human-animal interactions versus human-animal bonds

Over the past two decades, there has been a growing body of research focused on the therapeutic and health implications of the human-animal bond and interactions (Rodriguez et al., 2021). HAIs are recognised as dynamic, reciprocal exchanges between animals and humans, which can significantly affect the human's physical and emotional well-being (Serpell et al., 2017). In the realm of research, HAI outcomes have been evaluated at the hand of various factors, including the nature of the human-animal contact, such as the duration of petting, walking, or conversing, and the settings in which these interactions occur, such as within hospital environments, classrooms, or home settings (Rodriguez et al., 2021).

Companion animal literature frequently addresses the concept of the human-animal bond (HAB) or human-animal relationships (HAR). The American Veterinary Medical Association defines HAB as a mutually beneficial relationship in which behaviours essential to the health and well-being of both parties are interconnected (Hosey & Melfi, 2014). HABs encompass various psychological, emotional, and physical interactions among individuals, their surroundings, and the animal involved (Hosey & Melfi, 2014). Russow (2002) proposes specific criteria to differentiate HAR from HAI. These criteria include: (a) the relationship involves a singular human and a specific animal; (b) the relationship is characterised by persistence and consistency; and (c) the connection fosters an enhancement of well-being for both the animal and the human.

Animal-assisted interventions

The presence of animals has been shown to provide relaxation and alleviate everyday stress and tension in individuals (Koukourikos et al., 2019). The formal integration of animals for therapeutic purposes emerged in the 20th century (Koukourikos et al., 2019). The beneficial health effects associated with HAI have garnered significant interest from various health professionals and researchers, ultimately leading to the establishment of the term animal-assisted therapy (AAT) (Tedavi, 2020).

AAT offers a range of benefits, including emotional support, stress relief, the development of self-care skills, enhanced self-image, improved social skills, and opportunities for engaging in activities and training (Koukourikos et al., 2019). AAT has been effectively employed in the treatment of various MHC across different age groups, including children, adults, and the elderly. Conditions such as depression, autism, dementia, and schizophrenia have been addressed through this therapeutic approach (Koukourikos et al., 2019).

Additionally, animal-assisted activities (AAA) are a type of AAT that provide short-term benefits associated with the presence of an animal (Friedmann et al., 2010). These activities are offered in diverse settings, supporting individuals from various backgrounds in medical and MH contexts, including community centres, correctional facilities, juvenile detention centres, educational institutions, and workplaces (Kamioka et al., 2014).

Human-animal bonds

The predominant form of HAI is pet ownership, which has been shown to enhance both the physical and MH of pet owners (Scoresby et al., 2021). The concept of HABs underscores the importance of animals as companions and integral members of the family, as they are incorporated into the daily lives of their owners (Scoresby et al., 2021).

Upon reviewing the literature on the HAB, it is clear that this relationship often fulfils the four essential criteria of an attachment relationship (Ainsworth et al., 1978): proximity seeking, serving as a secure base, functioning as a safe haven, and inducing separation distress (Zilcha-Mano et al., 2011). Research indicates that closeness to pets, particularly when they seek affection, contributes significantly to the happiness of their owners (Marti et al., 2022). Furthermore, pets offer support, comfort, and affection during challenging times, acting as a safe haven (Archer & Ireland, 2011). In addition, the loss of or separation from a pet can lead to profound grief and mourning for the owner (Reisbig et al., 2017; Tzivian & Friger, 2014). These attributes often result in owners feeling unconditionally loved and accepted by their pets, encouraging them to seek comfort and reassurance from their pet during challenging moments.

Ultimately, this dynamic fosters a strong attachment bond between the animal and its human companion (Meehan et al., 2017; Zilcha-Mano et al., 2011).

Research has highlighted the advantages of pet ownership, particularly in the context of HAI. Studies indicate that owning dogs or cats offers more benefits than having other types of pets or not owning any pets at all (Utz, 2014). Pet owners report greater physical health and lower levels of loneliness (Guastello et al., 2017; Matchock, 2015), reduced symptoms of depression, and enhanced self-esteem and social engagement (Schultz et al., 2020). However, there has been research focussed on HAR where no association was found with positive MH outcomes. Yet, overall, there is increased positive association with these benefits (Martins et al., 2023; Scoresby et al., 2021). In many Western cultures, humans often form close and positive relationships with companion animals. Research suggests a preference for species that are behaviourally, physically, or cognitively closer to humans, such as dogs and primates (Urquiza-Haas & Kotrschal, 2015). Among these, dogs frequently occupy distinctive roles in the traditional family structure, which sets them apart from other pets (Jalongo, 2015).

In a 2021 study, González-Ramirez and Landero-Hernández examined the HAR among 132 participants who owned either dogs or cats using the Monash Dog Owner Relationship Scale (MDORS). The findings indicated that dog owners reported a greater emotional connection with their dogs compared to those owning cats. This was reflected in higher levels of perceived social support, unconditional love, and companionship attributed to dogs. Conversely, cats demonstrated a lower perceived cost-to-interaction ratio, suggesting they are more amenable to being stroked, petted, and brushed, while representing a lower financial burden than dogs. Additionally, the study highlighted that cats typically impose fewer restrictions and responsibilities on their owners' daily lives (González-Ramirez & Landero-Hernández, 2021).

Common MHCs, such as anxiety and depression, pose significant challenges for children (Mkhize et al., 2024). If left untreated, these disorders worsen during adolescence and adulthood (Caspi et al., 2020; Copeland et al., 2015). While no national data is available for South Africa, cross-sectional surveys from the Western Cape demonstrate high prevalence rates of anxiety and depression among children (Mkhize et al., 2024; Ward-Smith et al., 2024). Factors such as gender, poor parent-child relationships, poverty, and the climate crisis increase the risk of MH problems in South African CYP (Kleintjies et al., 2022; Lund et al., 2022). Consequently, early intervention and preventive measures are crucial, particularly in resource-limited settings such as South Africa, where a substantial MH treatment gap exists (Kleintjies et al., 2022).

Extensive research emphasises the crucial role of parents and caregivers as attachment figures, with secure attachments acting as a preventative measure for future MH issues in

children (Mikulincer & Shaver, 2012; Oldfield et al., 2016). Nevertheless, attachment figures are rarely seen as non-human entities, such as pets (Keefer et al., 2014). However, in HAI studies focused on pet-owning children, as well as adults, there is evidence, albeit limited, of their role in supporting MH and well-being. Therefore, exploring the plausible preventative power of pet ownership in at-risk children in LMICs like South Africa is essential.

1.7 Aims and objectives

The primary objective of this study was to gain an in-depth understanding of how at-risk children (aged 7 to 13 years) experience and make sense of their relationships with their pet dogs, and how these relationships may shape their sense of emotional and psychological well-being. Additionally, this study aimed to qualitatively explore and observe the interactions between children and their animals at Funda Nenja, the non-governmental organisation (NGO) where the research was conducted. This was approached from three different perspectives: my own, those of the children, and those of the Funda Nenja staff. Supplementary information was obtained from the staff at Funda Nenja to enhance the findings.

The specific objectives were the following:

1. To understand how children describe their relationship with their pets, and the value/significance (if any) they place on pet companionship in everyday life;
2. To explore whether children experience and describe any MH and well-being benefits associated with pet companionship;
3. To understand the role that pets play (if any) in providing social, emotional and psychological support to children and their families;
4. To explore, from the perspectives of staff at Funda Nenja, the influence of pet companionship on the emotional and psychological well-being of children who attend the sessions; and
5. To observe and document interactions between children and their pets during a training session at Funda Nenja.

1.8 Research questions

In this study, I explored the lived experiences of children aged seven to 13 who own pet dogs and reside in rural KwaZulu-Natal, South Africa. The research design is qualitative, and the objectives were addressed through interviews with the children and a focus group involving staff from Funda Nenja. The study was centred around one primary research question: What role does dog companionship play (if any) in supporting the MH and well-being of at-risk children and young people (7-13 years) in South Africa?

1.9 Overview of chapters

In this introductory chapter, I provided a rationale for the current study by highlighting the various risk and protective factors influencing the lives and well-being of children in LMICs. This was followed by an examination of the MH treatment gap in South Africa and a discussion on how preventive strategies such as HAI may help address the shortcomings in the system. Chapter 2 offers an extensive overview of existing literature regarding pet ownership and companionship among children and young people, specifically investigating the effects on their emotional, social, and psychological well-being. The latter portion of this chapter underscores the significance of a strong bond between children and their pets to realise the anticipated benefits fully. In Chapter 3, the theoretical framework based on Feeney and Collins's "Thriving through Relationships" (2014) is introduced to guide the conceptualisation of this study. Chapter 4 details the study's methodology, including the research design, participant selection, recruitment strategies, measurement tools, and data collection methods. It also considers rigour and trustworthiness, data analysis plans, and ethical implications. Chapter 5 presents the findings following a thorough reflexive thematic data analysis (RTA). Finally, Chapter 6 interprets and evaluates the results, concluding with a discussion of the study's implications, recommendations for future research, and acknowledgement of the current study's limitations.

CHAPTER 2
LITERATURE REVIEW

In this chapter, I present a comprehensive review of the existing literature on the effects of dog companionship during childhood on children's MH and well-being. I begin by detailing the literature review strategy employed throughout the research process. This is followed by an outline of established knowledge regarding pet companionship and its association with mental well-being in the general population. Subsequently, I provide an in-depth examination of literature specifically focused on HAR and their influence on children's MH, addressing aspects such as anxiety and depression, stress and resilience, emotional support, and social support. Additionally, I explore literature related to the quality of the attachment between children and their pets. The chapter also includes a review of South African studies that focus on dog owners' mental well-being, whereafter it concludes with a summary of the literature reviewed.

This literature review presents a rationale for a qualitative exploratory study aimed at enhancing our understanding of the experiences of children who own companion dogs and reside in a low-income community in KwaZulu-Natal, South Africa. Furthermore, this section identifies shortcomings and gaps in the research field. Several studies incorporate perspectives from children and their guardians; I differentiate whether the findings are based on the children's viewpoint or that of their guardians.

2.1 Literature search strategy

The literature reviewed in this study examines the relationship between children and their pets, particularly in relation to MH and overall well-being. Key themes identified in the literature include but are not limited to anxiety, depression, resilience, and the provision of emotional and social support. Additionally, the research delves into the strength of the bond and attachment between children and dogs. To gather pertinent literature for this analysis, I developed a set of key search terms aligned with these themes and conducted searches across several scholarly databases.

The following online databases were searched for relevant literature for this review: Google Scholar, Web of Science, Science Direct, APA PsycInfo and Academic Search Premier. The following keywords were employed (human-animal interactions OR human-animal relationship OR human-animal bond OR pet ownership OR animal ownership OR companion animals) AND (children OR young people OR pre-adolescence OR youth) AND (mental health OR well-being). Additionally, appropriate literature was extracted from the reference lists of included published papers. The search included global and local literature. I added ("South Africa") to the search

string after each search to identify any local sources. The search string was adapted to each database's specifics as some databases limit a long list of keywords.

2.2 Mental health and human-animal relationship

The current body of research on HAI primarily focuses on adult and elderly populations (Purewal et al., 2017; Wanser et al., 2019). Consequently, there is a significant gap in our understanding of the active role of pet ownership in children's lives. Further research is needed to explore how pet ownership may contribute to various aspects of child development, including physical, emotional, cognitive, and social development (Purewal et al., 2017).

Dog ownership and mental health in adults

There is limited research exploring the less structured interactions and contact associated with pet ownership and how this might influence mental well-being in the general population and those diagnosed with MHCs (Brooks et al., 2018). Brooks et al. (2018) systematically reviewed the strength of the support provided by companion animals in individuals with MHCs. A total of 17 studies were included in the review. However, the majority of the data extracted were mostly qualitative in nature, while experimental studies were distinctively lacking. Brooks et al. (2018) thus conclude that research on the role of pets in managing diagnosed MHC is still in its early stages and clear contrasts and comparisons are limited as studies are still exploratory in nature. Still, the results support the benefits of having companion animals in the general population and when individuals are diagnosed with an MHC (Bakerjian, 2014; Power, 2013). Brooks et al. (2018) conclude that the review suggests that individuals with MHC benefit from being emotionally connected to their pets due to their provision of emotional support during crises to help manage symptoms.

Studies exploring dog ownership specifically and MH in the general adult population are scarce. However, one such study was conducted by Cui et al. (2021), who completed a quantitative longitudinal study over two years with a large cohort in Perth, Western Australia, explicitly focusing on self-report surveys (stress and depression), dog ownership status and weekly minutes of dog walking. The authors found no association between dog walking and MH outcomes. However, dogs did provide a buffering effect on perceived stress, which consequently led to lower depression levels in the dog owners compared to non-pet owners (Cui et al., 2021).

A recent mixed-method study conducted with a large cohort from the general population in the United Kingdom (UK), explored the relationship between the strength of dog-owner bonds and the owners' mental well-being (Merkouri et al., 2022). Participants completed a PROMIS (Patient-Reported Outcomes Measurement Information System) survey that assessed various aspects, including depression, anxiety, emotional support, and companionship, using the MDORS scale for validation. Additionally, open-ended questions were posed to investigate the

positive and negative effects of dog ownership on mental well-being. The results demonstrated that owners with a stronger relationship with their dogs reported enhanced feelings of emotional support and companionship. However, the study did not find a significant reduction in anxiety and depression scores among these individuals. The presence of dogs appears to enhance both hedonic and eudaemonic well-being, contributing to greater enjoyment, feelings of achievement, acceptance, and purpose in their owners' lives (Merkouri et al., 2022).

It is important to note that while dog ownership can be beneficial, specific responsibilities, such as managing a dog's health and addressing behavioural issues, may also present challenges. Consequently, the influence of pet ownership on mental well-being can vary significantly depending on individual circumstances, including the dog's characteristics and the nature of the relationship between the owner and their pet. Nevertheless, dogs have been found to play a crucial role in helping owners manage negative emotions, including anxiety, depression, and suicidal thoughts, as many individuals seek emotional support from their dogs to aid in their mental well-being management (Merkouri et al., 2022).

The findings presented align with most studies conducted in the general population (Hawkins et al., 2021; Powell et al., 2019). However, it is important to note that some research has reported null findings (Fraser et al., 2020; Le Roux & Wright, 2020) or negative outcomes (Sharpley et al., 2020) when investigating the effect of pet ownership on adults' MH and well-being. This suggests a need for further investigation, as the existing literature presents inconclusive results regarding the effect of HAR on adults' MH and overall well-being.

2.3 Mental health and well-being in pet-owning children

HAI research in children has been primarily focused on AAT and AAA-interactions with dogs used by counsellors, psychologists, and healthcare providers as part of a therapeutic intervention for children attending neurorehabilitation programmes (Lasa et al., 2015), children who are chronically ill (Reed et al., 2012), child victims of sexual abuse (Dietz et al., 2012), or those who have a pervasive developmental condition like autism spectrum disorder (Berry et al., 2013). Nevertheless, in studies focusing on the HAR in pet-owning children there is evidence, albeit limited, of the role of pets in supporting MH and well-being (Purewal et al., 2017). This literature indicates that while pet interactions and ownership are significant, maintaining a close relationship and emotional bond with the pet is more valuable than the mere presence of a pet in the household (Hawkins et al., 2017; Hediger & Beetz, 2015; King et al., 2024a).

The type of pet children own influences the degree of MH or well-being benefits experienced through HAR. Quantitative studies have measured general mental well-being in children, but variability in findings between various pet types is evident. For example, in a longitudinal study by Endo et al. (2020) conducted in Tokyo, the mental well-being (as

measured using the WHO-5 well-being index) of children (10–12 years) was compared between those children who were dog owners, cat owners, and non-pet owners. Endo et al. (2020) found that dog-owning children displayed better mental well-being, while cat-owning and non-pet-owning children had decreased mental well-being at 12 years compared to their measurement at 10 years of age.

A systematic review conducted by Purewal et al. (2017) examined the cognitive, behavioural, educational, and developmental outcomes among children from infancy to adolescence who have companion animals. The findings showed that within the various developmental domains, the presence of companion animals in children's lives has a positive influence (Purewal et al., 2017). Consult Figure 3 to gain an in-depth summary of the systematic review's findings. This literature review includes subsequent references to applicable findings from Figure 3.

However, the review highlights a significant gap in research concerning the underlying mechanisms that facilitate positive child development, which is essential for interpreting the observed associations between pet ownership, attachment to pets, and child development (Purewal et al., 2017). Furthermore, the authors emphasise the need for future research to explore HAI with specific types of pets, particularly dogs, owing to their high levels of interaction with humans and the associated benefits (Purewal et al., 2017).

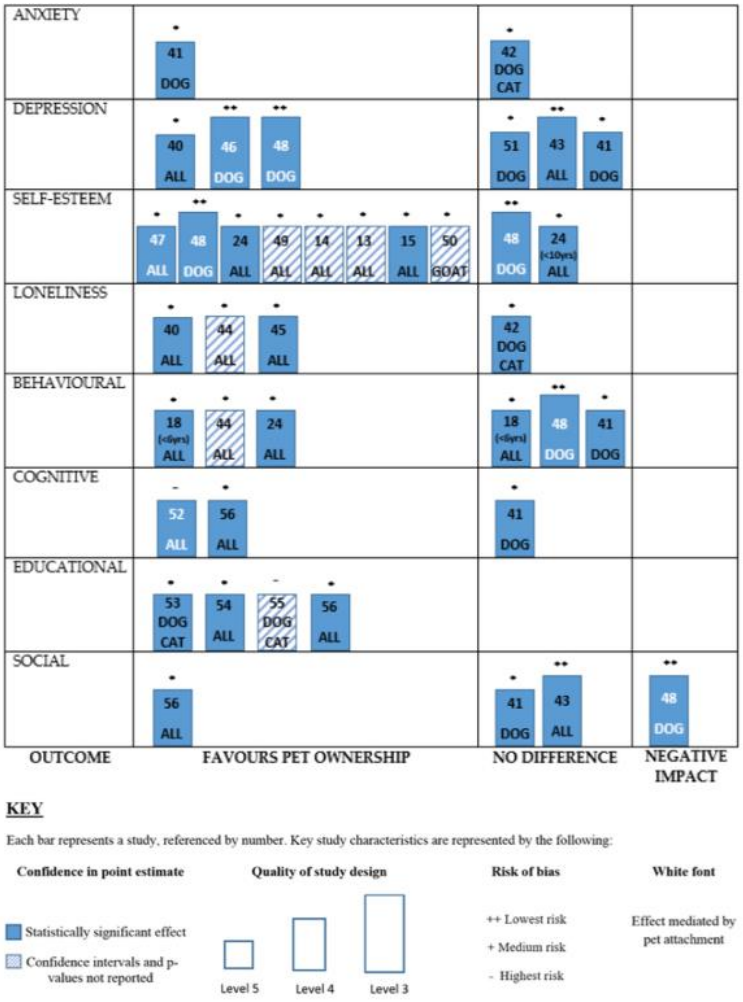

Figure 3: *Harvest plot showing systematic review evidence of the effects of pets on categories of child and adolescent development* (Purewal et al., 2017)

Anxiety and Depression

Anxiety disorders often emerge during childhood and persist into adulthood. Addressing conditions during childhood is therefore a sensible aim for preventive interventions (Lawrence et al., 2017; Solmi et al., 2022). Cross-sectional quantitative studies have shown that pet ownership, specifically dog ownership, alleviates symptoms of anxiety disorders in children. For example, in an extensive quantitative study conducted in New York City by Gadomski et al. (2015), the anxiety screening score (as measured with a 5-item scale adapted from the Screen for Child Anxiety and Related Disorders [SCARED-5]) of 470 dog-owning children was compared to 173 non-dog-owning children (4–10 years) in a paediatric primary care setting. The dog-owning children had decreased anxiety screening scores compared to the non-dog-owning children. The study by Gadomski et al. (2015) was focused on preventative interventions, thus a population of children without any previous MHC diagnosis was included.

In a more recent retrospective cohort follow-up study by Gadomski et al. (2022), data from the above-mentioned study, conducted eight years prior, were used to identify those children (11–19 years) without an MH diagnosis in the primary research. Eight years later, 571 children (11–19 years old) without an MH diagnosis in early childhood were screened for common mental health diagnoses (as measured with SCARED-41 [Birmaher et al., 1999], Adverse Child Experiences Questionnaire [ACE-Q], PHQ-8 [Kroenke et al., 2009], Multidimensional Scale of Perceived Social Support [MSPSS; Zimet et al., 1988]). Their parents reported on their pet exposure and attachment (dogs and cats, Companion Animal Bonding Scale [CABS]) in the years since the first study. Findings indicated that dog ownership and subsequent attachment during childhood reduced the risk of MH diagnosis during adolescence, with the strongest positive association seen for anxiety disorders (Gadomski et al., 2022). There was no association between pet attachment and a decrease in severe MH diagnosis, which includes a depression diagnosis (Gadomski et al., 2022).

At-risk children. Research on pet companionship and its effects on depression symptomatology in the general child population has yielded mixed results (Jacobson & Chang, 2018; Purewal et al., 2017). However, studies indicate that in at-risk populations with a higher likelihood of developing depression, the presence of pets is associated with enhanced mental well-being compared to the broader population (Edidin et al., 2012; Hodgson et al., 2013; Purewal et al., 2017). For example, a quantitative study conducted in Los Angeles by Rhoades et al. (2015) analysed pet ownership, mental health symptoms (using the Centre for Epidemiological Studies Depression Scale [CES-D], Primary Care PTSD screen [PC-PTSD], and UCLA loneliness scale), service utilisation, and housing status among 398 street-involved children (ages 13–17) and adults (ages 18 and older). The findings showed that homeless children who owned pets exhibited lower levels of depression and loneliness compared to their non-pet-owning peers. Many of these children articulated that their pets provided them with companionship and a sense of love and safety (Rhoades et al., 2015).

Trauma and resilience

Experiencing trauma can significantly influence the developmental trajectory of children, affecting their overall functioning and psychological well-being (Ballard et al., 2015; Sethi et al., 2025). The therapeutic potential of interactions between children and animals is improved when there is an established trusting HAR, particularly during the recovery process following a traumatic event (Bexell et al., 2019). A quantitative study conducted by Mueller and Callina (2014) examined a sample of 578 military-involved children aged 12 to 18 years, focusing on their bond with their companion animals (measured by the CABS [Porensky et al., 1987]) and their experiences of stress (using an 11-item Perceived Stress Scale), depression

symptomatology (assessed with the CES-D), and coping strategies (evaluated with the Adolescent Coping Orientation for Problem Experiences [A-COPE] and Proactive Orientation). The findings revealed that a stronger bond with a companion animal was linked to enhanced resilience and positive adaptation among military-involved children. During periods of heightened stress or adverse experiences, such as a family member's deployment, a close bond with pets was found to correlate strongly with adaptive coping mechanisms (King et al., 2024b; Mueller & Callina, 2014).

At-risk children. Research suggests that companion animals may play a beneficial role in alleviating the MH challenges faced by children who have endured adversities. While qualitative data in the HAI research field is limited, a notable study by Carr and Rockett (2017) explored the relationships of eight children (aged 10–16 years) with their companion dogs while placed in foster care in the UK. The children characterised their companion dogs as sources of availability, comfort, and reassurance during stressful periods. The bond formed with their dogs instilled a sense of security and confidence in the children, while also enhancing their understanding of care. Finally, this allowed for a strengthened relational connection between the children and their new foster parents (Carr & Rockett, 2017).

A study conducted by Murphy et al. (2022) included a sample of 204 children, aged seven to 12 years, who were exposed to domestic violence. The objective was to investigate the role of pet ownership as a protective factor against the development of callous-unemotional traits within a diverse population from a state in western US. In this quantitative study, the children answered surveys regarding their exposure to domestic violence (Child Exposure to Domestic Violence [CEDV]), their exposure to animal cruelty (Pet Treatment Survey [PTS]) and their positive engagements with their pets (Children's Treatment of Animal Questionnaire [CTAQ]). Concurrently, their caregivers reported on their callous-unemotional traits (Inventory of Callous Unemotional traits-caregiver report form). The findings indicated a positive association between supportive interactions with pets and elevated levels of empathetic and prosocial characteristics, coupled with reduced callous-unemotional traits. In alignment with these findings, children with fewer positive interactions exhibited increased callous-unemotional traits. Additionally, the study revealed that despite experiencing traumatic numbing related to domestic violence, children who engaged positively with their pets demonstrated protection against further traumatic numbing (Murphy et al., 2022).

Emotional support

Companion animals have been shown to reduce children's tendency to internalise negative emotions (Beetz et al., 2012; Kerns et al., 2017). The capacity for emotional regulation

serves as an adaptive coping mechanism, facilitating a decrease in the internalisation of negative MH symptoms (i.e., anxiety and depression; Cooley et al., 2022). However, a longitudinal study conducted by King et al. (2024b) in the United States involving a sample of 5 715 children aged 11 to 14, examined the relationship between peer victimisation (using the Revised Peer Experiences Questionnaire [R-PEQ; De Los Reyes & Prinstein, 2004]), emotional regulation (as measured by the Emotional Regulation Questionnaire [ERQ; Gullone & Taffe, 2012]), and the presence of companion animals. The primary goal of this research was to investigate whether companion animals might support adaptive coping strategies. The findings revealed no significant association between the internalisation of emotions and pet ownership, indicating that this factor may not have positively influenced emotional regulation (King et al., 2024b).

Nonetheless, the level of perceived support from the animals emerged as a critical contributor, suggesting that higher attachment levels correlated with enhanced resilience against the detrimental effects of peer victimisation (King et al., 2024b). A notable distinction observed between the children who owned pets and the control group was that companion animals appeared to reduce maladaptive coping strategies, as they provided an immediate outlet for the children to express their emotions when needed.

Social support

Research indicates that pets provide significant social benefits for adolescents, particularly those at risk of social isolation. For example, a study by Marsa-Sambola et al. (2017) conducted in Scotland with a sample of 2 262 children (11, 13, & 15 years) examined the influence pet attachment has as a mediating factor in communication with significant others and quality of life (as measured by KIDSCREEN 10 Index [Ravens-Sieberer et al., 2010]). Findings revealed that attachment to cats and dogs was associated with a higher quality of life than that of non-pet owners, and it facilitated improved communication with parents and close friends.

Similarly, a study by Cassels et al. (2017) in the UK compared the similarities and differences between the relationships of 77 12-year-olds with their pets and siblings using the Network of Relationships Inventory (NRI). The results suggested that the child-pet relationship is comparable to the sibling relationship on a functional level; both pets and siblings are considered family members, share the same household, and depend on parental care. Notably, children reported greater satisfaction and reduced conflict in their interactions with pets compared to sibling relationships. Furthermore, as with sibling relationships, pets play a vital role in children's socio-emotional development, providing a safe outlet for expressing challenging emotions.

Research has indicated a positive correlation between dog ownership during childhood and the likelihood of children engaging in more meaningful conversations with their peers by means of social media. For instance, a study conducted by Chamaraman et al. (2020) in Boston (USA) involved distributing surveys to 700 children aged 11 to 16 to examine various factors, including social media usage, MH, social connectedness, and pet ownership status. Findings revealed that children who owned pets used social media more expressively, connecting with peers who shared similar experiences and sharing positive updates about their lives.

Additionally, children demonstrating a higher degree of attachment to their pet dogs, as assessed with the Lexington Attachment to Pets Scale (LAPS), were found to take greater social risks online. This group exhibited a greater inclination to share difficult news and heightened sensitivity to their online friends' needs for support during challenging times. Therefore, these children were more inclined to offer and receive social support through online interactions (Chamaraman et al., 2020). Despite this study's encouraging findings, longitudinal research remains crucial to better comprehend the evolving dynamics of child development over time and its impact on social media use and pet ownership. Chamaraman et al. (2020) further advocated for future research to extend beyond single-item indicators and examine the complexity of relationship quality, particularly in the context of HAR.

Empathy. Research has demonstrated that perceived social support from pet dogs is associated with increased empathetic concern and perspective-taking, and also correlates with lower levels of anxiety (Kerns et al., 2017). Children often display compassion towards their animals, which is evident in their desire to assist pets in need and their emotional responses to distressed animals (Hawkins et al., 2017). These behaviours indicate that close emotional bonds and attachment to pets fosters an empathetic and compassionate orientation, which positively influences prosocial behaviour towards peers (Hawkins et al., 2017).

For instance, a study conducted by Jacobson and Chang (2018) involving 342 children aged nine to 19 in Chicago (USA), explored the relationship between pet ownership, children's attitudes toward pets (measured with the Pet Attitude Scale-Modified [PAS-M; Templer et al., 1981]), and various socio-emotional outcomes, including empathy (assessed via the Social Attitude Scale [SAS; Eisenberg et al., 1996]). The findings indicated that mere pet ownership does not inherently lead to higher empathy scores, but that those children who held a positive attitude towards their pets exhibited significantly higher empathy scores than their peers without pets (Jacobson & Chang, 2018).

Another study by Daly and Morton (2006) conducted in Ontario (USA) investigated the relationship between empathy (Bryant's (1982) empathy scale), pet preference (Pet Preference Inventory [Daly & Morton, 2003]), pet attachment (LAPS [Johnson et al., 1992]) and attitude towards pets (PAS [Templer et al. 1981]) in 155 children between the ages of eight and 14. The

researchers compared the surveys between pet-owning (dogs, cats, birds, rodents, fish, and horses) and non-pet-owning children.

The findings indicated that children who owned dogs and cats exhibited higher empathy levels than their peers who did not own pets. Additionally, the children expressed the perception that their pets were deserving of their affection and care. Notably, those with strong attachments to their pets scored higher on the empathy and attitude scales (Daly & Morton, 2006).

2.4 The quality of the child-pet attachment relationship

Research indicates that several aspects of the emotional bond necessary for forming a secure attachment, such as proximity seeking, establishing a secure base, providing a safe haven, and the experience of separation distress, are observable in pet-child relationships (Carr & Rockett, 2017). The qualities inherent in animals, such as unconditional acceptance and their capacity for nonverbal interaction, may, in specific contexts, facilitate a more effective emotional connection than that found in relationships with teachers, therapists, or friends (Hediger & Beetz, 2015). Furthermore, animals provide opportunities for physical contact, which is often limited between children and their teachers or therapists in therapeutic settings (Hediger & Beetz, 2015).

Pets play a significant role in children's lives, as many express feelings of love for them, derive happiness from their companionship, and regard them as their best friends. For example, a quantitative study conducted by Hawkins et al. (2017) in Scotland examined the associations between childhood pet attachment (as measured by Short Attachment to Pets Scale [SAPS; Marsa-Sambola et al., 2016]) and aspects like friendship behaviour, compassion and attitudes towards animals (as measured by PAS-M [Templer et al., 1981]) in 1 272 children (7–12 years old). The findings indicated that more than half of the participants reported reduced loneliness and reported that their pets are sensitive to their emotions. Additionally, both caring behaviours (including cuddling, stroking, spending time, and playing with pets) and friendship behaviours (such as talking to pets, sharing feelings, and sharing secrets) were positively correlated with pet attachment (Hawkins et al., 2017).

A more recent follow-up study conducted by Hawkins et al. (2023) explored the relationship between overall well-being, encompassing happiness and a positive outlook, and attachment to pet dogs. The study involved 77 children from the UK, aged nine to 13 years, along with their caregivers, who provided observational reports. The children accounted for pet attachment (as measured by CENSHARE-PAS [Holcomb et al., 1985]), psychological well-being (as measured by the Stirling Children's Well-being Scale [SCWBS; Liddle & Carter, 2015], and Subjective Happiness Scale [SHS; Lyubomirsky & Lepper, 1999]), and loneliness (Children's

Loneliness and Social Dissatisfaction Scale [Asher et al., 1984]). Findings from the study indicate that children exhibiting a strong attachment to their pet dogs reported higher levels of happiness and a more positive outlook. In contrast, children with lower attachment levels experienced negative interactions, which did not yield any beneficial effects on their mental well-being (Hawkins et al., 2023).

Children's relationships with their pets are often perceived as close companionships. However, the nature of this bond can range from weak to strong and from disrupted to healthy, reflecting a continuum similar to human relationships (Jalongo, 2015). Various factors can influence the strength of the child-pet bond, including ethnicity, individual interest in animals, emotional responses to pets, knowledge of animal care, and child caregiving behaviour (Jalongo, 2015). Firstly, the duration and intensity of HARs contribute significantly to a child's level of connectedness with their pet (Mueller, 2014). Secondly, several other relationship qualities influence the attachment between a child and a dog. This includes the dog's responsiveness to the child's pointing gestures, the perceived social support offered to the child, and the frequency of physical interactions such as petting during social activities (Hall et al., 2016).

Thirdly, cultural context plays an essential role in shaping children's attitudes towards animals (e.g., a dog can be seen as a companion in one culture while in another it is a food source; Mueller, 2014; Westgarth et al., 2013). In KwaZulu-Natal for instance, traditional hunters use dogs to hunt for other animals in rural areas, either to provide food for the household or as pass-time (Chambers, 2020). Socio-demographic characteristics also influence the strength of the attachment between children and their pets. Research indicates that gender differences manifest in the attachment interactions. Girls tend to score higher in verbal communication, emotional support, and comfort derived from their pets, which falls into the broader support framework (Cassels et al., 2017; Muldoon et al., 2019). In contrast, boys often seek pets as active playmates, integrating them into their recreational activities (Muldoon et al., 2019).

2.5 South African human-animal relationship research

The research conducted in South Africa regarding the relationship between dog ownership and MH and well-being has been limited. A recent publication by Marsay (2025), a South African scholar in educational psychology, emphasises the significance of pet ownership in improving public well-being through companionship, stress reduction, and the promotion of physical health across all aspects of the biopsychosocial model. Marsay (2025) further explains that communities and estates in South Africa should be designed to incorporate pets to foster the therapeutic benefits of HAI. I have identified four studies that involved South African samples, which I chose specifically because they examine the effect of pet companionship on

various MH outcomes. However, it is important to note that these samples were not representative of the diverse South African population, which limits the generalisability and transferability of the findings.

General population

Pet ownership can significantly benefit individuals working from home by providing companionship that enhances coping mechanisms and overall well-being. A qualitative study by Victor and Mayer (2023) explored the experiences of 10 adult female white South Africans who participated in semi-structured interviews on the impact of animal presence during remote working scenarios related to COVID-19. The participants reported heightened stress levels during this period, primarily due to increased work demands and challenges with achieving work-life balance. They noted that engaging in healthier activities with their pets, receiving physical affection from their pets, and the pets' ability to uplift their spirits contributed to reduced stress and improved coping strategies in work-related contexts. Furthermore, the participants emphasised the importance of love and the deep bond they shared with their pets, affirming that both owners and pets are capable of expressing and experiencing love (Victor & Mayer, 2023).

Pet companionship has been shown to enhance life satisfaction, particularly when owners develop attachment-like relationships with their pets. A quantitative study conducted by Le Roux and Wright (2020) involved surveys among 3 329 adults from all nine provinces of South Africa to explore the relationship between attachment, perceived stress, and life satisfaction. Attachment was measured using the Comfort from Companion Animal Scale (CCAS), perceived stress was assessed with the PSS (Cohen et al, 1983), and life satisfaction was evaluated with the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The findings indicated a negligible but positive correlation between general pet attachment and perceived stress, but no significant association with life satisfaction. Notably, dog owners scored considerably higher on pet attachment scales compared to cat and other pet owners, reporting significantly increased levels of life satisfaction and lower experiences of stress.

Companion animals are often adopted for emotional, social and relaxation reasons. In a quantitative study conducted by Odendaal and Weyers (1990), questionnaires were administered to clients at veterinary practices throughout South Africa to evaluate the respondents' motivations for engaging with pets. The study included questionnaires from 612 individuals, all of whom reported various emotional, social, and relaxation-related reasons for having companion animals. The psychological motivations for keeping companion pets included the friendship the owner shared with their pet, the pet as an object of love, and the acceptance

and understanding the owner perceived from the animal (Odendaal & Weyers, 1990). Additionally, providing nurturing and care to the pet offered individuals ego-stimulation and tension relief. Lastly, practical reasons for adoption included personal protection and for relaxation activities (playtime, leisure time and entertainment) (Odendaal & Weyer, 1990).

It is critical to acknowledge that the first two studies exhibited a lack of racial, ethnic and gender diversity among participants. Participants were mostly female and white. Additionally, the surveys in the second study were available only in Afrikaans and English, highlighting a need for broader linguistic accessibility, which may also diversify the sample of participants included in these studies. No demographic information was reported in the third study.

Persons with visual impairments

Guide dog ownership relies on a distinctive bond between the handler and the guide dog, promoting greater independence for individuals with visual impairments and serving as a form of social support. A study conducted by Wiggett (2006) employed a mixed-methods approach to investigate the dynamics of guide dog ownership from a psychological standpoint and the lived experiences of guide dog owners.

Using quantitative methods, the study compared the psychological well-being of 36 visually impaired individuals who owned guide dogs with that of 28 visually impaired individuals who did not, measured using Ryff's (1989) Scales of Psychological Well-being (SPWB). Additionally, six participants participated in the qualitative aspect of the research through interviews conducted before receiving their new guide dogs and two months after adoption. These interviews focused on the participants' perceptions of dog ownership, its effect on their lives, and the specifics related to their visual impairments.

The quantitative findings indicated no significant difference in psychological well-being between guide dog owners and non-owners, with the latter group displaying greater personal growth. In contrast, the qualitative interviews revealed that during the pre-adoption phase, participants anticipated that their dogs would assist with mobility, foster social interaction, and facilitate personal growth. Furthermore, prior positive experiences with dog ownership were found to be strong predictors of future guide dog ownership. The qualitative data also highlighted the numerous challenges faced by individuals with blindness in South Africa, such as inaccessible environments and insufficient public transport. In the follow-up interviews, participants reported that their guide dogs enhanced mobility and provided a sense of independence. Additionally, emotional connections of love and compassion for their dogs were noted. Lifestyle changes included increased pet care responsibilities and social support, as guide dogs often served as social facilitators.

However, it is important to interpret these findings with caution. Ryff's Scales of Psychological Well-being have not been validated in the unique context of the South African population, and participant recruitment was limited to individuals in the Western Cape who had access to or familiarity with computer technology.

2.6 Conclusion

The literature review shows that pet companionship, particularly that of dogs, provides social and emotional support, reducing anxiety and depression symptoms in children. Results are mixed due to varying pet types and lack of focus on attachment strength in HAR and MH outcomes. Dog companionship notably benefits vulnerable children, such as those under stress, homeless, exposed to domestic violence, or in foster care. Studies also link dog ownership to increased social support and empathy development. Strong attachment and positive interactions with dogs are vital for enhancing the relationship between dog ownership and beneficial outcomes.

The literature suggests that while pet companionship can positively affect MH and well-being in children, much of the existing research has concentrated on middle- to high-income settings and it lacks adequate representation of ethnic, racial, and socio-economic diversity. Additionally, the predominant reliance on quantitative methods has resulted in mixed findings due to variability in measurement tools. This highlights the need for qualitative research to gain a deeper understanding of the effects of pet companionship on MH and the specific attributes that are important in the child-pet relationship.

To address this gap, I conducted a qualitative study on at-risk children and their pet dogs in a lower-income rural context. Currently, there are no studies in South Africa that specifically examine pet companionship's effect on children's MH from their perspective. While some research explores dog companionship effects across ages and cultures, South Africa's MH treatment gap highlights the need to study dog companionship as a preventive strategy for at-risk children. In low-income settings, dogs can be a cost-effective way to improve well-being and address social determinants of MH. A qualitative study on how dogs provide emotional, psychological, and social support to children could reveal HAR's preventive potential.

CHAPTER 3
THEORETICAL FRAMEWORK

In this chapter, I outline the theoretical framework underpinning this research study. The chapter begins by exploring various research paradigms, subsequently focussing on constructivism and its ontological, epistemological, and methodological implications. I convey how these models will form part of my research approach. Additionally, I outline my engagement with theory and literature throughout the research process, finally applying relevant theories to form a framework for interpreting the current study's data.

3.1 Research Paradigms

A researcher's interpretation and engagement with their environment is significantly influenced by their unique belief system, whether or not they are consciously aware of it (Guba & Lincoln, 1994). These beliefs play a crucial role in shaping the researcher's decisions regarding what topics to investigate, the methodologies to employ, and the subsequent interpretation of the findings (Bryman, 2016). Research paradigms are a set of philosophical beliefs and assertions about the fundamental nature of reality, an individual's position within that reality, and the interactions between the individual and their environment (Guba & Lincoln, 1994). The formulation of a research question determines the appropriate research paradigm, which ultimately governs all aspects of the research process (Collins & Stockton, 2018). The chosen research paradigm influences the study's design, data collection methods, data analysis and interpretation (Leavy, 2014). Consequently, researchers must recognise the research paradigm that aligns with their proposed questions, as it will play a crucial role in informing the course of their study.

The established paradigms, such as critical theory, positivism, post-positivism, and constructivism, provide varied perspectives on ontological, methodological, and epistemological inquiries (Guba & Lincoln, 1994). For a detailed overview of each research paradigm's position on these fundamental questions, please refer to Appendix O. This research explores the relationship between children and their dogs and how this dynamic may affect the MH and well-being of at-risk children through the owner-pet relationships. Given the individualised nature of this topic, which would vary across different contexts, a constructivist approach is considered appropriate to effectively address the research question.

3.2 Constructivism

This study is situated within the constructivist paradigm, which fundamentally asserts that social reality is shaped by an individual's personal experiences and contexts. Any alterations to the individual or their environment inevitably affect their perception of reality (Lincoln & Guba, 2013). Constructivism offers a methodological framework grounded in

relativist ontology, transactional and subjectivist epistemology, and hermeneutical methodology (Lincoln & Guba, 2013).

Relativist Ontology

Ontology refers to the nature of reality and social entities, and our understanding of them (Bryman, 2016; Leavy, 2014). It prompts us to assess whether individuals perceive an objective, independent, and external reality or if reality is subjective, internally constructed, and shaped by individual perceptions (Bryman, 2016). In this context, constructivism posits that reality is relative (Guba & Lincoln, 1994). Accordingly, constructivism suggests that reality consists of multiple non-physical mental constructs that exist solely within the minds of those who create them (Lincoln & Guba, 2013). This perspective allows for the possibility that multiple realities can co-exist, with different individuals interpreting these realities in diverse ways (Leavy, 2014). Subjective experiences thus form reality through individual interpretation and understanding so that there is no decisive understanding of or truth about the world.

In this research, I adopted a constructivist ontology of relativism, which posits that each social entity involved in the research project, such as the NGO staff, participants, supervisors, and myself as the researcher, holds unique realities that exist independently. For instance, my personal realities and experience with pet ownership include my pet dog's role in supporting me with my own MH challenges. Additionally, I was raised in a cultural context where most households owned a dog due to fewer barriers (financial, access to transport and services) associated with pet ownership.

While there may be similarities and variations in the constructs of individual realities, it is essential to note that there is no single definitive truth, perception, or understanding of reality. Consequently, we cannot arrive at a conclusive objective answer regarding the effect of dog ownership on MH and well-being in at-risk children. However, we as researchers seek to explore the diverse perceptions of the involved social entities to gain a deeper understanding of the study's objectives.

Transactional Subjectivism (Epistemology)

Epistemology is a field of study that investigates the processes through which we acquire knowledge and reflect on the nature of that knowledge (Guba & Lincoln, 1994; Willig, 2013). In the research context, epistemology accounts for knowledge acquisition and the evolving relationship between the researcher and the knowledge gained about the world (Leavy, 2014). It examines whether knowledge is directly experienced or passively acquired (Kivunja & Kuyini, 2017).

Within the framework of constructivism, the interactions between individuals and their understanding of the world are recognised as subjective and transactional (Lincoln & Guba,

2013). Consequently, knowledge is developed through personal interactions and is inherently context-specific, shaped by the knower's existing knowledge, interpretations, experiences, values, and beliefs (Lincoln & Guba, 2013). Knowledge is thus created rather than obtained and only exists in a specific context due to the unique interactions between the individual and the knower (Lincoln & Guba, 2013).

By applying a constructivist approach, I recognise that my insights are shaped by my unique interactions with research participants. Together, we created a distinctive combination of subjective experiences during the interviews, influenced by our individual beliefs, biases, contexts, and personal histories. This collaborative effort allowed us to co-create our understanding and perspective, leading to a deeper exploration of multiple constructed realities. Consequently, any conclusions or interpretations of the situational reality are specific to this study's moment in time and context, limiting their generalisability to other samples beyond the participants involved.

Hermeneutics/Dialecticism (Methodology)

The methodology outlines the research approach, including the theoretical frameworks and specific methods (Leavy, 2014). This involves detailing how the researcher intends to gather and interpret knowledge from participants (Guba & Lincoln, 1994). It is essential that the methodological components align with the ontology and epistemology of the theoretical paradigm that has been selected. When using a constructivist approach, the prevailing methodologies are hermeneutic and dialectical, both facilitating the exploration of meaning and sense-making among participants (Lincoln & Guba, 2016; Rennie, 2012). The first process, hermeneutics, involves a continuous process of moving between smaller and larger units of meaning to enhance comprehension of the constructs (Leavy, 2014). As researchers, it is vital to investigate how participants construct their knowledge, allowing for the unveiling of significant insights relevant to their experiences (Lincoln & Guba, 2016). The second aspect, dialecticism, confronts and reflects on the constructs that emerge during specific interactions (Lincoln & Guba, 2016). The constructivist methodology promotes a hermeneutic cycle in which constructs held by both the researcher(s) and participants are brought into play with the concepts pertinent to the research question (Rennie, 2012). This cyclical process encourages discussion and reassessment of these constructs until a consensual understanding is achieved (Lincoln & Guba, 2016).

Using a constructivist approach to methodology, I aimed to gain a deeper understanding through qualitative semi-structured interviews, ultimately enhancing the knowledge generated through this research. During these interviews, the children shared insights regarding their

relationship with their dogs, their understanding of emotions and MH, and how these relationships influence their feelings and overall mental well-being.

Throughout our discussions, we engaged in a meaningful exchange of perspectives, allowing us to explore our realities and enhance our learning collaboratively. For instance, when the children referred to "feeling alright," I initially interpreted this as simply feeling okay. However, they clarified that in isiZulu, feeling "alright" conveys a sense of feeling good or happy. Additionally, when I sought clarification on keeping dogs on chains, the participants explained that in Mpophomeni, many households lack fencing, and this method protects dogs from traffic and aggressive animals. While my cultural perspective might view this practice as potentially harmful, the children stressed its role in ensuring their pets' safety while they attend school.

While engaging in semi-structured discussions may have certain limitations in creating a context-specific reality, it nonetheless allowed me to integrate the participants' insights with my own knowledge. This approach effectively steered the conversation towards addressing the research question and enabled us to move beyond my initial understanding of the research objectives.

3.3 Exploratory study's approach to literature and theory

Given the limited understanding of the effect of HAR on children's MH and well-being, particularly in relation to dog ownership, there is a pressing need for exploratory research in the South African context. This is particularly relevant as children in South Africa face significant risks, including poverty, HIV, and parental loss, which can contribute to the development of MHCs. The aim of this exploratory study is to outline the parameters of this specific topic, thereby providing guidance for further theoretical development and motivating future research (Bless et al., 2013).

Exploratory research significantly influences both the approach to research and the literature review process. According to Collins and Stockton (2018), adopting a less rigid theoretical framework in exploratory studies is advisable. Relying too heavily on a single theory may lead to confirmation bias, hindering the exploration of new themes in the data (Collins & Stockton, 2018). Nevertheless, a balanced use of a theoretical framework should aid research in determining connections and assumptions, allowing a researcher to confirm or reject the predictions and beliefs by searching for information (Collins & Stockton, 2018; Maxwell, 2013).

In light of the relationship between theoretically-driven and exploratory studies, I identified two theoretical frameworks to assist me as I interpreted the data, namely the thriving through relationships (TTR) theory (Feeney & Collins, 2014), and Crenshaw's intersectionality theory (1991). I used existing literature on the research topic, drawing on a variety of concepts and various research paradigms, including pet attachment, social support, and MH and well-

being in children. This approach allowed me to identify suitable theories to inform the formulation of the research question, design, methods, and analysis (Collins & Stockton, 2018).

Thriving through relationships theory

This study was guided by the TTR theory, as articulated by Feeney and Collins (2014). This theory posits that supportive relationships enable individuals to thrive across various life domains (Feeney & Collins, 2014; 2015a; 2015b). According to TTR, the process of thriving, characterised by behavioural, cognitive, and emotional flourishing (O'Leary, 1998), is enhanced by social support under distinct conditions (Gravrok et al., 2020). The TTR framework builds on attachment theory (Bowlby, 1982) and social support theory (Lakey & Cohen, 2000), both of which are well-established in the field of HAI research (Feeney & Collins, 2014; Gravrok et al., 2020).

Research has established a foundation for the use of the concept of thriving in adolescent populations (Scales et al., 2000; 2011), while its relevance in HAI studies is emerging (Gravrok et al., 2019). I subsequently apply TTR theory to dog ownership and the child-dog relationship. The TTR theory subdivides into four components: (1) the lived experiences and contexts in which individuals receive support; (2) the characteristics of support providers; (3) the immediate benefits derived from the support; and (4) the long-term advantages. This study viewed the companion dog as a support provider. The participating children shared insights about the support they receive from their dogs and its effect on their psychological well-being and ability to thrive.

Support receiver's context. The first component of the TTR theory is the lived experiences and context of the individual as they receive support. This theory highlights two probable circumstances requiring support to allow thriving (Feeney & Collins, 2015a, 2015b). The first pertains to individuals who encounter adversity in their lives, necessitating support to navigate these challenges to ultimately achieve a state of thriving (Feeney & Collins, 2015a, 2015b). This form of support is referred to as the "Source of Strength" (SOS) (Feeney & Collins, 2014, p. 298), and it is particularly relevant to the current study, considering that the children involved have faced various adversities (Kleintjies et al., 2022). The second circumstance is the "Relationship Catalyst" (RC) support, where individuals experience a relatively prosperous life, and the support acts as an enhancer or stimulant to their existing circumstances (Feeney & Collins, 2014, p. 299). The TTR theory provides a framework for understanding life experiences that include both moments of normalcy and periods of stress (Gravrok et al., 2020). In the current study, SOS life circumstances are predominantly applicable, as the participants included are all at risk of developing MHCs due to various environmental and interpersonal risk factors.

Nonetheless, the children might also experience times where RC support is applicable due to relative prosperity in everyday life.

Support-provider qualities. The second component involves the qualities that support providers possess (Feeney & Collins, 2014). Research that relies on the TTR theory indicates that multiple individuals may have the necessary skills, qualities, or characteristics to offer adequate support (Feeney & Collins, 2015b; Lakey & Cohen, 2000). Furthermore, the strength of the relationship or level of attachment between the provider and the recipient directly affects the quality of support received (Gravrok et al., 2020). TTR theory focusses on the context of life, which can significantly influence the effectiveness of the support provided, aligning with established social support theories (Cohen & Wills, 1985; Feeney & Collins, 2014). Support providers must maintain a close relationship with recipients to ensure that the support is sensitive and responsive (Feeney & Collins, 2001). Qualities associated with SOS support include offering a safe haven, providing consolidation, assisting in the reconstruction of life processes, and redefining adversity to foster positive change (Feeney & Collins, 2015b).

Immediate benefits. The third component of the TTR theory pertains to the immediate benefits associated with support, which serve as a gauge for evaluating whether the provided support is both responsive and suitable within the context of the support receiver's life (Feeney & Collins, 2014). Key indicators include positive immediate changes in self-evaluation and self-perception, emotional states, appraisals of situations or events, motivational states, relational outcomes, situationally relevant behaviours and outcomes, lifestyle behaviours, as well as neural activation and physiological functioning (Feeney & Collins, 2015a, 2015b). These outcomes apply to both SOS and RC support, although their manifestation may differ slightly (Gravrok et al., 2020).

Long-term thriving. The final component of the TTR theory pertains to the long-term outcomes and benefits associated with the support provided, with thriving identified as the primary outcome. Thriving is comparable to well-being and is categorised into various dimensions, including hedonic, eudemonic, psychological, social, and physical well-being (Feeney & Collins, 2015a, 2015b; Ryff & Singer, 2003). A notable aspect linked to thriving is psychological health, which significantly affects an individual's overall quality of life and capacity to thrive. This study followed a cross- sectional design, meaning that long-term benefits were not addressed. Instead, the research focussed on exploring overall MH and well-being by qualitatively exploring the influence of dogs on children's emotional states (Feeney & Collins, 2014; Gravrok et al., 2020).

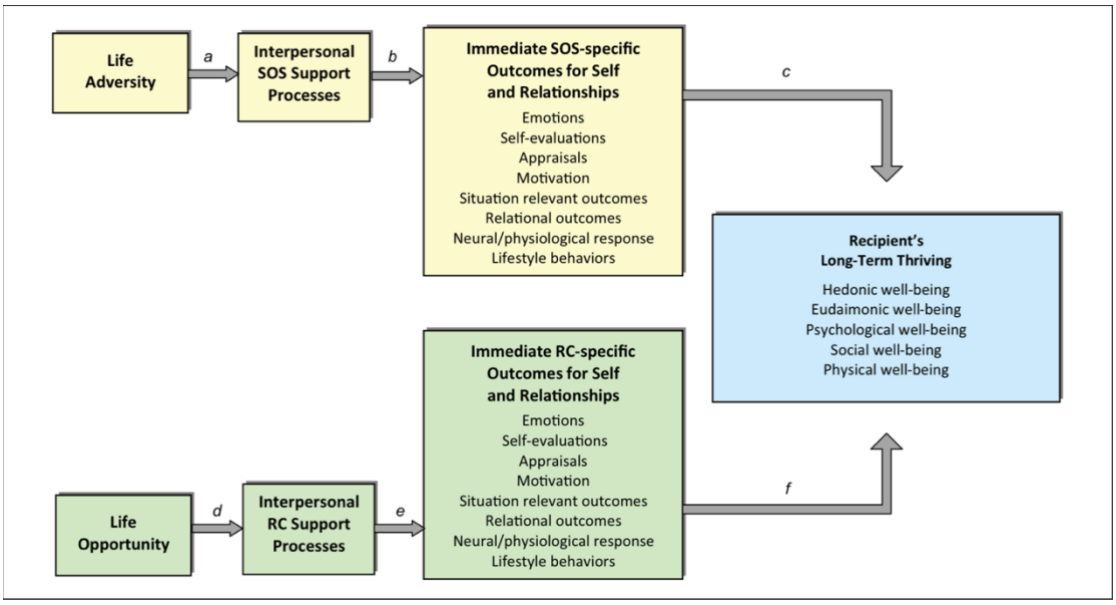

Figure 4: *Conceptual framework of TTR theory* (Feeney & Collins, 2015)

Informed by the TTR theory, I was interested in exploring the significance of children's relationship with their pet dog and which qualities pet dogs possess that help children to achieve thriving (i.e., increased psychological well-being) through psychological, emotional, and social support.

Although the TTR theory was developed only a decade ago, it has been predominantly applied to qualitative and mixed methods studies to examine relationships between humans (Bray et al., 2017; Davis et al., 2021) and to analyse interactions with companion or support animals (Gravrok et al., 2018). TTR has also been applied to measure perceived social support and its effects on MH and well-being (Zhou et al., 2022; Zhou & Yoa, 2020). While few qualitative studies have employed the TTR theory, notable examples include research conducted Kam et al. (2018) and Wilson et al. (2019). Wilson et al. (2019) investigated relationship patterns in an elderly sample comprising of 50 participants from the North West province of South Africa. The research explored significant relationships in the participants' lives by employing thematic analysis and the TTR theory. This limited number of studies using the TTR theory means that there is limited existing data with which to compare findings. However, I remained transparent in applying the theory to guide data collection, coding, and analysis to preserve credibility and trustworthiness.

Intersectionality theory

During my literature review, I observed significant gaps in the existing research on HAR as a supportive element influencing children's MH and well-being. Specifically, there is a lack of research that included children from LMICs who are exposed to various risk factors that may

predispose them to MH conditions later in life. This gap in the literature has been noted by several researchers (Griffin et al., 2019; King et al., 2024a).

In an effort to address this gap, I specifically incorporated Crenshaw's intersectionality theory (1991) as a secondary theoretical framework to ensure that the lived experiences of marginalised and at-risk children are meaningfully presented. Rooted in black feminist scholarship and inequality research, this theory positions individuals as holding multiple overlapping social identities (like gender, race, class or social identity) that interact in complex ways to shape their lived experiences (Cole, 2009). In the context of this study, the intersectionality theory is relevant because the target population is underrepresented in the HAI research field. The theory's focus on social, cultural, and historical contexts enabled me to be mindful of the children's environment and the specific meanings they might attribute to terminology. Furthermore, the theory permitted an exploration of how patterns of overlap and differences in gender and socio-economic status may influence the findings, while maintaining awareness of institutions that either reinforce or challenge the inequalities experienced by the target population.

Building on the foundation these theoretical frameworks offer, I subsequently outline the methods I used in the current research in the next chapter. The theoretical framework was used to guide my selection of research design, setting, procedures and analysis to ensure alignment with TTR and intersectionality theory.

CHAPTER 4
METHODS

In this chapter, I describe the research methods used to conduct the research. I begin the chapter with a description of the research design, followed by the inclusion and exclusion criteria used to identify suitable participants. I also outline the sampling methods and recruitment strategies. Subsequently, I describe the data collection and analysis techniques that I used. In conclusion, I discuss ethical considerations, including the rigour and trustworthiness of the project.

4.1 Research Design

Given our limited knowledge about the relationship between children and their pet dogs, particularly in the context of children's daily lives and real-world experiences, an exploratory design was suitable for this study (Percy et al., 2015). An exploratory qualitative research design allowed me to access the participants' inner worlds by exploring their feelings, perceptions, and intentions regarding their relationships with their dog (Holloway, 1997; Willig, 2019). This can be achieved by using methodologies such as observations, interactions, personal narratives, case studies, interviews, life stories, introspection, and interactional, historical, or visual texts (Aspers & Corte, 2019; Percy et al., 2015). This approach enabled me to collect detailed accounts of the child-dog relationship in a naturalistic environment, thereby facilitating an understanding of the holistic, complex experiences and perspectives children associate with a specific phenomenon (Aspers & Corte, 2019; Denzin & Lincoln, 2011).

Qualitative research enables a researcher to consider the social and historical contexts that influence the research participants' exposure to social determinants and how they experience themselves and others (in this case pets) in these contexts (Willig, 2019). In accordance with the TTR framework (Feeney & Collins, 2014), qualitative methodologies are particularly appropriate for investigating meaning-making processes, such as how children interpret their experiences, understand events, and assign meaning to phenomena (Willig, 2019). Although qualitative data does not permit the generalisation of the study's findings, it nonetheless contributes to the psychological understanding of pet ownership among children, particularly the preventative potential of pet companionship for children in LMICs (Willig, 2019).

4.2 Research Setting

This qualitative research was conducted at an NGO known as Funda Nenja. Funda Nenja is located in a rural village, Mpophomeni, in KwaZulu-Natal. The organisation operates from administrative offices located at a soccer stadium, with grassy fields encircling the premises.

Weekly dog training sessions are held on these fields. The NGO was chosen due to its apparent uniqueness in South Africa, as it appears to be the only organisation dedicated to fostering long-term pet companionship among children who own their own dogs. Other NGOs generally facilitate brief interactions between children and dogs, which often are not the children's own pets. Examples of such NGOs include The Underdog Project, Pets as Therapy, and TOP Dogs, all centred around AAT or brief-AAI with dogs and children.

The concept for researching the effect of children's relationships with their pet dogs on their MH and well-being was developed in consultation with the founders of Funda Nenja. My supervisor, Dr. van den Berg, has a longstanding relationship with Funda Nenja, which created a foundation of trust between our research team and the organisation prior to the commencement of the study. Due to this connection, I presented my research proposal to the NGO's directors and sought their advice on the most effective methods for participant recruitment, data collection, and procedures, ensuring a smooth data collection process.

Funda Nenja

Funda Nenja is situated in Mpophomeni, a Zulu village in the Midlands of KwaZulu-Natal. Mpophomeni falls within the uMngeni municipality, which, according to a 2016 Census, had a population of 109 867, with approximately 13 029 individuals (around 11%) aged between zero and 14 years (uMgungundlovu District Municipality, 2022). Mpophomeni is served by four public high schools and four public primary schools, all classified within the first to third quintile, meaning no school fees are payable (Department of Basic Education, 2025). Additionally, students benefit from the government-implemented feeding scheme, which is specifically administered to schools in the lower quintiles (KZN NSNP, 2024). Furthermore, residents have access to shopping centres, a public library, and clinics. The nearest town, Howick, is located 10 km away, meaning residents can access both a private and a public hospital, as well as shopping malls, through brief travel.

I collected information on Funda Nenja from a conference presentation (Button, 2023), the organisation's website (https://www.fundanenja.co.za) and personal communication with the director and social worker (hereafter referred to as SW). Funda Nenja commenced operations in 2009 as a holiday club designed for children in the community to attend with their pet dogs. Over the years the NGO evolved into the current Funda Nenja model. The name 'Funda Nenja' which translates to 'learning with a dog' in isiZulu, aims to shape children into caring and responsible young adults, while also promoting self-development. The Funda Nenja model centres around a dog school, educational programmes at schools, and family support initiatives. The dog school conducts weekly activities and educational sessions attended by approximately

60 to 70 children, predominantly boys, with an average age of 13 years (Button, 2023). Although Funda Nenja's dog school primarily targets children aged six to 16 years, there are no age restrictions on who may attend, and some older residents of Mpophomeni also participate.

During school terms, dog schools are scheduled for Friday afternoons after school. The facility also offers sterilisation services, veterinary care, a subsidised pet food shop, and educational programmes for children on pet care and animal welfare. The programme is conducted in a safe and secure environment where dog training techniques are taught to children and their dogs. Most facilitators conducting these training sessions are alumni of Funda Nenja who demonstrated leadership qualities during their participation. Former facilitators have progressed to pursue career opportunities in various fields, such as veterinary clinics, K9 bomb detection, and dog grooming parlours based on skills acquired at Funda Nenja. These training sessions aim to foster qualities such as kindness, discipline, compassion, responsibility, and respect among children. The dog school is among the few extracurricular activities available in the community and offers a secure space for social interaction between children and their pets.

The second component of Funda Nenja, the educational programme for primary school learners, emphasises the importance of foundational education. Facilitators at Funda Nenja are trained by the SW to deliver life skills lessons and provide vital education to children concerning their animal and the environment. While Funda Nenja's primary goal is to foster loving relationships between children and their animals, educating the children plays a vital role in this intervention to break the cycle of misinformation regarding animal welfare for future generations. Additionally, Funda Nenja promotes social change through a One Welfare approach, implementing family support initiatives to assist children, caregivers, parents, and extended family members requiring assistance through services offered by Funda Nenja's SW. These services include but are not limited to home visits, counselling or support groups, food aid, and assistance with SASSA grant applications for households in need. Moreover, adults in the children's families are encouraged to participate in workshops focussed on substance abuse, gender-based violence, and principles of effective parenting.

Other projects to support the Mpophomeni community include the Fencing Project, where households with previously chained dogs receive fencing from Funda Nenja to allow the dogs to roam freely. Additionally, the Winter Warmth initiative ensures that each child and their dog are provided with a blanket and a jersey to stay warm during the winter months.

4.3 Participant recruitment

I employed purposive sampling to recruit participants for this study (Robinson, 2014). Purposive sampling involves identifying and selecting groups of individuals with relevant knowledge or experience regarding a particular phenomenon (Robinson, 2014). Purposive sampling facilitates an in-depth understanding of the subject matter by collecting information-rich data until saturation is achieved (Etikan et al., 2016). Participants were recruited from a cohort of children attending pet bonding and training sessions at Funda Nenja. To facilitate recruitment, I made use of trusted intermediates such as the SW and the animal welfare officer at Funda Nenja. This approach enhances the quantity and quality of responses to recruitment as these individuals are trusted advocates (Graham et al., 2013).

The objective was to include boys and girls aged between seven and 13 (primary school learners) in a low-income setting. Additionally, there was an intentional effort to include a higher number of boys than girls, given the limited existing insights into the nature of boys' relationships with their pet dogs in HAI research, which has predominantly captured the "female perspective" (Cassels et al., 2017; Westgraph et al., 2013). However, since Funda Nenja has mostly male attendees there was no need to exclude anyone interested in participating. Due to the novelty of my research, the inclusion of both boys and girls were advantageous as no similar previous research has been conducted within the South African context.

I focussed on middle childhood when recruiting children as it is a key developmental stage marked by rapid changes, personality growth, and increasing independence (Muldoon et al., 2015; 2019). Children undergo cognitive, social, and motivational shifts that influence personality, gender, and even psychopathology (Del Giudice, 2014). During this period, friendships teach social norms and self-presentation (Rubin et al., 2010). Therefore, a vital developmental task is building supportive relationships to manage emotional and social challenges (Kerns et al., 2017).

Funda Nenja staff

The staff of Funda Nenja were recruited by means of invitation flyers (see Appendix K), which were handed out to all 35 staff members working at Funda Nenja. Similar to the recruitment process involving the children, Funda Nenja's SW provided individuals who met the inclusion criteria and expressed interest in participation with an informed consent form (see Appendix L). Participants were required to be current or former staff members of Funda Nenja, aged over 18, fluent in English, and actively engaged in the dog school on Fridays. The aim was to recruit five to eight participants for the focus group via purposive sampling (Robinson, 2014).

I conducted an in-person focus group discussion with staff at Funda Nenja to elicit their comprehensive and objective perspectives on the relationship and interactions between

children attending Funda Nenja and their dogs. I also asked staff how these interactions might influence children's emotional well-being. Focus groups are group interviews that encourage participants to engage with each other, thereby generating a rich discussion. They facilitate the exploration of individuals' knowledge, experiences, and attitudes regarding a specific subject (Kitzinger, 1995).

4.4 Procedure

Data collection was conducted over two separate two-week visits to the NGO's premises. The initial visit took place in December 2024, coinciding with the conclusion of the school and NGO year, while the subsequent visit was in May 2025 during the second academic term. Following both visits, Funda Nenja's SW was presented with a token of appreciation for her support throughout the data collection process.

December 2024 data collection

I commenced data collection in October 2024 with the assistance of Funda Nenja's SW, subsequent to securing all requisite approvals and permissions from the Social Behavioural and Education Research Ethics Committee (Study ID number 31764) and Funda Nenja (refer to Appendix A1, Appendix B1 and Appendix B2). In accordance with the agreement with the NGO and the SW, I used a courier service to dispatch the invitation flyers (Appendix C), informed assent forms (Appendix D), and informed consent forms (Appendix E) to the SW at Funda Nenja before my arrival in December. I was assisted in this by my supervisor Dr. van den Berg, who resides in close-proximity to Funda Nenja.

The SW agreed to distribute the invitation flyers to children attending the weekly dog school on my behalf. During discussions with the SW, I explicitly stated that no child should feel coerced to participate in the study and that participation should be entirely voluntary. The invitation flyer (Appendix C) provided a brief overview of the study, its objectives, procedures, and my contact information should the children have any questions. A total of 100 flyers were printed and distributed to children attending the dog school on Fridays. The flyer was available in English and Zulu. I integrated visual elements such as pictures and icons in both the invitation flyers (Appendix C) and the informed assent forms (Appendix D) to supplement descriptions and enhance the visual appeal (Constable, 2025).

Children who expressed their interest in participating to the SW or animal welfare officer received an envelope containing the informed consent and informed assent forms. The SW personally delivered these envelopes to the homes of interested children to ensure that caregivers received a detailed explanation in their first language and understood what participation in this study entailed for their children. In cases where caregivers were not able to

read, the SW could explain the content of the forms. She verbally briefed each parent/caregiver and child regarding the nature of the study and asked if they had any questions or concerns. Interested children then returned the envelope with both forms duly signed to the SW at their next Funda Nenja session. Thirty envelopes were distributed to the families of prospective participants, of which 24 were completed and returned to the SW at Funda Nenja. These documents were stored in the SW's office until I arrived in KwaZulu-Natal to collect them. Upon arrival in KwaZulu-Natal, I provided the SW with instructions for the 'writing a letter to your dog' (Appendix F) activity, which she then distributed to the children interested in participating in the study.

Pilot Interviews. I conducted two pilot interviews to ensure that my interview schedule was appropriate and comprehensible to my participants (Appendix H). These interviews were conducted in English, with an English–isiZulu interpreter available to facilitate the dialogue. The interviews took place at Funda Nenja in one of their storage facilities, offering a private setting. This room had three couches, some stuffed toys, a light switch, and a door that could be closed if necessary. During the pilot interviews, I realised that adjustments to the interview schedule were needed. I discovered that there was only one equivalent word in isiZulu for both "feelings" and "emotions", namely "*imizwa*." After consulting with my supervisors, I decided to incorporate case vignettes (see Appendix H) to facilitate further explanation and understanding when discussing topics related to MH and feelings or emotions.

My supervisors and I convened in December 2024 to reevaluate and revise the interview schedule. Subsequently, I discussed the revised interview schedule with a facilitator at Funda Nenja who is proficient in both English and isiZulu. She offered valuable insight as she works with children every Friday at the dog training school and was also a child attendee at Funda Nenja in the past. Following this revision and discussion, I resubmitted the amended interview schedule (Appendix I) to the ethics committee, and it was approved.

During my initial visit to KwaZulu-Natal, I conducted a total of 15 interviews, including pilot interviews (n=2). Two to three interviews were held each morning as the children were done with their exams at school. Each interview lasted between 25 and 45 minutes and took place at the same venue as the pilot interviews. No dogs accompanied the children for the interviews. This was due to miscommunication between me and the SW, which led her to assume that the pet dogs should not attend the interviews. The children were first asked to respond to general questions guided by the socio-demographic questionnaire (Appendix G). They were informed that there were no right or wrong answers, that they could withdraw at any time without adverse consequences, and that they could choose which questions to answer. I obtained permission to record each interview on my mobile device, and the recordings were subsequently transcribed verbatim by an isiZulu mother-tongue speaker (see Appendix B4). All

recordings have been deleted from my device and securely stored on Microsoft OneDrive. The children and their caregivers were assured that the recordings would be password-protected and stored on a private device accessible only to myself, my supervisors, and the data transcriber. Each interview was completed in a single sitting, meaning that no interviews with any of the child participants had to be stopped and continued at a later stage. I conducted two to three interviews per day and took breaks in between interviews to ensure that interviewer fatigue would not affect the quality data reported (Clark, 2008). At the conclusion of each interview, the children received a token of appreciation and were thanked for their participation and for sharing their experiences regarding their relationship with their dogs. Each child received a handmade bandana for their pet dog, a packet of sweets and a juice. Refer to Figure 5 to see one of the participants fitting their dog's bandana.

Figure 5: *Token of appreciation*

Semi-structured interviews. Individual semi-structured interviews allowed for detailed accounts of the relationship between children and their pet dogs while leaving room for flexibility throughout the research process (Kallio et al., 2016). Open-ended questions were employed to explore the topic comprehensively, to understand the processes described by the children, and to identify potential causes of benefits associated with pet ownership (Weller et al., 2018).

During the initial visit, no dog school sessions were held on Fridays. The first dog school was cancelled due to adverse weather conditions, and the second Friday coincided with the year-end event for the dog school. Consequently, observations were recorded per the observation schedule (Appendix J), focussing on the dog school and the operations of Funda Nenja.

Between data collection periods

During the interval between data collection periods, I had to make a major amendment to my ethics approved study proposal as I had omitted the data collection procedures followed to address objective 4 of my study. Upon obtaining ethics approval (Appendix 1C), I dispatched invitation flyers (Appendix K) and informed consent forms (Appendix L) by courier to Funda Nenja for distribution among the staff by the SW. The SW ensured that staff members did not feel coerced into participating in the research. The signed informed consent forms were securely stored in the SW's office at Funda Nenja.

May 2025 data collection

During the second visit I collected the data to address objectives 4 and 5 of my study. Objective 4 entailed exploring, from the perspectives of staff at Funda Nenja, the influence of pet ownership on the emotional and psychological well-being of children attending the sessions. Objective 5 sought to observe and document the interactions between children and their pets during a training session at Funda Nenja.

The children's interviews took place during the afternoons and on a Saturday because this visit fell in the school term. The Saturday interviews were held during one of Funda Nenja's monthly sterilisation clinics. During three of the interviews the dog accompanied the participants, which allowed for valuable observations of interactions between the children and their dogs, guided by the observation schedule (Appendix J). The informed consent and informed assent letters were collected and checked prior to the interviews. The same procedures were followed for the May data collection period as for the December data collection period.

Data collection with the child participants continued until sufficient data had been collected to meet the objectives of this study. Data saturation refers to the point in data collection at which no new information is discovered (Francis et al., 2010). Nevertheless, data saturation is not a one-size-fits-all approach, and the data required to reach saturation in one study may not be adequate in another (O'Reilly & Parker, 2013). Malterud et al. (2016) introduce the concept of information power as an alternative criterion for determining the end of participant recruitment. This approach assesses factors such as the study's aim, sample specificity, use of established theory, dialogue quality, and analysis strategy (Malterud et al., 2016). Based on these parameters, a larger sample size of 16–20 participants was considered optimal for this exploratory study, since it has broad objectives and involved children as participants in a rural village. I conducted seven interviews during the May visit, resulting in 22 interviews (including pilot interviews) across the two data collection periods.

During the May data collection period, I also conducted a focus group with the Funda Nenja staff, guided by a focus group guide (Appendix M). The SW extended invitations to all 35 members of Funda Nenja's staff using the invitation flyer (Appendix K), whereafter nine staff members expressed an interest in participating. Certain staff members, particularly facilitators, are still younger than 18 years of age and were thus ineligible to participate. Six individuals participated in the focus group, all involved in different tasks at the NGO. The focus group was scheduled for the Friday before the first dog school of the second visit. Regrettably, some participants were unable to attend due to travel problems. Therefore, it was rescheduled to the second Friday of the visit, prior to the commencement of dog school activities.

The session was held at Funda Nenja in one of the locker rooms of the soccer stadium, where all participants sat in a circle. I informed the participants that there were no correct or incorrect responses and explained the objectives of the focus group. I asked their permission to record the discussion for transcription purposes. It was decided that the focus group would be conducted in English, as interpreting during such discussions can compromise the interview process and reliability, given the increased potential for miscommunication in complex scenarios such as focus groups (Esposito, 2001). This also allowed me to transcribe the focus group recordings myself and limit any unnecessary expenditures. The focus group initially commenced with five participants, but during the discussion, one late arrival joined the discussion.

I used name tags to keep track of the participants' identities during the transcription process. An icebreaker activity was conducted before the discussion to promote comfort and reduce nervousness among participants. There were no interruptions other than the two participants who entered. The participant who arrived at the end was excluded from the study because they had missed most of the focus group and improperly completed the consent form. The focus group lasted one hour and ten minutes, after which I expressed my gratitude to all participants and requested them to complete the sociodemographic questionnaire as they departed (Appendix N).

During the second visit, I attended two sessions of the Friday dog school. As per the observational schedule (Appendix J), I observed physical and verbal interactions between the children and their dogs during both sessions. Subsequently I walked around for the two-hour period between the various stations set up at the dog school, making notes and observing the activities.

4.5 Data collection tools

There is no one-size-fits-all approach when involving children in research. Therefore, to ensure meaningful inclusion, one should employ a range of methods to address the children's individual needs (Constable et al., 2025). I ensured that I gained a comprehensive understanding of the children’s relationship with their dogs by conducting semi-structured interviews, requesting the children to write letters addressed to their dogs, and observing their interactions with their pet dogs during dog school.

Interview schedule development

The interview schedule (Appendix I) was organised into four segments. The first segment focussed on the importance children attribute to their relationship with their pet. I commenced with general questions about the relationship, such as the pet’s name and the reasoning behind choosing that particular name. These questions typically helped to put

children at ease. Throughout the interview, I consistently used the pet's name. The reasons for adoption and the length of ownership were also explored. This was followed by an exploration of their daily routines and responsibilities related to pet ownership. Finally, I inquired about what they considered was the best thing about owning their dog specifically, and how they would describe their relationship with it.

The second section comprised of semi-structured questions about the social, emotional, and psychological support the children's dogs provide. The section started with questions about the interactions that children have with their friends and family when they are with their dog, serving to evaluate the social support that the pet may offer. Subsequently, the section dedicated to emotional support is examined using two vignettes.

Vignettes. Hazel (1995) defines vignettes as tangible examples of individuals and their actions, after which participants can offer both their opinions and comments. This facilitates discussion of the specific terms used. Employing vignettes enables researchers to explore beliefs, meanings, judgements, and actions that depend on individual and unique situations (Barter & Renold, 2000; Murphy et al., 2021). Vignettes engage children in potentially complex and sensitive discussions (Barter & Renold, 2000). Furthermore, vignettes provide a non-threatening environment in which the interview shifts from face-to-face eye contact to the interviewer reading the vignette, encouraging participation from more reserved individuals who prefer not to discuss personal matters (Barter & Renold, 2000).

With these goals in mind and acknowledging the limited vocabulary for MH terminology in the isiZulu language, my supervisors recommended using vignettes during the support and mental well-being segments. After formulating the vignettes, I presented them to one of the staff members at Funda Nenja who is fluent in both isiZulu and English, and asked for her insights about potential questions. Consequently, guided by the SW, the facilitator at Funda Nenja, and my supervisors, I developed two fictional scenarios, constructed around plausible events that may occur in Mpophomeni where the children reside. Additionally, I created both female and male versions of each story, with the child's name replaced by a culturally relevant Zulu name.

Using open-ended questions and vignettes, I explored the effect of children's pets on their emotions and whether they thought their pet recognises the emotion they are experiencing. Section C of the semi-structured interview schedule (Appendix H) concentrated on the children's mental well-being. Here, a second vignette was employed to depict a child experiencing MH difficulties, followed by questions about potential issues and whether a dog might be advantageous during such times. This offered a more comprehensive understanding of the children's perceptions of MH and their opinions on the presence of a dog during stressful periods. Finally, at the conclusion of this section, the questions became more personal, examining the influence of the dog on the children's moods, as well as their perceived personal

development resulting from pet ownership. The final section of the semi-structured interview included questions on the children 's experiences at Funda Nenja.

The sample of children included in this study were all from the Zulu culture, which allowed me to incorporate viewpoints and experiences that have not been documented in previous studies. However, I ensured inclusive and meaningful involvement by using language that enables children to participate regardless of their capabilities. I ensured accessibility by translating all documents into isiZulu and having an interpreter present during the interviews with the children. I made sure to use culturally appropriate language (e.g., "imizwa") and culturally relevant vignettes to ensure that the scenarios and wording were pertinent to the children included in the study (Constable, 2025).

Observational schedule development

The observation schedule (Appendix J) focussed on non-verbal communication, verbal communication, affectionate gestures, and agitation or stress in the children. The observational schedule was used before the interviews, during interviews, and at the Funda Nenja dog school. During the dog school, the children's interactions with each other, the dog's obedience to the children, and both the dog and child's presentation of their emotional state were observed.

Focus group guide development

I developed the focus group guide (Appendix M) with input from my supervisors. The focus group began with an introduction designed to inform participants of the purpose of the discussion. This was followed by questions concerning Funda Nenja and their pathways to employment at the NGO. The second section of the focus group guide was centred around the children attending Funda Nenja and their interactions with their pet dogs, with particular emphasis on the emotional well-being aspects of these relationships. The concluding part of the focus group guide examined the effect that Funda Nenja has on Mpophomeni as a community and on their own lifes.

4.6 Data analysis

For data analysis, I employed an RTA, which is a form of TA used to identify patterns of meaning in the data (Terry et al., 2017). TA requires an organised approach during which the researcher establish and classify the themes that run through a dataset (Javadi & Zarea, 2016), thus enabling the researcher to detect and understand shared meanings and experiences (Braun & Clarke, 2012). In RTA, the value of qualitative research is reflected in its emphasis on the researcher's subjectivity, a dynamic and iterative coding process, and the importance of the researcher's engagement with and reflection on the data (Braun & Clarke, 2019). TA may be employed across various theoretical frameworks and paradigms for research (Clarke & Braun,

2017). Moreover, TA is particularly recommended for novice researchers entering the field of research for the first time, such as myself (Braun & Clarke, 2021, 2023).

I analysed the data from the interviews, the focus group, the letters and the observations using a computer-operated programme named ATLAS. Ti Windows (Version 23.1.1) to aid with the organising and coding of data and the themes that emerged. The coding was conducted inductively while guided by the research aims, objectives, and questions. The transcripts were transcribed verbatim by a third-party fluent in isiZulu and English. I used the six steps outlined by Braun and Clarke (2020) to conduct an RTA of the qualitative data. The six steps include data familiarisation, initial code generation, generating initial themes, reviewing the themes, naming and defining themes, and finally producing the report.

Step one: Familiarity with the dataset

My first step in familiarising myself with the 22 interviews was to listen to each one directly after it was conducted. Subsequently, I journaled reflections and observations after each interview while listening to the recording of interview, which allowed for supplementation during theme composition. After transcription and translation, I continuously read through each transcript, making hand-written notes as I proceeded about the overall tone and significant accounts in the interview, accompanied by the participant's demographic characteristics. I ensured that the data remained authentic by not correcting any grammatical errors made by the children during the interviews.

I familiarised myself with the focus group data through verbatim transcription. This approach enabled me to listen to the discussion multiple times and subsequently consult the transcript to verify the accuracy of the recorded information. Regarding the observational data, I took handwritten notes during my visits to the dog schools and immediately after the interviews to which dogs accompanied their owners. These handwritten notes were transcribed by me and this it allowed me to familiarise myself with the data.

Step Two: Identification of preliminary codes

After familiarising myself with the data, I uploaded all the transcripts onto Atlas.ti. I assigned preliminary codes to the data guided by the study's objectives and the theoretical framework. I focussed on unique characteristics and reports about the relationship between children and their pet dogs. I initially had 180 codes, which ranged in specificity and the number of quotations associated with the code. Some codes relayed specific characteristics of the children's relationship with their dog or the support the dog provides, while others were concerned with Funda Nenja and the child's subjective MH. Additional codes described more contextual features in the children's everyday lives and the actual interview. Similarly, initial codes that arose from the focus group transcripts surrounded the staff's experiences with pet

dogs, their time at Funda Nenja, and the NGO's impact on the community. After finishing the initial coding, I revisited all the data to ensure nothing was missed during initial coding, while also coding quotations that gave unique or in-depth accounts.

Step three: Identifying patterns and themes in the data

By incorporating the preliminary codes into initial thematic schemes using Atlas.ti's group manager function, a network was created to link the various quotations, facilitating the identification of five broad themes. The relevant codes and patterns were subsequently merged, eliminated, and organised in accordance with the overarching themes.

Step four: Reviewing preliminary themes

I reviewed the preliminary themes and sub-themes identified during step three after consulting my supervisors. I checked that the quotations were relevant to the theme they were linked to and ensured no overlapping or contradictions among the themes. Sub-themes were identified during this step using the thematic map on ATLAS.ti as guidance. I used descriptions under each code as a sub-theme to organise the codes into various sub-themes, and the sub-themes into five overarching main themes.

Step five: Naming and defining themes

At this stage, the essence of each theme was established by consulting each code and the construction of a narrative for each theme. This process facilitated the correlation of each theme with the overall research question and objectives and finally provided the theme with a name.

Step six: Writing up the report

Finally, I wrote a comprehensive report on the emergent themes, incorporating quotations from the data relevant to each theme and sub-theme. The contents of this report are discussed in the subsequent chapter.

Alongside the report on RTA, I also incorporated supporting data, which consisted of eight children's letters addressing their pets. This approach enabled a holistic and in-depth understanding of the relationship between participants and their dogs. The supporting data was carefully interpreted to remain true to the themes that emerged and are presented in the findings chapter.

4.7 Ethical considerations

The research proposal for this study was developed following Stellenbosch University's policy for responsible research conduct and was submitted to the Stellenbosch University Human Research Ethical Committee for review. Participants in this study are considered vulnerable due to their age (below 18 years of age, considered minors) and impoverished

circumstances (Stellenbosch University REC, 2020). The study was classified as a medium-risk study owing to its inclusion of vulnerable participants, personal information accounts, and sensitive topic investigation (Stellenbosch University REC, 2015). I received approval from Stellenbosch University's Human Research Ethical Committee on 9 October 2024 (Appendix 1A). Subsequently, I submitted both minor and major amendments on separate occasions, as detailed in the procedure section. Both amendments were also approved (Appendix 1B and Appendix 1C).

Informed consent process

I ensured that the legal guardians of the participants received comprehensive information about the study's aims, objectives, and procedures by dispatching an envelope containing the invitation flyer, informed consent, and informed assent forms prior to participation. All these documents were translated into isiZulu by a PhD student who is a native isiZulu speaker with translation experience. The SW from Funda Nenja assisted with participant recruitment by briefing each participant's legal guardian in person, and she was able to address all queries from the children and their families. I employed appropriate language in the consent forms to guarantee that the documents were understandable and that children possessed the capacity to provide informed consent (Goldsworthy, 2023).

Voluntary participation was guaranteed by allowing the children sufficient time to reflect on the information provided by the trusted intermediary and only returning a signed form at a later stage if participation was desired. The participants were also informed that there would be no undesirable consequences if they wished to withdraw at any time during or after the study procedure. When children experienced distress during and after the interview, I encouraged them to speak to the SW about any psychological support they might need. During the interviews with the children, one participant made a single disclosure of emotional distress. After the child mentioned the incident, I promptly advised the participant to speak with the SW at Funda Nenja. The child confirmed that they had already disclosed this to the SW, and the family member is currently attending the Funda Nenja support group for those engaged in substance abuse. This was one of the reasons for partnering with the NGO due to their ability to provide psychological services to the children when in need. Finally, I took time to reflect on my positionality, as I am from a different race and class than the participants. This can influence both the process and the interpretation of the data.

Anonymity and confidentiality

I informed participants and their legal guardians that their identities would remain confidential as I would assign pseudonyms to each participant. I ensured the confidentiality of the participants' information throughout the project by password-protecting the saved audio

recordings and transcriptions on my private laptop. My supervisors, the isiZulu transcriber, and I were the only individuals handling the participants' information. Both the translator and the transcriber signed a non-disclosure document (Appendix B3 and Appendix B4) to ensure the participant's anonymity. Although no participants expressed a desire to withdraw from the study, any information pertaining to participants that opted to withdraw would have been disregarded and deleted.

Maintaining rigour and trustworthiness

In a qualitative study, trustworthiness can be evaluated using four constructs: credibility, transferability, dependability, and confirmability (Bless et al., 2013). The subsequent section addresses the degree of confidence in the data, the methodologies employed during analysis, and the precision of data interpretation to ensure high quality (Connelly, 2016).

Credibility. Credibility is comparable to the internal validity of quantitative studies (Morrow, 2005). I employed peer debriefing and member checks to ensure the accuracy of the data the participants provided. Peer debriefing involves discussions with supervisors or colleagues to broaden the interpretation of the researcher's perspective of the research (Hamilton, 2020). I conducted weekly peer debriefing sessions with my supervisors throughout my study. During data collection, I provided updates to my supervisors following every three interviews, receiving feedback after they had reviewed the recordings. This process allowed me to remain accountable for leading questions, quantitative inquiries, or missed opportunities to do member checks.

Furthermore, my supervisors frequently reminded me of my positionality as an outsider and a researcher to limit bias with respect to any aspect of the data collection and analysis due to my personal views. Lastly, the isiZulu interpreter provided additional insights regarding specific contexts after interviews. If something was said that might not translate directly into English but holds particular significance in isiZulu, these observations were noted. For instance, in isiZulu culture, using "Baby" as a name for a pet dog carries profound cultural meaning as the name is normally used in relationships as a feeling of love and devotion.

Member checking involves confirming the meaning of the collected data during interviews or through conclusive questioning (Creswell, 1994; Hamilton, 2020). I did spot member checks during the interviews to ensure a comprehensive understanding of the participants' reports, while emphasising that there were no correct or incorrect answers. This process proved challenging in some instances due to contextual losses evident during interpreting in the interviews. As a novice researcher, I did not always remember to perform member checks consistently throughout the interviews, particularly at the beginning of my data collection process.

Transferability. Transferability is comparable to external validity in quantitative research (Treharne & Riggs, 2015). My goal during the write-up of the methods section was to meticulously provide a comprehensive account of the context or settings to ensure that the research findings could be transferred to other environments and replicated. This study did not focus on generalisation but rather on the detailed and distinctive exploration. I ensured the transferability and potential for replication of the study in a similar context by providing sufficient and realistic information regarding the research context, participants, procedures, researcher-participant relationship, and my own role in the final report.

Dependability. Dependability is analogous to reliability in quantitative research, assessing the degree to which results remain consistent over time (Treharne & Riggs, 2015). To ensure this, I thoroughly describe my research plan and procedures and provide a comprehensive report to facilitate the replicability of findings in future studies.

Confirmability. To establish confirmability, researchers should demonstrate that the understanding of the data is as closely related to the actual data as possible rather than being influenced by biases, beliefs, and imagination (Treharne & Riggs, 2015). I guarantee confirmability in my study through reflexivity, the continuous self-critical reflection during the research process (England, 1994; Lazard & McAvoy, 2020). With the help of my supervisors, I was continuously held accountable during the data collection and analysis phase. My supervisors and I also coded two transcripts alongside each other. We compared our coding before the analysis started so that I could gain knowledge from academics with greater experience in qualitative coding. To achieve objectivity, I acknowledged my preconceived ideas and personal experiences with dogs, children, and the Zulu culture. One such preconceived idea is that dogs positively affect my own mood. I had to address my positive regard and take an objective view to ensure I am not biased as the researcher. Furthermore, I supplied direct quotations of rich depictions of the children's relationship with their dogs to confirm that the findings are based on the children's narratives and perceptions rather than findings linked to the researcher's potential biases.

Reflexivity and positionality

An integral part of conducting a RTA is ensuring reflexivity as a researcher, which warrants that possible biases and preconceived ideas are acknowledged. Specifically in qualitative research, a researcher should consider their social position (age, race, sexual orientation etc.), personal beliefs and characteristics when conducting the research and analysing the data in order to enhance the rigour and quality of the study (Berger, 2015).

Within the current study, during the preparation, data collection and analysis phases, I ensured that factors associated with my own positionality did not unduly influence the

research. My social position as a young white Afrikaans female without children meant that my beliefs and ideas of what the children might say as well as my understanding of the Zulu-culture, differed from those of someone with a social position more similar to that of the child participants. Therefore, I spoke to my supervisor, translator, social worker and older children attending the NGO before and during the interview process to support my understanding of the participants' perspectives and cultural context.

Characteristics of myself that aided in the research was my education and experience in working with at-risk children and being a dog-owner myself which allowed for a deeper understanding of what the children were describing and their experiences. However, I continuously needed to check that my positive regard of pet ownership did not bias the interpretation of the results.

CHAPTER 5
FINDINGS

In this chapter, I report on the themes identified from the RTA of the interviews and the letters written during the data collection of this study. This study aimed to generate a rich narrative exploring the supportive nature of the relationship between at-risk children and pet dogs in a rural township in KwaZulu-Natal. It became apparent to me during the RTA that various factors enhanced or limited the support the children experienced. It led to benefits in different dimensions of MH and well-being (e.g., social, emotional and psychological well-being). Furthermore, Funda Nenja allowed for various contributing factors, which strengthened the development of a supportive relationship between the children and their dogs. Table 2 and Figure 6 contain a summary of themes and sub-themes that emerged from the study. I unpack each theme in this chapter, and precise quotes from the interviews and letters guide the discussion.

Table 2

Themes and Sub-themes from RTA

Themes	Sub-themes
Theme 1: Children's environmental context	
Neighbourhood	
Relationships	
Theme 2: Relationship between children and their dogs	
Basic pet-owner relationship characteristics	Caregiving
Unique dog-child relationship characteristics	Play and physical activities
	Nurturing ownership
	Understanding dog's behaviour
Limitations in the relationship	Home orientation
	Aggressive interactions
Theme 3: Dog as supportive companion	
Supportive characteristics of the dog	Constant presence
	Close-relationship qualities
	Trust, love and respect
Impact of dog's support	Stress relief and emotional comfort
	Personal growth and responsibility
	Relationship support
Impact on children's mental health and wellbeing	Emotional awareness
	Mood regulation

	Empathy, self-esteem and anxiety
Theme 4: Importance of relationship for children	
Attachment	
Human-like connections	
Theme 5: Funda Nenja	
Funda Nenja's impact on child-dog relationships	Dog training and bonding experiences
	Social engagement
	Dog care education
Funda Nenja's contribution to pet, child and community welfare	Animal welfare
	Child welfare
	Community welfare
The children's view of Funda Nenja	Positive experiences
	Negative experiences

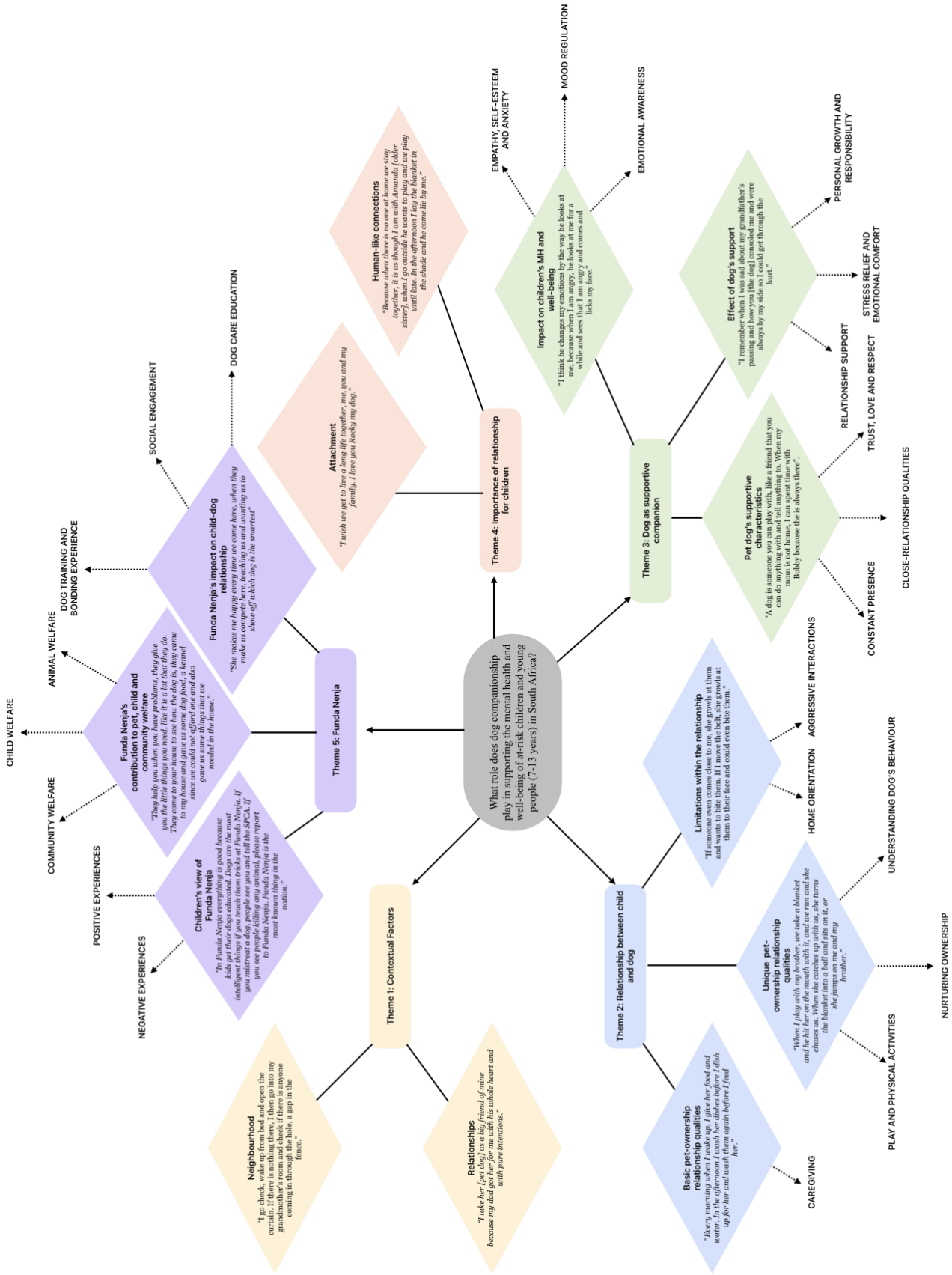

Figure 6: Thematic map of the findings

5.1 Demographic characteristics

Child participants

The sample of 22 participants included a specific group of children exposed to various risk factors that predispose them to the development of MHCs. All participants owned dogs and participated in weekly dog school activities at Funda Nenja, accompanied by their pets. As summarised in Table 3, the socio-demographic characteristics included age and gender. Additionally, Table 3 indicates which pseudonym corresponds to each participant. The duration of pet ownership was not included in Table 3, as the children struggled to recall when they had adopted their dogs.

Of the 22 participants, three (7,33%) were female, while the remaining were male. All participants (100%) spoke isiZulu as their first language and resided in Mpophomeni. Twenty-one participants (95,5%) were between the ages of nine and 13, with one participant having recently turned 14. The average age of the sample was 11,36 years, with a median age of 11 years.

Table 3

Age, pseudonyms and gender of sample

Participant	Pseudonym (child)	Age	Gender
1	Siyabonga	13 years old	Boy
2	Nomsa	9 years old	Girl
3	Sipho	9 years old	Boy
4	Thabo	12 years old	Boy
5	Sibusiso	13 years old	Boy
6	Mandla	13 years old	Boy
7	Zanele	10 years old	Girl
8	Bongani	12 years old	Boy
9	Themba	11 years old	Boy
10	Lwazi	13 years old	Boy
11	Njabulo	10 years old	Boy
12	Khaya	14 years old	Boy

13	Mxolisi	12 years old	Boy
14	Lungelo	11 years old	Boy
15	Nkosinathi	12 years old	Boy
16	Sandile	11 years old	Boy
17	Xolani	9 years old	Boy
18	Vusi	10 years old	Boy
19	Andile	11 years old	Boy
20	Siyanda	13 years old	Boy
21	Mduduzi	11 years old	Boy
22	Nokuthula	11 years old	Girl

Funda Nenja staff participants

The sample of five participants who participated in the focus group improved were all employed by Funda Nenja at the time of the research. Each of these individuals held different roles within the organisation, providing comprehensive insight into the NGO as a whole and the children's engagement with various components of Funda Nenja. Table 4 outlines the socio-demographic characteristics of the staff, including their age and gender. Moreover, the participants also provided information regarding the number of years they had been working at Funda Nenja, indicating the long-standing relationship these individuals have maintained with the NGO.

Two of the five participants were male (40%), while the remaining were female. All except one resided in Mpophomeni. The average age of the sample was 24,5 years, although this figure does not reflect the average age of Funda Nenja staff since the recruitment criteria stipulated that participants had to be above the age of 18.

Table 4

Funda Nenja's staff participants' demographic characteristics

Participant	Pseudonym	Age	Gender	Years worked at Funda Nenja
1	Nomvula	26	Female	13 years
2	Lerato	20	Female	8 years
3	Owethu	23	Female	12 years

4	Ayanda	24	Male	13 years
5	Lwandle	30	Male	1 year, 4 months

5.2 Theme one: Children's environmental context

During the analysis, it became apparent that the environment and relationships surrounding each participant significantly affected their emotional and psychological well-being. Therefore, it was essential to understand the context in which the children reside in order to better understand their relationship with their pet dogs.

5.2.1 Neighbourhood and community perceptions of dog ownership

The participants expressed concerns regarding their own safety and that of their dogs in the Mpophomeni community. When asked about their reactions to their dogs barking at night, many children described feelings of fear and anxiety, suggesting that barking at night was often seen as a sign of intruders. Siyanda stated that when his dog was a puppy, intruders broke in at night and stole their television. He further explained that this incident caused significant distress to him and his family. However, when the intruders returned on a subsequent occasion, their dog, Rocky, was older and larger, which provided them with greater protection against the intruders.

"Some thieves had broken into our house and stole our TV. Rocky was still small and staying in our garage, a month passed and they came back and Rocky was a bit bigger and they were trying to steal tins behind our house, and Rocky barked loud at them and we woke up and we saw the thief and chased him away. This made me feel good as it meant that our house is now protected and this made me feel happy. Before this I had been sad about our TV being stolen."

Participants stated that one crucial reason for adopting dogs was to provide security at home and when children walk in Mpophomeni. One participant explained that this safety is one of his favourite aspects of his dog, while another stated that when his dog barks at night, it brings him joy because he feels protected. This form of security is regarded as "a sign of love", representing the dog's way of caring for the family. Vusi, a 10-year-old boy, explained that the dog's protective behaviour made the dog feel like a family member, almost like an older sister.

The dogs provide a sense of security for children when they leave their residences. One participant articulated that he is able to engage in more frequent play with his friends due to the protective nature of his dog. Similarly, when child pet owners engage in physical fights with other children, the dog starts barking and tries to mediate the conflict, even exhibiting an inclination to bite the child's opponent.

The participants and staff at Funda Nenja explained that dogs typically stay outside in a doghouse to offer protection to the household. However, many of the concerns the participants raised about living in their community pertained to acts of violence involving both humans and animals. For example, Thabo, a 12-year-old boy, explained that he regularly checks on his dog at night and that he does so "because the other day someone shot a gun and the same thing happened with the neighbour's dog, Brave. Someone shot him because he was barking." Four of the children interviewed, all between the ages of nine and 13, seemed to have assumed adult roles by checking on the dog and seeing if anyone is in the yard. This behaviour provides insight into how children, particularly boys, naturally take on a protector role to defend themselves, care for their younger siblings, and act as the household's elder male representative. Only one child mentioned that his father goes out to check on the dog at night, as he supposedly is not old enough to perform this task himself. Sandile, an 11-year-old boy, explains:

"I go check, wake up from bed and open the curtain. If there is nothing there, I then go into my grandmother's room and check if there is anyone coming in through the hole, a gap in the fence."

Finally, two participants also mentioned the stigma around relationships with dogs within the community. Bongani explained that he likes it when his dog licks his face, but he tries not to let the dog do it in public because people think dogs are dirty. Khaya said that he spends much time with his pet dog, which has caused people to call him "crazy." Similarly, a staff member of Funda Nenja explained that there has been some stigmatisation in Mpophomeni due to the use of the name Funda Nenja, as the term' dog' can also be used as a profanity in Zulu culture. Nomvula stated,

"People here will see the word Funda Nenja, and they are sometimes taken aback by the name because in isiZulu the words might seem vulgar because dog in isiZulu can be used as a swearword. Especially because we are black. They see a black person wearing these t-shirts. It seems almost disrespectful."

Nomvula further elaborated on prevalent myths about dogs in Mpophomeni. Before establishing the organisation in the community, some individuals believed that dogs were solely intended for hunting or yard security. However, when Nomvula reflected on the changes in perceptions in Mpophomeni, she mentioned, "Now we see dogs in the house, and people taking care of dogs."

5.2.2 Relationships

"I take her [pet dog] as a big friend of mine because my dad got her for me with his whole heart and with pure intentions." – Mduduzi (11-year-old boy)

The participants generally reported maintaining positive relationships with their family members and friends. The children mentioned having favourable relationships with their siblings, grandmother, and mother, which are further reinforced by joint care of the pet dog. Nonetheless, some children described strained relationships with their parents and friends. One case of alcohol misuse was mentioned, which also involved the participant and his dog being subjected to physical violence. This disclosure during the interview was handled in accordance with the process described in the ethical considerations section. Additionally, when Nkosinathi, a 12-year-old boy, was asked why Bandile (referenced in Vignette 2) was feeling depressed, he speculated that Bandile might be experiencing similar physical and verbal aggression towards him at home.

The children reported friendship issues, including fighting, friends taking toys, or not being as close with certain friends as before. Problems with friendships emerged in answers to Vignette 2's questions, along with friends hurting their dogs. Thabo, a 12-year-old boy, explained that his pet dog comes to fetch him after school. However, "I get happy and leave with her, but I don't like that because other kids at school throw rocks at her and this upsets and she wants to bite them." Additionally, Khaya, a 14-year-old boy, explained that his friends became jealous of his dog saying she "distracts him" and the friends subsequently threatened to poison her. He added that this scares him because his previous two dogs also died from poisoning, leading him to wonder if his friends harmed them. Finally, some participants also mentioned that they prefer spending time with their pet dogs rather than friends because friends get them into trouble and influence them to do wrong.

5.3 Theme two: Relationship between the child and their dog

In this study, both children and staff at Funda Nenja thoughtfully contemplated pet names. However, motivations varied depending on the circumstances of adoption. For example, two children who lost their dogs named their new pets identically as a means to cope with grief and to keep the memory of their first pets alive. Some dogs had already been named at the time of adoption from nearby families. Nevertheless, some children deliberated carefully when naming, such as one who selected the Zulu term 'Baby' to express affection. Others assigned names based on physical traits, such as "Rolly" for a dog that enjoys rolling or "Cheetah" for a fast runner. The latter was later renamed "Cheetah Love" due to a distinctive heart-shaped mark.

5.3.1 Basic child-dog relationship qualities

> "Every morning when I wake up, I give her food and water. In the afternoon I wash her dishes before I dish up for her and wash them again before I feed her." – Nokuthula (11-year old girl)

Caregiving. During the study it became clear that participants viewed ensuring the pet's well-being as an essential part of pet ownership. All the participants regarded the responsibility of caring for pet dogs as highly significant. All but one of the participants are solely responsible for feeding and providing water to their dogs. The children reported that they purchase 2.5 kg bags of dog food at Funda Nenja and subsequently serve food to their dogs up to three times a day, including before attending school. Moreover, the children indicated that they refill the dogs' water bowls daily and move them out of the sun upon returning home from school.

The children assume full responsibility for the cleanliness and well-being of their pets. Most children provide their pets with weekly baths, which include checks for ticks and fleas. In the event of rain, the dogs' kennels are also thoroughly cleaned to prevent mud accumulation in their doghouses. Additionally, the children brush their dogs' fur regularly, an activity that both the children and the dogs enjoy. Lungelo explained as follows when asked why his dog makes him happy when she sits close by, "just her being next to me, and then I brush her." Lastly, the children participate in activities to tire out their pet dogs, such as taking them for walks, attending Funda Nenja sessions, and playing ball.

Family members also assist with feeding, bathing, and walking responsibilities when the child is unable to tend to their dog. Additionally, family members help train the dog in instances of disobedience. For example, Bongani (a 12-year-old boy) stated that they "have chickens at home, so sometimes the chickens eat her food, and she barks at them, and my mom shouts at her for doing that, and she goes and sits in her house and refuses to do anything afterwards." The children and their families also demonstrate great care when their dogs fall ill, for example, nine-year-old Nomsa explained:

> "I bring her here [Funda Nenja] when she is sick or ask for advice here when we can see that she is not okay, they usually ask to take the 'chicken soap', make it round and put it in her so she can throw up, if we see that does not help we give her medicine."

Nomvula, a staff member at Funda Nenja, explained that certain home visits result in the transportation of dogs to the SPCA due to illness. This is often followed by ongoing contact from children and their families. Nomvula remarked:

> "Then the child asked for the phone wanting to know how the dog was doing, he did not go to school for in case we brought the dog back home, so he can see the dog the minute the dog comes back. And I promise you if the dog were able to speak, he would have asked me to put the dog on speaker and wanted to speak with the dog."

During my time at the dog school, I observed similar instances of children demonstrating concern and hypersensitivity regarding the well-being of the dogs. While observing the veterinary clinic during one of the sessions, a young boy waited in line at the veterinarian's office for the duration of the dog school. He carefully brought his dog closer and explained that he had been attentively listening to his dog's breathing, and he believed there was something abnormal about it. This prompted the veterinarian to conduct a full examination of the dog, which ultimately revealed that everything was normal. The veterinarian then explained to me that such occurrences are quite common, as children tend to be very caring and vigilant about the health of their dogs.

5.3.2 Unique child-dog relationship qualities

Play and physical activities. Certain activities the children described reflect the depth of the relationship between the children and their dogs. This study's most frequently coded aspect is the children's reference to playtime. The children participate in various activities, including ball play, soccer, tug of war, and running with their dogs. Additionally, they have devised unique games involving their dogs and friends. One example of this was provided by Sandile, an 11-year-old boy:

"When I play with my brother, we take a blanket and he hit her on the mouth with it, and we run and she chases us. When she catches up with us, she turns the blanket into a ball and sits on it, or she jumps on me and my brother."

Children also indicated that playing greatly contributes to happiness, bonding, and social interactions with friends and family. During the interview days, I observed children using the soccer posts and field to play soccer, with themselves forming one team and their dogs serving as opponents. The children alternatively explained that when friends are not available, dogs can act as substitute playmates. For instance, Lwazi (a 13-year-old boy) explained that he "feels like I am playing with a person when I play with her." Therefore, these play engagements facilitate companionship between child and dog when children are alone at home or are bored.

Children also engage more eagerly in outdoor physical activities due to their relationship with their dog. They take their dogs for walks in the hills, participate in "gym" activities with them, and even hunt in the mountains accompanied by their dogs. When asked if Snowy makes her a better person, Sibusiso, a 13-year-old boy, explained, "I never used to go outside and go for walks." Since acquiring a dog, this behaviour has changed. Furthermore, leaving the house frequently allows the dog to socialise with humans and other dogs, which, in turn, contributes to the child's own social engagement and play with other children.

Nurturing ownership. The children demonstrated their affection for their dogs by making an effort to meet all their pets' needs. They derive pleasure from providing emotional comfort, such as during grooming or reading aloud to their dogs. The children reported that when their dogs fall ill, they immediately bring them to Funda Nenja for assistance. Additionally, they stated that they carefully avoid feeding their dogs inappropriate food, adhering strictly to a feeding manual provided by Funda Nenja.

The children explained that having gentle interactions with their dog is very important and they therefore never resort to hitting or yelling at them. For instance, Khaya, a 14-year-old boy, recalls that when his dog begins to play with him and his friends, "we usually play rough when we play together, but I am gentle with her, as if I am playing with a child." The children also describe their dogs' own personalities or cheekiness. The children also allow themselves to spoil their dogs, particularly by giving them the freedom to do as they please. Bongani, a 12-year-old boy, elaborates:

"What I like most is the way she loves me and I love her too, she respects me even though sometimes she does get angry or upset. When she is upset she does not come when I call her and just becomes cheeky, so much so that I have to go to her and brush her, she softens up a bit and we play."

Children explained that when the weather is bad, those dogs that are generally only allowed outside are let in when they whine at the door. Dogs who are typically allowed inside the home watch movies with the family, are served some human food when they refuse to eat their standard pellets, and even accompany the family on shopping trips in their vehicle. Khaya, a 14-year-old boy explains:

"We usually sit with her, she gets in the house and watches TV with us, my grandmother carries her sometimes and dishes for her. She also loves to dish for them even when they are full, she loves that they always have food and fresh water."

The personnel at Funda Nenja share similar experiences from their time attending Funda Nenja with their dogs. Nomvula explained, "I used to think that dogs are just dogs, but now I think they are more like humans, because they [do] almost everything like us humans." The other staff members also felt similarly and noted that their perceptions of dogs had changed substantially due to the education provided by Funda Nenja. Nomvula further explained:

"I just remember something about Brown, we kept him inside when he was a puppy and then we felt bad, so we kept him inside. That lead to Brown never wanting to go outside again. So, his

favourite place would be behind the soda, or under the tables, that is where he used to be most of the time. So, Brown became part of the family because he was living with us inside the house."

Understanding dog behaviours. Children explained that understanding their dog's behaviour is crucial for establishing a close relationship with them. However, they recognised that communication primarily relies on body language and non-verbal cues. The children indicated that this knowledge is something they are taught at Funda Nenja, and they take considerable pride in mastering it. The participants emphasised the importance of comprehending a dog's emotional state, as this allows one to determine whether a dog likes another dog or human. Additionally, the children explained that actions such as the dog licking their faces, giving them hugs, and wagging their tails are ways in which the dog communicates their happiness around them. When a dog is unhappy, its tail may not wag, and it might also droop its ears when addressed. In Sibusiso's letter, he states, "I love it the way it is, and I want to know all the good things and be able to tell what is wrong as well." Similarly, Owethu, one of the female staff members at Funda Nenja explained:

> "I used to think that dogs always wanted to bite, when I saw the dog, I need to run. So, my mindset changed on the dogs, now I respect dogs, I know I don't have to run. Also, if I see other kids hitting their dogs, I start shouting at them to stop."

During the discussion on the significance of non-verbal communication, attention turned to the canine's intelligence. The children paid considerable attention to their dog's ability to perform tricks and express emotions in an insightful manner. They articulated that this engendered a sense of pride as owners, particularly if their dog excelled in classes at Funda Nenja. In a letter authored by Mandla, a 13-year-old boy, regarding his relationship with his dog, he explained that "dogs are the most intelligent things if you teach them tricks at Funda Nenja." During my visit to Funda Nenja, the children competed with each other in their various classes, wanting to show off to me as a visitor how clever their dogs are, and how easily they master commands.

5.3.3 Limitations in the relationship

Although the children expressed that their relationship with their dog is "the same as a human relationship," they also acknowledged certain limitations in the relationship, as dogs do not possess all the abilities that humans do.

Home Orientation. Four of the 22 children reported fewer interactions with humans, as they prefer to spend time with their dog. This is particularly evident in cases where the child has experienced friendship problems. Children often remain at home, for example, "I don't go around more and play with my friends as much, I stay at home more" (12-year-old Thabo).

Khaya explained that his dog has altered his social interactions, “My grandmother would complain that I spend too much time with my friends, I don’t do that anymore, I spend most of my time with her (referring to the dog).” The children indicated that caregivers sometimes support this tendency for fewer human friendships, as they are concerned about the potential negative influence friends might have on their children.

Aggressive interactions. The children explained that some dogs are more inclined to bite people, specifically if they are protective of their owners and wary of strangers. The children in this study demonstrated that this happens when the dog is still young or in cases where other children throw rocks at them. However, Sandile (an 11-year-old boy) stated, “If someone even comes close to me, she growls at them and wants to bite them. If I move the belt, she growls at them in their face and could even bite them.” Therefore, although dogs provide their owners with a sense of safety and security, they cannot always discern which humans are trustworthy and which pose a threat. Additionally, two participants reported that their dogs had bitten them once, but when they scolded the dog, “it went to his house, and both of us were sad.”

Upon visiting the organisation, I saw a few dogs briefly becoming agitated with one another. However, the facilitators then swiftly changed the positions of the dogs who had become agitated. One of the negative aspects Nomvula (a 13-year-long employee of Funda Nenja) mentioned is:

> “That the dogs get aggressive. We had an encounter where there was a dog named Brutus. He is fine when he is home, but the minute he leaves his yard, he is very sensitive… At the end of the day, the child did come to the organisation because he wanted to see his dog behave better, but instead of the dog getting better, he made the other dogs uncomfortable. Brutus was a dog that we were unable to help.”

The children mentioned instances when dogs had become overly excited during playtime or when greeting their owners. They explained that the dogs scratched them when they jumped to greet them. Bongani explained, “When she is playing, because she is a dog, she cannot play with her feet, like she will bite me hard, and this makes me sad. Sometimes I know she doesn’t mean to, but she does.” When asked if there were any disadvantages to Bandile (Vignette 2) acquiring a dog, the children explained that rough play could exacerbate his negative emotions. Other potential disadvantages include Bandile's possible dislike of dogs, allergies to dogs, or hitting his dog, which could lead to aggressive behaviour.

5.4 Theme three: Dog as supportive companion

The children adopted dogs because they genuinely desired to have one and inquired with their guardians about the possibility of adoption. Many of their peers owned dogs and

participated at Funda Nenja, which encouraged the children to undertake the adoption. However, the children were not motivated to adopt a dog for their supportive qualities or their overall impact on well-being. Nonetheless, these were some of the relational qualities that the participants described during their interviews and letters.

5.4.1 Pet dog's supportive characteristics

Constant presence. Participants elaborated in detail on the fact that their dogs are "always by my side" and available "all hours of the day," which contrasts with their relationships with friends, who are present merely to alleviate boredom on Saturdays. Moreover, the children clarified that their pet dog accompanies them everywhere, resulting in shared activities such as shopping at grocery stores, eating, and watching television. Additionally, the children explained that their pet dog fosters a sense of closeness by resting at their feet during sleep and lying next to them in the shade. Zanele, a 10-year-old girl, described her pet dog as "someone you can play with, like a friend that you can do anything and tell anything to. When my mom is not home, I can spend time with Bobby because he is always there."

The dog's consistent presence facilitates a deeper bond between the child and the dog through their increased shared time. The children explain that they dedicate their time to conversing, engaging in play, visiting Funda Nenja, lying in close proximity to one another, reading, dining, and watching television with their family. This engagement reduces feelings of loneliness when no one is at home or when a friend is unavailable for play. Additionally, two participants explained that they prefer spending time with their dog rather than their peers.

Close relationship qualities. The participants described that talking to their dogs resembles speaking with a friend, as they feel free to express themselves openly. The dog serves as a confidant for many participants, with children sharing details about their day, reading diary entries aloud to the dog, and discussing various problems and potential solutions. The children indicated that their dogs demonstrate attentive listening by moving their heads, barking, or wagging their tails. Siyanda, a 13-year-old boy, stated, "If something had upset me at school, I can sit and talk to him, and he listens to me and takes commands when I tell him to sit, and I feel better." Most children emphasised that dogs listen to commands and exhibit obedience, which they regard as important and indicative of mutual respect. Lwandle, one of the staff members at Funda Nenja answered as follows when asked about the change in the relationship between the children and their pet dogs:

"I would say communication, when time goes by they get along and they become closer. And the child can see if there is a problem in the dog or even the dog can sense if the child is happy or sad. The bond becomes stronger."

The children expressed their pet dog's capacity to be attuned to emotions such as sadness, anger, and happiness. Mandla explains, "I think he changes my emotions by the way he looks at me, because when I am angry, he looks at me for a while and sees that I am angry and comes and licks my face." The participants described that when they are upset, the dogs respond in the following ways: licking the child, not lifting their ears, whining in a low tone, sitting close to the child, following the child around, attempting to engage the child in play, hugging the child, trying to make the child laugh, and jumping on the child. However, when the child is stressed or angry, the dog adopts a more passive approach, such as rolling over and lying on its back, avoiding the child, or bringing the food bowl to the child to facilitate feeding. Dogs also use physical affection to provide comfort, including snuggling up to their owners, sitting close, crawling under the child's arm, jumping on the child, or licking the child's body or face. However, four participants stated that their dogs do not recognise their emotions and are constantly happy, even when they arrive home in a bad mood.

Trust, love and respect. The children reported that trust is a fundamental aspect of their relationships with their dogs. This trust is mutual, as demonstrated when Themba (an 11-year-old boy) said:

> "It makes me feel happy because he is not a touchy dog that if I had to brush him I would hurt him in any way and he ends up biting me. But when I brush him he just turns like he is talking to you, he would just move away if you were hurting him and not bite you"

Not only does the pet dog trust the child, permitting the child to brush its hair and understanding that any discomfort caused is not on purpose, but Themba also trusts the dog, comfortably brushing it without concern about potential harm. Moreover, pet dogs frequently exhibit behaviours that indicate comfort-seeking, such as lying close to the child or scratching at the door to be in their presence. The participants expressed that these behaviours enhance their self-perception and contribute to a sense of well-being, describing it as " a good feeling. " Nomvula, a staff member at Funda Nenja, explained:

> "The dog has that protectiveness that the dogs know although all these things are going on, at least I am safe with my person. Just seeing the changes in the dog when they first come to the organisation, and how they become more comfortable the longer they are part of the organisation."

While attending the dog school, I observed similar interactions and demonstrations of trust between children and dogs. The children assembled at Funda Nenja one hour before the scheduled activities, lying on the ground with their dogs sleeping between their legs or the children using their dogs as pillows to rest their heads. Additionally, I was impressed to note

that the children carried smaller breed dogs or puppies with one arm. These dogs appeared suspended in the air, resting on their young owners' arms, and fell asleep as they moved around at the organisation.

Twelve instances were identified in interviews and correspondence where children explicitly expressed their belief that their dogs love them. The children described the dogs as showing their love for them by sitting beside them, licking, protecting, assisting with household chores, and jumping on them. Additionally, the children explained that if the dogs could speak, they would declare their love for the children, citing reasons such as "they treat them well" and being good owners. Furthermore, Nokuthula, an 11-year-old, articulated that the dog would go beyond merely saying "I love you" and would refer to her as its sister. Through trust, love, and respect, the children deduce that they are exemplary owners and play a significant role in their pet dogs' lives.

5.5.2 The effects of the dog's support

Stress relief and emotional comfort. The children reported experiencing stress as a result of school tests and examinations. During times of stress, it is essential to have some form of relief. The participants' dogs facilitated this by calming the children, distracting them, alleviating loneliness, increasing happiness, and providing emotional comfort. Zanele states, "When I write tests, I am stressed, and it's not fun for me. But seeing Bobby when I get home always makes me feel better. It turns my stress into happiness, my stress becomes less." Four children had their dogs accompany them to the interviews, allowing me to observe the children engaging in touching, stroking and playing with the dog's ears while talking about their relationship. In interviews where pet dogs were not present, the children more often fidgeted with their clothes, fingers or a stuffed animal that was on the couch.

Through activities such as play, licking, sitting together, and taking on caretaking responsibilities, children forgot the negative thoughts they once had. Khaya explained that he has no friends to play with when he has to study for a test, so he takes his dog for a walk, which feels similar to walking with a person. He states that this activity helps him forget about stress and improves his mood during tests and exams.

The children explained that their dogs offer emotional solace by serving as confidants and enhancing their mood. This comfort is frequently manifested through physical affection and consistent availability for conversation. The participant referenced earlier also stated in her letter, "I remember when I was sad about my grandfather's passing and how you consoled me and were always by my side so I could get through the hurt." Likewise, adopting a new dog can

assist in alleviating grief associated with pet loss, as the new pet can provide emotional comfort. A staff member at Funda Nenja, Nomvula, explained:

"I would say during the grieving processes, but even when it is not a grieving process, the dog being there to regulate the children's emotions, whether it is something at school, at their home or whether someone is sick, the dog being there as a companion, helping out with the emotions."

Furthermore, pet dogs enhance children's self-reported happiness. One of the children expressed their sentiments towards their dog in a letter, stating, "You have been such a good friend for me. Even when I am upset, you always find a way to make me happy, and so happy." This is something I observed while walking in between the dog training stations. Children were laughing and smiling. Even when waiting for the training to commence the children continuously engaged with their pets and smiled while looking or talking to them. The well-being of the children is also largely contingent upon the well-being of their dogs. In most cases, the participants indicated that they treat their dogs well, which leads to the dogs reciprocating. This also pertains to emotions and how they influence each other's feelings.

Personal growth and responsibility. During the semi-structured interviews, participants were asked whether they believed their dogs contributed to their personal development. The majority answered yes, but their reasons for this belief varied. One reason they provided was that their relationship with their pet fosters a sense of self-improvement. They felt that their dogs offer them acceptance and make them feel valued. The dogs' enthusiasm upon seeing the children, their preference to be with the children, and their attentiveness to their demands enhance the children's sense of acceptance. Siyanda explains that he and his dog share mutual love, stating, "because of the things she does, she does not bite me, and when they shout at me at home, she wants to bite them." The children further explained that their pet dogs make them feel understood and consistently happy in their presence.

One participant also explained that she did not typically go outdoors for walks, but since adopting a dog, she has begun to enjoy this activity regularly. The dogs have also supported the adoption of positive morals among the children. For example, Themba, an 11-year-old boy, stated that his dog has made him a better person because "he has taught me not to be a bully." Additionally, two other participants reported that they have stopped spending time with their previous friends since acquiring their dogs, which has pleased their families as these friends made them do the wrong things, like stealing.

Furthermore, children develop a sense of responsibility when they adopt a dog and derive pride from this experience. Bongani, a 12-year-old boy, provided an in-depth explanation of his daily routine:

"If I had gone to school, first thing that I do is when I wake up in the morning, I go to her, refill her water, give her food, and then I go to school. When I come back from school, I first change, do my homework and then go to her and we play. If she is not tired, sometimes I'd go to her and I can tell she is tired especially if she had gone with my dad for a walk. She is usually tired so I let her rest."

The participants indicated that they are primarily responsible for the majority of pet care duties. As demonstrated in the quote above, the participants are attentive and compassionate pet owners, ensuring that all of the dog's needs are adequately met. They also safeguard their dogs from confrontations with aggressive dogs during walks and bathe the dogs after swimming in the hills. Finally, family members hold them accountable to prevent the neglect of any responsibilities.

Relationship support. The majority of children reported that their pet dogs became the reason for social support from friends and family as these individuals have become involved in activities and the caretaking of the dog. This observation is not true for all participants, as noted in the limitations section earlier. However, most participants described how their family members engage in the care of the dog, such as a father and child constructing a kennel for the dog, sisters taking the dogs on walks with the child, brothers assisting with washing the dog, and grandmothers preparing an abundance of food for the pet. Additionally, the family participates in games with the dog and indulges the pet by purchasing cookies during walks. Through these interactions, the child spends quality time with their dog and strengthens bonds with family members through their shared relationship with the pet. Andile, an 11-year-old boy, provided an example of this bond: "We do things as a family, we buy him the things he likes, like sweets, we put money together and get him things."

Children indicated that their relationships with friends have improved since adopting dogs, particularly those who own dogs themselves. Group activities include playing together (dogs and children), making dogs play "race", bringing dogs along during playdates, taking walks, going to the mountains and antelope hunting. Additionally, children visit Funda Nenja and participate in gym sessions with their friends and dogs. I observed during the dog school activities how children would purposefully situate themselves next to another child who owns a dog that is their dog's friend. Furthermore, the children noted that their friends are attentive to their dogs' well-being, offering protection against potential harm and purchasing items to spoil them. Also, during one of the interview days on a Saturday, children stood in line for hours waiting for their turn at the sterilisation clinic. One of the participants also attended the sterilisation clinic, and when it was his time to come for the interview, he had a friend wait in

line to hold his spot. This was a thoughtful gesture from the friend, not only caring for the child but also the child's dog.

5.5.3 Impact on children's mental health and wellbeing

Emotional awareness. Initially, during the pilot interviews, the children were asked to define the term "mental health". The children responded that in their understanding, MH is a term often used when individuals are intoxicated and generally signifies that someone is not in a sound or sane condition, usually requiring hospitalisation. This concept is also associated with substance misuse. Consequently, after consulting with some of the older Zulu children, we decided to pose questions concerning "imizwa," which translates into feelings or emotions in English. Through this approach, the children referred to emotions like fear, stress, sadness, anger, happiness, and love when presented with various scenarios in the vignettes. A 13-year old boy named Mandla explained emotions in the following way:

> "Like emotions are the things that we have, everyone even dogs have emotions, but emotions have different approaches. You may have anger issues, where something small can make you feel angry and something big can make you feel down."

When children were questioned to gauge their understanding of feelings, they offered various interpretations of the term. The children clarified that feelings include romantic attraction to someone, as well as emotional responses to adverse events. Feelings are described as internal sensations experienced in the heart, or as positive emotions about certain matters. Some participants further elaborated that feelings serve as a moral compass, enabling individuals to discern right from wrong based on their immediate emotional response. For instance, Siyanda, a 13-year-old boy, stated, "maybe a lot of people like to make dogs fight, but do you like it when they do this? What are your feelings telling you about this?" Thabo expressed uncertainty about the concept of feelings but indicated that "compassion" is a feeling one experiences when witnessing others being teased or discriminated against. Thabo then went further and defined feelings as, "love you feel towards your mother or the way you dislike someone."

There are also a few accounts of children who experienced negative emotions and emotional states. Some children expressed concern about abandonment and conditional love between themselves and their dogs. For instance, if they do not engage in play with their dog, they fear the dog will not reciprocate love. Others expressed a fear of rejection by their dogs, such as being apprehensive that the dog might cease to like them, which would cause them considerable unhappiness. Two children described sitting alone and engaging in excessive thinking as a reason for Bandile's emotional state (see Appendix I). This might refer to

depressive thoughts, as Bongani (a 12-year-old-boy) explained why a dog might provide support when one is feeling like Bandile (the boy in Vignette 2):

> "He will be sitting alone, because when you are alone there are a lot of things you could think of like killing yourself, having a dog would help him because it will always require his time and want him to play with it."

Mood regulation. In this study, 18 out of the 22 participants reported experiencing some mood improvement attributable to their dog's behaviour. The children all described situations in which they felt upset, such as after being subjected to bullying, feelings of sadness, loneliness, or boredom. They indicated that engaging in activities with their dogs contributed to an improvement in their emotional state. Examples provided included eating with their dog, receiving a hug, being followed around, brushing their dog, playing, being licked or kissed, talking to their dog, and making eye contact. For instance, Mandla, a 13-year-old boy, stated, "I think he changes my emotions by the way he looks at me, because when I am angry, he looks at me for a while and sees that I am angry and comes and licks my face." The dog's behaviours are also associated with mood regulation and coping with negative emotions, either through distraction, physical affection, or the dog's constant positive mood. Nomvula, one of the staff members at Funda Nenja, explained how the dogs and children influence one another's moods:

> "There was an incident where a child came into the program, and she said she can't attend to today because someone passed away in the family. So automatically you can see the dog reacting to the child being sad, the dog us also not okay. Just seeing how their emotions interlink…The minute they [the children] go to their dogs they start to be okay by playing with their dogs, it soothes them."

Empathy, self-esteem, and anxiety. The children reported that through caretaking, positive influence, and support, their relationship with their dog facilitated self-improvement. These self-improvements positively influence the child's self-esteem due to the widely-held belief among the interviewed children that being a responsible dog owner indicates that you are a good person. Furthermore, the children articulated various instances of empathy and care directed toward their dog and others. The participants demonstrated high levels of empathy, particularly when their dogs were ill or not eating. They could empathetically understand their dogs' reactions by placing themselves in the animals' shoes, striving to comprehend the reasons behind their behaviours. The children exhibited sensitivity when their dogs displayed discomfort, such as wincing, and they explained that they would brush and whistle to their dogs to make them happy again. Thabo, a 12-year-old boy, expressed the reason he brings his dog to Funda Nenja by saying:

"That he gets to play with some of his friends like in school. The way I see it when he is here it is like he is in school, like I get happy when I am with my friends at school, he is the same."

Thabo also recounted a touching story about lending his other dog to a friend who recently experienced the loss of his own dogs, thereby providing him with companionship. Additionally, the children expressed that their dogs contribute significantly to their personal development, as they more frequently assist others. Similarly, a staff member at Funda Nenja explained that during dog training sessions, children invite her to their homes to demonstrate how well their dogs are cared for. They become excited and proud to care for their dogs. Siyabonga explains:

"I like the way he jumps on me and gets excited to see me when I come back from school, he makes me feel good and like I am a better person."

Similarly, as a visitor during the dog training session, I observed that the children engaged with me by demonstrating their dogs' capabilities. Several children were particularly proud to showcase the tricks their dogs could perform. Despite the presence of a language barrier, the children made efforts to exhibit their dogs' abilities and took pride in these accomplishments. During the interviews, the children expressed their dogs' ability to bring them a "sense of calm" in their daily lives. Khaya explained that he feels relaxed around his dog because "I feel like I am with a person I can talk to always." Likewise, Nomsa (a 9-year-old girl) stated that her dog "does not trouble me," thereby fostering a positive relationship between them.

5.6 Theme four: Importance of the relationship for the children

"I wish we get to live a long life together, me, you and my family. I love you Rocky my dog." – Vusi's letter.

5.6.1 Attachment

Children reported sharing a positive bond with their dogs, which has strengthened over time. Most relationships between the children participating in this study and their dogs exhibited signs of attachment and emotional connection. Attachment behaviours mentioned included trust, proximity seeking, and distress during separation. Sandile expressed this in his letter:

"I cannot sleep without knowing if she has eaten or not, I worry a lot. The last time she was taken to the SPCA as she was throwing up. I cried so much and was so happy when she came back."

Similarly, dogs also become attached to their child owners, responding only to the child's commands or only eating when their owner is nearby. The children also ensure they provide their dogs with a secure base through protection, such as taking the dog with them when travelling or seeking assistance from Funda Nenja's veterinary services. Andile, an 11-year-old, explained, "One time he [pet dog] was sick and they had taken him there at Funda Nenja, I couldn't eat or sleep." The children greatly feared losing their dogs, primarily concerned with their well-being and safety. In his letter to his dog, one child wrote, "You are a good friend to me, and I don't ever want to lose you." The children also described efforts to prevent potential violence (children throwing rocks at dogs or walking past aggressive dogs) to protect their dog. The children raised concerns about theft or harm during the night, leading them to check on their animals regularly and to wish for closeness. For example, 13-year-old Siyabonga stated in his letter:

> "He stays inside the house because I don't want people to steal him, and because I love him so much. I don't want people to steal him because I always dish up for him, bring him to Funda Nenja all the time and teach him well to show my love."

During my time at Funda Nenja to observe the dog school and the interviews, children and their dogs kept in close contact with each other. During the dog school meetups, the children and their dogs never left each other side. In the puppy class there was some tugging on the leashes to get closer to the next dog, but for the rest there was obedience and calmness between the children and their dogs. The children and their pet dogs waited their turn to take part in a trick, and when it was not their turn, they sat quietly next to each other. Similarly, during the interviews the dogs stayed within reach of the child, in a few cases lying with their heads on the child's legs or feet. Importantly, there were no leashes during the interviews to keep the dogs close-by, meaning this was the dog's own choice.

5.6.2 Human-like connections

Due to relationship characteristics and the children's positive view of animals and dogs, the dogs were often compared to human attachment figures. Ten of the children explained that their pet dog felt like a sister. An 11-year-old boy named Andile explained that sitting with his dog feels exactly like sitting with his older sister,

> "Because when there is no one at home we stay together, it is as though I am with Amanda [older sister], when I go outside he wants to play and we play until late. In the afternoon I lay the blanket in the shade and he come lie by me."

Similarly, other participants explained that because they love the dog, it protects them, and the dog also plays with other human siblings, so it feels like a sister. Other children

explained that the dog feels like a brother (two instances) or a child (three cases). However, most children explained that dogs feel like family members because they are part of everything they do at home (eating, playing, watching TV, etc.) and have a loving and protective relationship.

Alternatively, the relationship was compared to a friendship. In an unknown participant's letter, he explained, "I am free when I am with you, our friendship has grown so much stronger that we are now inseparable." The child used the words "Mathe nolimi," which means saliva and tongue in isiZulu. This metaphor perfectly encompasses what the children explained their relationship with their dog to be: somebody to play with, tell everything to, and to spend time with, loving the dog like a "best friend." This belief that dogs have similar traits to humans was also mentioned by two of the staff at Funda Nenja during the focus group discussion. Lerato answered the following way when asked how her view of dogs has changed since joining Funda Nenja, "It has changed, well I used to think that dogs are just dogs, but now I think they are more like humans, because they do almost everything like us humans."

However, the children also expressed that even after losing their dogs, they still have a positive view of dogs. One way to help with pet loss is to adopt a new dog "to start afresh." The children explained that naming the dog the same name as the dog that passed away is a way to remember their first dog. Participant 11 explained when asked what feelings or emotions mean, "That is how you feel when your dog dies, and then you have to buy a new dog to make it better."

5.7 Theme five: Funda Nenja

Children reported that Funda Nenja was the reason many of them adopted a dog. They explained seeing advertisements, friends attending, and that they wanted the opportunity to teach dog obedience. This often led to children initially asking their parents if they could adopt a dog. Upon asking the staff why they think the children start to attend Funda Nenja, Nomvula explained:

> "We had a survey because we were interested to know why they they are actually here. Most of them come with their dogs, and some of them are aware that we do teach, however they do not necessarily understand what is being taught. So then they join in, get a juice and an apple and go to class, and over time is when we see the changes."

Upon asking the Funda Nenja staff why they think the children continue attending, they specified that it is because they see a change in their dogs' behaviour, and some of them want to be included in the team for the dog shows Funda Nenja attends. I observed the children lining

up with their dog as early as an hour before Funda Nenja started, which further shows their dedication to the programme.

5.7.1 Funda Nenja's impact on child-dog relationships

> "She makes me happy every time we come here, when they make us compete here, teaching us and wanting us to show off which dog is the smartest" (14 year old boy)

Dog training as bonding experience. Training their dogs, which includes how to behave and listen to commands such as "stay", "shaking hands, jumping or giving hugs", was many children's initial reason for joining. The children stated that they were motivated by the prospect of their dogs learning obedience, which can then be applied at home as well. The children then further explained that although they are training the dogs with the particular goal in mind, both they and the dog enjoy the training, and they, as owners, enjoy seeing their dogs become "clever". Children are motivated to do well at the weekly dog school training because they may be promoted to a more advanced class. Therefore, there is some sense of competition among the children to be advanced before some of their friends. Still, there was no mention of any negative emotions (jealousy or teasing) regarding the promotion to a more advanced class. However, I did observe some joking and mocking between the children when a pet dog is not able to complete the trick during my visit to Funda Nenja. Khaya explained why her dog makes her happy when attending Funda Nenja:

> "She makes me happy every time when make us compete here, teaching us and wanting us to show off which dog is the smartest."

Many children explained that Funda Nenja's dog school is a place that brings happiness to both child and dog, like Zanele (10-year-old girl) explained, "Funda Nenja is a place that brings happiness and helps you in the real world." The children explained that when they pick up their leash, their dogs become excited (tail wagging), hoping they are on their way to Funda Nenja. Furthermore, eight of the participants explained that Funda Nenja is a place that brings them happiness, and this is one of the reasons they first attended, as the Funda Nenja children always smile in the street. According to the staff, children also enjoy Funda Nenja, and I observed this during the dog school. While walking around the sportsground, you can hear laughter and children talking to each other and their dogs.

Dog training at Funda Nenja is a bonding experience for many children and their dogs. A pet dog's obedience significantly contributes to the strong bond between children and their dogs, with two children explaining that "my dog likes it when I teach her". A 14-year-old boy named Khaya explained when asked how he would describe Funda Nenja to a stranger, "I would tell them it is a great place for your dog to learn and there is no dumb dog that cannot learn."

Furthermore, the training overflows into the child's life at home, where it continues in the afternoons when there is no dog school. The children also explain that they normally speak to their dog about the things they learn at Funda Nenja. However, Funda Nenja is not only focused on training but also gives enough time for children and dogs to play and engage with each other. Children also often get toys from Funda Nenja to take home and play with.

Social engagement. The participants often explained that their friends and their dogs are a big reason for them to attend weekly dog school. One of the participants (an 11-year-old boy) explained how he and his friend kept each other accountable to participate in Funda Nenja:

> "I have this one friend of mine I would beg to bring their dog, but he didn't want to sometimes and sometimes when I don't want to he begs me to come too and then we come."

Two other participants painted a picture of how friendship between animals and humans is encouraged at Funda Nenja. The first participant explained that he and his whole friend group decided to all get dogs and start attending Funda Nenja together. Another participant explained that he lent his other dog to his friend so the friend could attend dog school with him. Children reported that they learn and play with their dogs and friends, which is one of their favourite things about Funda Nenja. Furthermore, Funda Nenja helps the dogs get along well with other dogs and humans, allowing the children to engage socially, accompanied by their dog.

Dog care education. Accompanying the dog training is dog care education. The children described this as guidelines for how to treat your dog properly, such as feeding guidelines, teaching them not to hit their dog when upset, sterilisation information, and practices regarding putting dogs on a lead. This typically takes place once a month when the children have an information session, or during holiday club. Sibusiso (13-year-old boy) gave an account of the nurturing dog care education he has received from Funda Nenja:

> "I would say it's a place you can bring your dog to learn about dogs and how to properly treat it and that when you have your dog on a leash, you can learn how to properly secure it by inserting two fingers under its belt so it can move around."

Staff member Nomvula explained when asked what the most important thing that Funda Nenja achieves is:

> "By educating the kids, we are building future adults that are ambassadors for changing how they do things. For instance, they used to chain their dogs. We are building a generation of children who think differently because they have gotten the education of how animals should be treated.

5.7.2 Funda Nenja's contribution to pet, child and community welfare

Funda Nenja has a one-welfare approach, which includes the welfare of the animal, the children, and the community of Mpophomeni. The participants also mentioned this in their interviews as one of the reasons they started attending Funda Nenja, or how they would explain what Funda Nenja is to a stranger. For instance, Khaya (14-year-old boy) said:

> "They help you when you have problems, they give you the little things you need, like it is a lot that they do. They come to your house to see how the dog is, they came to my house and gave us some dog food, a kennel since we could not afford one and also gave us some things that we needed in the house."

Animal welfare. Funda Nenja's primary concern is animal well-being, which they achieve by tending to the animals' needs, such as providing dog food, veterinary services, and kennels to those households in need. Furthermore, Funda Nenja educates the children of Mpophomeni about adequate dog care. The participants explained that Funda Nenja had taught them which food to give their animals. Children are also taught not to hit their dog. They cultivate empathy by asking the children "if we would like it if some of the things were done to us". Furthermore, most children mentioned that the manners and obedience the dogs are taught at Funda Nenja also makes pet care at home easier to handle. I observed no shouting or hitting of dogs when I attended the dog school, even though there was some growling and some dogs started to fight and show their teeth to other dogs. The children are taught how to manage these situations, with children dropping the leashes and walking in the opposite direction.

According to the Funda Nenja staff, "We see more healthier dogs in Mpophomeni than other areas we visit. And over the past years since Funda Nenja has moved to Mpophomeni sports stadium, we haven't had a case of rabies, like other outlying areas would." The staff further elaborated by explaining that Funda Nenja also provides the families with fences to decrease the amount of dog chaining to posts, and allowing the households to enable their dogs to roam freely through the yard. Furthermore, dogs are also more eagerly adopted in Mpophomeni because there is a free veterinary clinic, and dog food is sold at lower prices so families can afford the dog.

Child welfare. The second well-being focus is on children, which is achieved by cultivating a "happy" and "supportive" environment. The participants explained that they receive social welfare education at Funda Nenja, especially during the holiday programme during school vacations when they are taught subjects such as English, math, and history. The children explained that they get to learn about feelings and emotions, as well as about humans and their nature. The children also received diaries, and two of the participants explained that

they write down all their negative feelings and read them to their dogs. A 10-year-old girl explained that feelings are "feelings that one has after something bad happens, or how you feel towards your dog or your pet. Funda Nenja teaches me about feelings, and then I internalise these feelings and apply it to my everyday life."

Funda Nenja also assists the children's families through house visits performed by the SW and the animal welfare officer. The animal welfare officer checks that the dog has adequate shelter, water, and food, is not chained to something, and has the freedom to roam around. The SW assures that the needs of the household are met and assists with food provision. The children reported that Funda Nenja gives them fruits, vegetables, and seedlings to grow their own. Zanele (a 10-year-old girl) explained that the food parcels were one of the reasons she initially joined the dog school.

The staff members of Funda Nenja explained what the NGO has meant for them in their own lives. Ayande, one of the male Funda Nenja staff members, answered as follows, "I feel like we are rooted here and we always know where our place is. And although I work at Funda Nenja, it always allowed me to be able to tell people not to talk to me in a certain way, or to mistreat their dogs." The other staff members had similar answers, and explained that Funda Nenja's founders had given them this job opportunity, which offers them a source of income. Finally, Nomvula elaborated:

"This has allowed for opportunities here at Funda Nenja, and not only as instructors but some of them have gotten opportunities to learn different courses, also seeing those improvements and those opportunities being given to them."

Community welfare. Finally, this brings me to the Mpophomeni community. Upon asking the Funda Nenja staff who they think benefits the most, they answered by saying that the community benefits the most. Awareness of the NGO is spread through many forms of advertisement. Most children said they heard about Funda Nenja by word of mouth. Still, they explained that Funda Nenja hands out pamphlets, has advertisements in local papers, at stores and on electrical poles. Lastly, they drive around in vehicles with "Funda Nenja" printed on the side. The staff members explained that Funda Nenja is one of the few extramural activities available to young people in the community. The children explained that they engage in dog school activities on Friday afternoons, which relieves the boredom they would have had at home. Two of the participants explained that Funda Nenja keeps them out of trouble. For instance, Lwazi (a 13-year-old boy) explained that Funda Nenja "kills boredom and occupies your Fridays when you have nothing to do, keeps you away from drugs, and they are always welcoming here. I run here when I am late to come teach the dogs."

However, there are also some negative rumours about Funda Nenja being spread around the community. For instance, Siyanda (13-year-old boy) explained that "I usually hear people say 'Don't bring your dog to Funda Nenja because they sterilise dogs by force and you cannot learn with your dog if it is not sterilised'". Although this rumour is untrue, it stems from those in the community who take part in dog breeding and dog fights. One of Funda Nenja's goals is to discourage the breeding of certain dog breeds (pit bulls and mastiffs), which are frequently bred for dog fighting or as security outside the homes.

Nonetheless, the Funda Nenja staff explained that the residents are normally intrigued by the affordable dog food sales and discounts on other dog care products that Funda Nenja offers. Lerato explained:

> "I think the community benefits the most, because sometimes we host jumble sales, where everything is at a lower price. People in the community them come, even people from other places attend the jumble sale."

The staff members further explained that residents also know that Funda Nenja can help with job opportunities when needed through contacts or at the organisation itself. Funda Nenja also assists families with food supplies, and when drug users are present in the children's family, the SW invites them to the organisation, which provides support groups.

5.7.3 The children's view of Funda Nenja

"Interviewer: What do you like the most about Funda Nenja?

Answer: The fact that they love dogs!"

Positive Experiences. For many children, Funda Nenja is a positive environment where they and their pets can receive support and are treated well. Most participants said they would encourage a friend to attend the weekly dog school. Upon enquiring exactly what they would list to motivate their friends to participate, the children listed the following: dog training, caretaking education, home visits, social engagement at the dog school, food assistance, and, lastly, that they would support you during times of trouble. For instance, Andile stated during his interview, "I would say it is a place where dogs are taught and is like family in some ways, they help us. They help teach you dog and make your dog smart."

Furthermore, Funda Nenja has become an integral part of the children and the dogs' lives. The children frequently explained that they hurry from school to make sure they are not late for the dog school, and when they cannot attend dog school, they and their dog become sad together. One of the participants wrote in a letter:

"In Funda Nenja everything is good because kids get their dogs educated. Dogs are the most intelligent things if you teach them tricks at Funda Nenja. If you mistreat a dog, people see you and tell the SPCA. If you see people killing any animal, please report to Funda Nenja. Funda Nenja is the most known thing in the nation."

Negative experiences. However, when the participants were asked about any negative experiences or dislikes at Funda Nenja, three listed some concerns. One was that there are some aggressive interactions between dogs when the dogs dislike each other. Furthermore, two participants explained that there is some misuse of power on the side of the facilitators. Some facilitators would shout at the children, or older facilitators pick on children by not promoting them to a more advanced level of dog school. One of Funda Nenja's positive characteristics is the inclusion of children as leaders and facilitators in the programme, but some children may misuse this power and pick on those children younger than them. The participant also explained that they spoke to the SW at Funda Nenja, who resolved the issue and talked to the facilitator at fault.

5.9 Summary of findings

In this chapter, I reported on the findings of the reflexive thematic analysis by identifying themes and sub-themes. This allowed me to address the objectives set out in Chapter 1. I conducted 22 semi-structured interviews and a focus group discussion with Funda Nenja staff members. I received eight letters back from children and made observations at three Funda Nenja dog school Fridays. I was able to gather valuable information about the effect of dog ownership on the MH and well-being of at-risk children. Moreover, I gained insight into the inner workings of the NGO that the participants and their dogs attend, as well as the contextual factors that contribute to the child's risk for the development of mental disorders. Drawing upon the thriving through relationship theoretical framework, I explored themes and sub-themes while using quotations that encapsulate the intrinsic nature of the themes. The chapter to follow offers a discussion of these findings and highlights how the findings can be situated within the existing literature.

CHAPTER 6
DISCUSSION AND CONCLUSION

To my knowledge, this is the first study to qualitatively explore how at-risk children in an LMIC experience and interpret their relationships with their pet dogs and how these relationships may contribute to their emotional and psychological well-being. The only other study somewhat similar to this one is the UK study by Carr et al. (2017). As a brief reminder, the authors conducted a qualitative study exploring how children in long-term foster care experienced relationships with their pet dogs, and whether these relationships reflected features of attachment such as a secure base, safe haven, proximity maintenance, and separation distress. Using interviews, diaries, and caregiver reflections, the authors found that dogs often provided emotional comfort, facilitated trust, and acted as bridges to developing more secure relationships with foster carers. Both studies focused on at-risk children, albeit in different contexts. Despite the differing aims of animal contact, children in both studies described their dogs as available, reassuring, and comforting during times of distress. Further, children in both studies reported feeling protected, confident, and cared for by their dogs. These experiences hold particular significance in the current study given the limited mental health support available to children who need care in South Africa.

In the discussion of the findings that follows, I highlight the unique contributions of this study to the existing literature. Further, the findings are framed through the lens of the thriving-through-relationships theory (Collins & Feeney, 2014). This theory posits that supportive relationships are dependent on four components: the context in which support is needed; the supportive characteristics support givers have; the immediate benefits of support provided, indicating appropriateness; and the support receivers' ability to thrive. In addition, the intersectionality theory of Crenshaw (1991) is used to understand the various contextual factors shaping participants' experiences in this study, a group whose experiences have been disregarded due to underrepresentation in the HAI field (King et al., 2024a).

6.1 The contextual dimensions of supportive pet-child relationships

The findings of this study clearly demonstrate that children's relationships with their pet dogs are context-dependent. As such, their relationships are embedded within and shaped by complex socio-demographic, environmental and relational factors. Further, in line with intersectionality theory, the findings of this study show that children's perceptions and ability to form bonds with their pets is shaped by broader and intersecting structural inequalities such as poverty and exposure to community violence (Kleintjies et al., 2022; Stansfeld et al., 2017).

6.1.1 Socio-demographic and environmental factors.

Mpophomeni is a deep rural area in KZN characterised by roaming livestock and other animals, unpaved roads, and make-shift and unfenced houses. The circumstances are characteristic of many rural and urban lower-income communities and informal settlements in sub-Saharan Africa (Bettencourt & Marchio, 2025; Mathee et al., 2021). Children in this study and in Mpophomeni more broadly, largely live in female-headed households (Hlahla et al, 2018; StatsSA, 2022c). In this study, children reported that they initially adopted their dogs as a form of protection for the household as many have reported personal accounts of violence and theft. It is common for children to be exposed to violence in South African low-income communities (Stansfeld et al., 2017; Richter et al., 2018). Those exposed to excessive amounts of violence are highly likely to develop emotional disorders, such as PTSD in adolescence (Titi et al., 2022).

Children in this study were motivated to join Funda Nenja due to the support the NGO provides not only by cultivating supportive relationships between children and their dogs, but also by providing social and animal welfare. The assistance Funda Nenja provides, which includes basic needs (food, clothes, blankets, etc.), structural support (fences and dog houses), subsidized shops (dog collars and food), and free veterinary and sterilization clinics, enables children to adopt a dog. In South Africa, dog ownership is often a luxury only those in higher socio-economic households can afford. Thys et al. (2021) report that there is less dog ownership and poor care in the rural context, characterised by unemployment and poverty, as it is commonly believed that dogs steal (i.e., goats, chickens or eggs) or bite (both people and other animals). Therefore, the study's findings provide a unique insight into dog ownership in impoverished settings. Funda Nenja provides assistance with dog care, education and training to make dog ownership possible.

Furthermore, in alignment with the children's report in the current study, Thys et al. (2021) explain that in rural areas there is stigma and many perceptions of health threats surrounding dogs and dog ownership. In this study, children explained that some community members viewed dogs as dirty animals. They believe that it poses health risks when children eat food with the dogs close-by or when children physically engage with their dogs (playing, brushing or licking). However, Funda Nenja provides education surrounding misinformation through house visits and by educating children, which allows for greater acceptance of children's close bonds with dogs within the community according to the staff and children's reports.

6.1.2 Relational factors

Similar to findings from previous research, children in the study by Rubin et al. (2013) experienced difficulties in their peer relationships, which tend to become increasingly complex and nuanced during middle childhood and adolescence. Some children who participated in this study indicated that their relationship with peers sometimes influenced their time spent with and closeness to their pet dogs. When peers engaged in stealing, bullying, or substance abuse, the children rather preferred to spend time with their dog due to the dog's positive influence. Similarly, when friends exhibit non-caring behaviour towards their pet dogs, the children distanced themselves from those friends and spent more time with their pet dogs at home.

Insights from literature by Humm et al. (2018) and Stansfeld et al. (2017) explain that due to children's exposure to violence in South Africa, social support from peers in some instances lacks practical significance in decreasing MHCs. These findings may offer a plausible explanation for why children prefer their pet dog for social support, as they are readily available, and sensitive.

6.2 Pet dog's supportive qualities

According to the TTR theory, the qualities associated with those who provide support to individuals exposed to adversities include providing a safe haven, consolidating and reconstructing life's processes, and redefining the adversity into a positive change (Feeney & Collins, 2015b). In the context of this study, the support providers were the pets. However, as with all relationships, the support was often bidirectional. In the next section, I discuss the characteristics of the bond between children and their pet dogs.

6.2.1 Close and loving relationship

As reported in the literature and reflected in the findings (see Section 5.6), children and their pet dogs develop attachment-like relationships that resemble human interactions. Indeed, the children in this study viewed their pets as close friends. Further, it seemed as though the quality of this attachment-like relationship was determined by the perceived quality of support that dogs provide them (also see Carr & Rockett et al., 2017; Hawkins et al., 2017, 2023). Children described their pet dogs as trusted companions with whom they could share personal information regarding their feelings and how their day had been. Their dogs were perceived as active and non-judgemental listeners in whom they could confide. In line with these findings, McNicholas and Collis (2001), Melson and Fine (2015), and Svensson (2014) found that dogs are often perceived as trustworthy, non-judgmental listeners, as they are unable to repeat the things the children confide in them. These findings are consistent with previous research demonstrating the impact of canine interactions on children's socio-emotional development.

For example, Gillet et al. (2024) showed that children enjoyed reading stories to their pets and confiding in them.

In this study, children had mixed views on whether their pets were emotionally attuned. However, the majority expressed their dog's ability to distinguish the change in their mood, specifically when experiencing sadness, anger and happiness. The pet dogs often responded through body language, engagement in activities, physical affection and low- or high-pitched whines. Studies have shown similar findings in adult HAR, allowing for a sense of reciprocity and mutual understanding (Payne et al., 2015; Zilcha-Mano et al., 2011). Upon asking whether they thought their dog understood them, the children in the present study similarly expressed that there is a mutual understanding between them and their pet dog. This observation aligns with Hawkins et al. (2017), who reported that in a population of 1 000 Scottish children, half of the sample expressed in self-report questionnaires that the dog knew when they were distressed. However, some of the children in this study did not report emotional attunement and explained that their pet dog is constantly happy, even when they themselves are in a bad mood.

The emotional bond between children and pets is reciprocal, they influence each other's emotions during periods of happiness or sadness. Research in childhood development, particularly in the context of child-parent relationships, corroborates this (Sameroff, 2009). Dogs demonstrate their affection for the children with gestures such as sitting close, protecting them, assisting with household chores, or jumping in excitement on their return. Conversely, children also express love by caring for their pets. Research indicates that dogs are frequently regarded as a child's best friend (Hawkins et al., 2017). In the present study, children articulated that they enjoy spending time with their dogs, which feels similar to interactions with friends and family. These observations align with the findings of Coy and Green (2018), where animals are described as "best friends," "parents," or "guardians." However, some children preferred the companionship of their dogs over that of humans, and while dogs can alleviate loneliness, they may also diminish human interactions as children spend more time with their pets. This finding is replicated in an adult-sample study by Green et al. (2018), where those individuals with anxious attachments rather invested time in their relationship with their pet dog compared to humans.

6.2.2 Respect, trust, and safety

In the current study, respect and trust played crucial roles in the relationship between children and their pets. The participants explained that they and their dogs trust each other in times of stress or concern. Past research has shown that dogs can act as a safe haven for adults

and children to explore their surroundings (Carr & Rockett; Zilcha-Mano et al., 2011). Similarly, the children also reported separation distress when their dogs fell sick, often causing them to be absent from school, not being able to sleep or eat, and constantly thinking about the well-being of their pet. The findings indicate that when children leave their homes, dogs provide them with a source of protection when visiting friends or playing in recreational areas, thus giving the children more freedom. Similarly, the findings of Rhoades et al. (2015) reveal that pet dogs gave homeless youth a sense of security and safety when in unsafe environments.

6.2.3 Emotional comfort and constant presence

The findings of this study indicate that children perceived their pets as consistently available and responsive, specifically when human friends and family are not available. This constant presence allows for emotional comfort readily being available when children need it. This finding fits within the HAB attachment theory perspective as Zilca-Mano et al. (2011) outline that pet owners often enjoy being close to their pets, and conversely, the pets also seek proximity to their owners (e.g., Hall et al., 2004; Kurdek, 2008).

Children explained that emotional comfort is often achieved by means of engagement in activities that make them feel happy, like playing, talking, laughing and tickling. Both children and staff at Funda Nenja explained that the dog's ability to detect the child's emotional state allows the dog to interpret in which comfort-giving behaviour they should engage. These findings are supported by Hawkins et al. (2023), who report that children who experience greater quality interactions with their pets report higher happiness levels.

A growing body of research suggests that pet ownership may mitigate against loneliness and social isolation in children (Black, 2012; Purewal et al., 2017; Rhoades et al., 2015). In this study, pets were constant companions and offered comfort especially when home alone. The children engaged in conversation and physical affection with their pet dogs when lonely. Other studies have found no relationship between pet ownership and loneliness (Vidovic, 1999), while some suggest that children specifically experience decreased loneliness during high stress times, such as during COVID-19 (Kretzler et al., 2022).

In past research, children with strong relationships with their pet dogs reported emotional support as the dog provided a sense of companionship (Mekouri et al., 2022; Rhoades et al., 2015). In the current study, the children explained that increased proximity and time spent together allow the relationship with their companion animals to deepen.

6.3 Immediate effect of support

According to the TTR theory, immediate benefits are a measure of the suitability and responsiveness of the support provided in the support receiver's life (Feeney & Collins, 2014). In the current section, the findings are discussed by exploring the influence dog companionship has on the children's changes in perceived stress, self-esteem, self-evaluation, and general mood.

6.3.1 Stress relief

The findings show that during times of increased stress such as school tests or exams, dog companionship had a calming effect through distraction, increased happiness, and reduced loneliness. These findings align with those of Mueller and Callina (2014), Kertes et al. (2017) and Kerns et al. (2018), where children specifically experienced decreased perceived stress and cortisol stress response in the presence of their dogs by means of adaptive coping mechanisms. In adult South African samples (le Roux & Wright, 2020; Victor & Mayer, 2023), dog ownership decreased perceived stress in everyday life and during COVID-19 to cope with work-related stress.

Similarly, children in this study reported that when they experience negative thoughts, they often distract themselves by playing and walking their dog, or engaging in caregiving responsibilities. In an adult population study by Cui et al. (2021), walking a pet dog was found to have a buffering effect on perceived stress. Similarly, Kertes et al. (2018) explain that pet dogs promote resilience through the cultivation of positive emotions.

6.3.2 Mood regulation

The majority of children in this study explained that they have experienced situations where they were upset (e.g., sadness, bullying, loneliness or boredom), and that interaction with their pet dog improved their mood. The children explained that negative emotions or bad moods should not be directed at ones dog. Some children reported first regulating their emotional state after school before engaging in play with their dogs. These findings are similar to those of a study by Bryant and Donnellan (2007), in which pet-owning boys from lower-income settings regulated their mood by not engaging in conflict with peers as non-pet-owning children did.

6.3.3 Self-esteem and personal growth

According to the children's reports they experienced increased self-worth due to a sense of acceptance and approval from their pet dog, their caregiving responsibilities and pride regarding their dog's ability to be well-behaved. Children described themselves as nurturing,

good owners because of their relationship with their pets. The positive influence of dog ownership on self-esteem was found to be similar in quantitative studies by Triebenbacher (1998), and Winsor and Skovdal (2011). However, other studies found no relationship (Arambašić et al., 1999). In a study by Schulz et al. (2020), adult dog owners explained that other individuals' positive comments about their pets and the sense of acceptance they feel from their dogs, increased their self-esteem.

An unexpected finding was the children's explanation that their dogs positively influenced their morals, clarifying that they do not engage in bullying, stealing, or substance abuse like they would have without the dogs. Since limited extra-mural activities are available in lower socio-economic areas, children often take part in substance abuse, stealing and fighting (Weighbright et al., 2015). However, many children in this study explained that they no longer engage in these negative activities due to their close bond with their pets. Children also model the behaviour of their dogs, limiting their expressions of aggression and bullying towards their peers. This is a novel finding as no previous research have reported children modelling the behaviour of their pet dog to make decisions. Similarly, the children explained that the dogs allowed for personal growth due to their higher likelihood of engaging in healthy activities, like walking and playing outside. These findings are consistent with recent evidence reported by Mekouri et al. (2022) and Juliailla and Noveni (2022), where pet companionship allowed for increased eudaemonic well-being, empathy, and prosocial behaviour, which forms part of the child's moral development and personal growth.

6.4 Long-term mental health and well-being

In this study, the dogs influenced the children's emotional state and well-being as it allowed the children to cultivate empathy, increased emotional awareness, decreased anxiety and the dogs supported the children in human relationships. In line with the TTR theory, I explored the effect of dog companionship on overall MH and the well-being of children by enabling thriving (Feeney & Collins, 2015a). Finally, although the long-term effects cannot be estimated from the cross-sectional design of this study, children did report increased participation in relationships with significant others because their pet dog providing them with social support.

6.4.1 Relationship support

The findings showed that pets were important contributors to children's social relationships with others. This was achieved by engaging in caregiving tasks together, like walking and swimming with the pet dog. These findings are similar to those of Marsa-Sambola et al. (2017), where caregiving activities acted as a mediating factor to support familial

relationships. Other leisurely interactions included the pet dog and family members playing games, watching movies together as a family, and having dinner together. Children explained that they would prefer their friends to also have pet dogs to allow for their dogs to play together. This allows children to engage in outdoor activities and weekly dog school at Funda Nenja accompanied by friends.

6.4.2 Socio-emotional development

The findings showed many instances of children's empathy towards their pet dogs, specifically when they were sick or not eating and when they were being naughty or disobedient. The children also helped their friends when they wanted to join Funda Nenja by lending one of their own dogs to friends who had recently lost theirs or encouraging those who had problems at home to join Funda Nenja. These findings are in line with those reported in Kerns et al. (2017) regarding compassion towards animals. Further compassion for peers is emphasised in the findings of Hawkins et al. (2017). However, in a study by Jacobson and Chang (2018), mere pet ownership did not lead to an increased empathy score (Social Attitude Scale); rather, having a positive relationship with a pet dog allowed an increased empathy score compared to peers. In a study by Daly and Morton (2006), higher attachment to pets led to higher empathy scores, and the reason that the children provided was the perception that pets deserve their care and affection, which aligns with the current study's findings.

The children in this study expressed an understanding of simple emotions like fear, stress, sadness, anger, happiness, and love, and could relate to these different scenarios. Children also explained complex emotions like suicidal ideation ("sitting alone with your thoughts"), discrimination, hopelessness and compassion. However, while conducting the pilot interviews in this study, the children showed a clear lack of understanding of mental health, often relating the term to something that is caused by alcohol and drug abuse. They see it as causing someone to act insane, needing to be taken to a psychiatric hospital. This misconception is common among both children and adults in rural communities in South Africa. For instance, Bila and Carbonatto (2022) explain that in their study in rural Limpopo, mental illness was ascribed to witchcraft. In South Africa traditional healers often form part of the explanatory models of mental health and mental illness, which involves the treatment of mental illness by getting rid of evil spirits through washing, steaming, bring about vomiting, and providing herbal remedies (Shange & Ross, 2022). Furthermore, limited MH information strengthens misconceptions, according to Babatunde et al. (2020), especially regarding child and adolescent MH. This led to my decision to exclude this line of questioning from further interviews, and rather focusing on "imizwa", which translates as emotions and feelings.

6.4.3 Anxiety

The findings of this study indicate that the pet dogs brought the children a sense of calm, especially when they had to discuss challenging topics, because the dog allowed for non-judgmental listening. Gadomski et al. (2015) found that in a cohort of children (n=643) from New York, those owning a pet had lowered scores of childhood anxiety (SCARED-5). Furthermore, in a subsequent follow-up by Gadomski et al. (2022), the children (n=571, aged 11–19 years) from the initial study without MH diagnoses were included, and those who had HAB with their pets had significantly lowered anxiety scores compared to non-pet owning children. In this study, the children reported that their dogs provide them with protection during the night, which made them feel less anxious because they knew they were safe due to the dog's protection. Likewise, children explained that their dogs also did not like it when peers physically fought with them, or when family members gave corporal punishment, often leading to the dogs interfering. These findings allow for a deeper understanding of how pet dogs allow children to feel a sense of calm, which is novel within the HAI research field.

6.5 Implications of the findings

The novelty of the current study contributes significantly to our general understanding of the companionship between children and their pet dogs. Firstly, the study offers a qualitative report of the various relationship dynamics between children and dogs, specifically within a lower socio-economic group of participants. Moreover, it provides an in-depth understanding of the possible emotional, social, and psychological support children receive when they form a close attachment-like bond with their pet dogs. We also gained a contextual understanding of the lives of children placed at risk due to poverty, low social support, and recurrent exposure to violence in South African rural villages. Finally, the study explored the influence of Funda Nenja, an NGO that allows the children to reap the preventative benefits associated with pet ownership.

Participants described their relationships with their pets as similar to that of a significant other, with many of the qualities also seen in attachment relationships. Due to the qualities of the dogs and the relationship, the bond provides the children with social support, allowing for greater psychological, emotional, and social well-being. For many children who have faced maltreatment, the experience of safety, reliability, trust, authentic communication, and the sense of being valued in a relationship, can be incredibly rare or even absent. They may never have felt this way in significant past relationships, such as with their parents. As a result, their new bond with an individual of another species becomes crucial for their healing and for building their self-worth and self-efficacy (Bexell et al., 2019).

Adding companionship with a pet dog to the lives of at-risk children provides a plausible opportunity to support the MH and well-being of children. In the current study, Funda Nenja helped to remove structural barriers associated with pet ownership and they offered knowledge about pet care. However, in communities where such an organisation is not present, this absence may limit the preventative power of pet ownership. Other limitations include pet loss due to the shorter lifespan of animals compared to those of the children, aggressive behaviours towards other animals and humans, and an increased home orientation due to a preference to spend time with pet dogs. The children did regard the loss of a pet as the same as they would the loss of a significant other. However, the children also stated that once they had built up the courage to adopt a new dog after a loss, it aided in the process of healing. The children even explained that the new dog could be named after the dog that had passed away to honour the memory of their first dog.

6.6 Limitations

There are a few study limitations to be considered when interpreting the findings. Firstly, the participants included in the study were all attending Funda Nenja and were contacted by Funda Nenja staff to attend the interviews. This might have caused social desirability bias because they may have wanted to place Funda Nenja in a positive light and could have been hesitant to share negative experiences about their relationship with their pet and their time at Funda Nenja. Similarly, the participants all attended dog school weekly, and we can presume they have a favourable view of dogs and the impact of Funda Nenja. This means the sample does not represent Mpophomeni's child dog-owning population. Observer bias might have occurred as supporting data were obtained through observations. I have a positive view of pets, which may have led me to take note of positive aspects during the observations rather than focusing on negative experiences during my time there.

Secondly, semi-structured interviews took place in isiZulu. Therefore, an interpreter had to accompany me to the interviews to allow the children to speak in their home language. However, during the process of transcript translation, it became apparent that the interpreter had failed to relay some of the information to me during the interviews, which limited the flow of the conversation and the richness of the qualitative data. This only became apparent when the transcripts were translated into English, allowing me to understand both sides of the conversations that had taken place. Lastly, I am a novice qualitative researcher and I had no experience with semi-structured interviews before the research commences. As I became more confident with the methodology, the interviews also became more information-rich, and the interview process became easier. The interpreter and I also became more at ease with each other and with the environment where the interviews took place.

6.7 Recommendations for future research

Future studies should focus on the different types of support pet dogs provide to at-risk children. This means that future research should focus on emotional, social, and psychological support separately to gain a deeper understanding of each type of support and its implications. Due to the limited understanding of the conceptualisation of MH and well-being in the different African languages, I would recommend that one of the researchers or supervisors should be fluent in the language in which the interviews take place to ensure that there is complete understanding or a correct description of the various emotions and MH terminology.

Furthermore, future research should be conducted in South Africa with the same sub-population but without an NGO providing social and veterinary services. This research will shed light on the structural, functional and economic barriers that those with a lower socio-economic status might face when adopting a pet. Finally, future studies should include the primary caregiver's perspective as well to understand how the child has changed since adopting a dog. Similarly, longitudinal studies investigating the effect that pet ownership has on at-risk children might allow for measures of the long-term benefits of dog ownership in children. Lastly, mixed method studies incorporating larger samples sizes and different cultural groups in South Africa would allow for a greater understanding of the generalisability of the current study's findings.

6.7 Conclusion

In conclusion, the findings of this first-ever study on pet ownership in at-risk children from an LMIC and how it affects MH and well-being offers us insights into the support pet dogs provide and how this might buffer the adversities at-risk children face.

The study highlights several contextual factors children and young people experience in LMICs. Children born into poverty due to their socio-demographic status experience relational (neglect, abuse and strained peer relationships) and environmental risk factors (violence and physical safety concerns) in their daily lives. In this study, Funda Nenja, an NGO, assisted in overcoming these limitations and allowed the adoption of a dog. Pet dogs provide children with a close, loving bond centred on respect, trust, and emotional comfort. This leads to children forming an attachment-like relationship with their pets, as pets are consistent, protective and emotionally attuned to their child owners. The immediate benefits of these supportive characteristics include stress relief, mood regulation, better self-esteem, and moral development, especially in the face of adversities. Through these immediate effects, children are able to reap the long-term benefits associated with dog ownership, which include empathy, decreased anxiety and support in their relationship with their human significant others. The

protective factors associated with children's positive bond with pet dogs are essential for at-risk children because they often lack consistent human support providers.

It is crucial to investigate the preventative power of dog ownership in a country like South Africa where MH treatment gaps and limited awareness often lead to undetected MHCs. Pet ownership is a cost-effective and relatively easy strategy for supporting children at risk of MH conditions. This study adds to the knowledge of the child-dog relationship and companionship, and the mechanisms that facilitate positive and negative past research results in quantitative research. Given the importance of addressing MHCs in children to enhance their quality of life and success in the future, it is critical to explore and implement targeted prevention strategies in populations of at-risk children in LMICs.

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APPENDICES

Appendix A1: REC approval

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT
forward together
sonke siya phambili
saam vorentoe

CONFIRMATION OF RESEARCH ETHICS APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

9 October 2024

Project number: 31764

Project Title: Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu Natal, South Africa

Dear Miss P Hancke

Identified supervisor(s) and/or co-investigator(s):

Prof BJ Coetzee

Your REC: Social, Behavioural and Education Research (SBER) - Initial Application Form submitted on 09/10/2024 00:38 was reviewed and approved by the Social, Behavioural and Education Research Ethics Committee (REC: SBE).

This approval is only valid until the end of the protocol approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
19 September 2024	18 September 2025

GENERAL COMMENTS PERTAINING TO THIS PROJECT:

INVESTIGATOR RESPONSIBILITIES

1. Please take note of the General Investigator Responsibilities attached to this letter.
2. Always use your project ID number (31764) in all correspondence with the REC: SBE concerning your project.
3. Please note that the REC has the prerogative to ask further questions, seek additional information, and monitor the conduct of your research and the consent process, where required.

List of documents approved by the REC: SBE:

Document Type	File Name	Date	Version
Budget	Expenses	27/08/2024	1
Parental consent form	Informed consent form	27/08/2024	1
Informed Consent Form	Informed Assent Form	27/08/2024	1
Letter of support_counselling	Funda Nenja social worker signed	27/08/2024	1
Data collection tool	Observation Schedule	27/08/2024	1
Data collection tool	Write a letter instructions	27/08/2024	1
Data collection tool	Interview schedule	27/08/2024	1
Recruitment material	Orange White Creative We're Hiring Poster.zip - 1	03/10/2024	2
Assent form	Informed assent form	03/10/2024	2
Proof of permission	Hancke, P from Madlala, N - Translator permission	03/10/2024	1
Default	Response letter 23750936	07/10/2024	1

Document Type	File Name	Date	Version
Research Protocol/Proposal	Research Proposal_23750936 final 07 October	07/10/2024	1

If you have any questions or need further help, please contact the REC administrative officer, Mr Aden Williams at aden@sun.ac.za

Sincerely,

Ms CJ Robertson

Secretariat: Social, Behavioral and Education Research Ethics Committee (REC: SBE)

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.
The Social, Behavioural and Education Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2nd Ed.) 2015. Annually a number of projects may be selected randomly for an external audit.

Appendix A2: REC approval minor amendment

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT
forward together sonke siya phambili saam vorentoe

CONFIRMATION OF RESEARCH ETHICS APPROVAL

REC: SBER - Amendment Form

18 March 2025

Project number: 31764

Project Title: Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu Natal, South Africa

Dear Miss P Hancke

Identified supervisor(s) and/or co-investigator(s):

Prof BJ Coetzee

Your REC: SBER - Amendment Form submitted on 18/02/2025 13:48 was reviewed and approved by the Social, Behavioural and Education Research Ethics Committee (REC: SBE).

This approval is only valid until the end of the protocol approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
19 September 2024	18 September 2025

GENERAL COMMENTS ABOUT THIS PROJECT:

INVESTIGATOR RESPONSIBILITIES

1. Please take note of the General Investigator Responsibilities attached to this letter.
2. Always use your project ID number (31764) in all correspondence with the REC: SBE concerning your project.
3. Please note that the REC has the prerogative to ask further questions, seek additional information, and monitor the conduct of your research and the consent process, where required.

List of documents approved by the REC: SBE:

Document Type	File Name	Date	Version
Research Protocol/Proposal	Research Proposal_23750936 February 18	18/02/2025	1
Research Protocol/Proposal	Research Proposal_23750936 February 18 RED	18/02/2025	1
Investigator CV (PI)	Basic CV - N. Mkangeli -12.02.2025	11/02/2025	1
Default	Invitation Flyer FN Staff	18/02/2025	1
Default	Informed consent form FN staff	18/02/2025	1

Document Type	File Name	Date	Version
Data collection tool	Semi-structured interview schedule (Facilitators)	18/02/2025	1
Data collection tool	Socio demographic questionaire FN staff	18/02/2025	1

If you have any questions or need further help, please contact the REC administrative officer, Mr Aden Williams, at aden@sun.ac.za

Sincerely,

Ms Melody Shana (melodys@sun.ac.za)

Secretariat: Social, Behavioral and Education Research Ethics Committee (REC: SBE)

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.
The Social, Behavioural and Education Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2nd Ed.) 2015. Annually a number of projects may be selected randomly for an external audit.

Appendix A3: REC approval major amendment

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT
forward together sonke siya phambili saam vorentoe

CONFIRMATION OF RESEARCH ETHICS APPROVAL

REC: SBER - Amendment Form

18 March 2025

Project number: 31764

Project Title: Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu Natal, South Africa

Dear Miss P Hancke

Identified supervisor(s) and/or co-investigator(s):

Prof BJ Coetzee

Your REC: SBER - Amendment Form submitted on 18/02/2025 13:48 was reviewed and approved by the Social, Behavioural and Education Research Ethics Committee (REC: SBE).

This approval is only valid until the end of the protocol approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
19 September 2024	18 September 2025

GENERAL COMMENTS ABOUT THIS PROJECT:

INVESTIGATOR RESPONSIBILITIES

1. Please take note of the General Investigator Responsibilities attached to this letter.
2. Always use your project ID number (31764) in all correspondence with the REC: SBE concerning your project.
3. Please note that the REC has the prerogative to ask further questions, seek additional information, and monitor the conduct of your research and the consent process, where required.

List of documents approved by the REC: SBE:

Document Type	File Name	Date	Version
Research Protocol/Proposal	Research Proposal_23750936 February 18	18/02/2025	1
Research Protocol/Proposal	Research Proposal_23750936 February 18 RED	18/02/2025	1
Investigator CV (PI)	Basic CV - N. Mkangeli -12.02.2025	11/02/2025	1
Default	Invitation Flyer FN Staff	18/02/2025	1
Default	Informed consent form FN staff	18/02/2025	1

Appendix B1: Funda Nenja permission

I, ADRIENNE OLIVIER, hereby declare that Petri Hancke, a student doing her master's in psychology (thesis), might conduct her research study at Funda Nenja. She might make use of the facilities at the Mphomphomeni Sports Stadium for conducting her interviews, and we will aid her during the process of participant recruitment as she will not be in KwaZulu-Natal during that time.

Signed at, HOWICK, on the 12TH of AUGUST 2024 (date).

[redacted]

Signature (Representative of Funda Nenja)

Appendix B2: Social worker assistance declaration

I, [redacted], hereby declare that I will assist Petri Hancke, a student doing her master's in psychology (thesis), with conducting her research at Funda Nenja. I am a social worker employed by Funda Nenja, and will aid during the process of participant recruitment, answering any queries that the children and their parents might have regarding the research. Further, I will assist any of the participants where needed if they experience any distress, due to the interview process, with the needed emotional support and guidance.

Signed at, Pietermaritzburg, on the 08 August 2024 of 2024 (date).

[redacted]

Signature

Appendix B3: Non-disclosure document of translator

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot·your knowledge partner

NON-DISCLOSURE AGREEMENT

between

STELLENBOSCH UNIVERSITY

(hereinafter "**the University**")

And

Petri Hancke ("the Student")

And

Nolwandle Madlala(ASSISTANT)

(hereinafter "**the Parties**")

It is recorded that Petri Hancke is a master's student with the Psychology department registered at the University As per the MA Psychology (theses) degree a Research Theses is required where the Petri Hancke will interview children from a rural village in KwaZulu-Natal to explore their relationship with their pets and their mental health. The Assistant will be [translating documents and interviews in-person as a interpreter] with regard to "Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu Natal, South Africa" hereinafter ("**the Purpose**") and the Parties have agreed to enter into a Non-Disclosure Agreement ("the NDA") or confidentiality clauses for this Purpose.

1. In connection with the Purpose it will be necessary for certain Confidential Information to be provided by the Subjects and/ or the University to the Assistant. This Confidential Information means any information disclosed to the Parties which has been defined as confidential in terms of the NDA;
2. The Parties specifically agrees not to disclose any Confidential Information to a third party and to protect it through the exercise of reasonable care. The Parties agrees to keep the Confidential Information in a secure environment, and not copy or use the Confidential Information except as it is reasonably necessary in connection with the Purpose. Access to this Confidential Information is for the sole purpose of the Purpose and the Parties agrees that breach of confidentiality may result in sanctions, civil or criminal proseeutions against the University or the Parties and/or University disciplinary action against the Parties.
3. The foregoing obligations shall not apply to any information which -
   3.1 can be demonstrated to have been lawfully in the public domain at the time of disclosure or subsequently and awfully becomes part of the public domain by publication or otherwise;
   3.2 can be demonstrated through documentary proof to have been lawfully in the Party's possession prior to disclosure;
   3.3 subsequently becomes available to the Party from a source other than the Subject, which source is lawfully entitled without any restriction on disclosure to disclose such information; or
   3.4 is disclosed pursuant to a requirement or request by operation of law or by any court of competent jurisdiction, provided that the Party gives as much notice of such impending disclosure as is reasonably possible and provide the the University with all reasonable assistance in preventing and/or limiting such disclosure.
4. Notwithstanding the completion or non-completion of the Purpose, or the termination of University's involvement with it, this Agreement shall commence on the Signature Date and shall remain in force and effect for a period of 31/06/2021, unless replaced by another agreement concluded between the University and the Party/s superseding this Agreement.

STELLENBOSCH UNIVERSITY	**THE ASSISTANT**
Signature: [redacted]	Signature: [redacted]
Print Name: Bronwynè J. Coetzee	Print Name: Nolwandle Madlala
Print Title: Mrs	Print Title: Mrs

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot·your knowledge partner

THE STUDENT

Signature: _____

Print Name: PETRI HANCKE

Student Number:

Appendix B4: Non-disclosure document of transcriber

UNIVERSITEIT·STELLENBOSCH·UNIVERSITY
jou kennisvennoot · your knowledge partner

NON-DISCLOSURE AGREEMENT

between

STELLENBOSCH UNIVERSITY

(hereinafter "the University")

And

Petri Hancke ("the Student") And

Nandipha Mkangeli (ASSISTANT)

(hereinafter "the Parties")

It is recorded that Petri Hancke is a master's student with the Psychology department registered at the University. As per the MA Psychology (Theses) degree a theses is required where the Petri Hancke will interview children from a rural village in KwaZulu-Natal to explore their relationship with their pets and their mental health. The Assistant will be transcribing interviews between an english-researcher and isiZulu-participants with regard to "Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu Natal, South Africa" hereinafter ("the Purpose") and the Parties have agreed to enter into a Non-Disclosure Agreement ("the NDA") or confidentiality clauses for this Purpose.

1. In connection with the Purpose it will be necessary for certain Confidential Information to be provided by the Subjects and/ or the University to the Assistant. This Confidential Information means any information disclosed to the Parties which has been defined as confidential in terms of the NDA;

2. The Parties specifically agrees not to disclose any Confidential Information to a third party and to protect it through the exercise of reasonable care. The Parties agrees to keep the Confidential Information in a secure environment, and not copy or use the Confidential Information except as it is reasonably necessary in connection with the Purpose. Access to this Confidential Information is for the sole purpose of the Purpose and the Parties agrees that breach of confidentiality may result in sanctions, civil or criminal prosecutions against the University or the Parties and/or University disciplinary action against the Parties.

3. The foregoing obligations shall not apply to any information which -
   3.1 can be demonstrated to have been lawfully in the public domain at the time of disclosure or subsequently and lawfully becomes part of the public domain by publication or otherwise;
   3.2 can be demonstrated through documentary proof to have been lawfully in the Party's possession prior to disclosure;
   3.3 subsequently becomes available to the Party from a source other than the Subject, which source is lawfully entitled without any restriction on disclosure to disclose such information; or
   3.4 is disclosed pursuant to a requirement or request by operation of law or by any court of competent jurisdiction, provided that the Party gives as much notice of such impending disclosure as is reasonably possible and provide the the University with all reasonable assistance in preventing and/or limiting such disclosure.

4. Notwithstanding the completion or non-completion of the Purpose, or the termination of University's involvement with it, this Agreement shall commence on the Signature Date and shall remain in force and effect for a period of 31/06/2021, unless replaced by another agreement concluded between the University and the Party/s superseding this Agreement.

STELLENBOSCH UNIVERSITY	THE ASSISTANT
Signature: [redacted]	Signature: [redacted]
Print Name: Bronwynè J. Coetzee	Print Name: Nandipha Mkangeli
Print Title: Mrs	Print Title: Ms

THE STUDENT

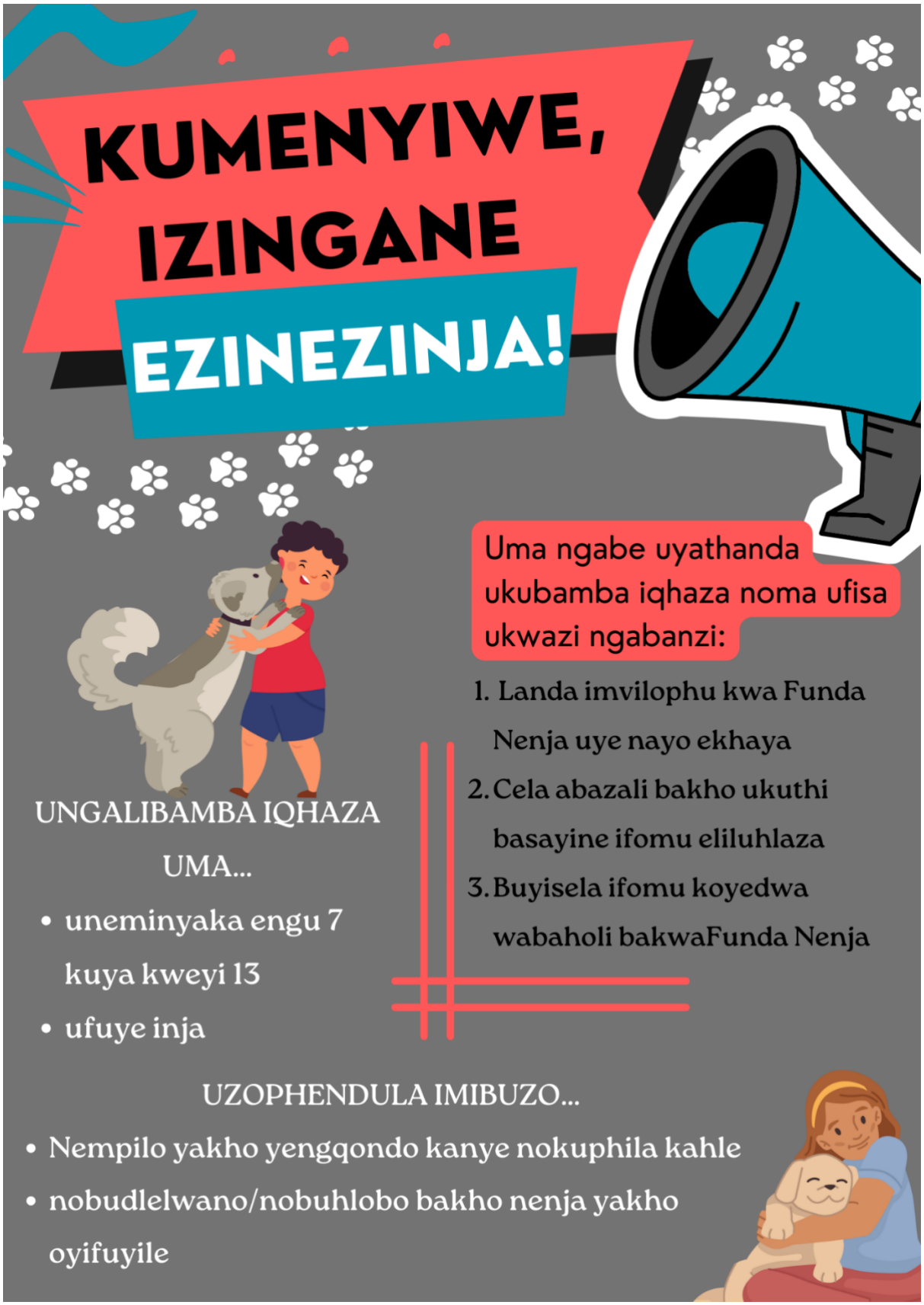
Signature: [redacted]

Print Name: PETRI HANCKE

Student Number: [redacted]

Appendix C: Invitation flyers (English version)

Appendix C: Invitation Flyer (isiZulu version)



Appendix D: Informed assent forms

PARTICIPANTS INFORMATION LEAFLET AND ASSENT FORM

TITLE: Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu-Natal, South Africa

PRINCIPLE INVESTIGATOR: Prof Bronwyne Coetzee & Dr Estelle van den Berg
CO-INVESTIGATORS: Petri Hancke
ADDRESS:
Department of Psychology, Stellenbosch University, Private Bag X1; Matieland; South Afrcia
CONTACT NUMBERS:
Prof Bronwyne Coetzee: xxxxxxxxxxx

Petri Hancke: xxxxxxxxxxxx

You have been invited to take part in a research project. The information you need to know about this research project is given here. Please read through the information to understand what the project is about and what you need to do. If you need help understanding some of the information and have any questions about the research project, please ask the social worker at Funda Nenja. Your participation in this research project is your choice. If you feel you do not want to take part in this research project any longer, it will not affect you negatively in any way.

What is the research project about?

We want to learn more about how pet dogs help children with emotional problems such as feeling sad or lonely. Further I will explore the closeness of the relationship between a child and their pet dog.

Why have you been invited to take part in this research project?

You are invited to participate in this research project because you are in middle childhood, between the ages of 7 and 13, living in South Africa, and own a pet dog.

Who is doing the research?

I, Petri Hancke, will be doing the research project at the Mpophomeni Sports Stadium. I am a Psychology Masters student studying at Stellenbosch University. My supervisor, Prof Bronwyne Coetzee, will assist me and oversee the research project. I am doing this research project

because I am interested in children and specifically how dog companionship might support children to prevent the development of mental health problems. The information I collect will form part of my master's project.

What will happen to me in the research project?
If you agree to take part in this research project, I would like to interview you, observe you interact with your pet dog and ask you to write a letter to your dog before the interview. With your permission, I would like to audio record this interview. However, if you are uncomfortable with the recording, I will not record it. Instead, I will try to take detailed notes. In the interview, I will ask you questions regarding your relationship with your pet dog and how this has influenced your mental well-being. Lastly, I will observe your interactions with your dog during the weekly dog school that Funda Nenja hosts.

Where will the interview take place?
The interview will take place at the Mpophomeni Sports Stadium at an arranged time and date. This will be conducted while walking your dog or sitting with them nearby.
How long will the interview be?
The interview will be 20-30 minutes.

Can anything bad happen to me?
Nothing bad can happen to you if you choose not to participate in the research project.

Will anyone know that I am taking part in the research project?
Yes, people will know you are participating in this research project. Those people will include myself, my supervisors, the facilitators at Funda Nenja, your caregiver at home, and the children attending Funda Nenja on the interview day. After the interview, your name and who you are will be kept private, and only my supervisors and I will have access to your information. The information you share with me will not be shared with anyone else.

Who can I talk to about the research project?
If you have any questions, you are welcome to talk to me, my supervisors, the facilitators at Funda Nenja, or your parents.

What if I do not want to take part in the research project?
You do not have to participate in the research project. Participation is completely up to you. Nothing bad will happen to you if you choose not to participate.

What will happen if I feel upset or distressed when participating in the research project?
If you start feeling upset, sad, or distressed throughout the research project, you are allowed to withdraw from the research project. Suppose you still feel upset or distressed after you withdraw, you are welcome to go to one of the facilitators at Funda Nenja, who will let the social worker know to ensure you receive the necessary support.

Do you understand this research study, and are you willing to participate?

YES	NO

Has the researcher answered all your questions?

YES	NO

Do you understand that you can STOP participating in the study at any time?

YES	NO

_____ _____

Signature of Child Date

Appendix E: Informed consent form

LEGAL GUARDIANS' INFORMATION LEAFLET AND CONSENT FORM

TITE: Exploring the influence of pet companionship on the mental health and well-being of at-risk children and youth in rural KwaZulu-Natal, South Africa

PRINCIPLE INVESTIGATORS: Prof Bronwyne Coetzee & Dr Estelle van den Berg

CO-INVESTIGATORS: Petri Hancke

ADDRESS:

Department of Psychology, Stellenbosch University, Private Bag X1; Matieland; South Africa

CONTACT NUMBERS:

Dr Bronwyne Coetzee: xxxxxxxxxx

Petri Hancke: xxxxxxxxxx

Your child has been invited to take part in a research project. The information that you need to know about this research project is presented here. Please read through the information so you may understand what the project is about and what is required of your child. If you do not understand some of the information and have any questions about the research project, you are welcome to contact me, my supervisors or the social workers at Funda Nenja. It is very important that you ask any questions you may have, as you need to understand what the research project is about. Your child's participation in this research project is your choice, and neither you nor your child will be forced to participate. If you do not want your child to participate in this research project, it will not affect you or your child negatively. If you would like your child to participate in the research project, your child is free to withdraw at any point.

What is the research project about?

We want to understand how pet companionship, specifically dog companionship, influences mental health and well-being among children and young people. Further, the quality of the relationship between a child and pet dog will be explored for possible influence on the mental health status of the children and young people.

What will be asked of my child?

If you agree to your child's participation in the study and complete this consent form, I will then approach your child for their assent to participate in the study. Should your child agree to participate in the study, he/she will be informed of the research project procedures. The procedures will include an interview conducted by me in which a series of questions will be asked. The interview will be recorded using a dictaphone, and permission will need to be obtained from you and your child for the recording. In the interview, your child will be asked questions regarding their relationship with their pet dog and how this has influenced their mental health status. I will also ask him/her questions about the quality of their relationship with their pet dog. Additionally, I will ask your child to write a letter to their pet before the interview and will be observing his/her interactions with their dog during the weekly dog school activities that Funda Nenja hosts.

Where will the interview take place?

The interview and observation will occur at the Mpophomeni Sports Stadium at a time throughout the week which suits your child.

How long will the interview be?

The interview will be 20-30 minutes

What are possible risks and discomforts for your child?

There are no possible risks to your child partaking in the study. Your child may, however, experience distress during the interview process when answering questions. If they feel uncomfortable or distressed, your child can withdraw from the interview process at any time. If your child is still distressed after withdrawal, arrangements will be made for them to speak to Funda Nenja's social worker, Zinhle Msimango.

Payment for participation:

The children will receive a small token of appreciation after the final interview.

Protection of your child's information, identity and confidentiality

Any information your child shares with me during the interview process will be highly confidential. Initially I will require your child's name and information. However, after the interview, your child's name and who they are will be kept private, only my supervisors and I will have access to the information. This information will be stored on a password-protected

laptop and not shared. Your child's identity will remain anonymous, and your child's name will be replaced by a false name to protect their identity.

Participation and withdrawal

Participation is entirely voluntary, and you and your child can choose whether or not to be part of this study. If you consent to your child's partaking in the study, your child may decide to withdraw at any time without being held accountable. During the interview, your child will be free to choose whether or not they would like to answer certain questions and will remain in the study.

Rights of research participants

Your child may withdraw their consent at any time and discontinue participation without penalty. Neither you nor your child are waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your or your child's rights as a research participant, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development

PERMISSION TO HAVE ALL ANONYMOUS DATA SHARED WITH JOURNALS:

When this study is finished, we would like to publish results of the study in journals. The journal may require us to share your anonymous data with them before they publish the results. Therefore, we would like to obtain your permission to have your anonymous data shared with journals.

Tick the Option you choose for anonymous data sharing with journals:

I agree to have my anonymous data shared with journals during publication of results of this study

☐

OR

I do not agree to have my anonymous data shared with journals during publication of results of this study

☐

PERMISSION FOR SHARING DATA/INFORMATION WITH OTHER INVESTIGATORS:

In order to do the research, we have discussed, we must collect and store interview recordings to gain a deeper insight into the relationship between your child and their pet dog from your child. Once we have done the research that we are planning for this research project, we would like to store your information for further research to be done in the future. Other investigators from all over the world can ask to use your data in future research through contacting me or my supervisors. To protect your privacy, we will replace your child's name with a false name. We will only use this false name for data/information about your child. We will do our best to keep your child's real name private. It is, however always possible that someone could find out about your child's real name, but this is very unlikely to happen. Therefore, we would like to ask for your permission to share your child's data/information with other investigators for future, related research.

Tick the Option you choose for sharing your data/information with other investigators:

I do not want my data to be shared with other investigators

☐

OR

My data may be shared with other investigators for further analysis and future research in a field related to dog companionship in children.

☐

DECLARATION OF CONSENT BY THE PARENT/LEGAL GUARDIAN OF THE CHILD-PARTICIPANT

As the parent/legal guardian of the child I confirm that:

- I have read the above information, and it is written in a language that I am comfortable with.
- I have had a chance to ask questions and all my questions have been answered.
- All issues related to privacy, and the confidentiality and use of the information have been explained.

By signing below, I _____ agree that the researcher may approach my child to take part in this research study, as conducted by Petri Hancke

_____ _____

Signature of Parent/Legal Guardian Date

DECLARATION BY THE CO-INVESTIGATOR

As the co-investigator, I hereby declare that the information contained in this document has been thoroughly explained to the parent/legal guardian. I also declare that the parent/legal guardian was encouraged and given ample time to ask any questions.

_____ _____

Signature of Co-investigator Date

Appendix F: Instructions for writing a letter

Dear research participant,

Before we start with the interview, I would like to ask you to please write a handwritten letter to your dog. You may use a pencil or pen to write the letter, which can be anything between 1 and 2 pages long. I will provide you with a pen and some paper when you bring back the signed forms handed to you by Funda Nenja. You can write about anything that comes to mind as if your dog will be able to read it. Ideas include:

- Think back to a day when you experienced a problem or were sad and your dog made you feel better. You can thank them in this letter.
- Think back to the day when your dog became your pet, and explain to your pet in this letter how you were feeling that day and how he/she has changed your life.
- Imagine your dog could understand isiZulu, if there is anything you wish you could tell him/her write it down in your letter.

There is no right or wrong way, and there will be no marks or rewards given. This letter will be kept safe, and nobody will read it except me and my two supervisors.

If you have any questions about the letter, please feel free to ask me (via sms or WhatsApp) or the social worker at your next Funda Nenja dog school gathering.

Much appreciated,

Petri Hancke (xxxxxxxxxx)

Appendix G: Socio-demographic questionnaire

Fill in the following information:

1. What is your name?

_____

2. What is your surname?

_____

3. How old are you?

_____

4. Where do you stay?

_____

5. When is your birthday?

_____

6. Who do you live with?

_____

7. What do your parents/caregivers do?

_____

Circle the following:

8. Are you:
   a. Boy
   b. Girl
   c. Prefer not to say
9. What language do you speak at home?
   a. isiZulu
   b. English
   c. Sotho
   d. Shona
   e. IsiXhosa

   Other: _____

Appendix H: Pilot semi-structured interview schedule

SEMI-STRUCTURED INTERVIEW SCHEDULE

SECTION A: SIGNIFICANCE OF PET RELATIONSHIP

1. What is your dog's name?
2. How long have you owned [pet's name]?
3. Why did you/family decide to get a pet?
4. What does it mean to you to have a pet?
5. How long have you and [pet's name] been coming to Funda Nenja?
6. What are some of the fun things you and [pet's name] do?
7. What are the ways in which you take care of [pet's name]?
8. How would you describe your relationship with [pet's name] to someone/to your friend? Probe: Examples might be that you see him/her as a friend, family member or just an animal.

SECTION B: PROVISION OF SOCIAL, EMOTIONAL AND PSYCHOLOGICAL SUPPORT

9. What activities do you and [pet's name] do together with your friends/family?
10. What do you understand by the word "emotions"? Can you give me some examples of emotions?
11. Does your pet influence your emotions? Can you tell me how – maybe give me an example? For example, can you tell me about a time your pet made you feel happy? (or sad, or angry?)
12. Which of your emotions do you think [pet's name] can recognise? How do you know this?
13. What do you understand by the word, "feelings"? Can you give me some examples of feelings?
14. Does your pet influence your feelings? Can you tell me how – maybe give me an example?
15. Which of your feelings do you think [pet's name] can recognise? How do you know this?
16. Do you sometimes talk to [pet's name]? If so, what are the things you and your dog talk about?
17. Do you ever feel stressed or overwhelmed? Does [pet's name] help you feel better when you are stressed/overwhelmed? Can you give me examples of the ways in which [pet's name] comfort's you when you are feeling stressed or overwhelmed.

SECTION C: MENTAL WELL-BEING

18. What do you understand by the word, “mental health”? How would you describe it to a friend?
19. Does [pet’s name] influence your, “mental health” (use word that child uses) in any way? Can you give me some examples, please?
20. Do you think [pet’s name] makes you a better person? Why do you say so? Can you give me some examples?

SECTION D: FUNDA NENJA

21. Why did you decide to come to Funda Nenja with [pet’s name]?
22. What have you liked the most? What do you think [pet’s name] has liked the most?
23. What have you liked the least? What do you think [pet’s name] has liked the least?
24. Would you encourage other children to come to Funda Nenja with their pets? Why/Why not?
25. If you had to describe what Funda Nenja is to someone, what would you say?

Appendix I: Revised semi-structured interview schedule

SEMI-STRUCTURED INTERVIEW SCHEDULE

SECTION A: SIGNIFICANCE OF PET RELATIONSHIP

1. What is your dog's name?
2. How did you decide on your pet's name?
3. How long have you owned [pet's name]?
4. How long have you and [pet's name] been coming to Funda Nenja?
5. Why did you/family decide to get a pet?
6. Do you think [pet's name] understands you? Please tell me how you know this? Maybe you can give me an example?
7. Do you sometimes talk or read to [pet's name]? If so, what are the things you and your dog talk about?
8. What does a typical day with [pet's name] look like? PROBE: What are some of the fun things you and [pet's name] do?
9. What is the best thing about having [pet's name]?
10. What are the ways in which you take care of [pet's name]?
11. How would you describe your relationship with [pet's name] to someone/to your friend? Probe: Examples might be that you see him/her as a friend, family member or just an animal.

SECTION B: PROVISION OF SOCIAL, EMOTIONAL AND PSYCHOLOGICAL SUPPORT

12. What activities do you and [pet's name] do together with your friends/family?
13. Has having [pet's name] changed anything about how you talk or play with friends and family?
14. If [pet's name] could talk, what do you think they would say about you and your relationship?
15. How do you feel when you are with [pet's name]?

I am going to read you a story of a little girl/boy and her/his dog.

Narrative for a girl

Lerato was walking back home from school one day when it started to rain really hard. She already had a bad day at school because the teacher gave her class a difficult test, and the rain is only making her day worse. Lerato enters the house soaking wet, and in a very bad mood. At that moment her dog, Tiger runs through the door and starts to lick

her face and wag his tail because he is excited to see her. Lerato starts to feel better and smile. She sits on the ground next to Tiger, both are muddy and wet.

Narrative for a boy

Sipho was walking back home from school one day when it started to rain really hard. He already had a bad day at school because the teacher gave his class a difficult test, and the rain is only making his day worse. Sipho enters the house soaking wet, and in a very bad mood. At that moment his dog, Tiger runs through the door and starts to lick his face and wag his tail because he is excited to see him. Sipho starts to feel better and smile. He sits on the ground next to Tiger, both muddy and wet.

16. Does [dog's name] ever influence or change how you feel? Please give an example if you can
- Can you tell me about a time [dog's name] made you happy?
- Or a time [dog's name] made you feel sad?
17. What do you understand with the word "imizwa" (meaning feeling/emotions in isisZulu)?
18. If [dog's name] were suddenly to bark loudly in the middle of the night, how would you respond?
- Do you think [dog's name] would be able to tell when you are scared? Why or why not?
19. When [dog's name] gives you a kiss or lies close to you when you sleep, how does that make you feel, and what are your thoughts?
20. Does [pet's name] help you feel better when you are stressed/overwhelmed? Can you give me examples of the ways in which [pet's name] comforts you.
21. Does [pet's name] know when you are happy, sad or angry? How do you know this?

SECTION C: MENTAL WELL-BEING

I am going to tell you a story about a girl/boy

Narrative for a girl

Nandi is 11-years old and has always been a happy and friendly girl, however recently. Nandi has not been herself. Nandi seems to want to sit by herself and not talk to everyone as she used to. Nandi also doesn't smile and joke together with friends anymore. Her friends and family are worried about her.

Narrative for a boy

Bandile is 11-years old and has always been a happy and friendly boy, however recently Bandile has not been himself. Bandile seems to want to sit by himself and not talk to everyone as he used

to. Bandile also doesn't smile and joke together with friends anymore. His friends and family are worried about him.

22. How do you think Nandi/Bandile is feeling? And why do you think he/she might be feeling this way?
23. How will Bandile/Nandi benefit from having a dog during times when he/she is feeling this way?
24. What are the disadvantages of Bandile/Nandi having a dog when he/she is feeling this way?
25. Are there things that [dog's name] does when you feel like Bandile/Nandi to improve your mood? Can you please give examples?
26. Do you think [pet's name] makes you a better person? Why do you say so? Can you give me some examples?

SECTION D: FUNDA NENJA

27. Why did you decide to come to Funda Nenja with [pet's name]?
28. What have you liked the most? What do you think [pet's name] has liked the most?
29. What have you liked the least? What do you think [pet's name] has liked the least?
30. Would you encourage other children to come to Funda Nenja with their pets? Why/Why not?
31. If you had to describe what Funda Nenja is to someone, what would you say?

Appendix J: Observational schedule

PRE-INTERVIEW:

- Setting description
- Child and dog's non-verbal communication
- Child and dog's verbal communication
- Child and dog's affectionate gestures
- Child's visual presentation of agitation or stress

DURING INTERVIEW:

- Proximity-seeking behaviour between child and dog
- Child and dog's verbal communication
- Eye contact between child and dog
- Child's visual presentation of agitation or stress

FUNDA NENJA DOG SCHOOL:

- Child and dog's verbal communication
- Child and dog's non-verbal communication
- Child's interactions with other children
- Dog's obedience to child's commands
- Child's visual presentation of their emotional state (examples smiling, laughing, frustration).
- Dog's visual presentation of their emotional state (example tail-wagging, running around, reserved demeanour)

Appendix K: Invitation flyers (Funda Nenja Staff)

Appendix L: Informed consent forms (Funda Nenja staff)

FUNDA NENJA STAFF INFORMED CONSENT FORM

TITE: Exploring the influence of pet ownership on the mental health and well-being of at- risk children and youth in rural KwaZulu-Natal, South Africa

PRINCIPLE INVESTIGATORS: Prof Bronwyne Coetzee & Dr Estelle van den Berg

CO-INVESTIGATORS: Petri Hancke

ADDRESS:

Department of Psychology, Stellenbosch University, Private Bag X1; Matieland; South Africa

CONTACT NUMBERS:

Dr Bronwyne Coetzee: xxxxxxxxx

Petri Hancke: xxxxxxxxxx

You are invited to partake in a research project. Please take a moment to read the information below which will account for the specifics of this research project.

Please do not hesitate to contact the researchers about any component of this research project that you do not fully understand. It is of importance that you are completely informed and that you clearly understand what the particular of the research is and why your input is invaluable to us as researchers. Your participation is entirely voluntary, and you are in a position to reject our invitation to take part. Therefore, you may choose if you wish to take part, or not. Declining participation will not have any negative consequences. You are also allowed to withdraw from the study at any point, even if you agreed to take part initially.

What is this research project about?

We want to understand how pet ownership, specifically dog ownership, influences mental health and well-being among children and young people. Further, the quality of the relationship between child and pet dog will be explored for possible influence on the mental health status of the children and young people.

Why have I invited you to paticipate?
I have invited you to participate as you are part of the staff at Funda Nenja's weekly dog school and have first-hand insights into the relationship between the children and their dogs. As staff you likely have a broad perspective on the impact Funda Nenja has on the lives of many children. You might also have important contributions in terms of Funda Nenja's impact on Mpophomeni.

What will be expected of me?
The participation entails taking part in a focus group discussion with your fellow Funda Nenja staff regarding the relationship children have with their dogs, and how Funda Nenja might influence that. Petri Hancke, the primary investigator will be present accompanied by a Zulu-speaking translator to aid with any translational needs. The discussion will be interactive with some structure surrounding the specific topic of discussion.

Where will the interview take place?
At Funda Nenja within one of the rooms at the Mpophomeni Sport Stadium.

How long will the interview be?
The interview will be 60-90 mins

Are there any risks involved in your taking part in this research?
There are no possible risks of participating in this study. Please note that you are allowed to withdraw from this study and stop the interview at any time without any consequences should you wish to do so. If you do happen to feel uncomfortable or distressed after withdrawal, then arrangements will be made for you to speak to Funda Nenja's social worker, Zinhle Msimango.

Payment for participation:
You will receive a small token of appreciation.

Protection of your information, identity and confidentiality
Any information that you share with me during the focus group will be kept highly confidential. After the interview is done, your name and who you are will be kept private, only my supervisors and I will have access to the information. This information will be stored on a password-protected laptop and will not be shared. Your identity will remain anonymous, and your name will be replaced by a false name in order to protect your identity.

Participation and withdrawal

Participation is entirely voluntary, and you can choose whether or not to be part of this study. During the focus group discussion, you will be given the freedom to choose whether or not you would like to answer certain questions and still remain in the study.

Rights of research participants

You may withdraw at any time and discontinue participation without penalty. You will not be waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development

PERMISSION TO HAVE ALL ANONYMOUS DATA SHARED WITH JOURNALS:

When this study is finished, we would like to publish results of the study in journals. The journal may require us to share your anonymous data with them before they publish the results. Therefore, we would like to obtain your permission to have your anonymous data shared with journals.

Tick the Option you choose for anonymous data sharing with journals:

I agree to have my anonymous data shared with journals during publication of results of this study

☐

OR

I do not agree to have my anonymous data shared with journals during publication of results of this study

☐

PERMISSION FOR SHARING DATA/INFORMATION WITH OTHER INVESTIGATORS:

In order to do the research, we have discussed, we must collect and store discussion-interview recordings to gain a deeper insight into the relationship between the children and their pet dog from your perspective as a Funda Nenja staff member. Once we have done the research that we are planning for this research project, we would like to store your information for further research to be done in the future. Other investigators from all over the world can ask to use your data in future research through contacting me or my supervisors. To protect your privacy, we will

replace your name with a false name. We will only use this false name for data/information about your indentity. We will do our best to keep your your real name private. It is however always possible that someone could find out about your real name, but this is very unlikely to happen. Therefore, we would like to ask for your permission to share your data/information with other investigators for future, related research.

Tick the Option you choose for sharing your data/information with other investigators:

I do not want my data to be shared with other investigators

☐

OR

My data may be shared with other investigators for further analysis and future research in a field related to dog ownership in children.

☐

DECLARATION OF CONSENT BY PARTICIPANT

By signing below, I …….. agree to take part in a research study entitled ("Exploring the influence of pet ownership on the mental health and well-being of at- risk children and youth in rural KwaZulu-Natal, South Africa").

I declare that:

- I have read the above information and consent form, and it is written in a language that I am comfortable with.
- I have had a chance to ask questions and all my questions have been answered.
- All issues related to privacy, and the confidentiality and use of the information have been explained.
- I understand that taking part in this study is voluntary, and I have not been pressurised to take part.

By signing below, I _____ agree that the researcher may approach me to take part in this research study, as conducted by Petri Hancke

Signature of Participant Date

DECLARATION BY THE CO-INVESTIGATOR

As the co-investigator, I hereby declare that the information contained in this document has been thoroughly explained to the parent/legal guardian. I also declare that the parent/legal guardian was encouraged and given ample time to ask any questions.

Signature of Co-investigator Date

Appendix M: Focus group guide

Objective: To explore, from the perspectives of staff at Funda Nenja, the influence of pet companionship on the emotional and psychological well-being of children who attend the sessions.

Introduction

[Brief intro- what study is about and the purpose of this interview]

Dear participants, thank you for agreeing to participate in this focus group discussion. The purpose of this focus group is to explore your insights on the impact children's relationship with their dogs has on their own emotional well-being. Your insights and experiences gathered through your time at Funda Nenja will be invaluable in understanding this topic. Please note that your responses will remain confidential, and you are free to withdraw from the discussion at any time. It is also your choice which questions you would like to answer. Do I have your permission to record this discussion? The recording will be password-protected to restrict access and maintain anonymity.

Opening questions

1. How did you learn of Funda Nenja and what made you decide to work here?
    a. How would you describe Funda Nenja to someone who has never hear of it before?
    b. What do you think is the most important thing that Funda Nenja achieves with the work that it does?
    c. How has working here influenced how you view dogs and animals?

I would like to now talk more about your thoughts on the influence of pet companionship on the emotional and psychological well-being of children who attend the sessions.

2. What do you think are some of the reasons children first attend Funda Nenja with their dogs?
3. Why do you think the children (and their dogs) continue to attend dog school every Friday? What motivates them, do you think, to keep coming back?
4. Can you describe how children typically interact with their pets during Funda Nenja sessions?
    a. Probe: What kinds of activities do they engage in with their pets?
    b. How do you think these interactions/activities influence the children?
        i. Do you see any changes in their behaviours, or in their relationship with their pets? Can you please give me some examples of the changes you have seen?

ii. What other changes have you observed? If possible can you provide me with some examples of positive and negative changes you may have observed?
iii. Have you observed children expressing emotions/feelings towards their pets during the session? Can you give me some examples please?
iv. What can you tell me about the way children communicate with or behave towards their pets during the sessions?
v. Who do you think benefits the most from attending Funda Nenja's dog school? The children or their dogs? PROBE: Why do you think so?

5. What role do you think the companionship of a pet plays in helping children cope with everyday life/difficult emotions or situations?
    a. Are there any specific stories or cases that stand out to you?
6. In your experience, have the children formed stronger connections with their pets over time? And do you think this is this important, how so?
7. Would you encourage new children to join Funda Nenja's dog school? Please tell me why?
8. How, in your opinion, how has Funda Nenja impacted Mpophomeni?
    a. Probe: How has home visits by the social worker impacted Mpophomeni?
    b. How have the holiday clubs where the children get educated about how to take care of dogs impacted Mpophomeni?
9. How has Funda Nenja impacted your own life? (Note: Specifically aimed at facilitators, as they themselves are children from the community.)

Appendix N: Socio-demographic questionnaire (Funda Nenja staff)

1. What is your name & surname?

……..

2. How old are you?

……

3. Where do you stay?

……

4. With whom do you stay?

……

5. What is your gender? (Male, female, non-specific or prefer not to say)

……

6. How long have you worked at Funda Nenja?

……

7. What position do you fulfil at Funda Nenja?

……

8. Do you have your own dog?

……

Appendix O: Overview of Four Research Paradigms and their Ontological, Epistemological, and Methodological Positions

Item	Positivism	Postpositivism	Critical Theory	Constructivism
Ontology	Naive realism: There is a single objective reality that can be known	Critical realism: Reality exists, but cannot be fully understood	Historical realism: Reality shaped by societal factors and crystalised over time	Relativism: Reality is constructed and cannot truly be known
Epistemology	Dualist / Objectivist: The researcher is separate from the research	Modified dualist/ Objectivist: Truth can be studied with efforts to reduce researcher contamination	Transactional / Subjectivist: Researchers and participants' reality is shaped by what they know (value mediated)	Transactional / Subjectivist: Researchers and participants' reality is shaped by what they know (created findings)
Methodology	Experimental / Manipulative; verification of hypotheses; mostly quantitative methods	Modified experimental; falsification of hypotheses; may contain qualitative methods	Dialogic / Dialectical	Hermeneutical / Dialectical