

EXPERIENCES OF THE ELDERLY WHO PARTICIPATE IN ANIMAL-ASSISTED  
ACTIVITIES: A SCOPING REVIEW.

by

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A mini-dissertation submitted in partial fulfilment of the requirements for the degree of

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**FACULTY OF HUMANITIES**

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## LETTER FROM THE EDITOR

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TO WHOM IT MAY CONCERN

### Editing Certificate

I, Barbara Wood, hereby confirm that I am a registered professional researcher and editor and have edited the following academic document:

**Experiences of the Elderly who Participate in Animal-Assisted  
Activities: A Scoping Review.**

By

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A Mini-Dissertation Submitted in Partial Fulfilment of the Requirements for the  
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In the Department Of Psychology at the  
University of Pretoria  
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## ABSTRACT

Academic research currently available on animal-assisted activities used by the elderly has been criticised for producing an abundance of quantitative research, and highlighted the lack of qualitative exploration on the subject (Jain et al., 2020). For this study, a scoping review was conducted to garner an understanding of how the elderly in old age homes experience animal-assisted activities and how this intervention has an impact on their wellbeing. The purpose of this study was to explore the range, extent, and nature of primary research on the experiences of the elderly who participate in animal-assisted activities, published between and including the years 2011 and 2021. This study employed a methodological framework for conducting a scoping review developed by Arksey and O'Malley (2005), thereafter revised by Levac et al. (2010). Data analysis was conducted through a manifest content analysis to extract relevant data connected to the research question. This scoping review found that the elderly's experiences of animal-assisted activities in the seven scoped studies demonstrate a mostly constructive influence on their lives. However, this researcher suggests that the experiences of the elderly who have participated in animal-assisted activities need to be further researched qualitatively to provide more recent evidence on effective and far-reaching change in the way we support the wellbeing of old age home residents. Seven articles were included and analysed in this scoping review.

Keywords: Elderly, Animal-assisted activities, Experiences, Dog-assisted activities, Wellbeing, Building relationships, Animal-assisted interventions, Scoping review, Old age homes, Manifest content analysis

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## CHAPTER ONE

### AN INTRODUCTION TO THE STUDY

#### 1.1. Introduction

Over the past few decades, there has been an increase in the amount of literature that explores the benefits of using animals in interventions to improve the lives of the elderly (Lubbe & Scholtz, 2013; Vrbanac et al., 2013). During this time, animal-assisted interventions became the umbrella term under which animal-assisted therapy, animal-assisted education and animal-assisted activities fell (Hawkins et al., 2019; Kruger & Serpell, 2010). Through exploration of the literature, it has been found that studies relating to animal-assisted therapy with the elderly far outweigh the number of studies that explore how the elderly experience animal-assisted activities. It could be assumed that this might be based upon the intended objectives of the different interventions, which are explored further in Chapter 2. While animal-assisted therapy is goal orientated, animal-assisted activities are informal activities that provide opportunities for socialising, human-animal interactions, and educational and recreational activities such as walking, petting/stroking and playing (Chandler, 2005; Delta Society, 2009; Fine, 2010). A key feature of animal-assisted activities pertains to the training of non-professional volunteers and their animals, but which is not compulsory because of the social non-directive characteristics of these activities (Chandler, 2005; Delta Society, 2009; Fine, 2010).

Literature has suggested that because of the casual nature of animal-assisted activities, it can be easily implemented in various settings such as hospitals, old age homes and courtrooms, where it has many potential benefits (Granger & Kogan, 2000). This makes it an ideal activity to introduce into environments such as old age homes, where many older individuals are found to experience negative experiences that are harmful to the elderly's identity, mood, and quality of life (Granger & Kogan, 2000).

#### 1.2. Problem Statement

Old age homes have been proven to be vital in the care of the elderly. However, it appears that the elderly still experiences emotional turmoil caused by an inadequate network of people who provide practical and emotional support within old age homes themselves (Lombard & Kruger, 2009; Perold & Muller, 2000). This absence of support often leads older individuals to experience an overall low quality of life, which ultimately has an impact on their physical and mental health (Ambrosi, Zaiontz, Peragine, Sarchi, & Bona, 2019; Banks & Banks, 2005; Beetz, Uvnäs-Moberg, Julius, & Kotrschal, 2012; Bernstein, Friedmann, &

Malaspina, 2000; Coakley & Mahoney, 2009; Geldenhuys, 2015; Le Roux & Kemp, 2009; Lubbe & Scholtz, 2013; Majić, Gutzmann, Heinz, Lang, & Rapp, 2013; Moretti et al., 2011; Thodberg et al., 2016; Travers, Perkins, Rand, Bartlett, & Morton, 2013; Vrbanac et al., 2013). By exploring the primary research published between the years 2011 and 2021 through a scoping review, the elderly's experiences of animal-assisted activities can be thoughtfully and thoroughly explored. Through this research process, the extent and depth of research that has been done around this research area will also add to the level of understanding regarding this topic. The current study was intended not only to add to the knowledge of how the elderly population can be better supported through animal-assisted activities, but also to identify recommendations for future research. Therefore, this study explored the experiences that are unique to the elderly when participating in animal-assisted activities in an effort to gather further knowledge and recognise the influence this activity has on the elderly population.

### **1.3. Need for the Current Study**

Through the literature review and subsequent scoping review, it was found that most of the research studies conducted on the topic were quantitative in nature and only a few qualitative studies have been done thus far. This finding was also described in a study conducted by Jain et al. (2020), which was read by the researcher after Stage 3 in the scoping review process. In addition, little is known about the individual affect that the South African elderly experiences when participating in animal-assisted activities (Lubbe & Scholtz, 2013). Therefore, this research aimed to determine if there was adequate literature surrounding the experiences of the elderly who partook in animal-assisted activities through a scoping review.

### **1.4. Research Question**

Because of the rapidly growing numbers of the elderly population worldwide (Nations, 2019), an increasing need has arisen for the provision of effective support for those individuals who find themselves having had to move to old age homes necessitated by the loss of family or the gradual loss of being able to live independently (Ageing and Health, 2018). Therefore, this study aimed to explore how the elderly experience animal-assisted activities as an alternative and cost-effective means of improving their overall wellbeing through a scoping review. The research question posed in this study is: what are the experiences of the elderly who participate in animal-assisted activities?

### **1.5. Aims and Objectives of the Study**

The main aim of this study was to determine the experiences the elderly have had with animal-assisted activities that are performed with dogs. This was complemented by performing

a scoping review that was developed by Arksey and O'Malley (2005), which the researcher made use of to explore the objectives for the current study. Arksey and O'Malley (2005) outlined three different objectives that underpinned this scoping review. The first objective included exploring the extent, range and nature of the research area. The second objective sought to find possible gaps in the existing literature surrounding the experiences of the elderly who participate in animal-assisted activities. The final objective of the study was to summarise and describe the findings from the scoping research. Specific focus was placed on research found in the South African context.

## **1.6. Methodology of the Current Study**

The researcher conducted a scoping review, developed by Arksey and O'Malley (2005). The six-stage scoping review framework was complemented by the work of Levac et al. (2010), who had enhanced the scoping review process by providing additional facets and depth to the framework. The study focused on the published primary research that had been conducted in the years between 2011 and 2021, and covered the experiences of the elderly who participated in animal-assisted activities. One of the requirements for a scoping review is reporting on the depth of research obtained through such scoping review (Arksey & O'Malley, 2005; Levac et al., 2010). However, after completing Stage 3 of the present scoping review, only seven studies were found to closely fit the inclusion and exclusion criteria designed for the study. Therefore, the study was adapted to include a manifest content analysis, which was suggested by Levac et al. (2010) when the researcher tries to explore data that is collected in a scoping review. Content was explored through the use of frequently recurring words, otherwise referred to as codes, identified across the seven scoped studies that were grouped into relevant categories. These categories were then unpacked and explored with regard to the research question.

The current study did not include people as participants; thus, the traditional ethical considerations did not need to be followed. However, the information collected during this study was stored safely at the University of Pretoria, and ethical clearance was granted by the research committee prior to the study being conducted. The information collected will be stored at the University of Pretoria for 15 years.

## **1.7. Definition of Terms**

### **1.7.1. The elderly**

According to South African statistics (StatsSA, 2017), the elderly are defined as individuals who are aged 60 years and older. Internationally, the elderly are considered to be 60 or 65 years old and older (Dobriansky et al., 2007; Nations, 2017).

### **1.7.2. Social support**

Social support refers to an individual's own community. This community assistance can comprise family and friends, neighbours, caregivers, animals/pets and people considered close to the elderly in their personal network system who aid them in coping with their daily life's tasks (Melchiorre et al., 2013; Pierce, Sarason & Sarason, 1990).

### **1.7.3. Old age home**

The term old age home refers to a care facility that provides permanent accommodation to the elderly who require physical, social, medical, mental, and psychological support, while maintaining their quality of life (Dandekar, 1996; Dubey, Bhasin, Gupta, & Sharma, 2011; Lombard & Kruger, 2009; Perold & Muller, 2000). Care facilities are also listed under a range of alternative names such as nursing homes, care homes, assisted-living homes, frail care centres, and retirement homes. For the purpose of this study, all care facilities will fall under the name of old age home.

### **1.7.4. Animal-assisted activities**

Animal-assisted activities are informal activities that provide opportunities for socialising, human-animal interactions, educational, recreational (such as walking, petting/stroking, playing), and/or therapeutic benefits to improve the wellbeing of individuals (Chandler, 2005; Delta Society, 2009; Fine, 2010). Animal-assisted activities are casual in nature and have no specific therapeutic goals. Non-professional volunteers and their animals generally do not need specific training for animal-assisted activities (Chandler, 2005; Delta Society, 2009; Fine, 2010).

### **1.7.5. Non-professional volunteers**

Non-professional volunteers are individuals who accompany the dogs during animal-assisted activity sessions (Animal & Society Institute, 2019). They could be the owner of the dogs, providing the animal-assisted activities or work for an organisation that provides the dogs. These non-professional volunteers do not need to be specifically trained to accompany the dogs during animal-assisted activities.

## **1.8. Structure of the Study**

The current chapter provides the introduction and background to the study. Chapter 1 is followed by Chapter 2, the literature review. The literature review will examine the statistics regarding the elderly population, and explore their exponential growth in numbers worldwide. Old age homes, their role, and their impact on the lives of older individuals are investigated, while highlighting the wellbeing of the elderly and the difficulties they experience in this

environment. A brief history on the human-animal bond provides some background and understanding of the attachment that has developed between humans and animals. The exploration of this bond leads into a discussion about animal-assisted activities in general and animal-assisted activities performed with the elderly.

Chapter 3 of the study presents the methodology of the study, which explains the research design and specific methodology, and how the research was conducted to ensure transparency. The first three stages used in this scoping review and the adaption made to include the manifest content analysis are detailed to provide the reader with a clear understanding of the research process. Strategies to ensure the quality, reliability and trustworthiness of the research and the data are also explained (Creswell, 2017; Guba, 1981; Lincoln, 1995; Lincoln & Guba, 1985; Lincoln et al., 2011).

Chapter 4 presents and discusses the results found through the scoping review and the manifest content analysis. An overview of the basic descriptive results of the scoped studies such as the geographic location of studies, number of participants, old age homes and selection criteria, methods used and data collection strategy and animal-assisted activities are provided. This will provide a general understanding of the seven scoping studies, before exploring them through the manifest content analysis. The manifest content analysis was performed across the content of the seven scoped studies, and frequently recurring words were identified as codes. Codes that were relevant to the research question were chosen and grouped into three categories. These categories included the following: Physiological and psychological states of mind; Relationship building; and Dog-assisted activities. While exploring these categories through the manifest content analysis, it emerged that the elderly's experiences of animal-assisted activities in the scoped studies demonstrated a mostly constructive influence on the elderly's lives. While most of the scoped studies (Berry et al., 2012; Jain et al., 2020; Friedman et al., 2019; Koda & Yanai, 2011; Olsen et al., 2016; Wesenberg et al., 2019) found that dogs in animal-assisted activities had an impact on the elderly living in old age homes, one study (Thodberg et al., 2016) found no notable impact on the lives of these elderly.

Chapter 5 concludes this study by providing a comprehensive overview of the conclusions, limitations to the current study and the recommendations for future research.

## **1.9. Conclusion**

In Chapter 1, an introduction to the research was discussed to provide a brief overview of the topic for this mini-dissertation. The problem statement was explored, which touched on previous research that connects to the elderly participating in animal-assisted activities. The

need for the current study was then touched on. The research question was followed by the aims and objectives of this study, and the methodology was briefly explored. A list of terms that will be used during the presentation of the study were defined. Finally, a summary of the chapter outline and what they entail was presented. The next chapter will present the literature review conducted to gain more insight about the elderly population living in old age homes. It will also provide a discussion on animal-assisted activities in general and animal-assisted activities conducted with the elderly and dogs.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1. Introduction

The purpose of this chapter is to review and discuss previous research conducted on the elderly living in old age homes. Both their positive and negative experiences in old age homes were explored, while touching on key aspects such as physical health problems, quality of life, wellbeing and mood difficulties. The study also assessed how older individuals experience animal-assisted activities, and the impact these activities can have on the elderly's experiences. This chapter provides an overview of the extant literature and the background knowledge relevant to the research topic. Additionally, the literature reviewed in this chapter provides the context in relation to the scoping review that was conducted in this study.

#### 2.2. The Elderly

Globally, individuals aged 60 or 65 years and older are defined as the elderly (Dobriansky et al., 2007; Nations, 2017). This age categorisation also reflects Statistics South Africa's (StatsSA, 2017) definition of the elderly, who are considered to be individuals aged 60 years and older in South Africa.

In 2015, the world population was estimated to be about 7.3 billion people. Of these 7.3 billion people, it was estimated that about 617.1 million people or 8.5% were elderly (He et al., 2016). According to these sources, the number of older people or the elderly grew globally from 617.1 million in 2015 to 703 million in 2019 (He et al., 2016; Nations, 2019). A similar increase in the increasing number of the elderly population has also been noted in South Africa. StatsSA estimated that South Africa's elderly population of 4.6 million people in 2017 had increased to 5.43 million in 2019 (Stats SA, 2017, 2019). To date, almost 1 in every 10 people worldwide are over 60 years old (Nations, 2019). It has been projected that the percentage of the world's population of older individuals will increase to above 60% in the next nine years, which implies that about 1 billion people of the global population will be older than 60 years by 2030 (He et al., 2016). By 2030, Africa's elderly population is expected to have increased to 157 million (Solankii et al., 2019), and by 2050, 15.4% of South Africa's population will be older than 60 years of age (World Health Organisation, 2016). This percentage will continue to increase worldwide, and predictions show that the elderly will represent 1.5 billion or 16.7% of the total world population by 2050 (He et al., 2016; Nations, 2019). This increase can be accredited to the availability and provision of better healthcare to

a wider population, the shift from manual hard labour to “softer” forms of labour, and better social services.

The largest percentage increase between 2019 and 2050 in the number of the older people is expected to occur in Eastern and South-Eastern Asia (Nations, 2019). Northern Africa and Western Asia are expected to have the fastest growth rate of the elderly, although not the largest proportions of the population, with an expected increase from 29 million in 2019 to 96 million in 2050 (Nations, 2019). Sub-Saharan Africa is estimated to be the region of the second fastest growth rate, where the proportion of older persons is estimated to grow from 32 million in 2019 to 101 million in 2050 (Nations, 2019). By 2050, one in every five people worldwide will be over the age of 60, and these figures will outnumber the number of children under the age of 14 years (Nations, 2019). Of course, there are huge differences in the percentage increase of the older population groups and those of children under 14 when one compares countries in the northern hemisphere and the southern hemisphere, with the exception of India. Western countries in the northern hemisphere, as well as China and Japan, show dramatic percentage increases in the older population groups and negative population growth rates, while Africa’s populations are significantly younger.

For this study, exploring the statistics linked to the percentage increase of the elderly population indicates the importance of having to take cognisance of the fact that a large part of the world’s populations will be an ageing population. Vulnerabilities are evident in the over-60 age group, and particularly so in societies that do not offer a social net in the form of substantial pensions or a relevant infrastructure that is geared towards the needs of the elderly. Also, the largest part of this group worldwide is faced with poverty and a lack of easily accessible healthcare, which demonstrates the need for programmes and environments that provide social assistance such as those found in old age homes (StatsSA, 2019).

### **2.3. The Elderly in Old Age Homes**

As the percentage of older individuals is increasing in all populations, family structures are also changing. Societies have largely changed over the last century, where families are no longer living in multi-generational homes or environments, or family members of different age groups supporting each other. Instead, the younger generations tend to leave their family homes and move to the cities to find employment. Developed and developing countries also report trends that individuals live longer because of better healthcare, and at the same time, younger individuals consciously decide to have fewer, if any, children (Dobriansky et al., 2007). This trend implies that the elderly is often left behind in villages or towns, and the younger

generations move to the cities and their own apartments or small homes, leading their independent lives. This offers the elderly fewer alternatives for emotional and physical care (Dorbriansky et al., 2007). Associated with ageing are some significant and life-changing events such as retirement, a reduction in income or even no income, the death of loved ones, and the development of geriatric syndromes or health problems (Brown-O'Hara, 2013). Where the elderly is living on their own, and no help is available to them when their health fails, they might not have any other option than to relocate to an old age home or even a frail care centre (Ageing and Health, 2018). While some older individual's health challenges might be genetic, many health issues arise due to ineffective and unsupportive physical and social environments that tend to introduce or exacerbate existing health issues (Ageing and Health, 2018). Therefore, it is imperative for society to look after its elderly and provide secure environments such as old age homes that are effective in enabling the elderly to remain reasonably independent, despite having been forced to abandon their previous individual space or home (Ball et al., 2000; Lombard & Kruger, 2009; Perold & Muller, 2000).

Elderly individuals, and particularly those who have lived in poverty and have not been able to eat nutritious food, and those who have had to physically work extremely hard for many decades, often experience health challenges, otherwise known as geriatric syndromes, which can be found in isolation or as shared risk factors (Brown-O'Hara, 2013). Many ailments among the elderly can also be genetic and merely present themselves in older age. Geriatric syndromes are linked to older age, and involve cognitive or functional impairment, and impaired mobility (Brown-O'Hara, 2013). These health impairments might include hearing loss, cataracts and the loss of vision, chronic pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression, anxiety, and dementia (Suzman & Beard, 2011; World Health Organisation, 2015). Geriatric syndromes frequently have an impact on the elderly's ability to cope with external challenges and their ability to partake in various activities of daily living (Berry et al., 2012; StatSA, 2011). These problems ultimately lead to the gradual reduction and subsequent collapse of an individual's overall self-care, which is an important aspect of daily life for older individuals (Berry et al., 2012; Cherniack & Cherniack, 2014; StatSA, 2011). Self-care in this case refers to an intentional act an individual participates in to engage and promote their physical, mental, and emotional health. Self-care can reduce dramatically once a person has retired from a productive working environment. It can also reduce if there is no partner or other family member to insist on the person still being active and looking after themselves, or where they do not take part in a social network or have hobbies that keep them active. Fundamental skills such as self-care are the building blocks of a healthy and happy lifestyle, and they have

a direct impact on the experience of quality of life (Edemekong et al., 2017). As some of the elderly experience a gradual collapse of self-care that is vital for their wellbeing and the quality of their daily life, this also highlights the relevant and specific need for assistance to be provided to the elderly in old age homes.

### **2.3.1. Old age homes and wellbeing**

Old age homes are designed to promote a homely environment where older people should feel physically safe and supported by not only the staff employed by the old age home, but also by fellow residents (Koppitz et al., 2017; Walker & Paliadelis, 2016). Individuals sometimes have the opportunity to reunite with friends from their community who reside in the same old age home. This environment can provide them with a connection to other people of the same age group who can empathise with their age-specific challenges and changes (O'Neill et al., 2020). This type of companionship and understanding was often lacking at their own home once a partner had died or other family members moved away. Companionship and sharing of interests assist the elderly with reaching an improved quality of life (Koppitz et al., 2017). At the same time, it cannot be assumed that just because they share similar ages, residents of an old age home will like each other or even get on with each other. Often, small differences of opinion can result in major outbursts of anger and frustration, particularly if the old age home does not offer much diversion.

Most old age homes aim to encourage the individuals' independence, to improve their wellbeing and quality of life through offering social activities, while also accommodating the unique and individual health needs found among the residents according to their geriatric syndromes (Perold & Muller, 2000; Ramocha et al., 2017; Thomas, n.d.). These old age homes usually approach their residents' health needs through a tailored healthcare support that older individuals would not necessarily have been able to receive at home (Perold & Muller, 2000; Ramocha et al., 2017; Thomas, n.d.). This care for the individuals' health alleviates the sense of burden older individuals feel they might place on family members. It also gives rise to a sense of control and improved wellbeing (Puvill et al., 2016; Steptoe et al., 2015; Wikman et al., 2011).

The human experience of overall wellbeing is thought to involve an individual's subjective perception of the quality of care experienced, and the overall happiness of their lives (Courtin & Knapp, 2017; Siedlecki et al., 2014; Steptoe et al., 2015). The feeling of overall wellbeing is considered to be intimately connected to physical and mental health as well as the ultimate perception of quality of life (Steptoe et al., 2015). In light of this interrelationship, the

experience of wellbeing can be assumed to play a protective role in maintaining an individual's overall health and quality of life, which leads to positive experiences (Stephoe et al., 2015). Therefore, to encourage the wellbeing of their residents, most old age homes organise themselves in a way that helps to establish a sense of belonging among the residents, and to encourage them to be actively engaged in the daily life experiences at the old age home (Cooney, 2012; Koppitz et al., 2017).

### **2.3.2. Difficulties experienced within old age homes**

While most old age homes aim to provide the older individuals with a space where they can feel secure and at home, many of these homes are criticised for providing the opposite (Miller et al., 2013). This could be caused by many old age homes having been built within a medical or healthcare model, which can give the elderly a far more clinical experience rather than a homely one (Hauge & Heggen, 2007). It also has to be noted that most old age homes cater for large numbers of people and therefore, they try to provide care as effectively as possible. However, in doing so, many old age homes have been found to lose their focus on the core qualities of what a home should also provide for the elderly residents; for example, connectedness, autonomy, privacy, control, and self-determination (Cooney, 2012; Custers et al., 2012; Granbom et al., 2014; Kasser & Ryan, 1999; Persson & Wasterfors, 2009; Stabell et al., 2004). Where there is a lack of these qualities, it can bring about negative experiences that are harmful to the elderly's identity, mood, and quality of life (Robinson et al., 2011). A study conducted by Tiwari et al. (2012), which explored the mental health problems among individuals living at an old age home, found that more than half of the residents of old age homes were suffering from one or other mental health problem, which ultimately had a negative impact on their overall wellbeing.

The experience of loneliness has been found to be a core difficulty that many elderly tend to experience in old age homes, despite being surrounded by other people their age (Brimelow & Wollin, 2017; Robinson et al., 2011). Such loneliness is often experienced, as the elderly had to leave their homes, their infrastructure and familiar surroundings, well-loved possessions, neighbours and friends, and sometimes pets or other animals behind. Many had lost a partner or their friends had died, so they were mourning their losses of a life that had been meaningful and important to them. Most of these elderly also receive visits at the old age home from their family members only on an infrequent basis, if at all. Many also make the incorrect assumption that being among other elderly people would mean that they would easily form new friendships and companionship. However, being elderly does not mean that they

share the same interests or would even get on with one another. The feeling of social isolation and a perception that there is no longer a purpose in their lives is also prominent in old age, often also based on elements such as physical limitations caused by physical health issues, mental health difficulties, and limited social resources (Courtin & Knapp, 2017; Siedlecki et al., 2014). This feeling of loss and isolation is often further enhanced by an overemphasis by the old age homes' staff providing clinical or medical services rather than the cultivation of social interactions with and between older people (De Bellis, 2010; Productivity Commission, 2011; Tuckett, 2005). It has been suggested that identifying and incorporating an older individual's perspective of their health, and their social needs when living in an old age home, is crucial and reduces the danger of having negative experiences that could lead to anxiety and depression (Dahlberg & Segesten, 2010). Instead, the elderly often does not experience a collaborative approach or an individualised assessment of their needs in old age homes. In most cases, this is not so because of a lack of good intentions by the old age homes, but mostly because of a lack of financial and workforce resources. The resultant negative experiences can all be considered risk factors and leading to the poor physical and mental health among the elderly (Courtin & Knapp, 2017; Dahlberg & Segesten, 2010). Additional risk factors to good health were highlighted in a study conducted in Soweto and Johannesburg in South Africa by Ramocha et al. (2017). They found that the elderly who reside in old age homes experienced high levels of inactivity. This lack of physical activity negatively influenced the individuals' physical abilities, their physical health, independence, mental health, and overall quality of life (Phillips et al., 2013; Ramocha et al., 2017; Tiwari et al., 2012; Vagetti et al. 2014). The lack of promotion of physical health and activities offered in old age homes also negatively influences the elderly's ability to socialise, as they tend to spend too much time on their own and not enough time outdoors and being physically active. The rise of geriatric syndromes in older people is very often found to be linked to decreased physical activity and subsequently increased levels of depressed moods, which in turn negatively influence their experiences of their life in the old age home (Steptoe et al., 2015).

In view of the many negative experiences by the elderly living in old age homes, it can be assumed that while there are positives to living at an old age home, especially when the individuals do not have alternative choices open to them, a multitude of challenges out of their control arise for the elderly. These experiences drastically influence their lives and can have long-lasting negative effects (Robinson et al., 2011). Therefore, it should be challenged whether the support provided by old age homes is effective in bringing about experiences that



are enriching and comforting for the elderly, while offering a secure and conducive environment in which to live out their days.

#### **2.4. Brief History of Human–Animal Relationships**

The history of human-animal relationships dates back many centuries, if not millennia. Animals were already noted to be used as pets in Ancient Egypt, and as agents of socialisation at the end of the 17<sup>th</sup> century (Serpell, 2010; Van Sittert & Swart, 2003; Wells, 2009). A compassionate stance towards animals became increasingly normalised. This led to the act of raising pets growing from a practice that only the upper classes took part in, into a practice by the urban middle class (Serpell, 2010; Van Sittert & Swart, 2003; Wells, 2009). In the late 18<sup>th</sup> century, new treatment concepts of the mentally ill were considered in conjunction with the socialising effect of animal companionship (O'haire et al., 2015; Serpell, 2010). Animals being used for their therapeutic effect later became a common occurrence in mental institutions in the 19<sup>th</sup> century, and they were also used for companionship for physically ill patients in hospital settings (Cherniack & Cherniack, 2014; O'haire et al., 2015; Serpell, 2010). However, the concept of considering animals for therapeutic means became only truly established after a research study was conducted among 92 outpatients from a cardiac care unit (Friedmann et al., 1980). The study showed that these outpatients lived longer if they were pet owners (Friedmann et al., 1980; Serpell, 2010). Today, using animal-assisted interventions such as animal-assisted activities, are used to bring about many benefits regarding an individual's wellbeing. It is a practice that continues to become more popular and an increasingly accepted intervention. However, despite the notable popularity of animal-assisted activities and the obvious positive impact it has on human health, the research and medical acknowledgement of such interventions remain limited (Kruger & Serpell, 2010; Serpell, 1996, 2010).

When considering the history of domestic dogs in South Africa, studies show that dogs were first kept merely as guarders and herders of livestock (Van Sittert & Swart, 2003). They also played a big role in pest control and as collaborators in hunting. However, overall, little is known about how dogs became so closely bonded to humans in South Africa (Van Sittert & Swart, 2003). Judging the history of domestic dogs in South Africa, it can be deduced that dogs were invested with the human identity through many generations as part of human families (Van Sittert & Swart, 2003). When considering how relationships are formed, attachment theory aptly explains that just as close emotional ties can develop between humans, strong bonds of affection can also be experienced between humans and their animals (Bowlby, 1969, 1979). This would explain why many people treat animals as being an integral part of their

family, and how these attachments can lead to enhanced positive life experiences that in turn have a positive impact on their overall wellbeing (Wells, 2009). When exploring the impact of the bonds between animals and the elderly, there are mixed findings. A study conducted by Rijken and Van Beek (2011) explored whether pet ownership has an impact on the perceived physical and mental health in the elderly. This study claimed that there were no significant findings connected to pet ownership, and the impact on the physical and mental health in the elderly. This study's findings are in contrast to the results found in a study conducted by Peacock, Chur-Hansen, and Winefield (2012). Their findings indicate that the elderly are found to have positive experiences that stem from having a companion animal, which leads to a decrease in depression, anxiety, and somatoform symptoms.

As seen from the history of the human-animal bond, meaningful relationships between animals and humans are not a new phenomenon. The use of the human-animal bond has been used in many settings to encourage positive experiences and improve wellbeing (Cirulli et al., 2011; Ebener & Oh, 2017; Friedmann & Son, 2009). Because of the need for connection that is often illustrated across species such as humans and dogs, therapeutic activities such as animal-assisted activities provide the opportunity for this important need to be fulfilled, while also allowing for support and companionship to be provided and enjoyed (Curulli et al., 2011; Odendaal, 2000).

South Africa was first able to make use of animal-assisted activities in 1997, when the first therapy dog unit was registered under the name of Paws for People (Paws for People Therapy Dogs, n.d.). Since the organisation's launch, non-professional volunteers and dogs of any pedigree have been carefully assessed and trained for animal-assisted activities, animal-assisted therapy, and animal-assisted education (Geldenhuis, 2015; Paws for People Therapy Dogs, n.d.). The organisation works closely with hospitals on a nationwide basis, as well as in courtrooms and in old age homes. The founder of Paws for People Therapy Dogs confirmed that dogs have a special ability to offer a comforting space for many types of people (Geldenhuis, 2015).

Regarding their therapeutic application in old age homes, the founder recalled an incident where one of their dogs interacted with an elderly individual who became very emotional, as he had not had any physical contact with anyone in a long time (Geldenhuis, 2015). This incident is the embodiment of what animal-assisted activities can offer. They can have a significant impact on people such as the elderly who have lost contact with their loved ones, experience social neglect or abandonment, or are suffering from loneliness in old age homes.



## 2.5. Animal-Assisted Activities

Animal-assisted interventions is the broad umbrella term that encompasses any intervention that has an animal as part of the therapeutic process (Hawkins et al., 2019; Kruger & Serpell, 2010). It includes various types of therapeutic interventions. One example of these interventions is known as animal-assisted therapy, which is a therapeutic intervention that has specific predetermined goals to be achieved with the use of animals (Dookie, 2013; Hawkins et al., 2019; O'haire et al., 2015). A second type of intervention that is being explored in this study is a therapeutic process that focuses on enrichment activities with the elderly. This process uses animals, and is known as animal-assisted activities (Dookie, 2013; Hawkins et al., 2019; O'haire et al., 2015).

Compared to animal-assisted therapy, animal-assisted activities involve informal human–animal interactions, such as care, support, and play (Chandler, 2005), whereas animal-assisted therapy includes incorporating animals into specific therapy plans designed for individuals. Animal-assisted therapy is considered to be a more structured intervention than the animal-assisted activities. It concentrates on the enhancement of functioning, which is a process that is thoroughly documented (Hawkins et al., 2019). In contrast, animal-assisted activities aim to provide opportunities for motivation, education, or leisure to enhance the individuals' overall life experiences that have an impact on their quality of life (*Animal-Assisted Intervention: Definitions*, n.d.; Dookie, 2013). Animal-assisted activities ultimately aim to encourage and enhance human wellbeing (Nimer & Lundahl, 2007). The animal-assisted therapy and the animal-assisted activities are similar in that the animals interact with individuals of any age, whether it be in hospitals or in old age homes (Dookie, 2013). While studies on the use of animal-assisted interventions are sparse, the studies involving animal-assisted therapy are numerous in comparison to animal-assisted activities within this category (Dookie, 2013).

Several studies have strongly proposed the use of animal-assisted activities (Chandler, 2005; Dookie, 2013; Ebener & Oh, 2017; Fine, 2010; Kruger & Serpell, 2010; Nimer & Lundahl, 2007; Urichuk & Anderson, 2003). One such study by Nimer and Lundahl (2007) reported animals as having a clear aptitude when it came to establishing bonds with people. This ultimately led to the conclusion that animal-assisted activities can be beneficial for many individuals (Lubbe & Scholtz, 2013). Urichuk and Anderson (2003) explained that all human beings have a few basic psychological needs (such as being loved, recognised, feeling useful, feeling necessary and accepted). It can be accepted from these studies that dogs can fulfil these needs by taking on the roles of a companion, a dependant, admirer, and defender (Urichuk &

Anderson, 2003). Dogs are able to fulfil these roles effortlessly, as they have the natural inclination to cultivate rapport and empathy, which are exactly those characteristics that make them ideal for working with the elderly (Chandler, 2005; Dookie, 2013).

## **2.6. Animal-Assisted Activities and the Elderly**

As explored in section 2.3., ageing is a unique experience and influenced by many personal and lifestyle changes (Ageing & Health, 2018; Dookie, 2013; Dorbriansky et al., 2007). It can be assumed that as integral members of society, older individuals' wellbeing is vital for the functioning of healthy communities (Dookie, 2013). It can therefore be argued that by considering the way in which the elderly can experience animal-assisted activities in old age homes, their environments can be improved through the development and execution of this meaningful intervention (Dookie, 2013).

Some studies among the elderly have observed qualitatively that animals relieve the symptoms of loneliness and boredom (Baun & McCabe, 2003). Animal-assisted activities have also been found to provide the elderly with a constructive human-animal relationship and bringing about a calming effect that positively influences and improves their mood (Douglas, James, & Ballard, 2004; Ebener & Oh, 2017; Iden et al., 2014; Melson & Fine, 2010; Olsen et al., 2016). This calming effect can provide the elderly with the core quality of connectedness that is often lacking in old age homes. In some countries, it has already become a standard practice to integrate the use of animals for interaction, therapeutic purposes, and entertainment with the elderly living in old age homes (Thodberg et al., 2016). The use of animal-assisted activities also considers the needs of the elderly regarding social interaction. Social interaction with animals is considered easier for individuals who are cognitively impaired by geriatric syndromes in old age, as the interaction relies less on verbal communication and more on body language (Bernstein et al., 2000; Thodberg et al., 2016). From an emotional and psychological point of view, social interaction with animals helps the elderly take their mind off their concerns regarding their health or environmental difficulties and can produce a space that encourages serenity. It positively influences their mood (Amrosi et al., 2019; Onor et al., 2010).

Animal interventions such as dog-assisted activities allow for intimate contact and connections to be built between the dogs and the individuals. This ultimately aims to bring about therapeutic benefits and thereby improve the elderly's experiences regarding their psychological, mental, and physical wellbeing (Chandler, 2005; Delta Society, 2009; Fine, 2010). Because of the human-animal bond that is formed through these activities, a space of safety and comfort is created, whereby older individuals can immerse themselves in interacting

with the dog, while putting aside, at least for some time, the challenges they are normally experiencing. This space is considered to be therapeutic, as animal-assisted activities aim to encourage physical interaction via animal companionship, as such companionship is often absent in an old age home. Creagan et al. (2015) explain that when individuals engage with dogs in animal-assisted activities, there is a notable increase in the hormones that positively influence or enhance the mood. A positive mood can lead to a greater sense of wellness and tranquillity, which in turn, fosters a positive experience. This leads to a decrease in stress hormones (Creagan et al., 2015). The improvement in mood is likely linked to the non-threatening and gentle way in which these dogs interact with the elderly during animal-assisted activities (Cirulli et al., 2011; DeSchraver & Riddick, 1990; Ein, Li, & Vickers, 2018; Katcher, Friedmann, Beck, & Lynch, 1983; Wilson, 1991). This tender approach in animal-assisted activities allows for the facilitation of a non-judgemental space wherein the elderly can be themselves. In this space, a close human-animal bond is formed, which can result in a decrease in apathetic emotions found to be common in individuals living in old age homes (Cirulli et al., 2011; DeSchraver & Riddick, 1990; Ein, Li, & Vickers, 2018; Katcher et al., 1983; Wilson, 1991). Because of the many benefits of animal-assisted activities, the use of dogs in these activities is increasingly becoming recognised as an innovative tool to assist the elderly who are experiencing psychological distress and a lack of wellbeing in old age homes (Berry et al., 2012). One of the many benefits that are derived from the introduction of animal-assisted activities to old age homes was the demonstrated improvement of socialising among the elderly. This was seen through the acts of the elderly reminiscing about the pets they had in the past (Banks & Banks, 2005; Bernstein et al., 2000; Chandler, 2005; Moretti et al., 2011; Thodberg et al., 2016; Travers et al., 2013; Vrbanac et al., 2013). This act ultimately developed further into other conversations and allowed for bonds between the elderly to be built, based on their common stories of experiences with their pets (Banks & Banks, 2005; Bernstein et al., 2000; Chandler, 2005; Moretti et al., 2011; Thodberg et al., 2016; Travers et al., 2013; Vrbanac et al., 2013). Several studies have shown that dog-assisted activities that were held with the elderly reduced depression, anxiety and loneliness, and improved their social interaction, communication, health, quality of life and overall wellbeing (Ambrosi et al., 2019; Banks & Banks, 2005; Beetz et al., 2012; Bernstein et al., 2000; Coakley & Mahoney, 2009; Geldenhuys, 2015; Kil et al., 2019; Le Roux & Kemp, 2009; Lubbe & Scholtz, 2013; Majić et al., 2013; Moretti et al., 2011; Thodberg et al., 2016; Travers et al., 2013; Vrbanac et al., 2013).

When considering the literature that studied the elderly participating in animal-assisted activities, it was found that the majority did not focus on the impact these activities had on the

elderly, and the studies were not based on the South African population (Lubbe & Scholtz, 2013). Additionally, the data collected in these studies was mostly measured quantitatively (Ambrosi et al., 2019; Banks & Banks, 2005; Le Roux & Kemp, 2009; Moretti et al., 2011; Thodberg et al., 2016; Travers et al., 2013; Vrbanac et al., 2013). For the present study, a scoping review had been chosen to improve the qualitative understanding of the role animal-assisted activities play in the lives of the South African elderly who live in old age homes, and their experiences of such intervention.

## **2.7. Conclusion**

In this chapter, research regarding the elderly and their experiences of living in old age homes were explored. The ever-increasing proportion of an ageing population was discussed with regard to international and South African statistics. With this rapidly growing population sector, fewer alternatives for emotional and physical care were noted among the elderly. They often had suffered from the loss of loved ones and the lack of family support, and tended to develop geriatric syndromes. Without family support, many of the elderly were often forced to relocate to old age homes. In most cases, a lack of financial or workforce resource shortages, caused old age homes to be restricted in what they can offer the elderly living there. In turn, this often led to negative experiences that have an impact on the overall wellbeing of the elderly living in these homes. It was demonstrated that making use of animal-assisted activities that incorporate dogs can deliver positive experiences, create bonds and lead to improved socialisation of the elderly, and enhance their wellbeing while simultaneously negating negative experiences. Because of lacking in-depth information regarding the elderly and their experiences with animal-assisted activities in South Africa, this study aimed to determine if there was adequate research regarding the experiences of the elderly living in old age homes through a scoping review. The next chapter will focus on the research design and methodology used in this study.

## CHAPTER THREE

### RESEARCH DESIGN AND METHODOLOGY

#### 3.1. Introduction

Methodology is the most crucial feature of any research, thus the method that is chosen requires serious consideration to enable the researcher to succeed in reaching the objectives of the study. The purpose of this chapter is to illustrate the methodology and methods used in the current study. The chapter also explores the framework used to analyse the literature based on the experiences of the elderly who participate in animal-assisted activities. This framework served to ensure that the design, methodology and interpretation of the current study were both transparent and rigorous, and able to be replicated in any future research. Ethical considerations to this type of study are also briefly discussed.

#### 3.2. Research Design and Methodology

A scoping review approach was chosen to select, study and review the literature regarding the experiences of the elderly who participate in animal-assisted activities. Arskey and O'Malley (2005) highlighted four common reasons to undertake a scoping study. Three of these reasons were considered when undertaking this study, which included examining the extent, range and nature of research activity surrounding the elderly and animal-assisted activities; summarising and describing findings in the research, and aiming to identify any possible gaps in the existing literature when learning how the elderly experience animal-assisted activities (Arskey & O'Malley, 2005). According to these definitions, it can be deduced that a scoping review is an approach that is undertaken to explore and explain different ideas and enhance future research inquiries (Arksey & O'Malley, 2005; Davis, Drey & Gould, 2009; Levac et al., 2010). Depending on the purpose of the scoping review, the depth can differ in terms of how much information is extracted and reported on (Arskey & O'Malley, 2005; Levac et al., 2010). This was taken into consideration when conducting this scoping review on the experiences of the elderly who participate in animal-assisted activities.

Arksey and O'Malley (2005) created a methodological framework that proceeds through six stages. Stage 1 consists of formulating a research question that is relevant to the study. Stage 2 involves searching for relevant studies, while considering inclusion and exclusion criteria laid out by the researcher. Stage 3 highlights selecting studies that address the present topic and would be able to answer the formulated research question. Stage 4 details how the researcher collects the data and proceeds to charting the data collected. Stage 5 presents the analysis stage, which comprises collating, summarising, and reporting the results found in

the data. Finally, Stage 6, which Arksey and O'Malley (2005) explained as being optional, relates to consulting stakeholders to inform or validate the findings in the study. This stage allows external experts or peers to be consulted in the event that the researchers are under the impression that they need an independent or additional perspective or other sources of information to gain a greater understanding of the findings (Arksey & O'Malley, 2006).

According to Davis et al. (2009), scoping reviews are increasingly being known for their effective and efficient reviewing evidence. Since the publication of Arksey and O'Malley's scoping study's paper in 2005, this framework of scoping reviews had been cited across 10 242 sources of academic literature and books. The ability to quickly map out important concepts related to the research area and define the available literature, has made it an increasingly popular approach among researchers (Mays et al., 2001; Pham et al., 2014).

From the initial literature review performed in Chapter 2 of this study, However, it was noted that no previous scoping reviews had been conducted to explore the experiences of the elderly who participate in animal-assisted activities. During the initial literature review in Chapter 2, it was noted that there were numerous meta-analyses and systematic reviews. In the past 19 years, 13 systematic reviews had been conducted on studies that collected data on the elderly who have participated in animal-assisted activities.

One of the scoping review's aims can also be to determine whether a systematic review would be warranted for a specific area of research (Arksey & O'Malley, 2005; Levac et al., 2010). However, no scoping reviews had been conducted in the past 10 years regarding the elderly who participate in animal-assisted activities. It also has to be noted that none of the reviews had been conducted on the South African population. Therefore, the researcher identified a gap in knowledge regarding the topic under observation and the need to perform a scoping review on the existing literature to examine the extent, range, nature and relevance of any research activity conducted in the past decade with regard to the elderly's experiences when participating in animal-assisted activities. In doing so, the present study was able to address these gaps in the existing literature.

Arksey and O'Malley's (2005) framework was complemented by the work of Levac et al. (2010), who had enhanced the scoping review process by providing additional elements and in-depth insights into the process. Using the combination of Arksey and O'Malley's (2005) framework and Levac et al.'s (2010) additional input, enabled the researcher to carry out the scoping review in a more comprehensive manner. Arksey and O'Malley (2005) and Levac et al. (2010) explained that a key feature of a scoping review is that it must have the ability to provide breadth and detail of the identified research. However, very few articles were found in



Stage 3 of this scoping review, and therefore Stage 4 and Stage 5 could not be carried out as planned. When considering this challenge, it was found that Levac et al. (2010) suggested the use of content analysis to explore the collected data from the scoping review in an efficient and effective manner. Content analysis aims to transform numerous amounts of text into an organised consolidation of results that relate to one's research question (Kleinheksel et al., 2020). Content analysis is useful in this way, as it assumes that text contains rich data with valuable information about a particular area of interest (Kleinheksel et al., 2020; Kondracki et al., 2002) and is used to explore data qualitatively and quantitatively by quantifying the data found (Gbrich, 2007). It was therefore decided that the articles collected in Stage 3 would use a manifest content analysis approach (Kleinheksel et al., 2020; White & Marsh, 2006), which identified and explored clearly observable instances within the text (Kleinheksel et al., 2020; Potter & Levine-Donnerstein, 1999).

Content analysis focuses on the process of identifying codes and sorting them into groups of related categories (Graneheim et al., 2017; Hsieh & Shannon, 2005; Kleinheksel et al., 2020). These categories are then explored to find patterns, similarities and differences across the text, which are then discussed in relation to the research question (Graneheim et al., 2017; Hsieh & Shannon, 2005; Kleinheksel et al., 2020). An example of a code could be the frequency at which a certain word appears within a study (Kleinheksel et al., 2020; Potter & Levine-Donnerstein, 1999).

The manifest content analysis conducted for this study aimed to identify and report on the information connected to these frequently recurring words found across the seven articles. This exercise was expected to provide the researcher with the ability to answer the research question, and explore the reasons and objectives that were initially considered when undertaking this scoping study. It was also aimed at closing the gaps in the extant literature (Arksey & O'Malley, 2005).

Four broad steps outlined by White and Marsh (2006) were followed in this study to carry out a manifest content analysis. However, this process is adaptable depending on the needs of the study being conducted (Kleinheksel et al., 2020; Kondracki et al., 2002; White & Marsh, 2006). These four steps include formulating a research question, sampling, coding and categorising the data (Kleinheksel et al., 2020; Kondracki et al., 2002).

The steps employed in the present study are explained according to Arksey and O'Malley's (2005) first three stages and the steps outlined in content analysis (Kleinheksel et al., 2020; White & Marsh, 2006).

### **3.2.1. Stage 1: Identifying the research question**

A scoping study is utilised in research to assess areas of interest on a broader level by considering a multitude of different studies, without placing specific focus on detailed questions or on the quality of the analysed studies (Arksey & O'Malley, 2005). A clear research question needs to be identified to provide a study with a structured guideline, so that the stages that follow are done so efficiently (Arksey & O'Malley, 2005). The current scoping review concentrated on the experiences of individuals aged 60 years and older, who were living in old age homes, and who had participated in animal-assisted activities performed with dogs. The research question took cognisance of the fact that there was limited academic research available on animal-assisted activities used by the elderly (Jain et al., 2020). The few studies that had been produced on this topic had produced an abundance of quantitative research, but there was a lack of qualitative or in-depth exploration on the subject (Jain et al., 2020). The proportion of an elderly population is growing quickly in South Africa and worldwide (He et al., 2016; Nations, 2019; Solankii et al., 2019; Stats SA, 2017; World Health Organization, 2016), and there are limited numbers of qualified carers available for this sector of society. This implies that there are also fewer alternatives for emotional and physical care of the elderly, leaving the elderly with limited choices for support. Where they received support in old age homes, both positive and negative experiences were reported (Dorbriansky et al., 2007). Therefore, the research question for this study was designed to gain an understanding of how alternative methods of emotional and psychological care for the elderly can be added. This necessitated research being conducted on the human-animal bond impact one of the most vulnerable population in society.

### **3.2.2. Stage 2: Identifying relevant studies**

Stage 2 of this study focused on identifying the relevant studies connected to the topic and the research question, and where to search for such information (Arksey & O'Malley, 2005; Levac et al., 2010). For this stage, it was also important to choose the key search terms and sources best suited for the current study. The researcher also took into consideration when the articles had been written and in what language, as these aspects could have had an impact on the study (Levac et al., 2010).

Before the data collection commenced, the researcher had to acquaint herself with the available research by reading the literature that could be found on the current study's research topic and the research question (Arksey & O'Malley, 2005). Thereafter, she created the exclusion and inclusion criteria, as suggested by Arksey and O'Malley (2005). This allowed



the researcher to become familiar with the content of the studies that could be accessed, and to determine the final exclusion and inclusion items.

### **3.2.2.1. Inclusion and exclusion criteria**

When considering how to narrow down the articles that were collected during Stage 3, Arksey and O'Malley (2005) described that it was important to develop such inclusion and exclusion criteria to aid in eliminating studies that do not address the research question. The inclusion and exclusion criteria used in this study addressed several key elements.

First, published research was chosen as an inclusion criterion, because of various difficulties connected to using grey literature, which was considered an exclusion criterion for the current study. Grey literature is unpublished research or research that has been published through non-traditional commercial organisations (Seymour, 2010). The decision to exclude grey literature was based on the criticism that grey literature is observed to frequently duplicate and repeat information found in primary research (Seymour, 2010). Hopewell et al. (2007) listed examples of grey literature as being policy documents, unpublished data, conference abstracts, personal correspondence, and dissertations. Taking into consideration the limited range of published literature being available on the present topic, the researcher also included primary research. Primary research can be explained as data that is obtained by researchers acquiring the data or information first-hand from the source or directly from the research participants (Ajayi, 2017). This was included, as the research question aimed to identify and explore new data regarding the experiences of the elderly rather than merely exploring extant data.

Second, the included articles needed to be in the English language, since the researcher is fluent in English. Non-English language articles were excluded. Third, the research question focused on exploring the experiences of the elderly, who had been defined as individuals aged 60 years and older (Dobriansky et al., 2007; Nations, 2017; Stats SA, 2017). Therefore, only articles on studies using participants of this age range were included in this scoping review.

In addition to these inclusion rules, articles that included the elderly living in old age homes were included, as the study was limited to this specific section of the population. Therefore, any research that was conducted with the elderly in living in an environment that differed from an old age home was excluded in this scoping review.

Fourth, this scoping review placed its focus on animal-assisted activities performed by dogs. Articles that explored animal-assisted activities being conducted by animals other than dogs were excluded from this scoping review. Lastly, only articles published between the years 2011 and 2021 were included in this scoping review, and thus, any articles published prior to

2011 were excluded, because research that is older than 10 years in a fast-developing discipline such as psychology can be considered out of date in the academic discipline (Lindsay, 2016). In order to effectively explore the experiences of the elderly who participate in animal-assisted activities, it was important to only consider articles that were relevant and recent. These inclusion and exclusion criteria helped to inform the search strategy for this scoping review.

### **3.2.2.2. Search strategy**

In order to adequately explain the search strategy, the keywords in the search string are explored in this section. A search string is a planned grouping of keywords and Boolean operators that a researcher places into a search box in an online library database to find specific studies (*LibGuides: How to Do Research: A Step-By-Step Guide: 2a. Search Strategies*, 2021). All keywords used in this search string appear in italics, so as to provide the reader with descriptions that are understandable. The data collection process was performed through searching and identifying the studies that were appropriate to the research question. This was performed through the use of keywords designed around the research question. These keywords are discussed later in this section. The researcher set aside a two-month period for the study selection, which was kept in mind when considering the quality of articles needed, and what to include in the search string. Each part of the research question had to be considered to identify the most appropriate keywords. Additionally, the information specialist at the library of the University of Pretoria was consulted with regard to assessing whether the developed search string was appropriate for the purpose of this study.

The research question focused on the three main areas the current study was investigating. These areas included the elderly, animal-assisted activities, and the elderly's experiences of such activities. First, as there are multiple ways in which to refer to the elderly, it was decided that five variations of the term would be used in the search string, so as to include all possible research studies that included persons aged 60 years and older. Therefore, the terms *elderly* or *aged* or *older* or *geriatric* or *senior* were the keywords chosen to represent the category of the elderly in the search string. These were combined with the words *people* and *persons* in order to cover the type of elderly population that the study focused on.

Second, animal-assisted activities were referred to as *animal-assisted activities* or *animal-assisted interventions* or *dog-assisted activities*. The term *animal-assisted interventions* were included in the search string as it is the umbrella term under which animal-assisted activities fall. While the researcher was familiarising herself with the available literature before commencing the data collection, it became apparent that some research studies linked to animal-assisted activities were placed under research headings of animal-assisted

interventions. Therefore, it was decided that animal-assisted interventions would be included as a keyword, so as to avoid excluding such studies. The keyword dog-assisted activities were chosen, as it represents the specific type of animal-assisted activities that were being explored in this study.

Lastly, it was found that the experiences being explored in this study can be quite broad in nature. An initial concern arose around possibly limiting the data collection by choosing a specific keyword to denote this category. Therefore, no keyword was chosen to represent the experiences, in case that the focus for this search string would be too narrow. Therefore, it was decided that once articles had been collected, the last exclusion criteria to be applied would be to exclude articles that lacked information regarding the experiences of the elderly who participated in animal-assisted activities. This was not an exclusion criterion that was decided on originally, but one that emerged through the process of becoming familiar with the research (Arksey & O'Malley, 2005).

Boolean operators were used in this search strategy to link the selected keywords together in an attempt to refine the search results (*What Are Boolean Operators? - LibAnswers*, 2018). The three Boolean operators that are frequently used are AND, OR and NOT to assist in finding specific information being researched (*What Are Boolean Operators? - LibAnswers*, 2018). In this study, the elderly was searched for with the following Boolean operators: “*elderly persons*” OR “*elderly people*” OR “*aged persons*” OR “*aged people*” OR “*older persons*” OR “*older people*” OR “*geriatric persons*” OR “*geriatric people*” OR “*senior people*” OR “*senior persons*”. Animal-assisted activities were searched for with the following Boolean operators: “*animal-assisted activities*” OR “*animal-assisted interventions*” OR “*dog-assisted activities*”. By placing OR between these keywords, the search was broadened as the database would know that any of the keywords it connects were suitable (*What Are Boolean Operators? - LibAnswers*, 2018). The Boolean operator AND was used to connect the keywords focused on the elderly and the keywords focused on the animal-assisted activities. This gave direction to the search, as the Boolean operator AND informed the database that all keywords were to be found in the research articles for it to appear in the results column (*What Are Boolean Operators? - LibAnswers*, 2018). The final keyword structure in the search string for this study therefore appeared as follows: “*elderly persons*” OR “*elderly people*” OR “*aged persons*” OR “*aged people*” OR “*older persons*” OR “*older people*” OR “*geriatric persons*” OR “*geriatric people*” OR “*senior people*” OR “*senior persons*” AND “*animal-assisted activities*” OR “*animal-assisted interventions*” OR “*dog-assisted activities*”. The researcher approached the information specialist located at the University of Pretoria’s library with this search string to

assess whether there were any alternatives or changes suggested. However, it was agreed that this search string effectively covered all categories of interest for the current study.

The keywords were placed in quotation marks for the search engines to look exclusively for the articles pertaining to the elderly and animal-assisted activities. These search engines included Academic Search Complete, African-wide information, CINAHL, ProQuest, SAGE, Wiley, PsychInfo (EBSCO), Health Source Nursing (EBSCO), Scopus, Taylor and Francis, Science Direct and PubMed. The keywords for searching the databases were broad enough to not exclude any kind of experience the elderly had when participating in animal-assisted experiences. If quotation marks had not been included, then the results would include not only research connected to the elderly, but also individuals of other age groups who were involved in not only animal-assisted activities, but other animal-assisted interventions as well. This type of search strategy would have been too broad and lacked focus for the present study.

A total of 83 studies were identified for selection, based on this search string. Table 1 below outlines the keyword search terms used to search each database, and the number of search results that were produced.

**Table 1**

*Database search results based on the designed keywords*

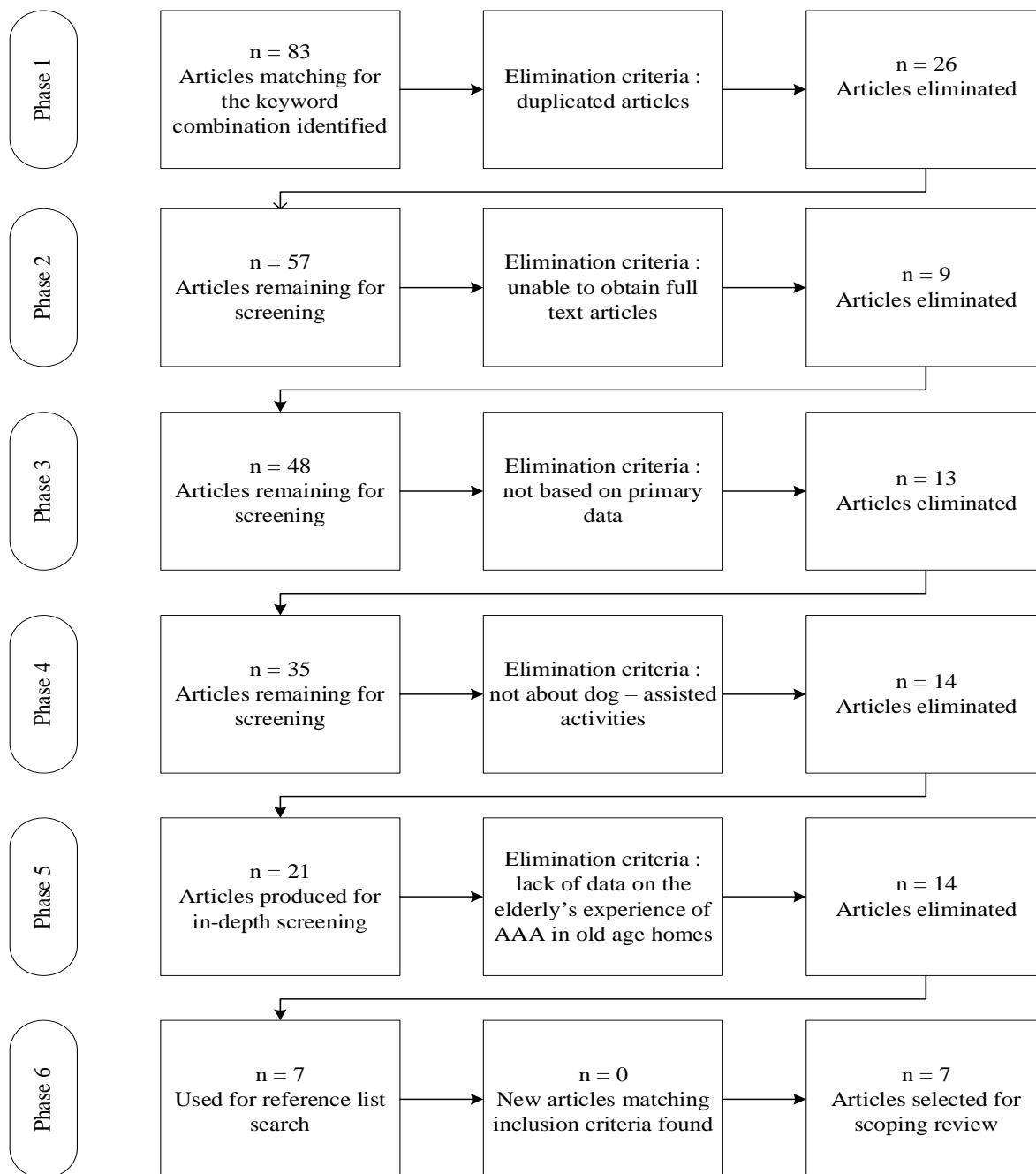
Database	Number of search results	Keyword combination used for all selected databases
Academic Search Complete	11	“elderly persons” OR
African-wide information	1	“elderly people” OR “aged
CINAHL	8	persons” OR “aged people”
ProQuest	8	OR “older persons” OR
SAGE	2	“older people” OR “geriatric
Wiley	5	persons” OR “geriatric
PsychInfo (EBSCO)	4	people” OR “senior people”
Health Source Nursing (EBSCO)	1	OR “senior persons”
Scopus	25	AND “animal-assisted
Taylor and Francis	6	activities” OR “animal-
Science Direct	3	assisted interventions” OR
PubMed	9	“dog-assisted activities”

### 3.2.3. Stage 3: Study selection

According to Arksey and O’Malley (2005), study selection is one of the steps in a scoping review, which comprises post-hoc inclusion and exclusion criteria. As suggested by

Levac et al. (2010), the researcher determined these criteria by familiarising herself with previous research. This was executed by reading articles on the elderly who participated in dog-assisted activities that could be related to the current study. Outlining details of these articles were then linked to the research question. In order to present the process of the study selection, a visual representation of the scoping process (see Figure 2) was outlined. This allowed for a constructive and time-effective strategy that ensured that only the appropriate studies fitting the inclusion criteria were included. As already stated, in Stage 1, 83 articles were identified to be matching the keyword combination in Academic Search Complete, African-wide information, CINAHL, ProQuest, SAGE, Wiley, PsychInfo (EBSCO), Health Source Nursing (EBSCO), Scopus, Taylor and Francis, Science Direct and PubMed. Twenty-six duplicate articles were eliminated, as they were not necessary for the scoping review. This left 57 articles to be used in Stage 2. Nine articles, where the full text could not be accessed, were then eliminated in Stage 2, leaving 48 articles remaining for Stage 3. Due to this study focusing on the experiences of the elderly, primary or first-hand data was needed to explore these experiences. Therefore, 13 articles such as systematic reviews and meta-analysis were eliminated in Stage 3, leaving 35 articles for screening in Stage 4. This research explored animal-assisted activities that were performed with dogs. This meant that 14 articles that were about other animals providing animal-assisted activities were eliminated, leaving 21 articles in Stage 5 for in-depth screening. During this stage, articles that did not contain enough data on the experiences of the elderly who lived in old age homes and participated in animal-assisted activities were eliminated. A further 14 articles were eliminated during this stage, leaving 7 articles in Stage 6. Finally, Stage 6 focused on searching the reference lists of the seven articles identified in Stage 5. This search included finding articles that fitted the inclusion criteria of the scoping review. However, articles in the reference list that fitted the inclusion criteria had already been identified and collected in the initial 83 articles. Therefore, zero articles matching the inclusion criteria were added. Seven articles were thus chosen for this scoping review.

Figure 1 below is a visual representation of the scoping process. The number of studies included in each stage within the study selection of Stage 3 is indicated by using “n =” to specify the sample or number of studies within each stage.



**Figure 1 Visual Representation of the Scoping Process**

The 21 articles in Stage 5 were further charted (see Appendix 1) to outline the final inclusion and exclusion process (Arksey & O’Malley, 2006). Articles included for this scoping review were bolded. Additionally, the references of the articles included in Stage 6 are outlined in Appendix 2.

### 3.2.4. Identifying and reporting information of importance across the scoped studies

Once the study selection was completed, seven articles relevant to the research question defined in Stage 1 were identified. A manifest content analysis was then chosen to effectively

explore the content in and across the articles of this scoping review (Arksey & O'Malley, 2005; Erlingsson & Brysiewicz, 2017; Kleinheksel et al. 2020; Levac et al., 2010; White & Marsh, 2006). As previously explained, content analysis is useful for analysing both qualitative and quantitative data, respectively (Erlingsson & Brysiewicz, 2017; Kleinheksel et al. 2020; Levac et al., 2010; Kondracki et al., 2002). Kleinheksel et al. (2020) and Erlingsson and Brysiewicz (2017) report two forms of content analysis: latent content analysis and manifest content analysis. Often, latent content analysis is performed with qualitative data such as interviews, where meaning units can be extracted from verbatim transcribed interviews and then developed into codes, categories and finally themes (Erlingsson & Brysiewicz, 2017). These latent content analysis steps are outlined in a highly detailed table format. Hidden meanings within the text are then explored by the researcher that can be seen to suit qualitative studies (Erlingsson & Brysiewicz, 2017; Kleinheksel et al. 2020). However, considering that the data in the current study was based on both quantitative and qualitative research articles, manifest content analysis that focuses on data that is easily observable and identified through frequently recurring words was thought to be more suitable (Kleinheksel et al. 2020). Kondracki et al. (2002, p. 225) explained that “manifest content is identified by using coding and key word searches and can be recorded in frequencies such as word counts”. Considering the reasons for taking on this scoping review as outlined by Arksey and O'Malley (2005), a manifest content analysis approach to evaluating the data was used to clearly determine codes and categories from the texts of the existing studies found in Stage 3 of the scoping review process. This aided in the task of reporting on the extent, range and nature of the research activity; summarising and describing the findings in the research by using frequently recurring words that arose from the manifest content analysis; and identifying any possible gaps in the existing literature (Arksey & O'Malley, 2005; Kleinheksel et al., 2020; White & Marsh, 2006).

Research shows there are a number of ways to conduct content analysis. However, it has been noted that qualitative analysis often does not follow an exact set design (Erlingsson & Brysiewicz, 2017; Kerr, 2020). White and Marsh's (2006) four broad steps to content analysis were used in the current study. This first step speaks to formulating a research question. This had already taken place in Stage 1 of the scoping review process. The second step in content analysis requires sampling to take place, which was completed in Stages 2 and 3 of the scoping review. Therefore, the last steps of coding and categorising the data were used to report on information across the seven studies that were key to the research question (Kleinheksel et al., 2020; White & Marsh, 2006). Coding took place by identifying the frequently recurring words across the seven scoped studies and grouping these into significant



categories (Kleinheksel et al., 2020; Kondracki et al., 2002; White & Marsh, 2006). Using frequently recurring words within the chosen studies and then coding and categorising this data allowed the researcher to stay close to the text in the manifest content analysis and efficiently explore the data (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017; Kleinheksel et al., 2020). A codebook depicting the relevant sentences that contained the frequently recurring words that were coded and then categories is outlined in Appendix 3. Another approach known as latent content analysis includes taking whole phrases or excerpts from the data and systematically tabulating them to later code and categorise them (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017; Kleinheksel et al., 2020; Kondracki et al., 2002). However, the approach of extracting phrases and excerpts better suits qualitative data such as transcribed interviews (Kleinheksel et al., 2020). Considering the aim of the current study, it was decided that categories would be the highest level of abstraction for reporting results (Bengtsson, 2016). This level of abstraction links to the process of the manifest content analysis, which highlights a surface-level analysis of what has been said in the texts (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017; Kleinheksel et al., 2020).

A free pdf word counter was used, which was found at [www.wordscounfree.com](http://www.wordscounfree.com) to identify frequently occurring words across the seven scoped studies. Computer software is often used within content analysis to streamline the process of identifying key words or concepts (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017; Kleinheksel et al., 2020; Kondracki et al., 2002; White & Marsh, 2006). The text from the seven scoped articles were inserted into the pdf word counter, which generated a list of 1000 recurring words. The text excluded the reference lists, as the focus for this content analysis was purely on the actual text or content of the seven scoped studies. The original search results included all words that were two symbols and longer. It was decided to remove joining words that were two and three symbols long. These joining words included words such as "and", "to" and "the". Words that had the same meaning such as "intervention" and "interventions" were also grouped together. For the purpose of this study, only the top 50 results were used to become represented in a figure. From these top 50 words, only words that linked to the research question pertaining to the experiences of the elderly who participate in animal-assisted activities were organised into the relevant categories. The ten recurring words from the results were chosen in line with the aim of the current study, which was to explore the experiences of the elderly who participate in animal-assisted activities.

The coding process is depicted in Figure 2 below. The identified recurring words used in this study were pulled from Figure 2, and the researcher carefully explored what was written



about these categories in the seven scoped studies and reported them in Chapter 4, relating the information back to the research question and literature review in Chapter 2. Categories were developed by grouping-related codes (Kleinheksel et al., 2020; Kondracki et al., 2002) through their content or context. The researcher looked for the commonalities or differences with regard to the experiences of the elderly who participate in animal-assisted activities.

- With
- Dogs
- Their
- More
- People
- Studies
- Were
- Participants
- Home
- Effects
- Homes
- Effect
- Residents
- Each
- They
- Control
- Table
- Staff
- Intervention
- From
- Between
- Nursing
- Used
- After
- That
- During
- Have
- Patients
- Resident
- Interaction
- Care
- Data
- Physical
- Cognitive
- Study
- Group
- Time
- Visits
- These
- Activity
- Social
- Depression
- Which
- Animal
- This
- Dementia
- Sessions
- Research
- Found

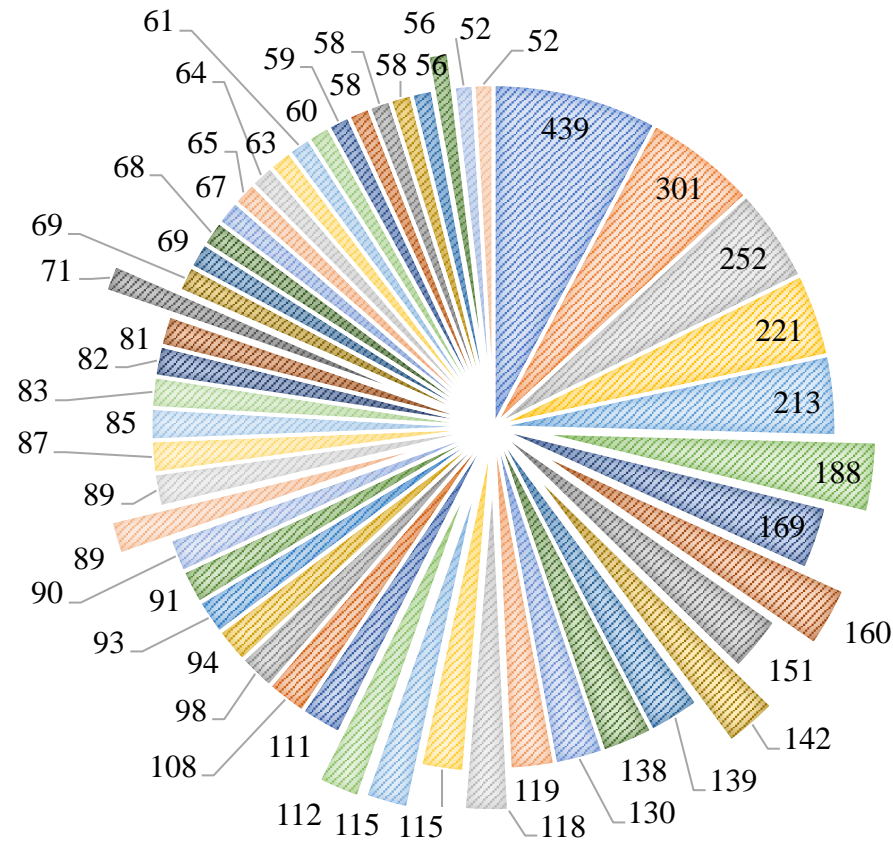


Figure 2 Word Frequency Table of the Top 50 Words Across The Seven Scoped Studies heading above

### **3.3. Strategies to Ensure Quality of the Data**

Scoping reviews are known to ensure trustworthiness or rigour through the steps laid out by Arksey and O'Malley (2005), which include six stages (Armstrong et al., 2011). Considering the adaptation of this scoping review, which included a content analysis of the results, it was important to ensure the quality of the research. This was ensured through the use of the strategies discussed by Creswell (2017), Guba, Lincoln, and colleagues (Guba, 1981; Lincoln, 1995; Lincoln & Guba, 1985; Lincoln et al., 2011). These strategies highlighted the three key concepts used in this study. First, the credibility of a study is linked to explanations that are correctly categorised and explained. Credibility was obtained by the clear steps laid out in this adapted study, thereby enabling other researchers to follow the process. The detailed step-by-step nature of this research process also spoke to the transparency and transferability of the current study. Additionally, the codebook presented in Appendix 3 further aided in enhancing transparency and assisted with transferability.

### **3.4. Conclusion**

In Chapter 3, the methodological framework used in the current study was explored to effectively investigate the literature published regarding the elderly's experiences of animal-assisted activities. The first three stages of Arksey and O'Malley's (2005) approach to scoping reviews were discussed, which had been used to identify the articles that were found to be appropriate for this study. The main search consisted of six stages and initially found 83 potentially relevant articles. Through the exclusion and inclusion criteria, a total of 76 articles were discarded, leaving 7 articles for the scoping review of this study. Because of the limited studies found in Stage 3 of the scoping review, the researcher adapted the study to include a manifest content analysis to explore the texts across the collected articles to analyse the data pertaining to the elderly's experiences of animal-assisted activities. The yielded data was deemed credible and trustworthy, since it adhered to the principles of transparency and transferability (Guba, 1981; Lincoln, 1995; Lincoln & Guba, 1985; Lincoln et al., 2011). In Chapter 4, the codes and categories found across the studies will be discussed in detail in an effort to answer the research question identified in Stage 1 of the scoping review process.

## CHAPTER FOUR

### FINDINGS AND DISCUSSION

#### 4.1. Introduction

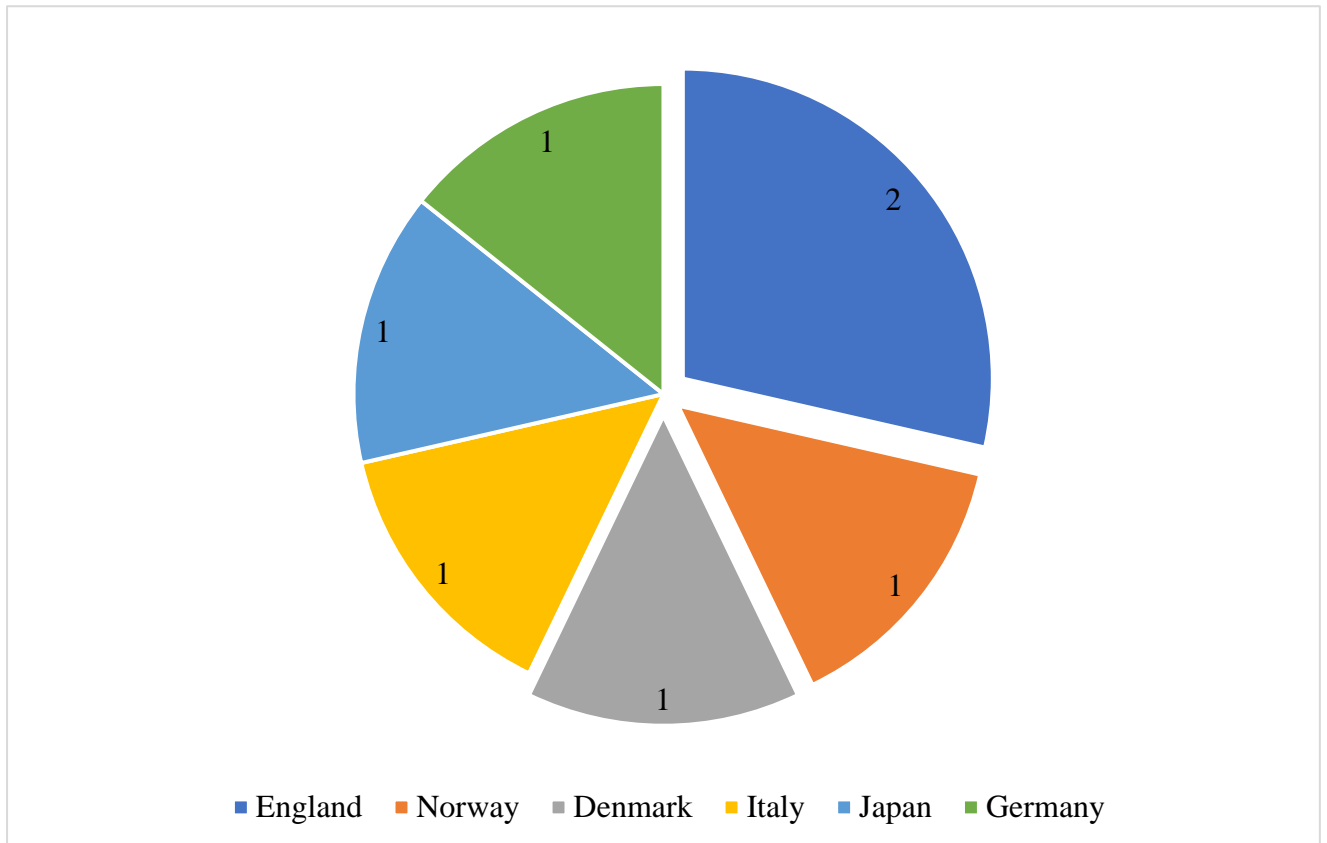
In this chapter, the findings and discussions will be presented. The chapter will first focus on the basic descriptive results of the scoped studies to give an overview of the identified trends across the studies. Then, findings connected to the manifest content analysis performed in this study will be thoroughly explored in connection with the research question (White & Marsh, 2006). The manifest content analysis assisted the research to garner an understanding of the extent, range and nature of the experiences of the elderly who participate in animal-assisted activities (Arksey & O'Malley, 2005). These findings identified the research gaps. The important findings in the seven scoped studies are summarised in this chapter.

#### 4.2. Basic Descriptive Results of Scoped Studies

This section introduces figures or graphs, and briefly describes the five areas of trends found in the current research. These areas include the geographic location of the scoped studies, the number of participants involved in the studies, and the type of old age homes visited. The selection criteria that were used when the studies were conducted are explored along with the methods used. Attention was paid to how the data was collected. Lastly, animal-assisted activities in the seven scoped studies are elaborated on. Focus was placed on the types of activities performed during the animal-assisted activities, how these activities were conducted, the breeds of dogs performing the animal-assisted activities, and the number of visits provided to the old age homes. By discussing these different findings, a basic understanding and overview will be gained of the scoped studies. This will ultimately provide the appropriate background to, and an understanding of the studies, before exploring the categories that will be discussed later in the section on the manifest content analysis.

##### 4.2.1. Geographic location

The geographic locations of studies can provide an indication of where interest is most prevalent for a particular area of research. The seven studies scoped for this study vary in geographical location. As seen in Figure 3 below, two studies were conducted in England (Friedmann et al., 2019; Jain et al., 2020), one in Denmark (Thodberg et al., 2016) and one in Norway (Olsen et al., 2016). These four studies are located in Northern Europe and make up most of the studies included in this scoping review. Only one study each could be found for Germany (Wesenberg et al., 2019), Japan (Koda & Yanai, 2011), and Italy (Berry et al., 2012).

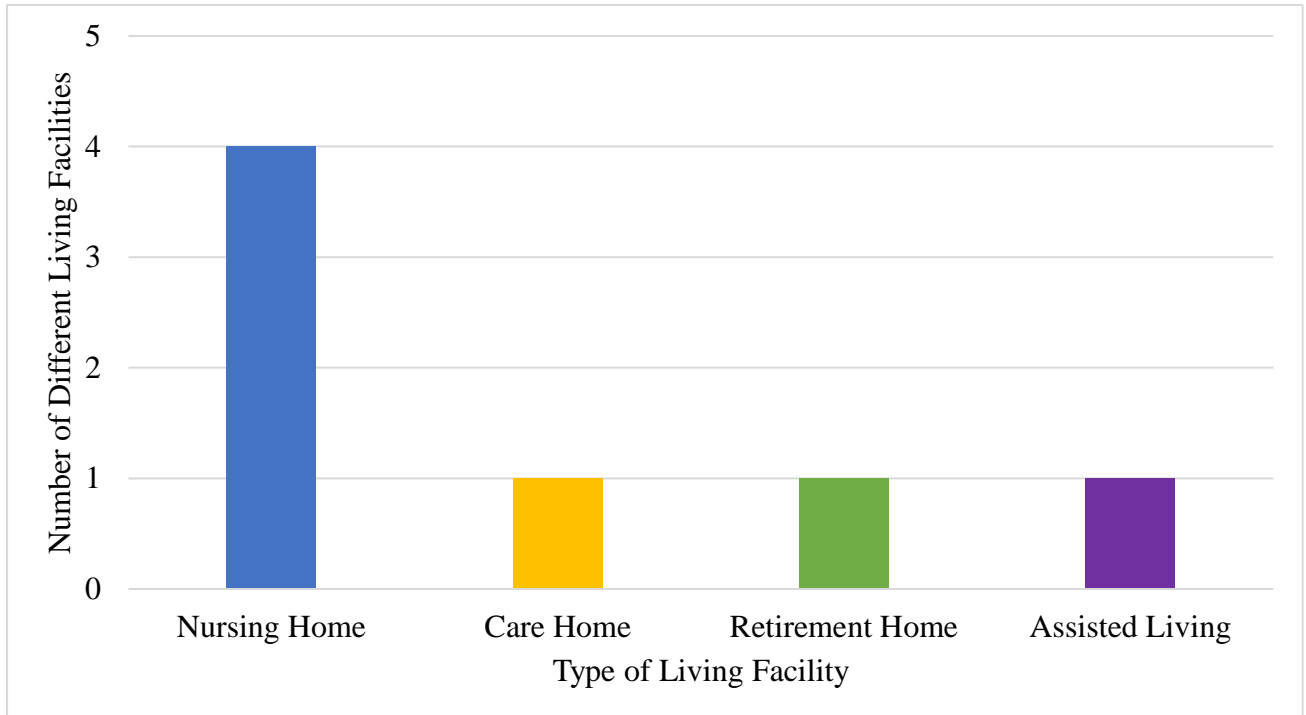


**Figure 3 Geographic Locations of the Scoped Studies**

One of the aims of the current study was to explore the experiences of the elderly who participate in animal-assisted activities in South Africa. However, none of the seven articles scoped were conducted in South Africa. Furthermore, the original 83 studies that were collected in Stage 2 of the scoping review also did not include studies on the South African elderly population. Thus, this confirmed the need for research exploration regarding the elderly’s experiences of animal-assisted activities in South Africa. Moreover, such research can be considered necessary, because South Africa has one of the faster growing number of the elderly populations (Nations, 2019). Additionally, animal-assisted activities are believed to be a cost-effective way to assist the elderly to improve their wellbeing, as many of these activities are provided voluntarily (Berry et al., 2012), and thus do not require scarce financial resources. It would ultimately be considered ideal for a third world country such as South Africa, and could be of benefit to many of the old age homes in diverse communities.

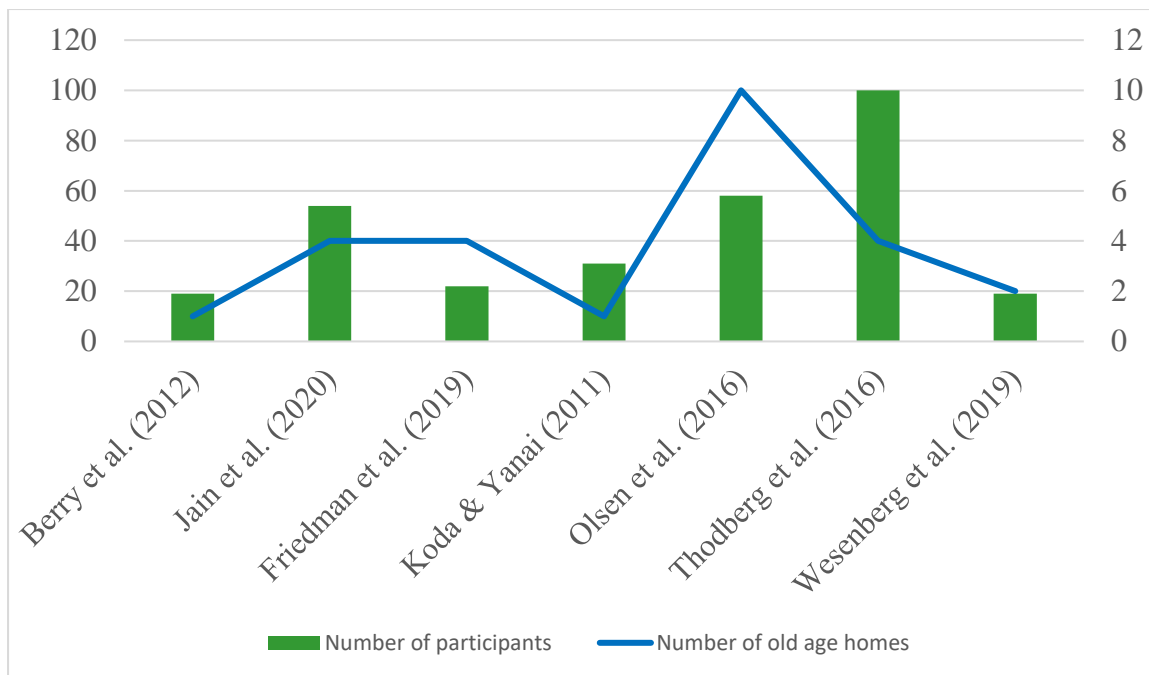
#### 4.2.2. Old age homes visited and number of participants

The scoping review found articles with a variation of number of participants recruited and old age homes visited.



**Figure 1 Types of Living Facilities**

As discussed in Chapter 1, the term old age home is the broad term used in this study to discuss the living facilities of the elderly participants in the scoped studies that provide elderly with physical, social, medical, mental, and psychological support (Dandekar, 1996; Dubey, Bhasin, Gupta & Sharma, 2011; Lombard & Kruger, 2009; Perold & Muller, 2000). The different types of living facilities used across the seven scoped studies are detailed above in Figure 5. Nursing homes were used in four of the seven scoped studies (Berry et al., 2012; Olsen et al., 2016; Thodberg et al., 2016; Wesenberg et al., 2019), conducted in Italy, Norway, Denmark, and Germany, making it the most prominent type of living facility that utilised animal-assisted activities. The remaining three studies used the term care home (Jain et al., 2020); assisted living (Friendman et al., 2019) in England, or a retirement home in Japan (Koda & Yanai, 2011).



**Figure 5 Number of Participants Recruited in Scoped Studies and Old Age Homes Visited**

As shown in Figure 5 above, the participants recruited for the seven scoped studies ranged from 19 to 100 elderly people. The number of participants did not seem to be associated with the number of old age homes that were visited in the studies. It could be surmised that this was based on reasons such as accessibility to the elderly, the selection criteria or the medical health of participants. For instance, the highest number of old homes included in a study was for a study conducted in Norway by Olsen et al. (2016). Olsen et al.'s (2016) study utilised ten old age homes, where visits were randomised to either animal-assisted activity or their usual treatment offered at the old age home. These treatments included diverse group activities such as music therapy, sensory garden singing, reminiscence, exercise, handicrafts, and cooking (Olsen et al., 2016). The ten old age homes, however, only yielded 58 elderly participants. In contrast to Olsen et al.'s (2016) study, the studies conducted by Berry et al. (2012), and Koda and Yanai (2011) utilised only one old age home in their respective studies. Berry et al.'s (2012) study was conducted in Italy with 19 elderly participants. It included one of the lowest numbers of participants out of the seven studies used in this scoping review. The second study that conducted research in only one old age home was situated in Japan (Koda & Yanai, 2011). This study included 31 elderly participants, which meant it recorded the fourth highest number of participants recruited in the collected studies.

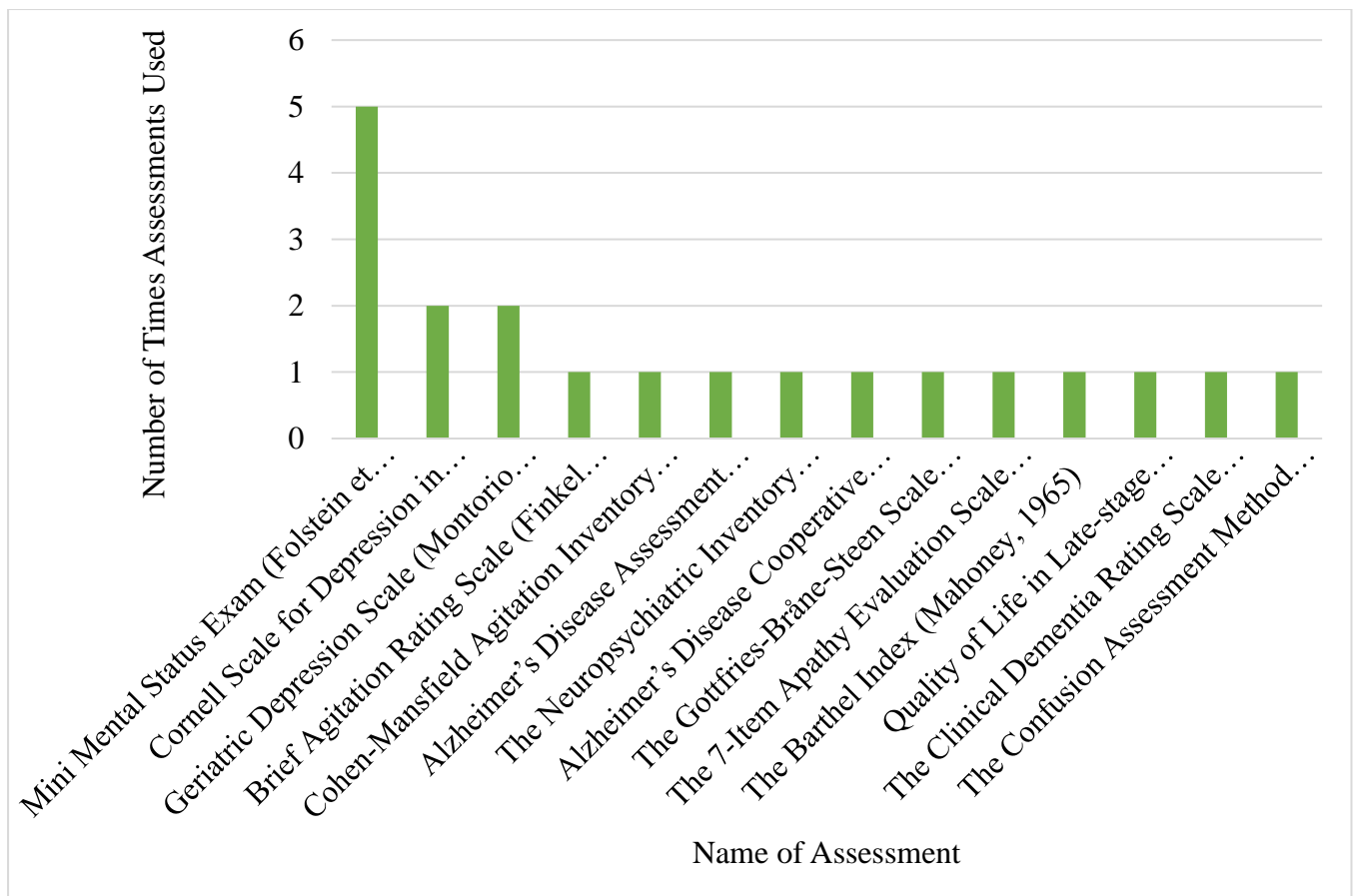
### **4.2.3. Selection criteria**

Four of the seven studies conducted by Berry et al. (2012), Friedmann et al. (2019), Olsen et al. (2016) and Wesenberg et al. (2019), explored the use and impact of animal-assisted activities with elderly individuals who suffered from either dementia or cognitive impairment. The study conducted in Japan focused on recruiting elderly individuals who had normal to severe physical disabilities. The aim of the study was to understand the impact of the interactions between the elderly and dogs in animal-assisted activities on the daily activities of participants (Koda & Yanai, 2011). The remaining two studies conducted by Jain et al. (2020) and Thodberg et al. (2016) did not place any restrictions or exclusion criteria regarding mental or physical ability of their elderly study participants. Across all studies, selection criteria of participants included the need for participants to have no allergies to pet hair or fear towards or of dogs. All participants had to fall under the category of being elderly.

### **4.2.4. Methods used and assessments utilised**

Of the seven studies in this scoping review, most of the data was either collected quantitatively (Friedmann et al., 2019; Olsen et al., 2016; Wesenberg et al., 2019) or through mixed methods (Berry et al., 2012; Koda & Yanai, 2011; Thodberg et al., 2016). Notably, only one study used qualitative methods to explore the nature, meaning and impact dog-assisted activities had on the elderly living in old age homes (Jain et al., 2020). The lack of qualitative studies in the present study highlights the need for more qualitative research on the impact of animal-assisted activities on the wellbeing of the elderly. The use of qualitative methods will add the essential understanding needed when aiming to create more positive experiences for the elderly by using the human-animal bond.





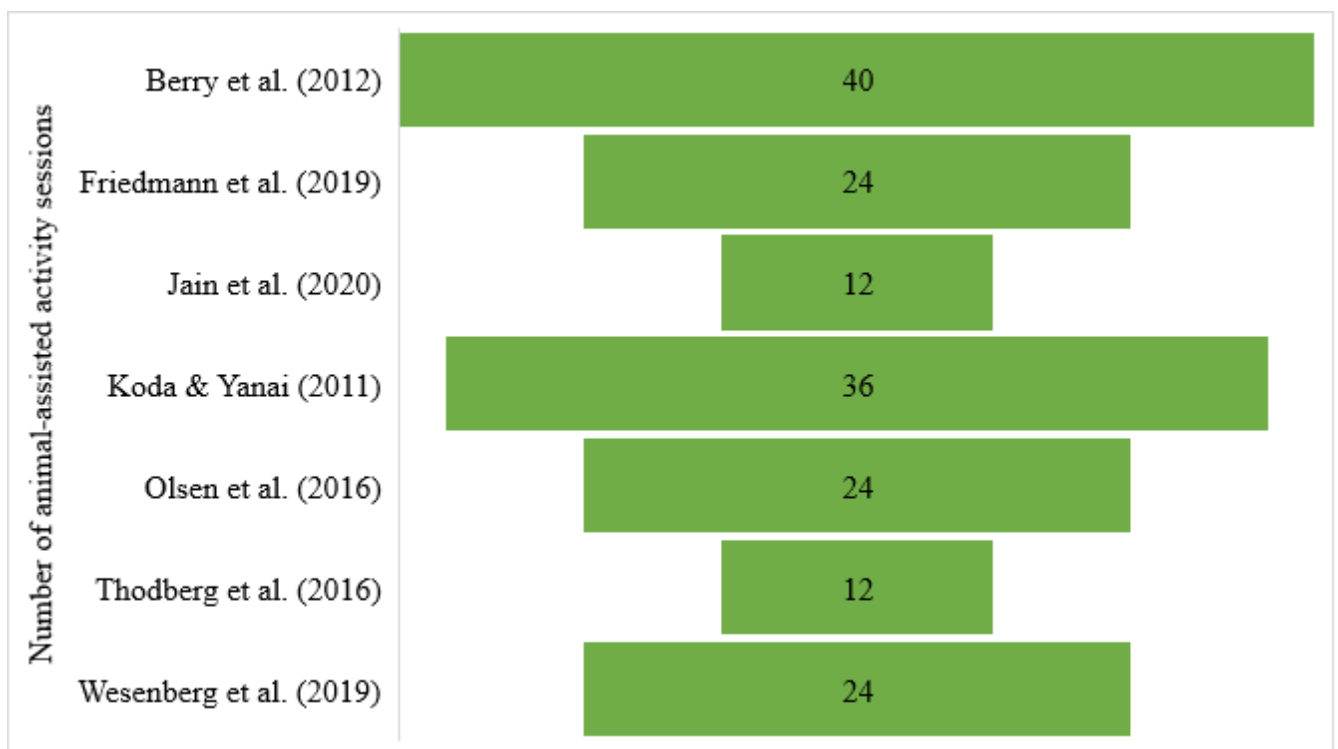
**Figure 6 Assessments Used in the Scoped Studies**

*Note.* The full in-text references for the assessments could not be displayed in Figure 6. They are as follows: Mini Mental Status Exam (Folstein et al., 1975), Cornell Scale for Depression in Dementia (Alexopoulos et al., 1988; Barca et al., 2010; Kørner et al., 2006), Geriatric Depression Scale (Montorio & Izal, 1996; Yesavage et al., 1982; Yesavage & Sheikh, 1986), Brief Agitation Rating Scale (Finkel et al., 1993), Cohen-Mansfield Agitation Inventory (Cohen-Mansfield et al., 1989), Alzheimer's Disease Assessment Scale (Rosen et al., 1984), The Neuropsychiatric Inventory (Cummings, 1997; Cummings et al., 1994), Alzheimer's Disease Cooperative Study-Activities of Daily Living Inventory (Galasko et al., 1997), The Gottfries-Bråne-Steen Scale (Bråne et al., 2001), The 7-Item Apathy Evaluation Scale (Resnick et al., 1998), The Barthel Index (Mahoney, 1965), Quality of Life in Late-stage Dementia (Weiner et al., 2000; Røenet et al., 2015), The Clinical Dementia Rating Scale (Hughes et al., 1982; Engedal and Haugen, 1993; Nygaard and Ruths, 2003) and The Confusion Assessment Method (Shi et al., 2013).

The six articles that used quantitative and mixed-method approaches utilised various assessments to collect the data (Berry et al., 2012; Friedmann et al., 2019; Koda & Yanai, 2011; Olsen et al., 2016; Thodberg et al., 2016; Wesenberg et al., 2019). These assessments are shown in Figure 6. The assessments that were mostly often utilised will be briefly discussed. The Mini Mental Status (Folstein et al., 1975) assessment, which was used in five of the seven scoped studies (Berry et al., 2012; Friedmann et al., 2019; Olsen et al., 2016; Thodberg et al., 2016;

Wesenberg et al., 2019) was used to assess cognitive functioning with regard to domains such as orientation, recall, memory, registration, language, and calculation. The Cornell Scale for Depression in Dementia (Alexopoulos et al., 1988; Barca et al., 2010; Kørner et al., 2006) was used in studies conducted by Friedman et al. (2019) and Olsen et al. (2016) to assess the elderly for depressive symptoms among the participants who presented with dementia. Alternative assessments for mood were used in Thodberg et al. (2016) and Berry et al.'s (2012) studies through the utilisation of the Geriatric Depression Scale (Montorio & Izal, 1996; Yesavage et al., 1982; Yesavage & Sheikh, 1986). Agitation and restlessness were measured in Olsen et al.'s (2016) study using the Brief Agitation Rating Scale (Finkel et al., 1993), which was derived from the Cohen-Mansfield Agitation Inventory (Cohen-Mansfield et al., 1989). The Cohen-Mansfield Agitation Inventory (Cohen-Mansfield et al., 1989) was used to assess outcomes of agitation and apathy in Friedman et al.'s (2019) study.

#### 4.2.5. Animal-assisted activities



**Figure 7 Number of Animal-Assisted Activities Sessions Provided**

As presented in Figure 7, the number of animal-assisted activity sessions performed varied across the seven studies. The minimum number of sessions provided were 12 in England (Jain et al., 2020) and Denmark (Thodberg et al., 2016), while the highest number of sessions performed referred to the 40 sessions reported by Berry et al. (2012) in Italy. However, the most frequent number of animal-assisted activity sessions performed across the seven studies

was 24. The three studies that completed 24 sessions of animal-assisted activities were reported by Friedmann et al. (2019) in England, Olsen et al. (2016) in Norway, and Wesenberg et al. (2019) in Germany. The majority of these sessions ranged from being conducted weekly to bi-weekly. In contrast, the study conducted by Koda and Yanai (2011) in Japan provided 36 animal-assisted activity sessions twice a month over 18 months. Of the seven studies, Koda and Yanai's (2011) study reported the longest time span of animal-assisted activities provided.

When participating in the animal-assisted activities, the elderly participants engaged in a variety of recreational activities. These activities included feeding and talking to the dogs, touching and brushing the dogs, walking with them, giving commands, playing with them, and also reminiscing about their own pets with other elderly participants. Five of the seven scoped studies described the breeds of dogs used during the animal-assisted activities sessions. The most common dog providing animal-assisted activities were Golden Retrievers (Berry et al., 2012; Koda & Yanai, 2011; Thodberg et al., 2016), followed by Labradors (Thodberg et al., 2016; Wesenberg et al., 2019), and Welsh Corgis (Friedmann et al., 2019; Koda & Yanai, 2011). Berry et al.'s (2012) study conducted in Italy was the only one to make use of dogs specifically trained for animal-assisted activities. These dogs were trained by an organisation known as Associazione Nazionale Uso del Cane per Scopi Sociali in Italy. Studies conducted by Friedman et al. (2019) in England, and Koda and Yanai (2011) in Japan mentioned that the participating dogs received basic obedience training, but the studies did not provide information as to where this training was provided or received from. The study conducted in Norway by Olsen et al. (2016) indicated that the dogs participating in their study had to take and pass a mentality test containing different assessment elements such as aggressiveness, sociability, anxiety, and handling. However, Olsen et al (2016) did not explain with which organisation or individuals this mentality test took place. Additionally, Wesenberg et al. (2019) reported that the animal-assisted programmes also required handlers to undergo training conducted by psychiatrists experienced in treating the elderly, highly qualified non-medical clinicians, and experts on animal-assisted interventions. The training received in Wesenberg et al.'s (2019) study included information regarding the human–animal relationships and animal-assisted interventions. Training about how to interact with people with dementia was also offered (Wesenberg et al., 2019).

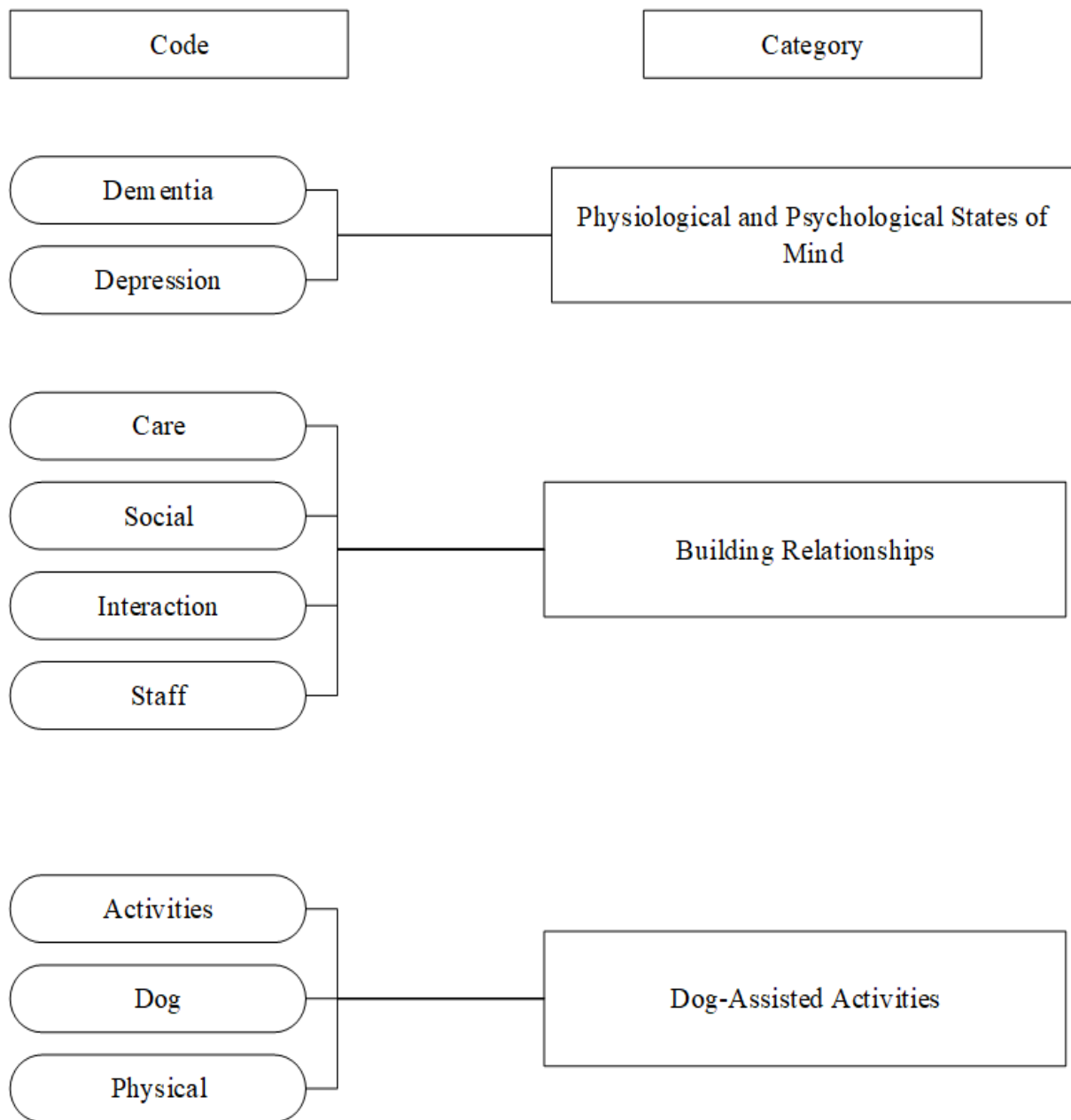
It was interesting to note that Olsen et al. (2016) and Wesenberg et al.'s (2019) studies were the only studies to require non-professional volunteers to complete a course in animal-assisted interventions for the visiting dogs. Considering that no formal training was needed for non-professional volunteers and their dogs to perform animal-assisted activities (Chandler,

2005; Dookie, 2013), the lack of specific training for the animal-assisted activities sessions in these studies was not unexpected.

### **4.3. Content Analysis**

In addition to the exploration of the basic descriptive results, a manifest content analysis approach described by White and Marsh (2006) was utilised to explore the data collected in Stage 3 of the scoping review. Levac et al. (2020) suggest conducting a content analysis in a scoping review to analyse important data within the text of scoped studies. As discussed earlier under Research Design and Methodology, content analysis is divided into either latent or manifest content analysis. Latent content analysis focuses on hidden meaning within the text to explore the detailed themes garnered by the researcher (Erlingsson & Brysiewicz, 2017). Because of the nature of latent content analysis, it is described as being well suited for qualitative studies (Erlingsson & Brysiewicz, 2017; Kleinheksel et al. 2020). Manifest content analysis was chosen for this study as it emphasises summarising the results, and remains descriptive so as to accommodate both qualitative and quantitative studies that were found in this scoping review (Erlingsson & Brysiewicz, 2017; Kleinheksel et al. 2020). The choice of conducting a manifest content analysis was also supported, as it closely linked to achieving the initial aims and objectives of this scoping review.

The manifest content analysis took place by highlighting frequently recurring words in these articles, otherwise known as codes, which were grouped into the relevant categories (Kleinheksel et al., 2020; Kondracki et al., 2002). These categories were investigated so as to identify and report on important aspects within the texts that relate to the experiences of the elderly who have participated in animal-assisted activities (Kleinheksel et al., 2020; White & Marsh, 2006). By completing a manifest content analysis across the scoped studies, the aim of reporting detail on the research was achieved as required in a scoping review (Arksey & O'Malley, 2005; Levac et al., 2010). Figure 8 illustrates the codes that were chosen through frequently recurring words and categorises developed that linked to the current study's research question.



**Figure 8 Manifest Content Analysis Codes and Categories**

#### 4.3.1. Physiological and psychological states of mind

Prior research (Ambrosi et al., 2019; Banks & Banks, 2005; Beetz et al., 2012; Bernstein et al., 2000; Coakley & Mahoney, 2009; Geldenhuys, 2015; Kil, Kim, & Kim, 2019; Le Roux & Kemp, 2009; Lubbe & Scholtz, 2013; Majić et al., 2013; Moretti et al., 2011; Travers et al., 2013; Vrbanac et al., 2013) had identified that animal-assisted activities to have

a positive impact on elderly's physiological and psychological states of mind. Thus, it was logical that both dementia and depression were highlighted in the top 50 recurring words across the seven scoped studies. Depression falls under mental health issues that often occur in old age and are brought on by difficulties of dealing with normal life stressors such as loss of independence and the death of loved ones (Courtin & Knapp, 2017; Prince et al., 2014; Siedlecki et al., 2014). Additionally, as reported in Chapter 2, Brown-O'Hara (2013) states that geriatric syndromes, for example, cognitive impairments such as dementia, can also be linked to older age and were often found to have a negative impact on the lives of the elderly, especially as they presented in symptoms such as loss of memory and physical functioning (McKhann et al., 1984; van Iersel et al., 2004).

Jain et al. (2020) and Olsen et al. (2016) report that while two-thirds of old age homes care for elderly who have some form of dementia, very little research has been undertaken to understand the elderly's qualitative subjective experiences connected to animal-assisted activities (Peluso et al., 2018; Pitheckoff et al., 2018). The studies conducted by Jain et al. (2020), Friedman et al. (2019), Koda and Yanai (2011), Olsen et al. (2016), Thodberg et al. (2016) and Wesenberg et al. (2019) all included participants living at an old age home and suffering from dementia. Olsen et al. (2016) reported that dementia is often diagnosed in the elderly who live in old age homes in Norway (Nygaard, 2002). Considering the prevalence of dementia in old age, Friedman et al. (2019) explain that animal visitation programmes such as animal-assisted activities are generally recognised as interventions that are beneficial in old age homes for elderly people with a variety of health concerns, including emotional difficulties and cognitive impairment.

Jain et al.'s (2020) study found that while participating in animal-assisted activities, the sensory element for elderly with dementia led these individuals to smile or even laugh while touching the dogs. The care staff located at the old age home in Jain et al.'s (2020) study noted a long-term positive impact on the mood of the elderly after having participated in animal-assisted activities. It was found that the elderly experienced an increased good mood even for hours after the dogs had left. Friedman et al. (2019) also experienced animal-assisted activities as being beneficial for those older individuals in their study who were cognitively impaired. Through animal-assisted activities, some of the older individuals with dementia who were included in Jain et al.'s (2020) study found that memories, sensory loss and emotions were unlocked. Interestingly, the dogs were seen to intuitively engage with the elderly, especially choosing those with dementia or physical difficulties who would normally shy away from contact (Jain et al., 2020). Jain et al. (2020) reported that the dogs encouraged interactions and

conversations between the elderly, recalling some of their memories with regard to feeding dogs various biscuits (Jain et al., 2020). This links to Wesenberg et al.'s (2019) findings that suggested that animal-assisted activities as a whole enhanced the psychosocial wellbeing of the elderly suffering from dementia in comparison to the control group in their study.

Overall, the findings in Jain et al.'s (2020) study stated that the inclusion of dog-assisted interventions in old age homes linked to improved relationship-building and emotional wellbeing of the elderly with and without dementia. According to the non-professional volunteers who were included in Jain et al.'s study (2020), they found that dog-assisted activities allowed for elderly participants, especially those with dementia, to connect with their sense of identity and self-hood. In contrast, Olsen et al.'s (2016) study indicated that while animal-assisted activities had a positive impact on the elderly with severe dementia, these findings were not significant for the elderly with mild to moderate dementia. The participants in Thodberg et al.'s (2016) study presented with an actual decline in their cognitive functioning after the completion of the study compared to their pre- and post-cognitive functioning scores. However, Thodberg et al. (2016) ascribed these findings to the progressive nature of dementia as a brain disease. Positive outcomes of animal-assisted activities could not be expected to undo the damage that dementia had already caused for the elderly participants in their study (Thodberg et al., 2016).

Several studies noted mental health problems as being more prevalent among older adults compared to individuals of other age groups (Ramachandran et al., 1979; Reddy & Chandrashekar, 1998; Tiwari, 2000; Tiwari et al., 2010; Tiwari et al., 2012). This finding is unsurprising considering the plethora of health issues and support system difficulties that can develop in old age. Mental health has been known to be influenced by the settings in which individuals live and regularly engage with (Brimelow & Wollin, 2017; Timalina et al., 2014).

Friedman et al. (2019) found that the reduction of depressive symptoms is the most common finding among elderly with cognitive impairments who participate in animal-assisted activities (Majić et al., 2013; Moretti et al., 2011; Olsen et al., 2016; Travers et al., 2013). As depicted in Figure 7, depression was assessed quantitatively with psychological measures in five of the studies in this scoping review by Friedman et al. (2019), Olsen et al. (2016), Thodberg et al. (2016) and Berry et al.'s (2012). The study conducted by Jain et al. (2020) explored mood qualitatively and found an improvement in the emotional wellbeing of the elderly who participated in animal-assisted activities. While mood was not directly measured in Koda and Yanai's (2011) study, they made reference to how the elderly enjoyed participating in animal-assisted activities.



Olsen et al. (2016) reported that animal-assisted activities had a significant and positive effect on depression in the long term for those individuals who suffered from severe dementia. They found that the symptoms of depression reduced or improved 12 weeks after the completion of the animal-assisted activities programme (Olsen et al., 2016). Similarly, Friedman et al. (2019) found that the more the elderly participants in their study interacted with the dogs during animal-assisted activities and looked at them, the more their depressive symptoms would reduce.

In comparison, Wesenberg et al. (2019) reported that animal-assisted activities had no influence on the behavioural or psychological symptoms of dementia. While Berry et al. (2012) also did not find a measured improvement in the symptoms of depression at the end of their study, the authors noted that the elderly depicted an observable improvement regarding the apathetic state during the animal-assisted activity sessions.

Berry et al. (2012) associated their lack of findings regarding a reduction of the symptoms of depression with the complexity involved in having depression and the need for individualised therapeutic interventions. In contrast, Thodberg et al. (2016) found little to no improvement in the elderly participants' symptoms of depression in their study. However, it was suggested by both Thodberg et al. (2016) and Berry et al. (2012) that relationships with the dogs needed to be built over time before one could expect to see any real long-lasting benefits of animal-assisted activities. According to Thodberg et al. (2016), it could therefore be assumed that the lack of influence on the symptoms of depression during or after the animal-assisted activities could have been caused by the infrequency or low intensity of the sessions provided during the study.

#### **4.3.2. Building relationships**

When considering the wellbeing of the elderly, the importance of developing and sustaining healthy and fulfilling relationships is a vital aspect for the elderly living in old age homes. This necessity was highlighted by the findings of the study conducted by Koda and Yanai (2011) in Japan, who found that it was not unusual for reduced social networks to be formed in old age homes. Social isolation is not an uncommon occurrence in old age, caused by a variety of factors such as cultural aspects, physical limitations, and limited social resources (Courtin & Knapp, 2017; Siedlecki et al., 2014).

Koda and Yanai (2011) reported that in Japan, physical closeness is considered culturally impolite and therefore relationships between the elderly were not easily established. Interestingly, similar findings had been observed among the elderly with severe dementia, as



there was a frequent occurrence of unmet needs concerning meaningful activities and social contact (Cohen-Mansfield et al., 2015). In Koda and Yanai's (2011) literature review, they explained how animals assisted in relationship-building as they facilitated social interactions that went beyond social or cultural limitations (Haughie et al., 1992; Hendy, 1987; Richeson, 2003; Bernstein et al., 2000). It had also been found that the elderly who participated in pet programmes experienced less loneliness (Calvert 1989). Friedman et al. (2019) reported that just by participating in animal-assisted activities, the elderly gained enhanced social interaction skills.

In all seven studies in this scoping review, it was observed that the dogs in the animal-assisted activities acted as a social catalyst among the elderly (Berry et al., 2012; Friedmann et al., 2019; Jain et al., 2020; Koda & Yanai, 2011; Olsen et al., 2016; Thodberg et al., 2016; Wesenberg et al., 2019). Jain et al (2020) noted that new social relationships began to develop between the elderly participants, as they discussed memories from their past, specifically regarding the pets they had, the places they had lived or the people they remembered. Some elderly who had been non-responsive began to interact with the dogs visiting them (Jain et al., 2020). Jain et al. (2020) reported in their study that through animal-assisted activities, the elderly with dementia experienced spontaneous remembering of past events, which led them to naturally sharing their stories with other elderly participants, non-professional volunteers, family, and the care staff. Friedmann et al. (2019), Olsen et al. (2016), and Thodberg et al. (2016) found something similar in their respective studies, as the dogs became facilitators for conversation and interaction. The increase in interaction was especially noticeable in Olsen et al.'s (2016) study conducted among the elderly with severe mental and physical disabilities. Similarly, Koda and Yanai (2011) reported that the dog-assisted activities in their study stimulated elderly participants who had different levels of ability into commencing social interaction. Wesenberg et al. (2019) noted a different type of interaction through animal-assisted activities, which prompted discussions about positive memories of previous pets and found that the dogs became a bridge for communication between the elderly.

Jain et al.'s (2020) findings suggested dog-assisted activities were a positive stimulus for interactions that were observably, and seemed to have a calming influence on some of the elderly participants. The study discovered that dog-assisted activities encouraged the development of social relationships between the elderly and others who took part and experienced an improved social functioning (Jain et al., 2020). Interestingly, Koda and Yanai's (2011) study explained that the dogs in their study were seen to interact better or more with

women rather than men, and used physical contact such as placing their heads on elderly participants' laps as a tool for their interaction. Koda and Yanai (2011) explained that animal-assisted activities relied on the simple aspects of social interaction such as the ability to touch and be touched. The studies by Koda and Yanai (2011) and Jain et al. (2020) found touch to be especially important for the elderly people in their study, as they reported that the elderly seldom connect with others physically.

Besides relationships among the elderly, animal-assisted activities were also found to aid relationship-building between the elderly and the old age home's care staff (Jain et al., 2020; Olsen et al., 2016). The expansion of the care relationship was specifically noted in Jain et al.'s (2020) study, where staff felt they were better able to get to know the elderly participants as people rather than merely as patients. Rapport between carers and the elderly in old age homes can be considered an important aspect of relationship development, as literature has highlighted that old age homes often place their focus on clinical or medical services rather than on socialisation with and between older people (De Bellis, 2010; Productivity Commission, 2011; Tuckett, 2005). Jain et al. (2020) highlighted the importance of relationship-building in their study, one that developed between carers at the old age home and the elderly through animal-assisted activities, as they came to better understand the needs of the elderly.

Building positive, meaningful or nurturing relationships and an enhanced quality of life can be closely linked, but the elderly's experiences of animal-assisted activities can vary. Therefore, the significant effects noted on the quality of life of elderly participants with severe dementia in Olsen et al.'s (2016) study were important findings. However, as identified previously, elderly who were reported to have had mild to moderate dementia in Olsen et al.'s (2016) study experienced no significant change. It should be noted that Thodberg et al. (2016) suggested that interaction with an animal as opposed to another human being can at times be easier, Koda and Yanai (2011) also reported that they observed that the dogs were found to interact easier with the elderly who had less of a disability, as two-way interaction was more naturally initiated. This linked to the findings in Friedman et al.'s (2019) study that reported that the elderly's participation in animal-assisted activities was dependant on the amount of physical challenge involved and the individual's ability to participate.

#### **4.3.3. The influence of dog-assisted activities on the physical well-being of the elderly**

The impact or effect that animals have on humans was noted as far back as the end of the 17<sup>th</sup> century, when animals were already used as agents of socialisation (Serpell, 2010; Van

Sittert & Swart, 2003; Wells, 2009). As was explored by Serpell (2010), Van Sittert and Swart (2003), and Wells (2009) in the literature review in Chapter 2, the history of the human-animal bond is not new in society. It has been used in many different settings to promote positive experiences and improve wellbeing (Cirulli et al., 2011; Ebener & Oh, 2017; Friedmann & Son, 2009). A clear example of this can be found in Wesenberg et al.'s (2019) study. Wesenberg et al. (2019) explained that the dogs in their study appeared to act as a very effective motivator and brought about a positive response in the elderly participants. The impact of this bond through dog-assisted activities will be explored through the findings in the scoped articles.

As discussed in the previous categories of *Building Relationships* and *Physiological and Psychological States of Mind*, dog-assisted activities had at times various effects on the elderly who engage in these assisted activities. This emerged from the study done by Jain et al. (2020, p. 5), which reported that during and after animal-assisted activity sessions, the elderly participants were found to be “expressing feelings of love, care, joy, and contributing physically, verbally and emotionally through words and tactile interaction”. This was a remarkable finding, as it was reported by the care staff at the old age home that some of these elderly participants had thus far not been openly interacting with others (Jain et al., 2020). Comparably, elderly participants in Wesenberg et al.'s (2019) study were found to interact more regularly verbally and nonverbally during animal-assisted activities in comparison to the control group in their study.

In terms of influence on the elderly's physical functioning, Friedmann et al. (2019) specifically established that the elderly who had not been able to walk benefitted most from the animal-assisted activities, as there was an increase in interaction and bodily movement, which lead to an increase in abilities to perform activities of daily living. Friedman et al. (2019) noted that physical activity in the elderly who participated in animal-assisted activities stayed constant, while a decrease in physical activity was experienced in the control group who participated in a reminiscing group. With physical health being such a prevalent aspect of an elderly person's wellbeing, it was unsurprising when the reference to the term “physical” recurred among the seven studies in this scoping review. The studies conducted by Phillips et al. (2013), Ramocha et al. (2017), Tiwari et al. (2012), and Vagetti et al. (2014), identified that the lack of physical activity by the elderly living in within old age homes fostered negative repercussions for them (Steptoe et al., 2015). However, animal-assisted activities encouraged movement (Barry et al., 2012; Friedman et al., 2019; Wesenberg et al., 2019). Wesenberg et al.'s (2019) study compared the findings of the elderly who participated in animal-assisted

activities with a control group who participated in exercises. They reported that the elderly who interacted with the dogs in their study gained significantly more upper body movements and were able to sustain such movements for longer periods of time when compared to the control group (Wesenberg et al., 2019). Wesenberg et al.'s (2019) study also noted vast differences in the duration of pleasure measured between the elderly interacting in the animal-assisted activities versus the control group. Similarly, being able to physically interact with the dogs in animal-assisted activities predicted positive changes in the level of depression among the elderly (Friedman et al., 2019). This coincides with other literature that found physically interacting with dogs had a noted positive impact on the mood of the elderly (Cirulli et al., 2011; Ebener & Oh, 2017; Friedmann et al., 2009).

Lastly, a component of physical wellbeing that Jain et al. (2020) qualitatively reported on was the significant sensory impact animal-assisted activities had on the elderly. Many older individuals struggle with geriatric syndromes such as a decrease or loss of hearing and sight (Brown-O'Hara, 2013). This was especially evident for vision impaired or dementia participants in the study done by Jain et al. (2020). The elderly participants "...would light up with a smile or laughter at the touch of a dog" (Jain et al., 2020, p. 4). Jain et al. (2020) went on to explain that the dogs in their study were found to be in tune with the participants' needs. This was indicated by the dogs' behaviour, which was moulded to the need of the elderly participant. In contrast, while Thodberg et al. (2016) noted that while dog visits had a transient but positive effect on the sleep duration for the elderly who participated in animal-assisted activities in week three of their study, there were no long-lasting improvements in sleep duration. Thodberg et al. (2016) reported that this could have been caused by the lack of intensity in animal-assisted activities. Another important finding reported by Berry et al. (2012) was that the elderly in their study spent more time interacting instinctively with the dogs than with their fellow participants. While most interactions increased among the elderly, it was more so with the dogs (Berry et al., 2012).

#### **4.4. Conclusion**

While the seven scoped studies were conducted in a number of different countries, related findings were found across the text through the use of manifest content analysis. Three categories related to the research question were explored regarding the *Physiological and Psychological States of Mind*, *Building Relationships* and *Dog-Assisted Activities*. It was found that animal-assisted activities had a mostly constructive influence on the lives of the elderly with regard to their mood, physical functioning, and socialisation with fellow elderly

participants and old age home staff. It was noted that the elderly with severe dementia specifically benefitted from participating in animal-assisted activities. In Chapter 5, the conclusions, limitations and recommendations for future research will be discussed.

## CHAPTER FIVE

### CONCLUSIONS, LIMITATIONS OF THE STUDY, AND RECOMMENDATIONS FOR FUTURE RESEARCH

#### 5.1. Introduction

This chapter provides an exploration and overview of the published academic studies based on primary evidence that reported on the experiences of the elderly who participate in animal-assisted activities. The conclusions of the current study will be discussed first. This discussion will be followed by the identified limitations and lastly, the recommendations for future research.

#### 5.2. Conclusions of the Current Study

For this study, an adapted version of a scoping review developed by Arskey and O'Malley (2005) was used. The adaptation consisted of the first three stages of Arskey and O'Malley's (2005) design, and included a manifest content analysis as suggested by Levac et al. (2010). The aim of this study was to explore the first-hand experiences of the elderly who participated in animal-assisted activities. While most of the literature found during the initial stages of the scoping review was quantitative in nature, the manifest content analysis was included to explore the content within the studies collected. A comprehensive search took place through 12 different search engines on the University of Pretoria's online library. These search engines were explored through the use of Boolean search operators and a search string specifically designed with the help from the University of Pretoria's library information specialist for the current study. This allowed for numerous articles that best suited the criteria to be identified in these search engines. Studies were then selected by using carefully designed inclusion and exclusion criteria. Abstracts and introductions from the studies aided in the initial selection, which yielded 83 studies that were applicable.

The current study found the initial 83 studies published between and including 2011 and 2021 in academic databases that linked to the topic of the experiences of the elderly who participate in animal-assisted activities. Of the many published articles, a large majority were systematic and meta-analysis studies. However, none of the initial 83 studies identified were scoping reviews. Only 35 studies were based on primary evidence and 21 of these articles were selected for a full-text review for this scoping review. The lack of studies found in this scoping review could be linked to the limited research specifically exploring animal-assisted activities. This could be explained as being caused by the nature of animal-assisted activities, which

speaks to providing recreational activities rather than specific goal orientated activities found in animal-assisted therapy (Chandler, 2005; Delta Society, 2009; Fine, 2010). Thus, because animal-assisted activities are not necessarily used to bring about predetermined outcomes, their impact on the elderly can be challenging to measure. In the current study, the one domain that was seen to be predominantly quantitatively measured with the elderly in five of the seven studies was the psychological domain or mood. The sixth study explored mood qualitatively. The results in this study supported findings in previous studies that reported animal-assisted activities as having a positive influence on the mood of the elderly (Ambrosi et al., 2019; Banks & Banks, 2005; Beetz et al., 2012; Bernstein et al., 2000; Coakley & Mahoney, 2009; Geldenhuys, 2015; Kil et al., 2019; Le Roux & Kemp, 2009; Lubbe & Scholtz, 2013; Majić et al., 2013; Moretti et al., 2011; Travers et al., 2013; Vrbanac et al., 2013). This is an important finding vital when considering how isolation is highly prevalent in old age homes and leads to psychological difficulties such as depression and feelings of loneliness or isolation (Courtin & Knapp, 2017; Siedlecki et al., 2014).

Interestingly, when exploring the geographic location of the studies, most of the research studies were found to have been conducted in Northern Europe, spanning from England to Denmark and Norway. The remaining studies were done in Germany and Japan. These countries can all be defined as first world countries, as they are countries that experience economic and political stability, are highly industrialised, and are seen to have a standard of living that is considered higher than those of other countries (Kenton, 2021). While countries have different legislation regarding the support and care that is provided to their elderly population, it can be assumed that this area of research is expressly needed for elderly individuals in third world countries, where resources and social nets are limited. It is also interesting to note that of the initial 83 studies collected in the scoping review, none were conducted in South Africa, which is often referred to as a third world country or at best, a developing country. Therefore, while one of the aims of this study was to explore the experiences of the South African elderly who took part in animal-assisted activities, the researcher was unable to do so, as there were no published articles on the topic.

Of the seven studies identified for the current scoping review, only the one study conducted by Jain et al. (2020) used qualitative data. The remaining studies either utilised quantitative or mixed methods. This supports the finding presented in Chapter 2 that most studies explored in the literature review were quantitative studies concerning the experiences of the elderly who participated in animal-assisted activities (Ambrosi et al., 2019; Banks & Banks, 2005; Le Roux & Kemp, 2009; Moretti et al., 2011; Thodberg et al., 2016; Travers et



al., 2013; Vrbanac et al., 2013). There were very few qualitative studies, which further highlighted the argument presented by Lubbe and Scholtz (2013) and Jain et al. (2020) pertaining to the gap in primary research exploring the impact that animal-assisted activities have on older individuals.

The impact that dogs in animal-assisted activities have on social interaction was highlighted in the categories of *Physiological and Psychological States of Mind*, *Building Relationships* and *Dog-Assisted Activities* during the manifest content analysis depicted in Figure 8. The studies conducted by Berry et al. (2012), Friedmann et al. (2019), Jain et al. (2020), Koda and Yanai (2011), Olsen et al. (2016), Thodberg et al. (2016) and Wesenberg et al. (2019) identified that animal-assisted activities had an influence on an enhanced level of social interaction and networking between the elderly participants. It also improved the interactions between the elderly and old age home staff (Jain et al., 2020; Olsen et al., 2016). Such improved networking between old age home staff and the elderly allowed them to form closer bonds and a unique understanding of each elderly individual.

Jain et al. (2020), Friedmann et al. (2019), Olsen et al. (2016), and Wesenberg et al. (2019) reported that interactions with dogs during animal-assisted activities not only had a positive influence on the elderly's mood, but also encouraged physical movement (Berry et al., 2012; Friedmann et al., 2019; Wesenberg et al., 2019). This an important finding as physical movement and being able to still move is a vital part of wellbeing for the elderly that often lacks the necessary attention in old age homes (Courtin & Knapp, 2017; Dahlberg & Segesten, 2010).

Elderly in varying stages of dementia who participated in the animal-assisted activities were seen to benefit the most according to the studies done by Jain et al. (2020), Friedman et al. (2019), Wesenberg et al. (2019) and Olsen et al. (2016). These benefits included improvement in mood, sudden recollections of previous memories, the use of different bodily senses, and the development of social networks, which were previously not strong (Jain et al., 2020; Friedman et al., 2019; Olsen et al., 2016; Wesenberg et al., 2019).

In conclusion, while notable categories were discovered across the seven studies in this scoping review, it was identified that research exploring the experiences of the elderly who participate in animal-assisted activities is under-investigated. In this current study, seven of the 83 studies matched the selection criteria for inclusion in the study. This indicated that less than 9% of published academic literature between and including the years 2011 and 2021 reported on the experiences of the elderly who participated in animal-assisted activities using primary evidence. Notably, most of the scoped studies in this study found animal-assisted activities



having some form of positive effect on the elderly, as presented in Chapter 4. These included improvements in mood, reducing the feelings of isolation or loneliness, improving physical movement, and enhancing socialisations or building relationships. It also aided the elderly to access and share memories that had been forgotten, and utilising senses such as touch, due to the loss of other senses connected to geriatric syndromes. Therefore, this study suggests that further research in this area is warranted.

## **5.2. Limitations of the Current Study**

For this study, the limitations included aspects such as the study's design, time limitation, and findings based on a small sample of scoped articles.

According to Arksey and O'Malley (2005), the quality of the sources used in a scoping review dictates the study's outcome. It is also challenging for a researcher to identify how much data should be included in the study versus how detailed the analysis should be. Because this study yielded a very low number of articles, which was further narrowed through the use of the inclusion and exclusion criteria, the researcher had decided that the content had to be explored through the use of a manifest content analysis. However, the breadth of research to be analysed was not achieved. This lack of breadth might have limited a more comprehensive understanding of the experiences of the elderly who participate in animal-assisted activities. This limited number of published articles was caused by the lack of research having been done in this area over the past 10 years.

When considering limitations regarding this scoping review, the first aspect highlighted was the final sample. The sample was restricted to peer-reviewed academic journal articles to increase the validity of this study. Because of time and resource limitations, the researcher decided to exclude reports, books and other forms of information such as grey literature. Narrowing down the study by making use of inclusion criteria made this study more manageable. On the other hand, a full research team working on this research topic would have been able to collect more information and potentially also included research found in reports, books and grey literature.

Another limitation of this study was that data collection was done by using only the University of Pretoria's library database. This limited the current study, as possible articles from other databases were not accessed and therefore excluded from being found during the data collection. Additionally, during data collection, English was specified as an inclusion criterion, as the researcher has English as her home language. Thus, it is possible that relevant

studies connected to the experiences of the elderly who participate in animal-assisted activities that were not published in English, were excluded.

The manifest content analysis performed in the current study found categories that spoke to various experiences of the elderly. It was found that these categories at times overlapped. For example, categories such as psychological states of mind and mood, or feelings of isolation and loneliness can be considered intimately connected. However, experiences are not stand-alone events and can be considered interconnected, complex and containing many intricacies. Thus, a possible limitation could be the accuracy of the findings connected to the research question, which was based on the manifest content analysis (Kleinheksel et al., 2020). This is an area to be considered as manifest content analysis focuses on identifying observable data across the scoped studies and reporting those findings rather than inferring meaning to such findings (Kleinheksel et al., 2020).

The final limitation that the researcher considered were the small sample sizes used in most of the scoped studies. Because of these small sample sizes noted in the seven scoped studies, findings in this study cannot be applied to the entire population of the elderly, and therefore would require further investigation on a bigger scale.

### **5.3. Recommendations for Future Research**

First, the lack of studies found regarding the elderly's experiences of animal-assisted activities speaks to inadequate research in the area. Further exploration with larger sample sizes will aid in providing a better understanding of the benefits or drawbacks that the elderly experience when making use of animal-assisted activities. At the same time, it should be established why some elderly individuals choose to take part in such activities and others do not. Considering the rapidly growing elderly population, the information gained from this research area will be useful in proving cost-effective means of supporting the elderly population living in old age homes or similar institutions. This research can be especially useful in third world countries such as South Africa, where financial and human resources are scarce regarding the care of the elderly.

One of the aims of this study was to explore how South African elderly experience animal-assisted activities. However, no studies had been published in the past 10 years that were conducted in South Africa. It is recommended that research be conducted in this area to further understanding of how the South African elderly experience animal-assisted activities when staying in old age homes.

Lastly, as was noted in both Chapter 2 and Chapter 4, most of the studies included in this research were quantitative in nature. While valuable, these studies lacked the rich detail needed to understand the unique impact animal-assisted activities can have on the elderly (Jain et al., 2020). Qualitative studies that provide an observable and comprehensive look at the elderly's experiences will provide important information that has largely remained unexplored thus far within the South African context.

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## Appendix 1

**Table 2**

*Articles discarded/included from Stage 5.*

Authors	Title	Published	Published during 2011-2021	Based on primary evidence	About dog-assisted activities	English language	Discusses the elderly's experiences of animal-assisted activities
Apóstolo et al.	Effectiveness of a combined intervention on psychological and physical capacities of frail older adults: a cluster randomized controlled trial	x	x	x	x	x	
<b>Berry et al.</b>	<b>Developing effective animal-assisted intervention programs involving visiting dogs for institutionalized geriatric patients: a pilot study</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
Branson et al.	Animal-assisted activity in critically ill older adults: a randomized pilot and feasibility trial	x	x	x	x	x	
Friedmann et al.	Evaluation of a pet-assisted living intervention for improving functional status in assisted living residents with mild to moderate cognitive impairment: A pilot study	x	x	x	x	x	
<b>Friedmann et al.</b>	<b>Relationship of behavioral interactions during an animal-assisted intervention in assisted living to health-related outcomes</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
Gundersen & Johannessen	What motivates arrangements of dog visits in nursing homes? Experiences by dog handlers and nurses	x	x	x	x	x	
Handlin et al.	The effects of a therapy dog on the blood pressure and heart rate of older residents in a nursing home.	x	x	x	x	x	
<b>Jain et al.</b>	<b>Dog-assisted interventions in care homes: A qualitative exploration of the nature, meaning and impact of interactions for older people</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>

Kårefjård & Nordgren	Effects of dog-assisted intervention on quality of life in nursing home residents with dementia.	x	x	x	x	x	
<b>Koda &amp; Yanai</b>	<b>Dog-resident interactions in a Japanese retirement home.</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
Menna et al.	Evaluation of social relationships in elderly by animal-assisted activity	x	x	x	x	x	
Moretti et al.	Pet therapy in elderly patients with mental illness	x	x	x	x	x	
Nilsson et al.	Interacting with a visiting dog increases fingertip temperature in elderly residents of nursing homes	x	x	x	x	x	
Olsen et al.	Effect of animal-assisted activity on balance and quality of life in home-dwelling persons with dementia	x	x	x	x	x	
<b>Olsen et al.</b>	<b>Effect of animal-assisted interventions on depression, agitation and quality of life in nursing home residents suffering from cognitive impairment or dementia: a cluster randomized controlled trial</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
Olsen et al.	Engagement in elderly persons with dementia attending animal-assisted group activity. Engagement in elderly persons with dementia attending animal-assisted group activity.	x	x	x	x	x	
Schuurmans et al.	Animal-assisted interventions in Dutch nursing homes: a survey.	x	x	x	x	x	
Strickland & Davidson	Predictors of interest in participation in an animal-assisted activity program among elderly citizens	x	x	x	x	x	
Thodberg et al.	Behavioral responses of nursing home residents to visits from a person with dementia	x	x	x	x	x	
<b>Wesenberg et al.</b>	<b>Effects of an animal-assisted intervention on social behaviour, emotions, and behavioural and psychological symptoms in nursing home residents with dementia</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>

*Note.* The seven articles that were included in the study appear in boldface.

## Appendix 2

### References of articles included from Stage 6

- Berry, A., Borgi, M., Terranova, L., Chiarotti, F., Alleva, E., & Cirulli, F. (2012). Developing effective animal-assisted intervention programs involving visiting dogs for institutionalized geriatric patients: a pilot study. *Psychogeriatrics*, *12*(3), 143-150.
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- Wesenberg, S., Mueller, C., Nestmann, F., & Holthoff-Detto, V. (2019). Effects of an animal-assisted intervention on social behaviour, emotions, and behavioural and psychological symptoms in nursing home residents with dementia. *Psychogeriatrics*, *19*(3), 219-227.

### Appendix 3

**Table 3**

*Manifest Content Analysis Code Book.*

<b>Authors</b>	<b>Relevant Sentences with Frequently Recurring Word/Examples of Code</b>	<b>Code Description</b>	<b>Code</b>	<b>Category</b>
Jain et al. (2020, p. 2)	Yet, few studies on AAI to date have attempted to understand the experience and meaning of the animal-human interaction for older residents living in care homes (Pitheckoff et al., 2018), particularly for people with dementia (Peluso et al., 2018).	Lack of research around elderly's experiences of animal-human interactions	Dementia	Physiological and Psychological States of Mind
Olsen et al. (2016, p. 1317)	For patients with severe dementia, the intervention also showed significant effects on QoL in the change from T0 to T1 and T2.	Noteworthy impact over time on the quality of life of elderly after animal-assisted activities		
Berry et al. (2012, p. 143)	Depression and apathy are almost ubiquitous symptoms in nursing home patients, and though the correlation between apathy and depression is still controversial, apathy appears as a prominent feature of depression in subjects over 80 years of age.	Depression and apathy a consistent occurrence in elderly in old age homes	Depression	
Olsen et al. (2016, p. 1317)	The main finding in the study was significant statistical and clinical improvement in symptoms of depression from baseline (T0) to follow-up 12 weeks after end of the intervention (T2) in the AAA group compared with the control group.	Measured improvement in symptoms of depression long term for elderly		

Jain et al. (2020, p. 5)	For example, one resident, often observed to be quiet and non-responsive, began interacting with the dog-owner volunteer and care-worker – discussing both her childhood growing up and her current life.	Dogs- assisted activities act as a catalyst for conversation that otherwise would not take place	Care	Building Relationships
Friedmann et al. (2019, p. 222)	Assisted-living is the fastest growing residential care setting for older adults in the United States (US) (Park, Zimmerman, Kinslow, Shin, & Roff, 2012).	Old age homes becoming increasingly used to support elderly		
Jain et al. (2020, p. 6)	According to care staff, the DAI sessions provided opportunity to expand the care relationship and for staff to get to know the resident as a person as opposed to a patient.	Old age home care staff build deeper connects with elderly through the animal-assisted activities	Staff	
Olsen et al. (2016, p. 1319)	The intervention may have contributed to an increase in social interaction in general between the participants and staff.	Social interaction increased between elderly and care staff due to animal-assisted activities		
Berry et al. (2012, p. 149)	In addition, during socialisation sessions, the time spent interacting spontaneously with the dog increased from February to June, suggesting that ludic-recreational activities, particularly play, are the most effective at decreasing the apathetic state and promoting the interaction between the patient and dog.	Participating in animal-assisted activities over time encourages more spontaneous interactions thus positively influencing symptoms of apathy	Social	
Koda and Yanai (2011, p. 162)	The results regarding the changes in the number and members of a cluster	Animal-assisted activity sessions gave		

	indicate that the dog-assisted activity, even if temporary, could provide a social stimulus for residents, who tend to be limited to one-to-one interactions with staff in their daily routines.	reason for and encouraged social interaction		
Wesenberg et al. (2019, p. 225)	The positive effects of AAIs on social interactions and the emotional wellbeing of people with dementia can be explained through a complex interplay of various factors.	There are many aspects to consider when exploring why animal-assisted activities has a positive influence of social interactions and wellbeing		
Berry et al. (2012, p. 148)	From a behavioural point of view, a spontaneous increase in patients' willingness to participate in the activities involving dogs was observed, as evidenced by an increase in spontaneous interactions towards the animals.	Elderly's willingness to participate in animal-assisted activities improve over time	Interactions	
Jain et al. (2020, p. 5)	This interaction was stimulated by a discussion around the type of biscuits fed to the dog.	Interactions developed between the elderly due to the dogs in the animal-assisted activities		
Thodberg et al. (2016, p. 295)	We found that participants who received dog visits slept for longer on the test night in week 3.	Animal-assisted activities may positively impact sleep in the elderly	Dog	Dog-assisted activities
Wesenberg et al. (2019, p. 224)	Participants interacted more often in the AAI than in the control intervention without a dog. Both non-verbal and verbal interactions occurred more frequently in the AAI.	More interaction between elderly due to animal-assisted activities versus control group		

Berry et al. (2012, p. 147)	However, during play activity, patients spent significantly more time interacting spontaneously with the dog than with humans.	Dogs easier to interact with than humans	Activity
Koda and Yanai (2011, p. 162)	A dog-assisted activity may be particularly valuable for seniors who find conversation difficult, since they can communicate by the simple means of physical contact.	Dog-assisted activities provide situations for non-verbal communication	
Jain et al. (2020, p. 5)	The intuitive nature of the dogs promoted interaction or activities between people particularly for residents with advanced dementia or physical limitations who tended not to initiate contact.	Dogs in animal-assisted activities are able adapt and interact with people who have a variety of limitations or difficulties	Physical
Thodberg et al. (2016, p. 290)	Finally, since this group of people is less likely to have physical contact with others, contact to a dog may potentially satisfy a need for tactile stimulation.	Dogs provide different forms of stimulation for the elderly	

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*Note:* The sentences in the table above were pulled directly from the seven scoped studies. The in-text references within these sentences can therefore be found in these respective articles. This table includes a brief overview of the full table.