

The Relationship Between Dog Companionship and Loneliness Levels Among Over 50's

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Abstract

The current study, conducted on 151 adults 50 years of age and older, consists of three main aims: 1) To determine a relationship between dog- companionship and loneliness 2) To determine an interaction between dog companionship, loneliness and gender 3) To determine whether a relationship exists between dog- companionship and loneliness, after controlling for social connection. Based on the available literature and evidence it was hypothesized that 1) Dog owners will have different levels of loneliness compared to non-dog owners 2) Interaction occurs between gender and dog ownership on levels of loneliness 3) A relationship between dog ownership and loneliness will remain after controlling for social connection.

Participants were required to answer various demographic questions and scales, The Lubben Social Network Scale and The UCLA Loneliness Scale to gain an understanding into their levels of social connection and levels of loneliness. The participants were recruited using convenience and snowball sampling techniques. The results showed a significant relationship between dog companionship and loneliness, even after controlling for social connection. No relationship was found between gender and dog companionship on levels of loneliness. The findings of this study will have implications for possible ways to reduce and alleviate feelings of loneliness among adults over 50.

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## **Introduction**

The Relationship Between Dog Companionship and Loneliness Levels Among Over 50s

Loneliness has been described as an inconsistency with desired and real-life relationships and relates to a perceived insufficiency in the quality of one's social relationships (Bahr, Peplau & Perlman, 1984). Loneliness has a strong association with low levels of health, wellbeing and quality of life (Rico-Urbe et al., 2016). Many people experience loneliness because they live alone or due to lack of family connections. They may also feel disconnected from their community which leads to feeling like they cannot contribute or participate within their community or society (Singh & Mirsa, 2009). It is however important to note that while many people who associate with being lonely are also socially isolated. This is not always the case. They are distinct and independent constructs to each other (Stephoe, Shanker, Demakakos & Wardle, 2013).

### **Loneliness and Ageing**

Loneliness is a common cause of distress and impaired quality of life in older persons (Bahr, Peplau & Perlman, 1984). Feelings of loneliness are subjective and can consist of feeling isolated, lacking companionship or feeling a lack of belonging (Perissinotto, Cenzar & Covinsky, 2012). There are many changes that come with ageing such as retirement, children leaving family home or perhaps the death of a partner or friends. Adapting to these changes requires that an individual is flexible and develops new ways of coping to acclimatize to the changes that are common within this stage of life (Warnick, 1995). In a study by Victor & Yang (2012) they found those 65 and over to demonstrate the highest levels of loneliness compared to those in early and midlife. This suggests that loneliness is more common among older people compared to young.



In a recent study by Arslantas et al (2015) they examined how loneliness can negatively affect quality of life in later years. They found that the presence of serious health problems and lack of hobbies and interests all predicted high levels of loneliness. Elderly adults who live alone were found to be at the highest risk of loneliness (Arslantas et al., 2015). In order to improve quality of life along with their psychological well-being, support systems need to be readily available. With the aim of encouraging older adults to participate in more social outlets and activities. Based on the findings and the current literature available the most common risk factors of loneliness in later life is being female, low level of education, health problems and being unmarried or widowed (Arslantas et al., 2015; Victor & Yang, 2012). Having a clear understanding of these variables is key in ensuring that older adults receive adequate support where necessary. Singh & Mirsa (2009) investigated loneliness and sociability, the results showed a significant relationship between loneliness and sociability and that older adults have a preference to remain socially active throughout their later years (Singh & Mirsa, 2009). Studies like that of Singh & Mirsa (2009) highlight the importance of alleviating loneliness and maintaining sociability among older adults.

Unfortunately, not only does loneliness predict low quality of life but is also a predictor of functional decline and death (Bahr, Peplau & Perlman, 1984; Perissinotto, Cenzar & Covinsky, 2012). In a longitudinal study of 1604 participants, all aged 60 and over, 43% reported having regular feelings of loneliness. Participants who reported loneliness were more likely to experience decline in ADL's (activities of daily living), decline in mobility and develop issues with extremity tasks such as walking up the stairs, showering or answering the telephone (Perissinotto, Cenzar & Covinsky, 2012). Loneliness was found to be a high-risk factor of death among those who reported loneliness at baseline compared to those who are not lonely (22.8% vs 14.2%) (Perissinotto, Cenzar & Covinsky, 2012). It is possible to treat loneliness, with studies like that of Arslantas et al (2015) and Perissinotto, Cenzar &

Covinsky (2012) identifying the negative outcomes of loneliness for older adults. Therefore, it is important to identify interventions that will help reduce loneliness among older adults.

### **Loneliness and Social Interaction**

Frequent social support can help in protecting individuals against feelings of loneliness and isolation throughout life (Lee & Goldstein, 2015). Lee & Goldstein (2015) focused on three different areas of social support: family, friends and romantic partners. The results of this study showed that only support from friends buffered loneliness however, when loneliness was present over a long period of time support from romantic partners and friends were also found to be effective. Support from family was found to be the least effective from the three (Lee & Goldstein, 2015). This research advances knowledge of social support and gives direction for future studies. Social isolation is an objective and measurable reflection of social network size and lack of social interaction (Step toe, Shanker, Demakakos & Wardle, 2013). Social isolation is a particular issue among older adults, with decreasing economic income, reduced mobility, and the death of family, friends and neighbours can conspire to limit social interaction (Step toe, Shanker, Demakakos & Wardle, 2013; Perissinotto, Cenzar & Covinsky, 2012).

An important scientific question is posed: if social isolation and loneliness are two distinct constructs, each adding to an increase in health risks, or if the emotions of loneliness, provide a method through which social isolation affects one's quality of life (Step toe, Shanker, Demakakos & Wardle, 2013). Previous research has found mixed conclusions (Rico-Uribe, 2016). An understanding into this relationship and these distinct processes is important as it will help identify the most effective methods of change and the best interventions for support of older people. Although it is widely recognized that a strong social network has a positive effect on one's quality of life (Rico-Uribe, 2016) it is important to

continue to investigate these two constructs together, to help alleviate loneliness and should be considered in terms of the design interventions to target loneliness. As several of the existing interventions are aimed to target loneliness based on the premise that increasing social interaction may help reduce loneliness (Gardiner, Geldenhuys & Gott, 2016; Lim & Kua, 2011; Russell, 2009).

As support from friends and romantic partners has been found to buffer loneliness (Lee & Goldstein, 2015) it is important to look at how living arrangements affect the likelihood of developing loneliness in later life. Russell (2009) found that people living alone or with children (excluding a spouse) displayed higher levels of loneliness than those living with a spouse. Lim & Kua (2011) examined living alone, loneliness and psychological well-being of older persons in Singapore. The sample consisted of 2,808 community dwelling adults 55 years of age or older, the results found that living alone predicted low levels of well-being. Loneliness was then found to worsen the psychological effects of living alone (Lim & Kua, 2011). As loneliness is linked to so many negative psychological effects, increased social support should be factored into the management and care of elders living alone in communities. Also, more studies like that of Russell (2009) and Lim & Kua (2011) are needed in gaining a clearer understanding into how loneliness levels and social support can be improved among people living alone.

Catten, White, Bond & Learmouth (2005) considered the prevention of social isolation and loneliness among older people. A systematic review was conducted to investigate the efficiency of health interventions that are aimed at social isolation and loneliness among older adults. The effectiveness of most of the interventions remain unclear due to the lack of evidence and studies supporting them (Catten, White, Bond & Learmouth, 2005). The review did, however, show that social activity that targeted specific groups could reduce loneliness

among older adults. It is more studies like this that are required, to further investigate how to help reduce and alleviate loneliness in order to improve the quality of life for older adults.

### **Loneliness and Pet Ownership**

While much of the existing literature around interventions to alleviate loneliness have focused on human interaction, it has also been suggested that pets may be an important source of social interaction and companionship, and as such may also be a protective factor against loneliness. Pet ownership is widely thought to have a positive impact on health and the overall well-being of an older adult (Baun et al.,1991; Pikhartova, Bowling & Victor, 2014). It has also been proposed that ‘pet based’ interventions may help combat feelings of loneliness, with many older adults being comforted and consoled by the companionship of their pet (Fitzpatrick et al.,2000). Only a limited number of cross-sectional studies have investigated the impact of pet ownership on loneliness among older adults, with studies suggesting no association between pet ownership and loneliness (Baker Nunnelee, 2006). A study using data from 5,210 participants from an English Longitudinal Study of Aging (ELSA), found that owning a pet was associated with lower levels of loneliness, however this association was limited to females only and minimal to non-existent association for males (Pikhartova, Bowling & Victor, 2014). Similarly, Zasloff & Kidd (1994) found no associations between pet attachment in men but did find that having a pet helped reduce loneliness for women, particularly those living alone.

While some studies have focused on pet- ownership in general, a number of studies have also investigated the effects of companionship from specific animals – primarily dogs – on levels of loneliness among older adults. Dogs have always had a long connection with humans and are thought to be the first domesticated animals in family life (King, Marston & Bennett, 2009). Dogs were originally bred for working purposes but in recent times, are

mostly kept as household companions (King, Marston & Bennett, 2009). Dogs are believed to have positive effects on humans and buffer feelings of loneliness for a number of reasons. They are naturally affectionate, loyal, devoted and playful (Mader, Hart & Bergin, 1990). Stallones et al (1988) found that 95% of dog owners consider their dog to be a friend. Studies like that of Stallones et al (1988) describe how it is possible for dog companionship to compensate for human relationships, this is because a dog is seen as free from judgement or criticism and the relationship is based solely off affection, loyalty and trust (King, Marston & Bennett, 2009). It is from these original studies on dog companionship that now, increased research and investigations are now focusing on how dogs may be a useful tool in interventions to improve quality of life for older adults.

In addition to the limited cross-sectional evidence for relationships between pet ownership and loneliness, studies have investigated the potential for specific animal-based interventions to reduce loneliness among older adults. Banks & Banks (2002) investigated the effects of Animal Assisted Therapy (AAT) on loneliness among elderly populations of both genders in long term care facilities. Participants initially filled out the UCLA Loneliness Scale, after completion of the AAT they were asked to complete the UCLA Loneliness Scale again. Scores of participants who received high levels of AAT were greatly reduced, suggesting that AAT can help in the reduction of loneliness among elderly populations (Banks & Banks, 2000; Banks, Willoughby & Banks, 2008).

Loneliness is commonly found in long term care facilities with previous studies such as Banks & Banks (2002) showing how animal assisted therapy (AAT) can combat feelings of loneliness. It is important to acknowledge that AAT is distinct to pet ownership, but the findings are still informative and are fundamental in the continued improvement in interventions into reducing loneliness among older populations (Banks, Willoughby & Banks, 2008). Gilbey & Tani (2015) conducted a systematic review on companion dogs and

loneliness. Eleven of the studies were found to have positive findings (five of which related to service dogs), this study supports the findings from Mader, Hart & Bergin (1990) and King, Marston & Bennett (2009) on how dogs are effective companions and can potentially compensate for human companionship. Successful interventions of dog companionship were mostly found in AAT and this may be due to the therapy rather than the animal. However, older adults have been found to be comforted, and negative feelings of loneliness and isolation can be buffered by their companion pet (Fitzpatrick et al., 2000).

It is important to find solutions and interventions that can alleviate loneliness for older adults, as it has been shown to be associated with a range of negative outcomes (Bahr, Peplau & Perlman, 1984; Perissinotto, Cenzar & Covinsky, 2012). Increasing social interaction may help to alleviate loneliness; while most of the research has focused on increasing human interaction (Gardiner, Geldenhuys & Gott, 2016; Lim & Kua, 2011), it has also been acknowledged that pets in general, and dogs in particular may serve as companions and be a source of social interaction. There is some evidence that pet ownership, dog companionship and specific interventions involving animal-based therapy may reduce loneliness. However, only a limited number of studies have been conducted and the findings are mixed, so there is a need for more research. Furthermore, there is some evidence that the influence of pet ownership or companionship may vary according to gender (Zasloff & Kidd, 1994; Pikhartova, Bowling & Victor, 2014), so it is important to consider gender differences when investigating these relationships.

The existing literature highlights several important demographics and predictors of loneliness. Age, gender, living alone, social interactions, dog ownership and how they may all individually be associated and predictive of, increased loneliness levels. It is important therefore that these possible relationships of loneliness are examined together within the same study to understand their relationship with loneliness and improve possible ways to reduce

and alleviate loneliness among over 50's. The current study conducted on adults 50 years of age and older consists of three main aims: 1) To determine a relationship between dog-companionship and loneliness 2) To determine an interaction between dog companionship and gender on loneliness 3) To determine whether a relationship exists between dog-companionship and loneliness, after controlling for social connection. Based on the available literature and evidence it was hypothesized that 1) Dog owners will have different levels of loneliness compared to non- dog owners 2) Interaction occurs between gender and dog ownership on levels of loneliness 3) A relationship between dog ownership and loneliness will remain after controlling for social connection.

## Methods

### Participants

Participants for the current study were adults aged 50 and over. The participants were recruited using convenience and snowball sampling ( $N = 151$ ). Both dog owners and non-dog owners participated. Approximately 60.3% ( $n = 91$ ) had dogs and 39.7% ( $n = 60$ ) did not. The sample included 69.5% ( $n = 105$ ) females and 30.5% ( $n = 46$ ) males. The sample also included 29.1% ( $n = 44$ ) participants who lived alone and 70.9% ( $n = 107$ ) who did not live alone. You could not participate if a doctor had told you that you have Alzheimer's Disease or Dementia or have a problem with your memory or thinking that interferes with your day to day life.

In many recent studies on older adults and ageing the sample is starting at 50. For example, The Irish Longitudinal Study on Ageing (TILDA) published in 2014 focused on over 50's in a changing Ireland. This study gave a wide and diverse image of the lives of over 50's and worked particularly well as it painted a clear picture of the lives of both the young old and the older old. It is with these factors in consideration that adults 50 and over were chosen for this study.

For this study convenience sampling was used. Participants were recruited based on their accessibility to the researcher. Participants were recruited through social media using Facebook, Twitter and online forums and groups including ones that were specifically for dog owners and over 50s. However, as some of the participants needed to own a dog, snowball sampling was also used. This is a non-randomly selected sampling technique. Adults 50 and over who participated in this study were asked if they could help locate others who may fit the criteria and would like to take part. They were approached in an opportunistic way. No incentives were used for participant recruitment, and all participants were informed that they



were free to withdraw from the study at any time, before submitting or returning the survey to the researcher.

### **Design**

This study is a cross – sectional design. After reviewing the current literature and available evidence, variables were chosen to be tested with levels of loneliness a) dog ownership b) age c) gender d) social connections. The predictor variables for this study are as follows: dog ownership, age, gender and social connections. The criterion variable is loneliness.

### **Apparatus and Materials**

Two scales and a demographic survey were used to conduct this study. The Demographic Survey (see appendix C) developed by the researcher, required the participant to identify if they own a dog or not, age, gender and living arrangements. The survey includes 7 questions. These questions were some basic demographic questions used to gain a clearer insight into the sample and how different demographics may possibly impact loneliness levels.

The Lubben Social Network Scale (Lubben, 1988) (see appendix C) is a self- report scale of social engagement using involvement with family and friends as a measure. The 6-item version of this scale was used (LSNS-6), the scale has an internal reliability of .83 and a Cronbach's Alpha of .78. The reliability for the current sample was a Cronbach's Alpha of .85.

The UCLA Loneliness Scale (Russell, Peplau & Ferguson., 1978) (see appendix C) was used to test loneliness. The UCLA Loneliness Scale is a 20-item scale designed to measure subjective feelings of loneliness and feelings of social isolation. This scale is a well- known measure of loneliness. Participants rate each item as one of the following: O = ("I often feel this way"), S = ("I sometimes feel this way"), R = ("I rarely feel this way") and N = ("I never feel this way"). The measure has been found to be highly reliable, both in internal

consistency (coefficient ranging from .89 to .94) and test-retest reliability over 1-year ( $r = .73$ ). Convergent validity for the scale was indicated by significant correlations with other measures of loneliness. The reliability for the current sample was a Cronbach's Alpha of .96.

Two versions of the questionnaire were developed: online and paper. For online participants, Google Form was used. The survey was made using Google Form and responses were also gathered via this format. This link was posted online and posted into groups and forums on Facebook. Secondly, the paper version of the survey was printed out by the researcher and distributed. IBM SPSS Statistics 25 software was used to conduct statistical analysis.

### **Procedure**

Two versions of the questionnaire were created, for participants recruited online convenience sampling was used ( $N = 120$ ). The survey was created using Google Form, the survey was posted online onto Facebook and Twitter. It was posted into Facebook groups some which were specifically for dog owners and others specifically for over 50's. Participants were supplied with an information sheet (See appendix A), a consent form (See appendix B) and a debriefing sheet (See appendix D). Participants were required to answer questions on their demographics such as age, gender, living arrangement and if they owned a dog or not. They were then presented with the UCLA Loneliness Scale and the Lubben Social Network Scale. Responses were recorded through Google Form.

For participants recruited using snowball sampling with a paper version (see appendix C) ( $N = 31$ ), they were contacted and approached by the researcher through a local informal dog walking group. The participants were asked if they would like to partake or if they knew anyone who would be interested in partaking. Participants were supplied with an information sheet (See appendix A) a consent form (See appendix B) and a debriefing sheet (See

appendix D). Participants were approached in an opportunistic way and were informed that they could withdraw consent before returning the survey. The participants could complete the survey there and then or they could take them home and the researcher would return the following week to collect the survey. This helped in gaining access to some older participants within the neighbourhood, who wouldn't have a strong presence online. The responses from Google Form were exported to Excel and the paper responses were entered manually into Excel. This data was then exported into SPSS where descriptive and inferential statistics were conducted.

## Results

### Descriptive Statistics

Descriptive statistics were conducted on the current sample ( $N=151$ ). The current sample consisted of 30.5% males and 69.5% females (see table 1). The sample consisted of an over 50's sample ranging in age from 50 – 88, the average age was 59.92 ( $SD = 9.20$ ).

Approximately 29.1% of the sample lived alone ( $n=44$ ), they lived alone on average for 1-3 years ( $SD = .701$ ). The sample consisted of 60.3% dog owners, for those who owned dogs 94.4% considered them to be part of the family, with 5.5% of dog owners who did not. See Tables below for full results.

Table 1

*Frequencies for the current sample of adults 50 years of age and older on each demographic variable ( $N = 151$ )*

Variable	Frequency	Valid Percentage
<b>Gender</b>		
Male	46	30.5
Female	105	69.5
<b>Live Alone</b>		
Yes	44	29.1
No	107	70.9
<b>Dog Owner</b>		
No	60	39.7
Yes	91	60.3

<b>Number of Dogs</b>		
One Dog	58	64.4
Two Dogs	28	30.0
Three Dogs	5	5.6
<b>Dog Part of Family</b>		
Yes	86	94.4
No	5	5.6

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Table 2

*Descriptive statistics of all continuous variables*

	Mean (95% Confidence Intervals)	Std. Error Mean	Median	SD	Range
Age	59.92 (58.44-61.40)	.74	57	9.20	50-88
Loneliness	21.71 (19.39-24.03)	.17	21	14.42	0-58
Social Connection	17.98 (17.30-18.66)	.34	18	4.23	8-29

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## **Inferential Statistics**

An independent samples t-test was conducted to compare levels of loneliness between dog owners and non-dog owners. There was a significant difference in scores ( $t(149) = 4.15, p < .001$ ) with non-dog owners ( $M = 27.42, SD = 14.38$ ) scoring higher than dog owners ( $M = 17.95, SD = 13.24$ ). The magnitude of the differences in the means (mean difference = 1.50, 95% CI: 13.9 - .96) was medium (Cohen's  $d = .68$ ). These results indicated a relationship between dog ownership and loneliness, with dog – owners displaying lower levels of loneliness than non-dog owners.

A two-way between groups analysis of variance was conducted to explore: (1) the effects of dog ownership and gender, on levels of loneliness, and (2) to examine if the effect of dog ownership on levels of loneliness depends upon gender. Predictor variables met the assumptions of the ANOVA in terms of the assumption of homogeneity of variance. Results of the Levenes Tests of Equality indicated that it was suitable to run an ANOVA ( $p = .57$ ).

The interaction effect between dog ownership and gender was not statistically significant,  $F(1, 147) = 1.06, p = .304, \eta^2 = .01$ . The main effect for dog ownership was significant and of moderate magnitude ( $F(1, 147) = 15.79, p < .001, \eta^2 = .097$ ). The main effect for gender was not significant ( $F(1, 147) = .163, p = .687, \eta^2 = .001$ ). No post hoc test was required as there were only two levels.

Hierarchical multiple regression was performed to investigate the ability of dog ownership to predict levels of loneliness, after controlling for social connection. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. Additionally, the correlations amongst the predictor variables (dog ownership and social connection) were examined and these are presented in Table 3. All correlations were weak to moderate ranging between  $r = -.46$  to  $.26$ . This indicates that

multicollinearity was unlikely to be a problem. Tolerance (.935) and VIF (1.07) were acceptable and not violated.

In the first step of hierarchical multiple regression, one predictor was entered: social connection. This model was statistically significant  $F(1, 149) = 40.90; p < .001$  and explained 21.5% of variance in loneliness (see Table 4 for full details). After the entry of dog ownership at Step 2 the total variance explained by the model was 26% ( $F(2, 148) = 25.97; p < .001$ ). The introduction of dog ownership explained an additional 4.4% variance in loneliness, after controlling for social connection; a change that was statistically significant ( $R^2 \text{ Change} = .044; F(1, 148) = 8.97; p < .003$ ).

In the final model, both PVs uniquely predicted loneliness to a statistically significant degree. Both variables were positive predictors of loneliness and social connection ( $\beta = -.218, p < .001$ ) was found to be the strongest predictor (see Table 4 for full results).

Table 3

*Correlations between all continuous variables.*

Variables	1	2	3
1. Loneliness	1		
2. Social Connection	-.46***	1	
3. Dog Ownership	-.32***	.26**	1

Note. Statistical significance: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

Table 4

*Hierarchical Multiple Regression Model of Loneliness*

	R <sup>2</sup>	R <sup>2</sup>	B	SE	$\beta$	<i>t</i>
	Change					
<b>Step 1</b>	.22***					
Social Connection			-1.68***	.25	-.47	-6.49
<b>Step 2</b>	.26*	.044*				
Social Connection			-1.49**	.25	-.41	-5.68
Dog Ownership			-6.40*	2.15	-.22	-2.98

Note. R<sup>2</sup> = R-squared;  $\beta$  = standardized beta value; B = unstandardized beta value; SE = Standard errors of B; CI 95% (B) = 95% confidence interval for B; Statistical significance: \*p < .05; \*\*p < .01; \*\*\*p < .001



## Discussion

The aim of this study was to provide an understanding into the relationship between dog companionship and loneliness among over 50's. The current study consisted of three main aims 1) To determine a relationship between dog- companionship and loneliness 2) To determine an interaction between dog companionship, loneliness and gender 3) To determine whether a relationship exists between dog- companionship and loneliness, after controlling for social connection. Based on the available literature and evidence it was hypothesized that 1) Dog owners will have different levels of loneliness compared to non- dog owners. 2) Interaction occurs between gender and dog ownership on levels of loneliness 3) A relationship between dog ownership and loneliness will remain after controlling for social connection.

The findings of this study found that dog owners did display lower levels of loneliness compared to non-dog owners, the magnitude of the differences in the means (mean difference = 1.50, 95% CI: 13.9 - .96) was medium (Cohen's  $d = .68$ ). These results indicated a relationship between dog ownership and loneliness, with dog owners displaying lower levels of loneliness compared to non- dog owners. Based on these results the null hypothesis was rejected. Secondly, analysis of variance was conducted to explore for the effects of dog ownership and gender, on levels of loneliness, and to examine if the effect of dog ownership on levels of loneliness depends upon gender. The interaction effect between dog ownership and gender was not statistically significant,  $F(1, 147) = 1.06$ ,  $p = .304$ ,  $\eta^2 = .01$ , this led to failing to reject the null hypothesis. Finally, the ability for dog ownership to predict levels of loneliness was tested after controlling for social connection. The entry of social connection was found to be statistically significant  $F(1, 149) = 40.90$ ;  $p < .001$  and explained 21.5% of variance in loneliness. The entry of dog ownership explained an additional 4.4% of variance in loneliness, after controlling for social connection. Social connection was found to

be the strongest predictor variable of loneliness  $\beta = -.218, p < .001$ ). Based on these results the null hypothesis was rejected.

As pets have always been an important part of family life, many studies have investigated the significance of companionship from specific animals – particularly dogs as they have been thought to be the first domesticated animals within family life (King, Marston & Bennett, 2009). Stallones et al (1988) found that 95% of dog owners consider their dog to be a friend, this was consistent with the current study whereby, 94.4% of dog owners consider their dog to be part of their family. There are many reasons why dogs are widely believed to have positive effects on humans and buffer feelings of loneliness. They are naturally affectionate, loyal, devoted, playful and free from judgement (Mader, Hart & Bergin, 1990; King, Marston & Bennett, 2009). The results from the current study and hypothesis one, whereby, dog owners were found to have lower levels of loneliness than non-dog owners are consistent with previous findings on dog companionship. Baun et al (1991) stated that pets are found to be beneficial in the lives of older adults and can contribute greatly to higher quality of life leading to a reduction in negative thoughts including loneliness. Evidence from studies such as Baun et al (1991) and (King, Marston & Bennett, 2009) may be associated with the low levels of loneliness displayed by the dog owners in the current sample and how dog companionship may be related to a protective factor against loneliness. The findings are contradictory to the findings of Baker Nunnelee (2006) whereby, no association between pet ownership and loneliness was found. It is important to note that while the companionship of their dog may act as a protective factor for some participants, this may not have been the case with all. Social connections with family and friends also play an important role in protecting individuals against feelings of loneliness and isolation throughout life (Lee & Goldstein, 2015).

There are many responsibilities that are associated with dog ownership such as walking, grooming, feeding, trips to the vet and care while away – these may act as a potential barrier to ownership for many. The selection of a companion dog for an older adult should include careful consideration of the individuals own physical and mental needs. These responsibilities may prevent some older adults from owning a companion dog. These factors of dog ownership are important to discuss while considering the results from hypothesis one. Perhaps, AAT and ‘visiting pet’ programs such as those investigated by Banks & Banks (2000) and Banks, Willoughby & Banks (2008) are needed, in order to enable all older adults who, wish to access companion pets as a potential method of reducing and alleviating loneliness without the full-time responsibility. AAT is distinct to pet ownership, but the findings are still informative and are fundamental in the continued improvement of interventions into reducing loneliness among older populations (Banks, Willoughby & Banks, 2008). Overall the results from hypothesis one suggests that a relationship between dog companionship and loneliness is present and may for some people act as a protective factor and a method of reduction in feelings of loneliness.

The second hypothesis within the current study was not found to be statistically significant,  $F(1, 147) = 1.06, p = .304, \eta^2 = .01$ ) and failed to reject the null hypothesis. These results suggested that an interaction between dog ownership and gender on levels of loneliness was not present within this study. These findings were contradictory to the findings of both Zasloff & Kidd (1994) and Pikhartova, Bowling & Victor (2014) whereby they found an association between pet ownership and loneliness for females but that the association was minimal to non-existent for males. Studies such as Zasloff & Kidd (1994) investigated the benefits of pet ownership for females living alone and found significant results of how this may be a successful method of reducing loneliness among women living alone and similarly, The English Longitudinal Study of Aging (ELSA) (Pikhartova, Bowling & Victor, 2014),

found results to support the initial findings of Zasloff & Kidd (1994). This was not the case within the current study as dog ownership was found to have a significant effect on loneliness, but gender was not found to be significant. This may have been due the limited number of male participants 30.5% ( $n = 46$ ) compared to 69.5% females ( $n = 105$ ). These findings suggest that an interaction between dog ownership and gender on loneliness levels is not present and that gender potentially does not play a role in the relationship between dog companionship and levels of loneliness. This is important as it suggests that using dog ownership as a potential method of alleviating loneliness is not dependent on one's gender. The results suggest that dog companionship may be more associated with one's subjective relationship with their dog, more so than gender.

Thirdly, within this study it was very important to control for participants levels of social connection. This was important as it may have impacted individuals scores on levels of loneliness and may have been the reason for some low scores on the UCLA Loneliness Scale, rather than the dog ownership itself. The introduction of dog ownership after controlling for social connection explained an additional 4.4% variance in loneliness, a change that was statistically significant ( $R^2$  Change = .044;  $F(1, 148) = 8.97$ ;  $p < .003$ ). This resulted in rejecting the null hypothesis and displayed that a relationship between dog companionship and loneliness remained after controlling for social connection. Both predictor variables predicted loneliness to a statistically significant degree. Social connection was found to be the strongest predictor variable. These results suggest that high levels of social connection are correlated with low levels a loneliness. It is, however, important to note that the above findings do not imply causation. Due to the study being cross-sectional, cause and effect cannot be presumed and cannot presume which direction these results are going in.

The results from hypothesis three support the findings of Lee & Goldstein (2015) that frequent social support can help in protecting individuals against feelings of loneliness and

isolation throughout life. Similarly, the findings also support Rico-Urbe (2016) that a strong social network has a positive effect on one's quality of life (Rico-Urbe, 2016; Gardiner, Geldenhuys & Gott, 2016) and will help in reducing levels of loneliness among older populations. It was important to investigate these distinct constructs together, as they help alleviate loneliness and was important to consider them in terms of future design interventions to target loneliness. The results of this hypothesis were that a relationship between dog- ownership and loneliness remained after controlling for social connection. This finding is significant in the development of potentially using pets – primarily dogs, as a tool to help alleviate loneliness. The results are consistent with studies that focused on AAT such as Banks, Willoughby & Banks (2008) and Banks & Banks (2000) on the reduction in feelings loneliness among people in care facilities. The findings were also consistent with Fitzpatrick et al (2000) whereby, older adults were found to be comforted and negative feelings of loneliness buffered by their companion pet. Overall, the findings of hypothesis three where consistent with the available and existing literature. The results from this hypothesis will have particularly useful implications from an intervention point of view as it shows how social interaction may not always be the only and most effective, method of alleviation of loneliness

It is important to discuss the key clinical, practise and research implications of the current study. This study may help lesson levels of loneliness for adults over the age of 50 who may live with others or live alone. It is understood that pet ownership can potentially help buffer feelings of loneliness (Fitzpatrick et al.,2000; Gardiner, Geldenhuys & Gott, 2016). The current study may help contribute to the current research and evidence. If dog ownership is to be potentially used as an intervention into reducing loneliness, careful consideration is needed. Owning a dog comes with many responsibilities and the decision should reflect the individuals own psychical and social needs. As it is not possible for everyone to own a dog,

the findings from this study suggest that a 'visiting pet' program should be developed, similar to AAT, but the pet can be brought to the individual's home. This could be for a period each day or week to provide companionship to individuals who may identify that as a need.

Further interventions could be designed to increase positive methods of enabling older adults who live alone and desire a pet. A program that provides help to older persons with the care of their dog could be developed.

It is extremely important to develop effective interventions, as loneliness among older adults has been found to predict low quality of life and a predictor of functional decline and death (Bahr, Peplau & Perlman, 1984; Perissinotto, Cenzar & Covinsky, 2012). The findings of the current study, showing a relationship between dog companionship and loneliness, should open the door for further researcher into this important topic. These findings could give gerontologists in the practice area an opportunity to utilize dog companions as a method to reduce levels of loneliness among their clients and improve their quality of life.

Some limitations existed within the current study. There were considerably more female (69.5%) participants than male (30.5%). In future studies, a more even amount of both genders would be preferred as it would give a more accurate representation of the population. The recruitment method used in the current study could have been improved to gain further access to participants who did not own a dog. Participants in the current study, were recruited using two different sampling techniques, one of which was snowball sampling in which 31 participants were recruited. This involved accessing participants through a local informal dog walking group which resulted in all participants owning dogs. In future having access to an institution or business would be useful in gaining access to older non-dog owners. Most participants did in fact own a dog (60.3%) this may have been due to the word 'dog companionship' in the title as this may have resulted in people who owned dogs primarily clicking the link. The current study was anonymous, and the identity of each participant was

un-identifiable. However, within social science, social desirability bias exists which is the tendency of survey respondents to answer questions in a way that will be viewed more favourably. Participants may have answered differently due to this social desirability bias, most participants are unaware they may be doing so, however it is important to note as it is a well-known issue within self-report scales.

The findings from the current study have raised questions that may be of importance for future studies. Further investigation into what are the added benefits of dog ownership such as exercise, well-being and how they may benefit an individual, along with alleviating feelings of loneliness. There exists a window to explore other possible interventions such as 'visiting pet' programs, in order to provide older adults with stronger social connections and to reduce feelings of loneliness. Perhaps, to gain a clearer understanding into dog companionship for people who primarily live on their own, as this is seen as one of the strongest risk factors of loneliness (Arslantas et al., 2015; Lim & Kua, 2011). Due to the high number of female participants within this study, perhaps a future study exploring the relationship between dog companionship and loneliness among a male sample who live alone would benefit the area greatly. To conclude, the current study has provided a clearer understanding into the relationship between dog companionship and loneliness and how a companion dog may act as a protective factor of loneliness, even when strong social connections are present. This study helps in exploring how companionship gained from dog ownership can act as an important tool through which loneliness and social isolation can be alleviated and to provide an alternative to human companionship.

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## Appendix A: Information Sheet

### **Information Sheet**

**Study Title:** The Relationship Between Dog Companionship and Loneliness Levels Among Over 50's.

**About this Research:** My name is Niamh O'Reilly, I am a final year Psychology student at National College of Ireland. As part of my degree I am required to conduct an independent research project. I am using this survey to collect data. This research study is supervised by Dr. Caoimhe Hannigan, Lecturer in Psychology at NCI.

**Aim of Study:** The primary aim of the study is to gain an understanding into what relationship there is between dog companionship and levels of loneliness for adults over 50 years of age.

**Involvement of Participant:** To participate in this study, you must be aged 50 or older. Both dog- owners and non-dog owners can participate. You cannot participate if a doctor has told you that you have Alzheimer's Disease or Dementia, or you have a problem with your memory or thinking that interferes with your day to day life.

As the participant, you will be involved in answering questions regarding your demographics, such as age and gender. You will then answer questions that will firstly ask questions about your levels of engagement with family and friends, followed by the questions on loneliness levels. The questionnaire should not take any longer than 5- 10 minutes.

**Ethical Information:** Participation in this study is voluntary and participants have the right to withdraw at any time without penalty before submitting. Responses in this study will be

kept safely by the researcher and no secondary party will have access to the data. Once you return this survey it will no longer be possible to withdraw your data. This is because your data is being collected anonymously and cannot be identified for withdrawal. The data collected will be analysed at a group level, and the results will be presented in my thesis.

Contact Details:

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## Appendix B: Consent Form

**Consent form**

The Relationship Between Dog Companionship and Loneliness Levels Among Over 50s.

- I understand that even if I agree to participate now, I can stop at any time or refuse to answer any question.
  
- I have had the nature of the study explained to me and I have had the opportunity to ask questions about the study.
  
- I understand that all information I provide will be treated confidentially.
  
- I understand that in any report on the results my identity will remain anonymous.
  
- If a doctor has told you that you have Alzheimer's Disease or Dementia, or you have a problem with your memory or thinking that interferes with your day to day life, you cannot participate.
  
- I understand that I can contact any of the researchers involved in the research to seek any further clarification or information.
  
  
- I voluntarily agree to participate in this research study Yes  No

## Appendix C: Demographic Survey, Lubben Social Network Scale &amp; UCLA Loneliness Scale

**Section 1**

**Demographic Questions: Please answer and tick the box were appropriate.**

1. Age: \_\_\_\_\_

2. Gender: Male  Female

3. Do you live alone? Yes  No

4. If yes, how long have you lived alone?

Less than one year  one to five years  More than five years

5. Do you own a dog? Yes  No

6. If yes, How many?

One  Two  Three  More than three

7. Would you view your dog/dogs as part of your family? Yes  No

## Section 2

The following questions ask about family and friends. Please indicate the answer that best applies to you by ticking the box.

1. How many relatives do you see or hear from at least once a month?

None  one  two  three or four  five to eight  nine or more

2. How many relatives do you feel at ease with that you can talk about private matters?

None  one  two  three or four  five to eight  nine or more

3. How many relatives do you feel close to such that you could call on them for help?

None  one  two  three or four  five to eight  nine or more

4. How many of your friends do you see or hear from at least once a month?

None  one  two  three or four  five to eight  nine or more



**5. How many friends do you feel at ease with that you can talk about private matters?**

None  one  two  three or four  five to eight  nine or more

**6. How many friends do you feel close to such that you could call on them for help?**

None  one  two  three or four  five to eight  nine or more

### **Section 3**

**Please indicate how often you feel each of the statements by ticking the box**

**1. I am unhappy doing so many things alone**

Often  Sometimes  Rarely  Never

**2. I have nobody to talk to**

Often  Sometimes  Rarely  Never

**3. I cannot tolerate being so alone**

Often  Sometimes  Rarely  Never

**4. I lack companionship**

Often  Sometimes  Rarely  Never

**5. I feel as if nobody really understands me**

Often  Sometimes  Rarely  Never

**6. I find myself waiting for people to call or write**

Often  Sometimes  Rarely  Never

**7. There is no one I can turn to**

Often  Sometimes  Rarely  Never

**8. I am no longer close to anyone**

Often  Sometimes  Rarely  Never

**9. My interests and ideas are not shared by those around me**

Often  Sometimes  Rarely  Never

**10. I feel left out**

Often  Sometimes  Rarely  Never

**11. I feel completely alone**

Often  Sometimes  Rarely  Never

**12. I am unable to reach out and communicate with those around me**

Often  Sometimes  Rarely  Never

**13. My social relationships are superficial**

Often  Sometimes  Rarely  Never

**14. I feel starved for company**

Often  Sometimes  Rarely  Never

**15. No one really knows me well**

Often  Sometimes  Rarely  Never

**16. I feel isolated from others**

Often  Sometimes  Rarely  Never

**17. I am unhappy being so withdrawn**

Often  Sometimes  Rarely  Never

**18. It is difficult for me to make friends**

Often  Sometimes  Rarely  Never

**19. I feel shut out and excluded by others**

Often  Sometimes  Rarely  Never

**20. People are around me but not with me**

Often  Sometimes  Rarely  Never

## Appendix D: Debriefing Sheet

**Debriefing Information**

I would like to thank you for taking part in this study.

Participation in this study is voluntary and you can withdraw from this study without penalty at any time before submitting. Once you return this survey it will no longer be possible to withdraw your data. This is because your data is being collected anonymously and cannot be identified for withdrawal. The anonymous data collected from this questionnaire will be presented in the results section of my thesis.

If in any way participation in this study has made you feel distressed, please contact the following helplines:

**Further resources:** Age Action Ireland. Email: [Ageaction@info.ie](mailto:Ageaction@info.ie)

Alone. Email: [Alone@hello.ie](mailto:Alone@hello.ie)

Reach Out. Email: [General@Reachout.com](mailto:General@Reachout.com)

If you have any further questions, please feel free to contact myself or my supervisor.

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