

**Influence of Pet Ownership on Self-esteem,
Life Satisfaction and Loneliness
among over 65s in Ireland.**

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Abstract

The purpose of this study was to examine the effect of pet ownership on self-esteem, life satisfaction and loneliness in pet owners and non-owners. Data was collected from 147 participants. Data was gathered by means of self-reported questionnaires that assessed self-esteem, life satisfaction and loneliness. An independent sample t-tests showed that there was a significant difference in levels of loneliness experienced by pet owners and non-owners ($t(137) = -2.09, p = .038, 2\text{-tailed}$). Additional t-tests showed there was no significant difference between pet owners and non-owners on levels of self-esteem and life satisfaction. A one-way analysis of variance (ANOVA) showed there was no significant difference in loneliness, life satisfaction and self-esteem between owners of different types of pets.

Chapter 1: INTRODUCTION

Companionship between animals and humans has been an intriguing phenomenon since prehistoric times. Internationally, pet ownership has received much attention in the field of psychology but very little research has been conducted to examine the influence of pet ownership on older adults in Ireland. In 2006, it was estimated that there was 640,620 dog-owning households and 215,542 cat-owning households in Ireland (Downes, Clegg, Collins, McGrath & More, 2011). There is a need to explore the ways in which the presence of companion animals can affect the health and well being of older adults.

1.1 Pet Ownership & Theories of Aging

There is a lack of theoretical explanation for the bond between humans and animals. However a number of theories of aging may point to the fact the pet ownership can help improve the development of our well being in later life.

Cumming and Henry (1975) put forward a theory on old age called disengagement theory where they describe old age as a gradual process of disengagement due to a decrease in the number of roles we occupy and in the number of people we interact with (Sugarman, 2001). In contrast, Havighurst's (1963) activity theory of successful aging proposed that life satisfaction in old age is achieved by preserving activities and values typical of our middle adulthood years. It argues that if these activities, roles or relationships are lost, the theory suggests we replace them with new ones. This theory is more encouraging and optimistic than disengagement theory. These new activities or relationships suggested could be achieved by owning a pet.

Baltes and Baltes (1980) developed a theory known as the selective optimisation and compensation model (Sugarman, 2001). It is a lifespan developmental theory that addresses adaptation throughout the life cycle and is considerably significant to old age. It endorses the reality of aging and its implications on gains and losses. The selective component refers to how we prioritize our choice of goals. Our selection is based on elements that will help us retain our prioritised interests. The optimisation component points toward our efforts in maintaining the potential of our goals. And finally, compensation refers to efforts we make when we experience the loss of certain capacities. Therefore successful aging is based on the efforts we make to maintain our most valued domains of life while accepting the loss of other domains by compensating with alternative resources.

These alternative resources help explain the role that pets might play in the lives of older and elderly adults who are experiencing the losses that come with old age. Erikson posited that generativity is an important factor for development (Crain, 2011). It implies that we must nurture and look after other things or people to achieve successful development. Acquiring a pet may help to satisfy this need.

1.2 Pet Ownership & Self-Esteem

Self-esteem can be described as “the degree to which one values oneself” (Reber, Allen & Reber, 2009) or as social psychologists conceptualise it, “our overall attitude toward ourselves” (Baron, Branscombe & Byrne, 2009). Self-esteem can vary throughout the life cycle and can be placed along a continuum of low to high or negative to positive self-esteem. It would appear that people are generally driven toward and have a need for high self-esteem. According to Taylor & Brown (1988), high self-esteem is associated with positive

psychological mental health and promotes successful life adjustment (as cited in Hewstone, Stroebe & Jones, 2008, p. 101).

It is assumed that owning a pet can provide enormous benefits to our psychological well-being. Thus, owning a pet could help alleviate low self-esteem. McConnell, Brown, Shoda, Stayton and Martin (2011) investigated whether or not pet owners enjoyed better well-being than non-owners and found that pet owners had greater self-esteem than non-owners. To further substantiate their findings between pet owners and non-owners, they employed the use of personality measures, which showed that pet owner's personalities tended to be healthier. This was done using the FFM, the five factor model which examines personality across five stable dimensions: extraversion versus introversion, agreeableness versus antagonism, conscientiousness versus lack of direction, neuroticism versus emotional stability and openness versus closedness to experience. A pet can represent an important source of social support, which in itself contributes to higher self-esteem. Many studies show that greater social support improves psychological well-being (e.g., McConnell, Strain, Brown & Rydell, 2009; Harter, 2003). McConnell et al (2011) looked at overall ratings of social support among pet owners using repeated measures analysis of variance (ANOVA) and found that support from pets was statistically equivalent to that of parents or siblings. This finding is particularly significant in the context of older and elderly adults due to the probability of living alone or having less social support in their lives (e.g., empty nest, retirement, spousal death).

Life changes such as the transition from midlife to old age can gradually affect self-esteem. According to Robins, Trzesniewski, Tracy, Potter & Gosling (2002), this transition can sometimes result in low self-esteem possibly resulting from changes in roles,

relationships and physical functioning. Their study examined the trajectory of self-esteem in 9 to 90 year olds using cross-sectional data collected from 326,641 individuals and found that self-esteem levels declined sharply beginning in the mid-60s. Additional evidence supporting this was found by McMullin and Carney (2004). However a criticism of these studies may be that cross-sectional studies are prone to cohort effects. Further criticism may be that longitudinal change is examined within rather short time spans. Orth, Trzesniewski and Robins (2010) addressed these shortcomings using a cohort-sequential longitudinal study, which helped improve the credibility of conclusions found when measuring the trajectory of self-esteem. This study included four waves of data gathered over a 16-year period as opposed to the usual two-wave studies commonly used and also found that self-esteem declined in old age. A recent Korean study collected data from 305 people aged 60 years or over and found that self-esteem is a major predictor of successful aging among older Koreans (Cha, Seo & Sok, 2012). Findings such as this add weight to the need to boost self-esteem in older and elderly adults.

Regular exercise can also influence high self-esteem in older people.

Shahbazzadeghan, Farmanbar, Ghanbari and Roshan (2010) carried out a pre-post study on elderly people living in an old peoples home in Rascht. Those that qualified for the study filled out Rosenberg's (1965) self-esteem questionnaire prior to receiving one month of designed exercise programs and afterwards their self-esteem responses were compared. The study showed a statistically significant difference between the mean scores of self-esteem before and after the exercise programs resulting in increased self-esteem. Research by Serpell (1991) examined changes in health and behaviour of 71 adults over a 10-month period following the acquisition of a pet. A control group of 26 adults without a pet was used as a comparison. While both groups reported significant reductions in minor health problems

during the first month, dog-owners managed to sustain this effect through all 10 months. This was most likely due to dog walkers having considerably more exercise while walking their dogs compared to the other groups. Thus, if exercise can predict higher self-esteem, Serpell's (1991) results provide further evidence that pet ownership is beneficial to self-esteem.

The previous research examples discussed all support the purpose for examining the relationship between pet ownership and self-esteem in the present study. However, one may still question whether all people benefit from owning pets to the same degree. It is however important to note that not all research exploring the impact of pet ownership and self-esteem is positive. Research by Johnson & Rule (1991) hypothesised that self-esteem and social self-esteem among pet owners would be higher than that of non-owners and within the pet owning group, self-esteem would be positively correlated with degree of attachment. The results found no significant differences in self-esteem and social self-esteem between the three levels (high, moderate, and low) of attachment of pet owners or between levels of attachment within pet owners and non-owners.

1.3 Pet Ownership & Life Satisfaction

In addition to self-esteem, another commonly used measure of subjective well-being is life satisfaction. Life satisfaction can be defined as an "individual's perceived level of well-being and happiness" (Maltby, Day & Macaskill, 2010, p. 11). Like low self-esteem, low life satisfaction can negatively affect us both psychologically and physiologically.

Liu & Guo (2008) found that a lack of social support could lead to a decline in life satisfaction for "empty nest" elderly in China. Empty-nest households where there is only an elderly couple or one old person are increasing in inland areas throughout China due to

urbanization and unstable economic development. Given that Chinese social structures mainly consist of close-knit family relationships, Liu & Guo (2008) compared life satisfaction between empty-nest elderly and non-empty nest elderly using a number of predictive measures. Data was collected from 590 elderly participants from 9 neighbouring villages. The research revealed that empty-nest elderly were found to have significantly lower life satisfaction to not-empty-nest elderly. Empty-nest elderly also had a higher prevalence of chronic diseases, higher levels of depression and loneliness to the not-empty-nest elderly. A further significant finding was that widowhood was negatively associated with life satisfaction only among the empty-nest elderly. These results suggest that psychological health is critical for life satisfaction to elderly lacking in social support. A possible shortcoming of this study is that findings were limited to one particular mountainous location. Also, empty-nest elderly who never had children could have been separated from other empty-nest elderly. These results are not culture or country specific. Similar empty-nest findings were revealed in studies by Long & Martin (2000) in America and in Germany by Fahrenberg (1986).

Life satisfaction can also be classified as a predictor of mortality in elderly people. Kimm, Sull, Gombojav, Yi and Ohrr (2012) carried out a cohort study on a community of elderly residents in South Korea over an 11.8 year period where they examined the relationship between life satisfaction and risk of mortality. Research was rigorously collected over 3 waves beginning with 6,372 participants aged 55 years or older in the primary survey and ended with 1,939 participants included in the final survey. The study revealed that the relationship between low life satisfaction and mortality risk was significant for both men and women. The study evaluated the risk of particular diseases that caused death and found that life satisfaction was associated with the risk of cardiovascular disease. Overall the study

revealed that elderly men and women with low scores of life satisfaction were at risk of increased mortality from all causes (e.g. BMI, alcohol, smoking habits) and low life satisfaction scores were also linked with cardiovascular mortality. A possible weakness of this study similar to that of Liu & Guo (2008) is that the sample was based on one particular geographical community, which reduces the generality of findings.

Findings in both previous studies discussed point us to the conclusion that alternative sources of social support are needed to improve psychological well-being in elderly. One alternative source could be pet ownership. At present there is a lack of research surrounding the influence of pet ownership on life satisfaction. However, research by Irani, Mahler, Goetzmann, Russi and Boehler (2006) helps corroborate the assertion that pet ownership positively contributes to life satisfaction. Irani et al. (2006) sent a questionnaire to 104 lung transplant recipients. Their aim was to examine the association of pets with physiological parameters (e.g., lung function) and psychological parameters (e.g., self-esteem and life satisfaction) among lung transplant recipients with and without pets. Since companion animals could potentially represent a risk for contracting zoonotic infections, particularly for those whose immune system is compromised, lung transplant recipients are often warned to stay away from pets. Along with assessment of demographic data, this study also assessed for health risks using lung function tests and body mass index (BMI) for example. Pet owners and non-owners did not differ in demographic or physiological data. However, statistically significant higher ratings for pet owners were found in life satisfaction.

Norris, Shiner, Chick and Beck (1999) carried out research exploring the influence of pets on life satisfaction in recent and long-term retirees. In addition to life satisfaction, the study also examined other contributors such as satisfaction with level of personal safety and

satisfaction with level of income. Results revealed that life satisfaction decreased significantly from recent to long-term retirement regardless of pet ownership. However, pet owner's satisfaction with levels of personal safety, perceived health and satisfaction with health did not decrease significantly as they did for non-pet owners. A limitation to this study is that the sample was not representative of the general population and respondents could have indicated their level of attachment to their pets, which could then contribute to a more insightful level of satisfaction with life. A further limitation to this study was that a number of non-owners had previously owned a pet or circumstances did not allow for them to have a pet such as a retirement home. These findings by Norris et al. (1999) and Irani et al. (2006) support the question of pet ownership's influence on life satisfaction.

1.4 Pet Ownership & Loneliness

Loneliness can be defined as an "individual's emotional and cognitive reaction to having fewer and less satisfying relationships than he or she desires" (Archibald, Bartholomew, & Marx 1995 as cited in Baron, Branscombe & Byrne, 2009, p. 249). Feelings of loneliness can result in anxiety, depression, unhappiness, dissatisfaction and pessimism about the future.

Older adults and elderly as they age must cope with a series of physical, personal and social losses. As time progresses, they may lose spouses, relatives and friends and inevitably this may lead to an increased sense of loneliness. There is now evidence to suggest that pet ownership can reduce loneliness. During periods of bereavement, pets can help fill the gap and help reduce the feeling of being alone. Sable (1991) completed an interview study with 81 recently widowed women where he examined variables related to adjustment after the loss

of their spouse (as cited in Sable, 1995). Those who owned pets reported significantly less loneliness when questioned about feeling lonely. One woman claimed, “if it weren’t for the dog, I wouldn’t have gotten up at first” (Sable 1991, as cited in Sable 1995). Owning a pet can help those bereaved adopt a sense of being needed and encourage them to have a routine. This is especially important for older and elderly adults living alone or with less social support. A criticism of Sable’s research here was the lack of quantifiable data to support his findings.

Due to the increase of older populations living longer, a large amount of older adults will spend some of their final years of life living in a long-term care facility. Loneliness is often experienced from living in these facilities. Animal-assisted therapy (AAT) is something that can help combat this. Banks & Banks (2002) carried out a comprehensive study assessing whether or not AAT could improve loneliness. Within the inclusion criteria, participants recruited had no cognitive impairment, history of psychiatric disorders or allergies to cats or dogs and needed to score above 30 on the University of California at Los Angeles Loneliness Scale (UCLA-LS, 1996) demonstrating a significant degree of loneliness. A total of 45 residents met all criteria and all were randomly divided into three groups consisting of 15 residents. The first group was the control group who did not receive AAT, the second group received 30 minutes of AAT weekly and the third group received 30 minutes of AAT three times a week. The use of the Demographic and Pet History Questionnaire (DPHQ) was employed to assess history of pet ownership such as length of ownership, type of pets previously owned and the desire to have an animal in the long-term facility. Loneliness was measured in all three groups using the UCLA-LS before and after six weeks. Results revealed a strong history of association with animals. Results also found that AAT significantly reduced loneliness in both AAT groups. The use of a pre and post-test

design with separate control and intervention groups along with additional analysis of results using ANCOVA helped give further tenability to the results of this study.

However other research obtained regarding pet ownership and loneliness has been conflicting. A study by Duvall Antonacopoulos and Pychyl (2010) using a sample of participants who lived alone, measured the influence of pet ownership, emotional attachment level to pets and social support in predicting loneliness and depression. Results showed that pet ownership and attachment to pets did not predict loneliness or depression. They did reveal that dog owners with high levels of social support were significantly less lonely than non-pet owners. A possible limitation of this study is that pets were defined as only cats or dogs so it is possible that non-pet owner participants were owners of other kinds of pets. Due to conflicting results like this, the present study will investigate the relationship between pet ownership and loneliness with pet owners defined as those owning any species of animal they deem to be a pet.

1.5 Pet Ownership & Health Benefits

There is an abundant amount of research that supports the benefits of pet ownership on health. Siegel's study (1990), with a sample of 938 elderly took place over a 12-month period and found a relationship between pet ownership and doctor visits. Pet owners were found to make fewer visits than non-pet owners. Siegel employed controls such as gender, age, race, education and employment status, which support the reliability of this finding. The study was carried out over 7 waves of questioning. Pet ownership can also help facilitate recovery from serious illness, which highlights the protective role of pets. A study of 92 heart-attack patients supported this assumption (Friedmann, Katcher, Lynch & Thomas,

1980). The survival rate for pet owners to still be alive a year after the heart attack was 28% compared to only 6% of non-pet owners. Friedmann & Thomas (1995) attempted to later replicate these findings with a larger number of participants. The results revealed that dogs were better at facilitating recovery compared to cats. Dog owners were 8.6 times more likely to survive for another year after a heart attack than other types of companion animals.

Pets have also been linked to reducing blood pressure and stress levels. This was demonstrated in research carried out by Allen, Blascovich, Tomaka, & Kelsey (1991). Research involved placing 45 women in stressful situations. Women showed poorer performance when in the presence of a close friend than when in the presence of a companion dog. This demonstrates the benefit of the non-evaluative and non-judgemental social support provided by pets. Similar research conducted by Allen, Shykoff & Izzo, (2001) examined the effect of the non-evaluative social support of a pet on blood pressure responses to mental stress during ACE inhibitor therapy. The trial used a sample of 48 hypertensive individuals working in the stressful profession of stockbroking. Hypertensive individuals were randomly assigned to either a control group without pets or an experimental group who acquired pets. All individuals were treated with 20mg of lisinopril. Those assigned to group with pets started drug therapy at the same time as acquiring a pet. Six months later, individuals within the experimental group showed lower increases in blood pressure than those in the non-pet control group. Findings such as these suggest that companion animals have the ability to significantly contribute to the quality of our lives.

1.6 The Present Study

The present study will attempt to answer the question of whether or not pets are good for us. It will attempt to address the bond between humans and animals and will examine this in the context of those aged 65 and over in Ireland. The study focuses on adults aged 65 and over due to the demographic shift in population over the last century with a considerable increase in numbers of elderly in both developed and developing countries. According to the 2011 Census in Ireland, the population of those aged 65 and over increased by 14.4% between 2006 and 2011 (CSO, 2011). The main aim of the study is to see if pet owners experience a lower level of loneliness and a higher level of life satisfaction and self-esteem in comparison to non-owners. It is hoped that the results of this research will help highlight the numerous benefits of pet ownership particularly for older and elderly adults. The present study seeks to build upon previous work with regard to the benefits of pet ownership with regard to older populations. Research carried out within the present study aims to address the gap in literature examining the psychological benefits of pet ownership in Ireland.

The questionnaires used in the present study are Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985), and the University of California at Los Angeles Loneliness Scale (Russell, 1986).

1.7 Main Hypotheses

1. It is predicted that there will be a significant difference in self-esteem, life satisfaction and loneliness between non-owners and pet owners.
2. It is predicted that there will be a significant difference in loneliness between dog owners and cat owners.

3. It is hypothesised that there will be a significant difference in self-esteem and loneliness between pet owners living alone and non-owners living alone.

4. It is hypothesised that there will be a significant difference in loneliness, life satisfaction and self-esteem between owners of different types of pets.

Chapter 2: METHODOLOGY

To conduct this quasi-experimental study, a self-report questionnaire was formulated, which included questions designed to elicit relevant demographic information followed by psychological measures of self-esteem, life satisfaction and loneliness. The questionnaire measured four pages in length including a cover letter informing the participant of the nature of the study, assuring their anonymity and right to withdraw from the study at any time. Measures used included the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), The Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) and the UCLA Loneliness Scale (UCLA-LS, Russell, 1986). The questionnaire was made available in regular paper format and also in electronic format via SurveyMonkey, an online survey hosting website. The questionnaire included a total of four demographic questions designed to gather information regarding age, gender, living situation and type of pet owned where applicable.

2.1 Participants:

Age was the main inclusion criterion for the sample. All participants needed to be aged 65 or older to take part. Therefore a non-random sample was used. Some participants were sourced through three senior citizens organisations and participants also came from a sample of convenience. As explained in the brief on the cover letter, participation was voluntary and no incentives were offered. Overall, 147 participants were obtained, with an overrepresentation of female participants accounting for 61.2% ($n = 90$) while males accounted for 38.8% ($n = 57$) of the sample. However, as pet ownership was a key variable for analysis, almost equal distribution between owners and non-owners was achieved with

51% (n = 75) owners and 49% (n = 72) non-owners represented. Data was collected from participants over a period of 2 months.

2.2 Design:

This study is a quantitative study with a cross-sectional between groups quasi-experimental design used to test for the differences in self-esteem, life satisfaction and loneliness between pet owners and non-owners aged 65 or older. The main independent variable (IV) was pet ownership split into two groups: “yes” (owners) and “no” (non-owners). Different types of animal were accounted for using another between groups IV: “Pet category”. Different types of animal were split into 4 categories: “cat”, “dog”, “cat and dog” and “small animals” such as chinchilla, snake and hamster. As participants living situation may have been a confounding variable, an additional IV labelled “living situation” was included. It was divided into two groups, “alone” and “with others”. The main dependent variables (DV) were self-esteem, life satisfaction and loneliness. All three dependent variables were the cumulated scores of each item contained within each measure respectively.

2.3 Materials:

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to assess self-esteem. Initially designed to measure global feelings of self-worth or self-acceptance among adolescent students, the RSES has since become a renowned measure of self-esteem used extensively in research encompassing all age groups (Blascovich & Tomaka, 1991).

Originally scored as a Guttman scale, the ten-item scale is now regularly scored using a four-item Likert scale, (from strongly agree = 3 to strongly disagree = 0). Participants were asked

to rate the ten statements dealing with general feelings about themselves using the scale of 0 - 4. Statements such as the following are included: "I am able to do things as well as most other people". Individual participant levels of self-esteem were identified by totalling all four-point items once reverse scoring had been applied to the negatively worded items. Negatively worded items include statements such as "At times, I think I am no good at all". Self-esteem scores range from 0-30 with higher scores resulting in greater self-esteem. According to Dobson et al. (1979), the RSES has an acceptable level of reliability indicated by a Cronbach's alpha of 0.77 (as cited in Blascovich & Tomaka, 1991). In addition, a satisfactory test-retest reliability of 0.82 was reported by Fleming and Courtney (1984) along with a Cronbach's alpha of .88 suggesting strong internal consistency (as cited by Robinson, Shaver & Wrightsman, 1991).

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985) is a short five-item scale designed to measure cognitive judgements of life satisfaction. It is suitable for use with all age groups. Questions are scored on a seven-point scale ranging from strongly agree to strongly disagree with scores ranging from 1 to 7. There is no reverse scoring included in this measure. Higher scores indicate a greater degree of satisfaction with life. Therefore, participants with a score of 30-35 are highly satisfied with their lives whereas participants with a score below 14 are substantially dissatisfied with their lives. Pavot, Diener, Colvin and Sandvik (1991) provided strong evidence for the validity and reliability of the SWLS with an average coefficient alpha of .83 and test-retest reliabilities of .84.

Version 3 of the UCLA Loneliness Scale (UCLA-LS, Russell, 1986) was used to assess loneliness. Like version 3, the first version of the UCLA-LS contained 20 statements that described how lonely individuals perceived their experiences. While the scale was found

to be a reliable psychometric, the fact that all 20 items on the scale were negatively worded raised concern that scoring may be affected by systematic biases when responding. Consequently, it was then decided to create a revised version with a combination of 10 positively worded statements and 10 negatively worded statements. With much of the earlier research with the UCLA-LS involving student samples only, researchers discovered that when they tried to use this scale with other populations such as the elderly, difficulties interpreting the meaning of statements were encountered particularly with double negatives (Russell, 1996). Problems with readability were also reported. To address these problems, version 3 of the UCLA-LS was developed which included a simplified response format and simplified wording of items. The scale contains 11 negatively worded items and 9 positively worded items all answered on a four-point scale ranging from never to always. Negatively worded items included questions such as “how often do you feel that there is no one you can turn to?” while positively worded items included questions such as “how often do you feel outgoing and friendly?” (Russell, 1996). Scores on positively worded items are reversed and the scores for each item are then totalled. Participants with higher scores indicate greater degrees of loneliness. Russell (1996) demonstrated a high level of reliability of the UCLA-LS in terms of internal consistency reporting a coefficient alpha ranging from .89 to .94 and test-retest reliability over a one-year duration at 0.73.

2.4 Procedure:

Prior to embarking on this study, ethical clearance to carry out the study was obtained from the Ethics Committee within the Department of Psychology at Dublin Business School (DBS). Once the research proposal was reviewed and approved, a pilot study of the questionnaire was carried out among a small group of adults age 65 or over. The pilot study indicated that it took approximately 8 –10 minutes to complete. Three renowned senior

citizens organisations agreed to assist with distribution. One organisation distributed the link to the electronic version of the questionnaire in a monthly newsletter or on their Facebook pages. One organisation distributed hard copies of the questionnaire at meetings with their members throughout Ireland. Participants in meetings had the option to complete the questionnaire and place it in a blank envelope along with other anonymous completed questionnaires or alternatively they had an option to send the questionnaire by post to the researchers home address, which was included on the final sheet of the questionnaire. Due to a low response rate from members of each organisation, it was decided that a sample of convenience would also be sought through assistance from friends and family who distributed the questionnaire via email or in person to potential participants such as parents, neighbours, friends and relatives aged 65 or older living in Ireland. The text and order of questions in both the electronic version and paper version of the questionnaire were identical.

Along with assurance of anonymity, the cover page provided participants with information on why the survey was being conducted and through which institution. If participants required further information regarding the study, the names and contact details of the researcher and research supervisor were provided on the cover page and on the final page of the questionnaire. In the event that any of the questions raised difficult feelings for participants, contact details of relevant organisations that could provide assistance were also included on the final page. Once all data was collected, all scores were entered into a computer programme, SPSS version 21 for statistical analysis. All data were coded and recoded where necessary for descriptive and inferential analysis.

Chapter 3: RESULTS

3.1 Preliminary Analysis

A preliminary analysis was carried out on data collected to determine the internal reliability of data and to test for assumptions of normality. As previously stated, according to Blascovich & Tomaka (1991), an acceptable level of reliability for the RSES was indicated by a Cronbach's alpha of between .77 and .88 while an acceptable level of reliability for the SWLS was indicated by a Cronbach's alpha of .83 (Pavot et al., 1991). Moreover, studies have shown that there is a high level of reliability for the UCLA-LS with a coefficient alpha of between .89 and .94 (Russell 1996). According to DeVellis (2003) a Cronbach's alpha coefficient should be .7 ideally (as cited in Pallant, 2010). The Cronbach's alpha coefficient for each scale used in the current study was greater than .7 and found to be similar to those previously reported as indicated in Table 1. Correspondingly all three scales utilized were considered reliable within the current sample.

Table 1. Cronbach's alpha coefficient of 3 questionnaire scales in the current sample.

Cronbach's Alpha	Measure
.89	UCLA Loneliness Scale
.87	Rosenberg Self-Esteem Scale
.86	The Satisfaction With Life Scale

Exploration of data revealed some differences in ranges of kurtosis and skewness for the RSES and SWLS. However, normality of distribution was assumed due to equality in sample sizes. Homogeneity of variances between groups (pet owners and non owners) was

also tested for both measures. The largest variance was not equal to and did not exceed three times the sum of the smallest variance therefore equal variances was assumed.

3.2 Descriptive Statistics

Descriptive statistics were carried out to establish frequencies, percentages and means and standard deviations across independent variables and dependent variables. For further information see Appendix, Table 1. and 2.

Gender

The overall number of participants aged 65 and over was 147 of whom 38.8% (n = 57) were male and 61.2% (n = 90) were female.

Pet Ownership

51% (n = 75) of participants were pet owners and 49% (n = 72) were non-owners. Among pet owners 61.3% (n = 46) were female and 38.7% (n = 29) were male.

Living Situation

Among pet owners, 28% (n = 21) were living alone and 72% (n = 54) were living with others. Similar statistics were identified with non-owners living alone or with others who accounted for 26.4% (n = 19) and 73.6% (n = 53) respectively.

Pet Category

“Dog” was found to be the majority pet type within the ‘pet category’ variable accounting for 58.7% (n = 44). “Cat” was second accounting for 17.3% (n = 13) while “cat

and dog” came in third at 18.7% (n = 14) followed by small animals at 5.3% (n = 4). These statistics are also illustrated in figure 1.

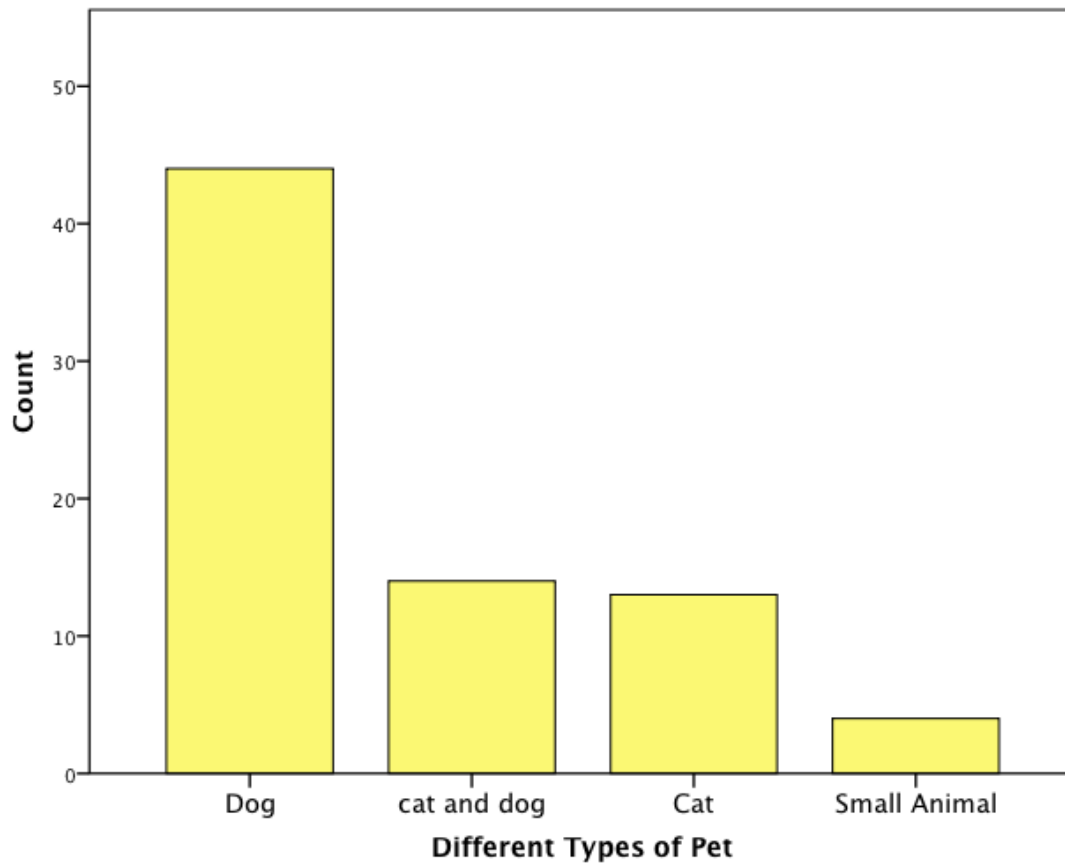


Figure 1. Bar chart illustrating the different numbers of individual pet types.

Self-esteem, Life Satisfaction and Loneliness

Table 2. on the next page shows the means for pet owners scores are higher for levels of self-esteem and life satisfaction when compared with non-owners. Means for loneliness are lower for pet owners compared with non-owners.

Table 2. Differences in between owners and non-owners on 3 separate measures

	Scale	N	Mean	SD
Pet Ownership (Owners)	Self Esteem	66	22.50	5.647
	Life Satisfaction	74	26.09	5.236
	Loneliness	72	37.46	9.302
Pet Ownership (Non-owners)	Self Esteem	69	21.88	4.559
	Life Satisfaction	69	25.43	5.479
	Loneliness	67	40.61	8.403

3.3 Inferential Statistics

First Hypothesis

The first hypothesis predicts that there will be a significant difference in self-esteem, life satisfaction and loneliness between non-owners and pet owners.

An independent samples t-test was conducted to compare pet owners and non-owners scores on self-esteem, life satisfaction and loneliness. Differences across all three measures will be reported separately.

Pet owners (mean = 37.46, SD = 9.302) were found to have lower levels of loneliness than non-owners (mean = 40.61, SD = 8.403). The 95% confidence limits shows that the population mean difference of the variables lies somewhere between -6.134 and -.173. An independent samples t-test found that there was a statistically significant difference between levels of loneliness of pet owners and non-owners ($t(137) = -2.09$, $p = .038$, 2-tailed). Therefore the null hypothesis can be rejected. The mean difference was quite substantial (mean difference = 3.15) as illustrated in Figure 2.

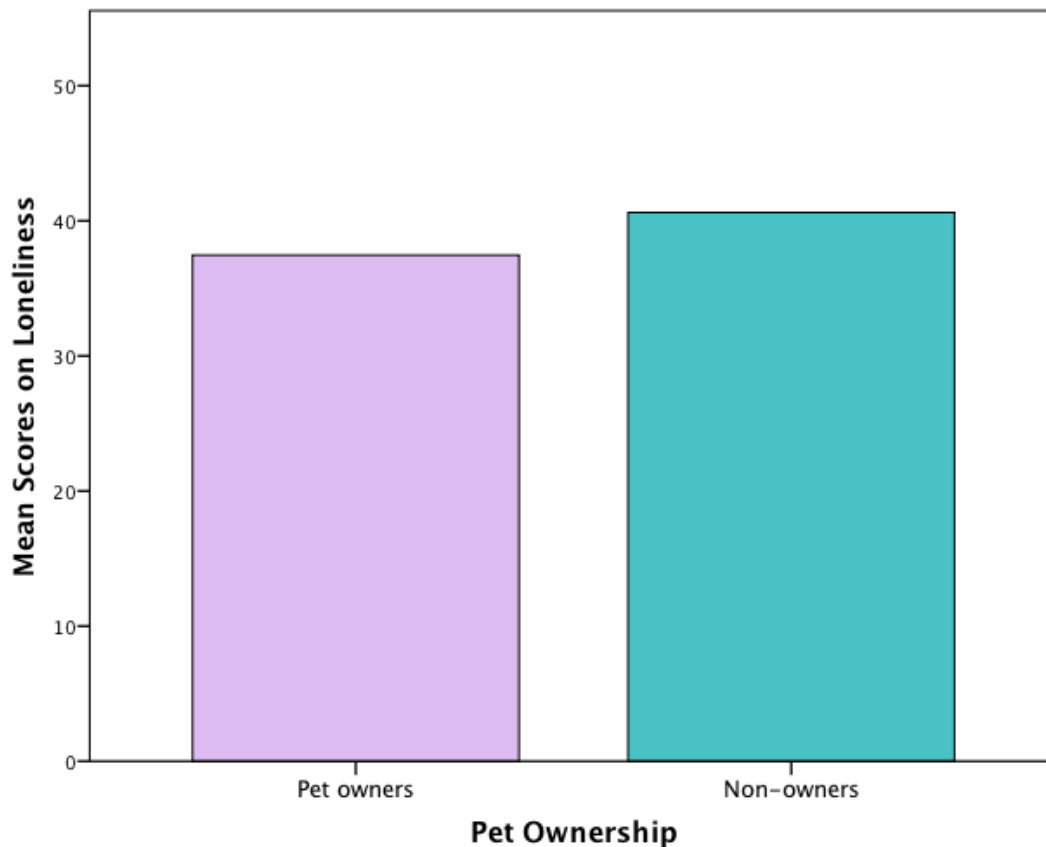


Figure 2. Bar chart illustrating the mean scores for Loneliness for pet owners and non-owners.

A statistically insignificant difference in levels of self-esteem was found between pet owners and non-owners ($t(133) = .70, p = .486$). Likewise, a statistically insignificant difference in levels of life satisfaction was found between owners and non-owners ($t(141) = .73, p = .464$). Both results do not support the hypothesis that pet owners and non-owners differ significantly on levels of self-esteem and life satisfaction. Therefore the null hypothesis was accepted in both cases.

Second Hypothesis

The second hypothesis predicts that there will be a significant difference in levels of self-esteem and life satisfaction between dog owners and cat owners.

An independent samples t-test was conducted to analyse the differences in self-esteem and life satisfaction between cat owners and dog owners. The independent samples t-test found no significant differences among cat owners and dog owners in levels of self-esteem ($t(48) = -.126, p = .900$). In addition, no significant differences among cat owners and dog owners were found in levels of life satisfaction ($t(54) = .021, p = .983$). Accordingly, the null hypothesis was accepted.

Third Hypothesis

The third hypothesis predicted that there would be a significant difference in self-esteem and loneliness between pet owners living alone and non-owners living alone.

Using the split file option to separate data by the independent variable: “living situation” within SPSS, an independent samples t-test was performed to explore the differences between pet owners living alone and non-owners living alone on levels of self-esteem and loneliness. The t-test found there was no statistically significant difference between pet owners living alone and non-owners living alone in levels of self-esteem ($t(25.64) = .221, p = .827$) and in levels of loneliness ($t(35) = -.695, p = .492$). Therefore the null hypothesis was accepted for both results.

Fourth Hypothesis

The fourth hypothesis predicted that there would be a significant difference in loneliness, life satisfaction and self esteem between owners of different types of pets.

A series of one-way ANOVAs were performed to explore the impact of the different types of pet on levels of self-esteem, life satisfaction and loneliness. Results will be reported separately for each measure. Pet owners were divided into 4 groups according to pet type “cat” (Group 1), “dog” (Group 2), “cat and dog” (Group 3) and “small animals” (Group 4).

A one-way analysis of variance showed that the level of loneliness did not differ significantly between the four pet types ($f(3, 68) = .199, p > .05$). Likewise, a one-way analysis of variance showed that the level of self-esteem did not differ significantly between all four pet types ($f(3, 62) = .058, p > .05$). Furthermore, a one-way analysis of variance showed that the level of life satisfaction did not differ significantly between the four pet types ($f(3,70) = 1.191, p > .05$).

Chapter 4: Discussion

The principle aim of the current study was to investigate the influence of pet ownership on psychological factors such as self-esteem, life satisfaction and loneliness in individuals aged 65 and over living in Ireland. Another aim of the study was to examine any possible differences between living situations of pet owners and non-owners across the three dependent variables. A final aim was to examine any possible influences of different types of pet on the three dependent variables.

4.1 First Hypothesis

The first hypothesis deals with the main aim of the present study and predicted that there would be a significant difference in self-esteem, life satisfaction and loneliness between pet owners and non-owners. The results of the independent samples t-test concluded that there was a significant difference between pet owners and non-owners in levels of loneliness, which support this element of the hypothesis. A mean score comparison between both groups confirmed that non-owners suffered from more loneliness when compared with pet owners. It is common for individuals to suffer loss of loved ones during this later period of the lifespan and as a result they may be more likely to suffer from loneliness. This result corresponds with other previous studies such as Sable (1991, as cited in Sable 1995) who found that recently widowed owners who owned a pet suffered significantly less loneliness to those without a pet. It also supports studies carried out in nursing homes that employ the use of animal assisted therapy (AAT). Banks and Banks (2012) and Calvert (1989) found that older adults who had more interaction with animals experienced less loneliness than those who had little or no interaction with animals. This result of the present study also conflicts with other research literature for example Eshbaugh et al. (2011) found no difference in levels of

loneliness between both groups living in two retirement communities. However according to Eshbaugh et al. (2011), this finding may have been due to a recruitment bias whereby participants who did not own a pet still had a natural affinity towards them and were all mostly “animal lovers”. The addition of a potential demographic question regarding the participant’s history of pet ownership may have given further clarity to this finding.

Additional results of the independent samples t-test found no differences in levels of self-esteem and life satisfaction among pet owners and non-owners. This does not support the hypothesis with respect to measures of self-esteem and life satisfaction. This result failed to replicate findings from previous research literature such as McConnell et al. (2011) who found increased levels of self-esteem in pet owners when compared with non-owners. However, McConnell et al. (2011) controlled for individual personality differences using questions based on the FFM (five factor model) and found pet owners to be more conscientious and outgoing than non-owners. Application of a control such as this would have been useful in the present study to determine if participants differed in personality. It is possible that all participants in the present study were all similar in personality, which would explain the insignificant difference between both groups. This result of the present study supports research by Johnson and Rule (1991) who compared highly attached pet owners with non-owners and found no significant difference in self-esteem between both groups. Johnson and Rule (1991) like McConnell et al. (2011) controlled for individual differences and found that both groups were equally healthy psychologically. Perhaps the role of animals on self-esteem may only be revealed more consistently in individuals facing stressful situations such as serious health issues as revealed in research by Serpell (1991) who observed an improvement in health and self-esteem in adults following acquisition of a pet.

Further evidence in support of this has also been demonstrated by (Allen & Blascovich, 1996; Irani et al., 2006).

The result of the t-test with regard to impact of pet ownership on life satisfaction conflicts with the research of Irani et al., (2006) who found that lung transplant patients with pets showed statistically higher ratings of life satisfaction when compared with non-owners. This result does however support research by Norris et al. (1999) who found that life satisfaction continues to decrease with older adults regardless of pet ownership. Taking both findings into account as well as the present study, very little additional research was found regarding the effect of pet ownership on life satisfaction. Conflicting findings such as these would suggest a need for future research to expand on this area. This is of particular importance given that Kimm et al. (2012) found that elderly people with low scores of life satisfaction showed an increased risk of mortality from all causes.

4.2 Second Hypothesis

The second hypothesis stated that there would be a significant difference in loneliness between dog owners and cat owners. The independent samples t test conducted found no significant difference between cats and dogs and did not support the hypothesis. The influence for this hypothesis was mainly due to the fact that a large amount of successful pet ownership research has been carried out with dogs mostly (Friedmann et al, 1980; Rajack, 1997; Anderson, Reid, & Jennings, 1992; Allen et al., 2001) Dogs have been found to increase the sociability of older adults. Making friends and being social can often involve a considerable amount of small talk and pets can often fill this void as a source of conversation. Research by Messent (1983) found that strangers were more likely to be friendly and make

conversation when a dog accompanied the person. Research by Castelli, Hart & Zasloff (2001) revealed that men with AIDS considered pet cats as a better source of social support as opposed to dogs. Cats also appeared to complement their support network and were protective with regard to loneliness. Conversely the present study did not support any of these findings. Sociability as a possible extra variable in the present studies' design may have given a clearer explanation as to why there was no significant difference found in levels of loneliness. It is however important to note that research available specifically comparing cats and dogs in relation to loneliness could not be obtained. This would suggest an implication to consider a hypothesis such as this one in future research pertaining to pet ownership.

4.3 Third Hypothesis

The third hypothesis asserted that pet owners living alone would differ on levels of self-esteem and loneliness when compared with non-owners living alone. A split file independent samples t test revealed no difference between pet owners and non-owners in this respect. Consequently, the hypothesis was not supported. This hypothesis was tested with the assumption that pets might represent an important source of social support for older adults. According to Prosser et al. (2008), self-esteem and the capacity to relate to others can suffer as a result of physical deterioration and the loss of personal sources of meaning such as loss of a spouse and that pets can help improve self-esteem and ameliorate this sense of loss. Living with a pet may also help older adults and elderly maintain feelings of safety. According to anecdotal evidence, companionship is the primary reason for the acquisition of a pet among older adults and therefore it was assumed that pet owners living alone would suffer less from loneliness and have higher self-esteem. A potential reason for this result may have been due to the low number of participants living alone with just 21 pet owners living alone and 19 non-owners living alone among a total of 147 participants. With a sample of

over 2,291 respondents, Tower and Nokota (2006) found conflicting research with regard to this hypothesis due to gender differences. Their findings revealed that unmarried women who lived alone with a pet showed the fewest amount of depressive symptoms while unmarried men living alone with a pet showed the most depressive symptoms. This would indicate a requirement for a reasonable distribution of gender in future research investigating the present hypothesis. Gender difference was not equally distributed in the present study with majority of female respondents accounting for 61.2% participants. The addition of a sociability variable as a control may have also benefited this hypothesis. Further demographic controls such as marital status may also enhance a hypothesis such as this. Little research was found comparing pet owners living alone to non-owners, which suggests another gap in the research that needs to be addressed.

4.4 Fourth Hypothesis

The fourth hypothesis predicted that there would be a significant difference in loneliness, life satisfaction and self-esteem between owners of different types of pets. A one-way analysis of variance (ANOVA) was conducted to examine the effect of the different pet types on all three dependent variables. The analysis of variance revealed there was no significant difference across all four pet types and did not support the hypothesis. Given that the human-animal relationship often involves physical contact, it can be assumed that pets such as dogs, cats, horses and rabbits would have higher effects on well-being as opposed to smaller pets such as snakes and turtles. Research by Jenkins (1986) demonstrated that pet owner's blood pressure was lower while petting their dogs than when they read aloud. A research experiment carried out by Hunt, Hart and Gomulkiewicz (1992) revealed that a woman sitting in a park accompanied by a rabbit or turtle experienced more social

approaches from passers by then when she sat alone blowing bubbles or with a television set. Results also revealed that adults approached the rabbit more often than the turtle, which would support findings such as Jenkin's (2012) that demonstrate the ameliorating affects of touching or petting an animal. Results of the current study do not support findings made by Hunt et al (1992) nor Jenkins (1986). However, a possible reason for this was due to the size of the study sample, which led to an uneven distribution of pet type. Dogs accounted for more than half of the pet types recorded while other types such as cats (n = 14) and small animals (n = 4) varied in considerably smaller numbers.

4.5 Limitations & Evaluation

As observed in each hypothesis tested, a number of limitations within the present research revealed various inconsistencies when compared with previous research particularly elements that were not controlled for such as sociability, recent bereavement and personality differences. With regard to the assessment of self-esteem and life satisfaction, perhaps other variable factors are at play here. There is a possibility that having good health and financial resources is enough to predict high self-esteem and high satisfaction with life. There is an abundance of research that investigates the effect of pet ownership on issues related to stressful life events and health problems. Perhaps in future studies, quality of health and financial resources is something that could be controlled for by including further demographic questions pertaining to their socio-economic status and health status.

While the mean scores for pet owners were higher on self-esteem and life satisfaction than scores from non-owners, the difference was not significant. However, a possible reason for this could be due to the difficult economic situation experienced by participants since the

demise of the celtic tiger. Coincidentally, upon collecting a number of completed questionnaires from a senior citizens organization, the chairperson commented to the researcher that a number of members were in distress at meetings due to the recent introduction of the property tax. While pet owners who were struggling financially may have a buffer with their companion animal, circumstances such as this may still affect their self-esteem and satisfaction with life.

Another possible limitation of the study may have been social desirability. While the brief on the cover of the questionnaire stated that the research was interested in contributions from owners as well as non-owners, the title of the questionnaire suggested that pet ownership was central to the study. This may have influenced the social desirability of non-owners completing the questionnaire, which in turn resulted in exaggerated responses.

A further limitation of may have been related to age. Due to older adults sensitivity regarding their true age, the question based on age simply asked if individuals were age 65 or over. According to Robins et al. (2002), self-esteem declines sharply the older we become. Therefore there is a possibility that the study sample was not fully representative of those aged 65 and over. It is possible that the majority of participants were not much older than 65 years of age. Evidence supporting this was observed by notes participants placed in the questionnaire such as: "I had a dog that died 8 years ago. I will get another dog when I am too old to travel". This would suggest that having further age categories available to choose from might elicit further clarity with investigation self-esteem in older adults. Other notes included by participants explained that pets were not permitted in the location they were living in. These notes point to another weakness of the study whereby a question should have been included about whether participants had permission to have a pet in the premises they

lived in. One final weakness of the study was that gender was not evenly distributed which may have impacted on results, as gender was not representative of the general population. A particular strength of this study was the length of the questionnaire, which resulted in the majority of participants completing the full questionnaire. An additional strength was the finding that pet owners indicated significantly less loneliness to non-owners.

4.6 Possible Applications

Findings related to loneliness in particular could be useful for health care professional as they often have an influence on older adults lives and therefore could recommend pet therapy or acquisition of a pet to patients reporting an increased sense of loneliness. The finding could encourage older adults to consider adopting a pet. Findings could influence possible pet placement initiatives between animal shelters such as the DSPCA and support groups such as Friends of the Elderly and Active Retirement Ireland. It may also contribute to the advancement of pet therapy services in Ireland. Furthermore it could encourage theoretical conceptualisations of why the bond between animals and humans is so beneficial.

In conclusion, the main finding of this study demonstrated that owning a pet decreases level of loneliness in pet owners when compared with non-owners. It is important to acknowledge that the present findings reflect a single sample of participants. A sample greater in number and diversity may yield additional positive results for the role of pet ownership within older populations. The shortcomings of the study with regard to life satisfaction and self-esteem should encourage future research in this area that employs varied approaches and methods that may help expand our understanding of pet ownership and it's potential effects for the well-being of older populations.

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Appendix

Influence of pet ownership on self-esteem, life satisfaction and loneliness among over 65s in Ireland.

My name is Gráinne Nic An Mháistir and I am conducting research in the Department of Psychology that explores the effects of pet ownership on self-esteem, life satisfaction and loneliness among adults age 65 or over.

Pet owners and those who do not own a pet are invited to take part. This research is being conducted as part of my studies at DBS (Dublin Business School) and will be submitted for examination. The questionnaire takes approximately 8-10 mins to complete.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, they have been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page. Participation is completely voluntary and there is no obligation to take part.

Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact me, Gráinne Nic An Mháistir, at nicanmhaistir@yahoo.co.uk or phone 01-5375585. Dr. Jonathan Murphy is my research supervisor and can be contacted at 01-4178774.

Thank you for taking the time to complete this survey.

Are you aged 65 or over? Participants must be 65 or over. Please place a tick next to your answers.

- Yes
- No

What is your gender?

- Male
- Female

What is your living situation? Do you live alone or with others?

- alone
- with others

Do you own a pet?

- Yes
- No

If you answered yes, please state below how many pets and what kind of pet you own (cat, dog, bird etc).

Below are 5 statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

___ In most ways my life is close to my ideal.

___ The conditions of my life are excellent.

___ I am satisfied with my life.

___ So far I have gotten the important things I want in life.

___ If I could live my life over, I would change almost nothing.

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided.

1 = NEVER 3 = SOMETIMES

2 = RARELY 4 = ALWAYS

1. How often do you feel that you are 'in tune' with the people around you? _____
2. How often do you feel that you lack companionship? _____
3. How often do you feel that there is no one you can turn to? _____
4. How often do you feel alone? _____
5. How often do you feel part of a group of friends? _____
6. How often do you feel that you have a lot in common with the people around you? _____
7. How often do you feel that you are no longer close to anyone? _____
8. How often do you feel that your interests and ideas are not shared by those around you. _____
9. How often do you feel outgoing and friendly? _____
10. How often do you feel close to people? _____
11. How often do you feel left out? _____
12. How often do you feel that your relationships with others are not meaningful? _____
13. How often do you feel that no one really knows you well? _____
14. How often do you feel isolated from others? _____
15. How often do you feel you can find companionship when you want it? _____
16. How often do you feel that there are people who really understand you? _____
17. How often do you feel shy? _____
18. How often do you feel that people are around you but not with you? _____
19. How often do you feel that there are people you can talk to? _____

20. How often do you feel that there are people you can turn to? _____

Below is a list of statements dealing with your general feelings about yourself.

If you **strongly agree** with the statement circle **SA**.

If you **agree** with the statement circle **A**.

If you **disagree** with the statement circle **D**.

If you **strongly disagree** with the statement circle **SD**.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.	I wish I could have more respect for myself.	SA	A	D	SD
9.	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

I would like to thank you for completing the questionnaire and for your contribution to the research process. The aim of the questionnaire is to see if owning a pet has a significant influence on self esteem, life satisfaction and loneliness in people aged over 65 to that of nonowners. If any of the previous questions have raised difficult feelings for you, do not hesitate to contact me or my supervisor. I have also included contact numbers of organisations who can also provide assistance.

Gráinne Nic An Mháistir (Researcher): 01-5375585

Dr. Jonathan Murphy (Supervisor): 01-4178774

Alone: 01-6791032

Samaritans: 01-6710071

If returning the questionnaire by **post** please return to:

Gráinne Nic An Mháistir

54a Leinster Avenue, North Strand, D3

Satisfaction with Life Scale (SWLS)

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 - Strongly agree
- 6 - Agree
- 5 - Slightly agree
- 4 - Neither agree nor disagree
- 3 - Slightly disagree
- 2 - Disagree
- 1 - Strongly disagree

____ In most ways my life is close to my ideal.

____ The conditions of my life are excellent.

____ I am satisfied with my life.

____ So far I have gotten the important things I want in life.

____ If I could live my life over, I would change almost nothing.

Scoring

Add the scores together from the 5 items for an overall total. Higher scores indicate greater degree of satisfaction with life. The authors have used the following cutoffs to rank the categories of satisfaction with life -

- 31 - 35 Extremely satisfied
- 26 - 30 Satisfied
- 21 - 25 Slightly satisfied
- 20 Neutral
- 15 - 19 Slightly dissatisfied
- 10 - 14 Dissatisfied
- 5 - 9 Extremely dissatisfied

Rosenberg Self-Esteem Scale

Below is the Rosenberg Self-Esteem Scale and scoring method I'll be using to measure participants self-esteem.

Below is a list of statements dealing with your general feelings about yourself.

If you *strongly agree* with the statement circle **SA**.

If you *agree* with the statement circle **A**.

If you *disagree* with the statement circle **D**.

If you *strongly disagree* with the statement circle **SD**.

1.	On the whole, I am satisfied with myself.	SA	A	D	SD
2.	At times, I think I am no good at all.	SA	A	D	SD
3.	I feel that I have a number of good qualities.	SA	A	D	SD
4.	I am able to do things as well as most other people.	SA	A	D	SD
5.	I feel I do not have much to be proud of.	SA	A	D	SD
6.	I certainly feel useless at times.	SA	A	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8.	I wish I could have more respect for myself.	SA	A	D	SD
9.	All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10.	I take a positive attitude toward myself.	SA	A	D	SD

Scoring.

Items 1,3,4,7 & 10 are scored : SA=3, A=2, D=1, SD=0.

Items 2, 5, 6, 8 & 9 are reverse scored : SA=0, A=1, D=2, SD=3.

Sum the scores for the 10 items. The higher the overall total, the greater the self esteem.

UCLA Loneliness Scale

Below is UCLA Loneliness Scale that and scoring method I will be using to measure loneliness amongst participants.

TABLE 1
UCLA Loneliness Scale (Version 3)

Instructions: The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided. Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always feel happy, you would respond "always."

	<u>NEVER</u> 1	<u>RARELY</u> 2	<u>SOMETIMES</u> 3	<u>ALWAYS</u> 4
*1. How often do you feel that you are "in tune" with the people around you?				_____
2. How often do you feel that you lack companionship?				_____
3. How often do you feel that there is no one you can turn to?				_____
4. How often do you feel alone?				_____
*5. How often do you feel part of a group of friends?				_____
*6. How often do you feel that you have a lot in common with the people around you?				_____
7. How often do you feel that you are no longer close to anyone?				_____
8. How often do you feel that your interests and ideas are not shared by those around you?				_____
*9. How often do you feel outgoing and friendly?				_____
*10. How often do you feel close to people?				_____
11. How often do you feel left out?				_____
12. How often do you feel that your relationships with others are not meaningful?				_____
13. How often do you feel that no one really knows you well?				_____
14. How often do you feel isolated from others?				_____
*15. How often do you feel you can find companionship when you want it?				_____
*16. How often do you feel that there are people who really understand you?				_____
17. How often do you feel shy?				_____
18. How often do you feel that people are around you but not with you?				_____
*19. How often do you feel that there are people you can talk to?				_____
*20. How often do you feel that there are people you can turn to?				_____

Scoring:

Items that are asterisked should be reversed (i.e., 1 = 4, 2 = 3, 3 = 2, 4 = 1), and the scores for each item then summed together. Higher scores indicate greater degrees of loneliness.

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Table 1. *Frequency Table for the main IVs.*

Variables		N	Percentage
Gender	Male	57	38.8%
	Female	90	61.2%
Pet Ownership	Yes	75	51%
	No	72	49%
Pet Ownership (Owners)	Female	46	61.3%
	Male	29	38.7%
	Living alone	21	28%
	Living with others	54	72%
Pet Ownership (non owners)	Female	44	61.1%
	Male	28	38.9%
	Living alone	19	26.4%
	Living with others	53	73.6%
Pet Category	Dog	44	58.7%
	Cat	13	17.3%
	Cat and Dog	14	18.7%
	Small Animals	4	5.3%

Table 2. *Descriptive Statistics for the main IVs split by pet owners and non-owners.****Pet Ownership: "Owners"***

Variables	N	M	SD
Self Esteem	66	22.5	5.647
Life Satisfaction	74	26.09	5.263
Loneliness	72	37.46	9.302

Pet Ownership: "Non Owners"

Variables	N	M	SD
Self Esteem	69	21.88	4.559
Life Satisfaction	69	25.43	5.479
Loneliness	67	40.61	8.403

