Investigating the Effects of Pet Ownership on levels of Depression and Loneliness

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Abstract

The present study examined the effects of pet ownership on levels of depression and loneliness in the general population by examining the differences between pet owners and non-pet owners. The current study also examined the relationship between pet attachment and levels of depression and loneliness in pet owners. Previous research has shown that pets can have a positive impact on our mental well-being as well as having the ability to lessen feelings of emotional distress, depression, and loneliness: with the majority of the research focusing on those living in residential care homes, hospitals, prisons, and college dorms. The present study aimed to expand upon these findings and strengthen them by investigating the effects of pet ownership and pet attachment on the general population. Participants were recruited through social media via convenience sampling techniques (N=72) and completed an online survey containing demographic information, The Centre for Epidemiologic Studies Depression Scale (CES-D), The UCLA Loneliness Scale (UCLA), and The Censhare Pet Attachment Survey (CPAS). Results of independent t-test analyses found no statistically significant differences in depression or loneliness scores between pet owners and non-pet owners. Furthermore, results of the correlation analyses found a weak, negative correlation between pet attachment scores and depression scores as well as a weak, positive correlation between pet attachment scores and loneliness scores (in pet owners exclusively). These findings suggest that high levels of pet attachment were associated with lower levels of depression and higher levels of loneliness however, these findings were not statistically significant.

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Introduction

Mental health is typically defined as a state of well-being whereby an individual is aware of their own abilities, has the capacity to cope with the daily stresses of life, as well as the ability to work productively and effectively whilst contributing positively to their environment (Galderisi et al., 2015). Keyes (2006) identified emotional well-being, psychological well-being, and social well-being to be the three main components of mental health (Keyes, 2006). These three components account for the importance of many factors which contribute to our mental health such as happiness, interest in life, relationships with others, feelings of belonging as well as life satisfaction. A healthy lifestyle is among one of the many other things which can be extremely beneficial to one's mental health. According to Velten and colleagues (2018), better mental health amongst students has been associated with lower body mass index, a higher frequency of physical and mental activities, non-smoking, and a more regular social rhythm (Velten et al., 2018). Another contributing factor for establishing a good mental health is one's ability to form meaningful relationships which positively impacts on one's perception of their life's purpose and consequently improves their quality of life (Fusar-Poli et al., 2020). Connell and colleagues (2012) identified six major themes which patients with mental health problems associated with a good quality of life including well-being, control, positive self-perception, belonging, choice, and hope (Connell et al., 2012).

There are multiple uncontrollable factors which may increase an individuals' risk of developing a mental illness or disorder such as their biological predispositions, history of substance use, exposure to stressful life events or ongoing chronic illnesses (Cirulli et al., 2009). There are many drastic life events which can take a severe toll on one's life, a current and ongoing example of this is the COVID-19 pandemic which has had detrimental effects on the mental health and well-being of the entire population (O'Connor et al., 2020). The

COVID-19 pandemic is an ongoing global health emergency beyond what the current population has experienced in their lifetime which has seen the loss of many lives, jobs as well as the deterioration of many others mental health and well-being. The mental health burden associated with the COVID-19 pandemic is estimated to surpass all the existing and previous demands to mental health services. There are multiple aspects of the COVID-19 pandemic which are predicted to lead to the prolonged burden on the mental health services in Ireland such as the mortality rates of COVID-19, lingering distress, social distancing measures, economic impacts as well as the insufficient access to mental health care. The predicted detrimental effects on mental health can also be linked to the risk factors which the pandemic presents such as social isolation, unemployment, financial crisis, domestic violence as well as grief and loss (Carbone, 2020). In a 2021 study, researchers found that participants without depressive, anxiety, or obsessive-compulsive disorders pre-covid expressed a greater increase of symptoms during the pandemic compared to those with ongoing mental health problems who displayed a slight symptom decrease (Pan et al., 2021). According to Carbone (2020), the priorities currently lie in strengthening the mental healthcare system in order to prepare for the surge in demand post COVID-19.

The existing research supports the efficiency of evidence-based interventions in the treatment and prevention of mental health disorders such as social and emotional programmes, self-care strategies, and well-being programmes. Wells (2009) acknowledged that there is a substantial sum of money invested annually into medicine and therapy for the prevention and treatment of mental health disorders (Wells, 2009). In order to explore alternative treatments, Wells decided to investigate the effects which animals can have on human health and well-being as a measure which could potentially reduce the resources and expenditure being invested in the health sector. According to Freidman and colleagues (2000), animals have been found to not only be a source of companionship, support, and

entertainment but there is now mounting evidence suggesting they have the ability to promote their owners' mental and physical health (Freidman et al., 2000). Existing research by Allen and colleagues (2002) has shown reductions in heart rate and blood pressure in participants exposed to stressful stimuli in the presence of a pet dog compared to the presence of a friend or spouse (Allen et al., 2002). Whilst a substantial amount of the existing research examines the physiological effects of pets, there is current rise of literature examining the psychological effects of pet ownership.

Companion animals have been shown to contribute positively to the psychological well-being of humans in many ways for example, Wells (2004) found that dogs contribute to the facilitation of social interactions between people by promoting chance conversations amongst strangers (Wells, 2004). This coincides with the findings of Hart and colleagues (1987) which revealed wheelchair users received on average eight friendly approaches from strangers when they were accompanied with their service dog whilst shopping compared to one approach when not (Hart et al., 1987). Furthermore, several studies have investigated the effects of companion animals on depression in humans, all of which have persistently highlighted a positive relationship between pet ownership in the reduction of depression levels (Needell & Mehta-Naik, 2016). For example, Roberts and colleagues (1996) found that elderly people who own pets displayed fewer symptoms of depression compared to elderly who did not have a pet (Roberts et al., 1996). It has been proposed that the socializing effects of animals are particularly important to elderly people who are unemployed or have lost family and friends (Hart, 1995). Further research by Thelwell (2019) revealed that participants who had direct interaction with a dog experienced a greater decline in anxiety and improved mood scores compared to participants who had just watched a video of a dog (Thelwell, 2019). Pet ownership has also found to significantly reduce depression levels in men infected with AIDS who lack social support (Siegel et al., 1999). There is also existing

research which suggests that PTSD patients also benefit from companion animals as it makes them feel calmer, less lonely, less depressed, and less worried about their safety (Stern et al., 2013). Earlier research by DeSchriver and Riddick (1990) noted decreased levels of psychological stress in elderly people which had been exposed to a video of animals (DeSchriver & Riddick, 1990).

There is also a profound amount of research which suggests pets can reduce feelings of loneliness and isolation for example, Salmon and Salmon (1982) found that patients were happier, more alert, and more responsive in the presence of a residential dog in a nursing home according to their nurses (Salmon & Salmon, 1982). More recent research by Bernstein and colleagues (2000) found that residents in a nursing home facilitated in more social interactions which included lengthy conversations following a visit from animals in rescue-shelters (Bernstein et al., 2000). Much of the research which focuses on the relationship between loneliness and pet attachment has shown that animals can substantially lessen emotional distress, depression, and loneliness particularly for pet owners who lack human confidants (Garrity et al., 1989; Stallones et al., 1990). Institutions including prisons, residential homes and hospital wards have begun employing animals such as dogs in to facilitate and trial the therapeutic options available to those feeling lonely and isolated (Strimple, 2003). These findings are also supported by a recent 2019 study which found that acquisition of a companion dog can significantly reduce feelings of loneliness and isolation within the owners (Powell et al., 2019). Researchers have concluded that these effects exist due to the strength of human-animal bonds which are said to maintain the same qualities as interpersonal relationships as pets are said to be just as accepting, loyal, honest, affectionate and consistent as humans (Rynearson's, 1978; Nebbe, 2001).

Research suggests that women and girls report higher levels of attachment to their pets compared to men (Winefield et al., 2008; Quinn, 2005; Vizek Vidovic et al., 1999).

These high levels of attachment have been said to predict an increased development of empathy in individuals (Rothgerber & Mican, 2014). Research persistently explores the effects of pets on women specifically, for example Zasloff and Kidd (1994) found that women who lived alone reported being significantly lonelier compared to women living with pets only (Zasloff & Kidd, 1994). A 2014 study also found that the association between pet ownership and loneliness was stronger amongst women than men meaning lower loneliness amongst women was associated with pet ownership and higher loneliness amongst women was associated with a desire for pet ownership (Pikhartova et al., 2014).

A substantial amount of the research conducted in this field explores the effects which pets can have on depressive symptoms and feelings of loneliness as these are two interconnecting states of mind (Kraav et al., 2021). Loneliness is often considered to be a subset of depression as they share multiple common symptoms including helplessness, sadness, and pain hence why much of the research has investigated the effects of pets in regard to both disciplines. However, the evidence is conflicting with some research suggesting that the acquisition of a dog can reduce depressive symptoms and others suggesting that only cat owners experience lower levels of depression compared to dog owners (Branson et al., 2017).

The current study

Undoubtably, interaction with animals has proven to be universally beneficial for all age groups with studies having been conducted on children, students, adults, and elderly (Purewal et al., 2017; Reed, 2003). The COVID-19 pandemic has been a particularly lonely and isolating time for all these age groups, and there is still little research been conducted on the significance which pets have had on our levels of depression and loneliness during the current period (O'Connor et al., 2020). Furthermore, there has been a substantial amount of research conducted on distinct samples of the population particularly women, elderly, those

living in isolated circumstances or institutions such as prisons, and residential care homes (Strimple, 2003). However, there has since been little research conducted on the effects of pet ownership on the levels of depression and loneliness in the general population accounting for all age groups and genders.

Therefore, the aim of the current study is to explore the effects of pet ownership on levels of depression and loneliness in the general population. The current study also wishes to explore the relationship between pet attachment and depression as well as pet attachment and loneliness for pet owners exclusively. Therefore, these aims produced the following research questions and hypotheses:

Research question 1: Are there differences in levels of depression between pet owners and non-pet owners? Hypothesis for research question 1: There will be a difference in levels of depression between pet owners and non-pet owners.

Research question 2: Are there differences in levels of loneliness between pet owners and non-pet owners? Hypothesis for research question 1: There will be a difference in levels of loneliness between pet owners and non-pet owners.

Research question 3: Is there a relationship between pet attachment scores and depression scores among pet owners? Hypothesis for research question 3: There will be a relationship between pet attachment scores and depression scores among pet owners.

Research question 4: Is there a relationship between pet attachment scores and loneliness scores among pet owners? Hypothesis for research question 3: There will be a relationship between pet attachment scores and loneliness scores among pet owners.

Methodology

Participants

The sample for the current study consisted of 72 participants (Males: n = 13 (18.1%); and Females: n = 59 (81.9%). The participants ranged in age from 18 years to 64 years, with an average age of 29 years (SD = 12.7). Of the participants recruited; 49 (68.1%) were pet owners and 23 (31.9%) were not pet owners. The participants were recruited via convenience sampling through the use of the researcher's social media accounts including Facebook, Instagram, and LinkedIn whereby the link to the survey was posted.

Materials/Measures

The questionnaire used in the current study consisted of demographic questions and three distinct scales, all of which were amalgamated using Google Forms, a survey builder. The demographic questions were administered with the aim of gaining a general profile of the participants in this study, through three basic questions regarding their gender, age, and pet ownership status. The participants were asked to indicate their gender by one of the following; male, female, or prefer not to say as well as providing their age in numbers. The third demographic question; 'Do you own a pet?' required each participant to indicate their status of pet ownership by selecting their response of 'Yes' or 'No'.

The Center for Epidemiologic Studies Depression Scale (CES-D): is a 20-item Likert scale which was used to measure participants levels of depression over the past week. Originally developed by Radloff (1977), users read 20 self-phrased statements (e.g., "I felt depressed") and rated how frequently each statement applied to them over the past week based on a 4-point Likert scale ranging from 0 (rarely or none of the time; less than 1 day) to 4 (most or all of the time; 5-7 days). The scoring is coded with each response corresponding to a number as follows; 0 = Rarely or None of the Time, 1 = Some or Little of the Time, 2 = Moderately or Much of the time, 3 = Most or Almost All the Time. Items 4, 8, 12 and 16 are

reverse scored and scores can range from 0 to 60 with higher scores indicating a higher level of depressive symptoms. The Cronbach's alpha coefficient for the current sample was a = .93 which represents a good internal reliability.

The UCLA Loneliness Scale (UCLA): is a 20-item Likert scale which was used to measure participants subjective feelings of loneliness. Developed by Russell et al. (1978), users read 20 self-phrased statements (e.g., "I have nobody to talk to") and rate each item using a 4-point Likert scale ranging from O ("I often feel this way") to N ("I never feel this way"). The scoring is continuous with all O's = 3, all S's = 2, all R's = 1, and all N's = 0. Scores can range from 0 to 60 with higher scores indicating higher levels of loneliness. The Cronbach's alpha coefficient for the current sample was a = .97 which represents a good internal reliability.

The Censhare Pet Attachment Scale (CPAS): is a 27-item Likert scale which was used to measure the strength of the relationship between the participants (pet owners exclusively) and their 'favourite' pet. Developed by Holcomb et al. (1985), users read 27 statements (e.g., "You talk to your pet as a friend") and rate each item using a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always). Items 2, 13, 19, 20 and 27 are reverse scored and scores can range from 27 to 108 with higher scores indicating higher pet attachment. The Cronbach's alpha coefficient for the current sample was a = .88 which represents a good internal reliability.

Design

This study adopted a quantitative approach through the use of a survey for collecting data. The study implemented an experimental cross-sectional research design as data was collected exclusively at one specific time-point. An Independent t-test was used to assess the first and second hypothesis which examined the associations between pet ownership and 1) levels of loneliness and 2) levels of depression. The third and fourth hypotheses adopted a

within-subjects design as human-animal attachment levels in pet owners were compared with their levels of loneliness and levels of depression. A Pearson's correlation analyses was conducted in order to assess the third and fourth hypothesis which consisted of three variables human-animal attachment, levels of loneliness and levels of depression.

Procedure

The participants in this study were recruited via social media platforms including Facebook, Instagram, and LinkedIn. The link was also posted in multiple WhatsApp group chats. The majority of participants accessed the link via one of the online posts which containted an information sheet detailing the participants rights to withdraw, persevered anonymity and voluntary participation *(see appendix 1)*. The information sheet also detailed the aims, objectives, and requirements of the study. In order to gain access to the survey, the participants were required click on a box to confirm they are over the age of 18, have read the terms of the study and express their full consent to participation *(see appendix 2)*. The participant then moved on to the quantitative component of the study which consisted of a four-page questionnaire estimated to take on average 5-10 minutes to fully complete. The questionnaire consisted of three demographic questions which accounted for the following: age, gender, and pet ownership status which was then followed by three well established scales: the CES-D which screens for depressive symptoms, the UCLA scale which assesses the participants feelings of loneliness, and the CPAS which assesses participants attachment to their 'favourite' pet *(see appendix 3)*. Upon completion of the survey, the participants were transferred to a webpage with a de-brief sheet which thanked the participants for their participation as well as enclosing the following information: the purpose of the study, the proposed findings of the study, the researchers contact information, and helpline sources *(see appendix 4)*.

Ethical Considerations

The data collected in this study was done so in accordance with the PSI code of ethics and ethical guidelines of NCI. The participants were made aware of the risks and benefits of partaking in the study as well as the lack of remuneration for participation. The participants were required to read an information sheet before demonstrating their informed consent by clicking a box on the google form webpage. A debrief sheet was provided which included helpline information for participants who, in an unlikely event, had experienced distress as a result of taking part in the study.

Results

Descriptive Statistics

Descriptive statistics were performed for the two categorical variables of gender, and pet ownership status. As seen in Table 1 below, the data consisted of a total of 72 participants with 89.1% being female (n=59) and 18.9% being male (n=13). A large proportion of the sample 68.1% (n=49) were pet owners and the remaining 31.9% (n=23) were not. The study also consisted of four continuous variables including age, depression, loneliness, and pet attachment. The mean, standard deviation, range, minimum and maximum scores for each of these variables are displayed in Table 1 below.

Table 1

Descriptive statistics for all continuous variables

Variable	*M* [95% CI]	*SD*	Range
Age	28.73 [18 – 64]	12.71	46
Depression	21.44 [0 – 56]	13.10	56
Loneliness	23.06 [0 – 60]	15.67	60
Pet Attachment	84.78 [44 – 106]	12.67	62

Inferential statistics

An independent t-test was computed to compare group differences between pet owners and non-pet owners' levels of depression (as measured by the CES-D). Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. The results revealed there was no significant differences in depression scores for pet owners (M = 22.45, SD = 13.75) and non-pet owners (M = 19.30, SD = 11.50; t

(70) = .95, p = .35, two-tailed). The magnitude of the differences in the means (mean difference = 3.15, 95% CI: -3.45 to 9.74) was very small (eta squared = .014).

An additional independent t-test was computed to compare group differences between pet owners and non-pet owners' levels of loneliness (as measured by the UCLA). Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. The results revealed there was no significant differences in loneliness scores for pet owners (M = 23.67, SD = 16.40) and non-pet owners (M = 21.74, SD = 14.26; t (70) = .49, p = .63, two-tailed). The magnitude of the differences in the means (mean difference = 1.94, 95% CI: -6.01 to 9.88) was very small (eta squared = .014).

A Pearson's correlation coefficient was computed to assess the relationship between pet attachment scores (as measured by the CPAS) and depression scores (as measured by the CES-D) amongst pet owners. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. The results revealed there was a weak, negative correlation between the two variables, (r = -.69, n = 49, p = .573) This indicates that the two variables share approximately .69% of variance in common with high levels of pet attachment associated with lower levels of depression (see table 2 below for full details).

An additional Pearson's correlation coefficient was computed to assess the relationship between pet attachment scores (as measured by the CPAS) and loneliness scores (as measured by the UCLA) amongst pet owners. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. The results revealed there was a weak, positive correlation between the two variables, (r = .01, n = 49, p = .939). This indicates that the two variables share approximately .01% of variance in common with high levels of pet attachment associated with higher levels of loneliness (see table 2 below for full details).

Table 2

Pearson's Correlation between continuous variables

Variable	1.	2.	3.
1. Pet Attachment	1		
2. Depression	-.083**	1	
3. Loneliness	.011*		1

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

To summarise, there were no significant differences in depression and loneliness scores between pet owners and non-pet owners. Furthermore, higher pet attachment scores amongst pet owners were associated with lower levels of depression and higher levels of loneliness, however these findings were not significant.

Discussion

The current study aimed to investigate the differences between pet owners and non-pet owners in their levels of depression and levels of loneliness. It also aimed to assess the relationship between pet attachment scores and levels of depression and loneliness amongst pet owners exclusively. Prior findings have shown that pets can have a positive impact on our general mental well-being as well as having the ability to lessen feelings of emotional distress, depression, and loneliness, particularly for those living in residential care homes, hospitals and prisons (Garrity et al., 1989; Stallones et al., 1990; Strimple, 2003). Previous research has also found that lower levels of pet attachment can be linked to higher levels of depression in females and furthermore that general pet attachment can have mediating effects on the relationship between loneliness and general health in females (Krause-Parello, 2008; Tsapova, 2017). Recent research suggests that higher pet attachment in young males is associated with more positive attitudes, lower delinquency, higher prosocial behaviour and empathy, as well as a less depressed mood (Jacobson & Chang, 2018). Through this research, four hypotheses were formulated to address the aims of this study.

It was first hypothesized, based off prior literature, that there would be a difference in levels of depression between pet owners and non-pet owners (H1). This was explored using an independent t-test analyses; from this it was found and concluded that there were no significant differences in levels of depression between pet owners and non-pet owners in this sample. These findings were contradictory to the numerous studies which highlight the significant relationship between pet ownership and lower levels of depression (Chakma et al., 2021; Clark Cline, 2010, Martin et al., 2021). This inconsistency may be due to the disparity in sample sizes as many of the previous studies obtained over 100 participants for their studies thus making the findings more reliable, accurate, and valid. Perhaps another

explanation for this discrepancy may be that previous research has employed alternative scales for measuring levels of depression such as the Patient Health Questionnaire 9 (PHQ-9) which focuses on the main nine signs and symptoms of depression rather than the CES-D which simply screens for the presence of depressive symptoms (Khamseh et al., 2011).

Similarly for H2, an independent t-test analyses was conducted to investigate the differences in levels of loneliness between pet owners and non-pet owners; from this it was found and concluded that there were no significant differences in levels of loneliness between pet owners and non-pet owners in this sample. This is inconsistent with the previous research which implies that the acquisition of a pet can significantly reduce feelings of loneliness and isolation particularly for women, adults living alone and the elderly (Pikhartova et al., 2014; Oliva & Johnston, 2020; Stanley et al., 2013). A possible explanation for this inconsistency may be, that unlike previous studies, the current study did not account for other factors which may be contributing to the participants levels of loneliness such as their age, relationship status, or different living circumstances (O'Reilly, 2019; Reed, 2003). Perhaps, as the current study was conducted during the COVID-19 pandemic, this may have led to a universal feeling of loneliness among the general population hence differences in levels of loneliness between the two groups may not have been as apparent.

The third hypothesis, based off prior literature, hypothesized that there would be a relationship between pet attachment scores and levels of depression among pet owners (H3). This was explored through a Pearson's correlation analysis; from this it was found that there is a weak, negative relationship between pet attachment and depression. These findings suggest that high pet attachment is associated with lower levels of depression however, these findings were insignificant. Therefore, it can be concluded that pet attachment was not negatively or positively associated with levels of depression in the current study. These

findings were also inconsistent with previous research which has found that higher attachment to pets in humans is linked to a greater decrease in depressive symptoms (Garrity et al., 1989). A possible explanation for this discrepancy may be that due to the fact the Censhare Pet Attachment Survey (CPAS) does not have a cut off point for high or low levels of pet attachment, it makes it difficult to determine if higher pet attachment scores are correlated with lower depression and loneliness scores vice versa.

Lastly, H4 stated that there would be a relationship between pet attachment scores and levels of loneliness among pet owners. This was explored through a Pearson's correlation analysis; from this it was found that there is a weak, positive relationship between pet attachment and loneliness. These findings suggest that high pet attachment is associated with higher levels of loneliness however, these findings were insignificant. Therefore, it can be concluded that pet attachment was not negatively or positively associated with levels of loneliness in the current study. Once again, these findings contradict previous research which consistently highlights the relationship between high levels of pet attachment and low levels of loneliness (Black, 2012).

The current study found no evidence to support that there are differences in levels of depression or loneliness between pet owners and non-pet owners and furthermore that there is no relationship between pet attachment and depression or loneliness, contrary to popular belief. It is essential to attempt to understand the reasons why the current findings were not replicable of the previous research. There are multiple possible explanations for this inconsistency, firstly, perhaps the CES-D scale was ineffective at measuring levels of depression in the current sample. It is possible that the length of the CES-D scale was burdensome to participants therefore, future research may explore levels of depression through a shorter, alternative measure such as the PHQ which is a 9-item depression scale.

Secondly, the current study did not control for any extraneous variables which may be subconsciously contributing to the participants feelings of depression or loneliness such as a previous mental health diagnosis.

In regards to the effects on levels of loneliness, inconsistencies in findings may exist for multiple reasons, firstly, it is possible that the UCLA scale did not effectively detect the effects of pet ownership on loneliness. Similar to the CES-D scale, the UCLA scale contains 20 items which is quite lengthy and therefore may have been very demanding and tedious for participants. An alternative measure such as the De Jong Gierveld Loneliness Scale may have been more appropriate as it contains 11-items which assess overall loneliness, and two sub-scales within it which assess emotional loneliness, and social loneliness (De Jong Gierveld & Kamphuis, 1985). Perhaps, the use of these two sub-scales may have revealed differences in levels of emotional and social loneliness which the overall scale would not have recognised.

Secondly, perhaps one of the reasons humans acquire pets is due to their existing feelings of loneliness. It may be necessary to explore the particular type of loneliness which leads people to acquire pets in order to establish if a state of loneliness already exists in pet owners. If such relationship exists, it may be inappropriate to measure loneliness between pet owners and non-pet owners using the UCLA scale as differences may not be detected thus it may be necessary to explore an alternative measure of loneliness which accounts for individuals feelings of loneliness pre-companion animal acquisition.

A third explanation for this inconsistency may be that perhaps pets do not alleviate feelings of depression or loneliness but in some way, they allow people to believe they are less depressed or lonely. Pet ownership may add purpose or structure to one's life which leaves them with less time to dwell on their feelings of depression and loneliness. This proposed misunderstanding may explain why previous research consistently highlights a

decrease in depression and loneliness following pet acquisition but the previous study does not.

A fourth explanation may be that it is possible the effect of pet ownership on levels of depression and loneliness only exists in specific subgroups rather than the general population, which has been highlighted in previous research. In line with previous findings, it may be possible to conclude that effects only exist for those at high risk of loneliness living alone or in residential care homes, prisons or other institutions.

Finally, as previously mentioned, the current study was conducted during the COVID-19 pandemic which has been a particularly lonely, isolating, and depressing time for the general population. Perhaps future research may wish to adopt a longitudinal approach to determine if the effects of pet ownership on levels of depression and loneliness differed pre-covid to post-covid; as it may produce more compelling results.

A possible limitation of the current study is that unlike previous research, the current study did not account for the different types of pet which the participants own. This may have been particularly important for determining the background of the participants pet attachment scores. Previous research reveals that dog owners are more attached to their pets due to the high levels of attention and care which dogs require compared to other animals (Zasloff, 1994; Winefield et al., 2008). Another limitation in the current study was the use of purely self-report measures in determining subjective levels of depression, loneliness, and pet attachment. This may have led to a response bias such as social desirability or acquiescent responding and hence hindered the acquisition of authentic responses within the questionnaires (Rosenman et al., 2011). Future research may wish to adopt the use of a more direct measure, perhaps observation, for obtaining information on participants feelings of depression, loneliness, and pet attachment.

Future research may wish to compare the effects of pets on depression and loneliness in individuals pre-covid versus post-covid with regard to the effects of specific types of pets. Research may also wish to focus on the effects of pets on a specific sub-groups whilst controlling for extraneous variables which may subconsciously lead to increased depression or loneliness. Future research may adopt a more direct quantitative approach otherwise a qualitative approach in order to obtain more in depth information and avoid response bias.

In conclusion, the current study failed to support the proposed hypothesis that pets can reduce feelings of depression and loneliness and furthermore failed to establish a relationship between pet attachment and depression or loneliness.

References

Allen, K., Blascovich, J., & Mendes, W. B. (2002). Cardiovascular Reactivity and the Presence of Pets, Friends, and Spouses: The Truth About Cats and Dogs. Psychosomatic Medicine, 64(5), 727–739. https://doi.org/10.1097/00006842-200209000-00005

Bernstein, P. L., Friedmann, E., & Malaspina, A. (2000). Animal-Assisted Therapy Enhances Resident Social Interaction and Initiation in Long-Term Care Facilities. Anthrozoös, 13(4), 213–224. https://doi.org/10.2752/089279300786999743

Black, K. (2012). The relationship between companion animals and loneliness among rural adolescents. Journal of Pediatric Nursing, 27(2), 103–112. https://doi.org/10.1016/j.pedn.2010.11.009

Branson, S., Boss, L., Cron, S., & Turner, D. (2017). Depression, loneliness, and pet attachment in homebound older adult cat and dog owners. *Journal of Mind and Medical Sciences*, *4*(1), 38–48. https://doi.org/10.22543/7674.41.p3848

Carbone, S. R. (2020). Flattening the curve of mental ill-health: the importance of primary prevention in managing the mental health impacts of COVID-19. Mental Health & Prevention, 19, 200185. https://doi.org/10.1016/j.mhp.2020.200185

Chakma, S. K., Islam, T. T., Shahjalal, M., & Mitra, D. K. (2021). Depression among pet owners and non-pet owners: A comparative cross-sectional study in Dhaka, Bangladesh. F1000Research, 10, 574. https://doi.org/10.12688/f1000research.53276.1

Cirulli, F., Laviola, G., & Ricceri, L. (2009). Risk factors for mental health: Translational models from Behavioural Neuroscience. *Neuroscience & Biobehavioral Reviews*, *33*(4), 493–497. https://doi.org/10.1016/j.neubiorev.2009.01.006

Clark Cline, K. M. (2010). Psychological effects of dog ownership: Role strain, role enhancement, and Depression. The Journal of Social Psychology, 150(2), 117–131. https://doi.org/10.1080/00224540903368533

Connell, J., Brazier, J., O'Cathain, A., Lloyd-Jones, M., & Paisley, S. (2012). Quality of life of people with mental health problems: a synthesis of qualitative research. Health and Quality of Life Outcomes, 10(1), 138. https://doi.org/10.1186/1477-7525-10-138

De Jong-Gierveld, J., & Kamphuis, F. (1985). De Jong-Gierveld Loneliness Scale. PsycTESTS Dataset. https://doi.org/10.1037/t07019-000

DeSchriver, M. M., & Riddick, C. C. (1990). Effects of Watching Aquariums on Elders' Stress. Anthrozoös, 4(1), 44–48. https://doi.org/10.2752/089279391787057396

Friedmann, E., Thomas, S. A., & Eddy, T. J. (2000). Companion animals and human health: Physical and cardiovascular influences. In A. Podberscek, E. S. Paul, & J. A. Serpell (Eds.), Companion animals and us (pp. 125 – 142). Cambridge: Cambridge University Press.

Fusar-Poli, P., Salazar de Pablo, G., De Micheli, A., Nieman, D. H., Correll, C. U., Kessing, L. V., … van Amelsvoort, T. (2020). What is good mental health? A scoping review. European Neuropsychopharmacology, 31, 33–46. https://doi.org/10.1016/j.euroneuro.2019.12.105

Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J., & Sartorius, N. (2015). Toward a new definition of mental health. World Psychiatry, 14(2), 231–233. https://doi.org/10.1002/wps.20231

Garrity, T. F., Stallones, L. F., Marx, M. B., & Johnson, T. P. (1989). Pet ownership and attachment as supportive factors in the health of the elderly. Anthrozoös, 3(1), 35–44. https://doi.org/10.2752/089279390787057829

Garrity, T., Stallones, L., Marx, M., & Johnson, T. (1989). Pet Ownership And Attachment

Haileamlak, A. (2017). Mental health disorders: The deserted illnesses. Ethiopian Journal of Health Sciences, 27(1), 1. https://doi.org/10.4314/ejhs.v27i1.1

Hart, L. A., Hart, B. L., & Bergin, B. L. (1987). Socializing Effects of Service Dogs for People with Disabilities. Anthrozoös, 1(1), 41–44. https://doi.org/10.2752/089279388787058696

Holcomb R, Williams RC, Richards PS: (1985) The elements of attachment: Relationship maintainance and intimacy. Journal of the Delta Society, 2, 28–34.

Jacobson, K. C., & Chang, L. (2018). Associations between pet ownership and attitudes toward pets with youth socioemotional outcomes. Frontiers in Psychology, 9. https://doi.org/10.3389/fpsyg.2018.02304

Keyes, C. L. (2006). Mental health in adolescence: Is America's youth flourishing? American Journal of Orthopsychiatry, 76(3), 395–402. https://doi.org/10.1037/0002-9432.76.3.395

Khamseh, M. E., Baradaran, H. R., Javanbakht, A., Mirghorbani, M., Yadollahi, Z., & Malek, M. (2011). Comparison of the CES-D and PHQ-9 depression scales in people with type 2 diabetes in Tehran, Iran. BMC Psychiatry, 11(1). https://doi.org/10.1186/1471-244x-11-61

Kraav, S.-L., Lehto, S. M., Junttila, N., Ruusunen, A., Kauhanen, J., Hantunen, S., & Tolmunen, T. (2021). Depression and loneliness may have a direct connection without mediating factors. *Nordic Journal of Psychiatry*, *75*(7), 553–557. https://doi.org/10.1080/08039488.2021.1894231

Krause-Parello, C. (2008). The mediating effect of PET attachment support between loneliness and general health in older females living in the community. Journal of Community Health Nursing, 25(1), 1–14. https://doi.org/10.1080/07370010701836286

Martin, F., Bachert, K. E., Snow, L. A., Tu, H.-W., Belahbib, J., & Lyn, S. A. (2021). Depression, anxiety, and happiness in dog owners and potential dog owners during the COVID-19 pandemic in the United States. PLOS ONE, 16(12). https://doi.org/10.1371/journal.pone.0260676

Nebbe, L. (2001). The elementary school counselor and the HCAB. In P. Salloto (Ed.), Pet Assisted Therapy: A Loving Intervention and an Emerging Profession:

Needell, N., & Mehta-Naik, N. (2016). Is pet ownership helpful in reducing the risk and severity of geriatric depression? *Geriatrics*, *1*(4), 24. https://doi.org/10.3390/geriatrics1040024

O'Reilly, N. (2019). The Relationship Between Dog Companionship and Loneliness Levels Among Over 50's.

O'Connor, K., Wrigley, M., Jennings, R., Hill, M., & Niazi, A. (2020). Mental health impacts of COVID-19 in Ireland and the need for a secondary care mental health service response. Irish Journal of Psychological Medicine, 1–9. https://doi.org/10.1017/ipm.2020.64

Oliva, J. L., & Johnston, K. L. (2020). Puppy love in the time of Corona: Dog ownership protects against loneliness for those living alone during the COVID-19 lockdown. International Journal of Social Psychiatry, 67(3), 232–242. https://doi.org/10.1177/0020764020944195

Pan, K.-Y., Kok, A. A., Eikelenboom, M., Horsfall, M., Jörg, F., Luteijn, R. A., … Penninx, B. W. (2021). The mental health impact of the COVID-19 pandemic on people with and without depressive, anxiety, or obsessive-compulsive disorders: a longitudinal study of three Dutch case-control cohorts. The Lancet Psychiatry, 8(2), 121–129. https://doi.org/10.1016/s2215-0366(20)30491-0

Pikhartova, J., Bowling, A., & Victor, C. (2014). Does owning a pet protect older people against loneliness? BMC Geriatrics, 14(1). https://doi.org/10.1186/1471-2318-14-106

Pikhartova, J., Bowling, A., & Victor, C. (2014). Does owning a pet protect older people against loneliness? BMC Geriatrics, 14(1). https://doi.org/10.1186/1471-2318-14-106

Purewal, R., Christley, R., Kordas, K., Joinson, C., Meints, K., Gee, N., & Westgarth, C. (2017). Companion animals and child/adolescent development: A systematic review of the evidence. *International Journal of Environmental Research and Public Health*, *14*(3), 234. https://doi.org/10.3390/ijerph14030234

Quinn, A. C. (2005). An examination of the relations between human attachment, pet attachment, depression, and anxiety (Doctoral dissertation, Iowa State University, Ames, Iowa).

Radloff, L. S. (1977). The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. Applied Psychological Measurement, 1(3), 385–401.

Reed, T. (2003). The Psychological Impact of Companion Animals for Older Adults who Reside Alone.

Roberts, C. A., McBride, E. A., Rosenvinge, H. P., Stevenage, S. V., & Bradshaw, J. W. S. (1996). The pleasure of a pet: The effect of pet ownership and social support on loneliness and depression in a population of elderly people living in their own homes. In J. Nicholson & A. Podberscek (Eds.), Further issues in research in companion animal studies (pp. 64). Callander: The Society for Companion Animal Studies.

Rosenman, R., Tennekoon, V., & Hill, L. G. (2011). Measuring bias in self-reported data. International Journal of Behavioural and Healthcare Research, 2(4), 320. https://doi.org/10.1504/ijbhr.2011.043414

Rothgerber, H, & Mican, F. (2014). Childhood pet ownership, attachment to pets, and subsequent meat avoidance. The mediating role of empathy toward animals. Appetite, 79, 11-7. doi: 10.1016/j.appet.2014.03.032.

Russell, D , Peplau, L. A.. & Ferguson, M. L. (1978). Developing a measure of loneliness. Journal of Personality Assessment, 42, 290-294.

Rynearson, E. (1978). Humans and pet attachment. Psychiatry, 133, 550-555.

Salmon, P. W., & Salmon, I. M. (1982). A dog in residence: A companion animal study undertaken at the Caulfield geriatric hospital. Joint Advisory Committee on Pets in Society (JACOPIS), Melbourne, Australia.

Siegel, J. M., Angulo, F. J., Detels, R., Wesch, J., & Mullen, A. (1999). AIDS diagnosis and depression in the Multicenter AIDS Cohort Study: The ameliorating impact of pet ownership. AIDS Care, 11(2), 157–170. https://doi.org/10.1080/09540129948054

Siegel, J. M., Angulo, F. J., Detels, R., Wesch, J., & Mullen, A. (1999). AIDS diagnosis and depression in the Multicenter AIDS Cohort Study: The ameliorating impact of pet ownership. AIDS Care, 11(2), 157–170. https://doi.org/10.1080/09540129948054

Stallones, L., Marx, M. B., Garrity, T. F., & Johnson, T. P. (1990). Pet ownership and attachment in relation to the health of U .S. Adults, 21 to 64 years of age. Anthrozoos, 4 (2), 100-112. doi: 10.1159/000081433

Stanley, I. H., Conwell, Y., Bowen, C., & Van Orden, K. A. (2013). Pet ownership may attenuate loneliness among older adult primary care patients who live alone. Aging & Mental Health, 18(3), 394–399. https://doi.org/10.1080/13607863.2013.837147

Stern, S. L., Donahue, D. A., Allison, S., Hatch, J. P., Lancaster, C. L., Benson, T. A., Johnson, A. L., Jeffreys, M. D., Pride, D., Moreno, C., & Peterson, A. L. (2013). Potential benefits of canine companionship for military veterans with Posttraumatic Stress Disorder (PTSD). Society & Animals, 21(6), 568–581. https://doi.org/10.1163/15685306-12341286

Stern, S. L., Donahue, D. A., Allison, S., Hatch, J. P., Lancaster, C. L., Benson, T. A., Johnson, A. L., Jeffreys, M. D., Pride, D., Moreno, C., & Peterson, A. L. (2013).

Potential benefits of canine companionship for military veterans with Posttraumatic Stress Disorder (PTSD). Society & Animals, 21(6), 568–581. https://doi.org/10.1163/15685306-12341286

Strimple, E. O. (2003). A History of Prison Inmate-Animal Interaction Programs. American Behavioral Scientist, 47(1), 70–78. https://doi.org/10.1177/0002764203255212

Thelwell. (2019). Paws for thought: A controlled study investigating the benefits of interacting with a house-trained dog on university students mood and anxiety. Animals, 9(10), 846. https://doi.org/10.3390/ani9100846

Tsapova, V. (2017). The Relationship Between Attachment To Pets, Coping Self-efficacy and Depression: Gender and Marital Status Differences.

Velten, J., Bieda, A., Scholten, S., Wannemüller, A., & Margraf, J. (2018). Lifestyle choices and mental health: a longitudinal survey with German and Chinese students. BMC Public Health, 18(1). https://doi.org/10.1186/s12889-018-5526-2

Vizek Vidović, V., Vlahović Stetić, V., & Bratko, D. (1999). Pet Ownership, Type of Pet and Socio-emotional Development of School Children. Anthrozoos, 12, 211-217. doi: 10.2752/089279399787000129

Wells, D. L. (2004). The facilitation of social interactions by domestic dogs. Anthrozoös, 17(4), 340–352. https://doi.org/10.2752/089279304785643203

Wells, D. L. (2009). The Effects of Animals on Human Health and Well-Being. Journal of Social Issues, 65(3), 523–543. https://doi.org/10.1111/j.1540-4560.2009.01612.x

Winefield, H. R., Black, A., & Chur-Hansen, A. (2008). Health effects of ownership of and attachment to companion animals, in an older population. International Journal of Behavioral Medicine, 15 (4), 303-310. doi: 10.1080/10705500802365532

Zasloff, R. L., & Kidd, A. H. (1994). Loneliness and Pet Ownership among Single Women. Psychological Reports, 75(2), 747–752.

Appendices

Appendix 1 – Information sheet

Information Sheet

Title of the study: The effects of pets on our levels of depression and loneliness.

I would like to invite you to take part in my research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or if you would like more information. Take time to decide whether you would like to take part.

Who am I and what is this study about?
Hi everyone, my name is Lauren Byrne, and I am a final year psychology student looking to recruit participants to partake in my study as part of my thesis. My study aims to explore the effects which pets can have on our levels of depression and loneliness. This study is interested in the perspectives of both pet owners and non-pet owners.

What will taking part involve?
This study will consist of a questionnaire which will assess levels of depression and loneliness, as well as human-animal bond for who have pets. The questionnaire consists of demographic questions and three questionnaires all of which will be required to complete and will take about 5-10 minutes to complete.

Why have you been invited to take part?
As an adult over the age of 18, you have been invited to take part in my study. I am interested in exploring the effects which pets may have on levels of depression and loneliness within the general population.
PARTICIPANTS MUST BE OVER THE AGE OF 18

Do you have to take part?
This study is it entirely based off voluntary participation and there is no renumeration for participation therefore you are not required to complete this survey. Furthermore, if you decide to partake in my study, you will be given the right to withdraw at any point throughout without any consequences.

What are possible risks and benefits to taking part?
There is little to no risks of taking part in this study. We have identified a couple of ethical considerations and therefore have put in place a trigger warning to people who may be vulnerable to harm or distress upon partaking or completing they study. This includes people at high risk of loneliness, isolation, depression, or those currently grieving the loss of a pet.

Will taking part be confidential?
The participants who wish to take part in this study would be completely unidentifiable and their privacy will be maintained throughout the whole process. The questionnaire does not require the participants to enter any contact details and is completely anonymous.

What will happen to the results of the study?
The results of this study will be submitted for grading as part of my dissertation.

Who should you contact for further information?
If you are interested in taking part of in my study, I have attached the link below to the surveys which must be completed. Furthermore, if you are interested in taking part in an interview x19382583@student.ncirl.ie.
THANK YOU FOR TAKING THE TIME TO PARTICIPATE IN MY STUDY.

Appendix 2 – Consent form

The effects of pets on levels of depression and loneliness.

Consent to take part in research

- I voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.
- I understand that participation involves me completing a survey.
- I understand that I will not benefit directly from participating in this research.
- I understand that each question is required.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that if I inform the researcher that myself or someone else is at risk of harm they may have to report this to the relevant authorities – they will discuss this with me first but may be required to report with or without my permission.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Lauren Byrne, Final year psychology student (BA) – National College of Ireland

____ I give permission for the data collected from or about me to be included in the study.

____ I DO NOT give permission for the data collected from or about me to be included in the study.

Appendix 3 – Questionnaires/Surveys

CENTER FOR EPIDEMIOLOGIC STUDIES DEPRESSION SCALE (CES-D)

During the past week, how often have you felt this way?	Rarely or none of the time (less than 1 day	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. “I was bothered by things that usually don’t bother me”				
2. “I did not feel like eating; my appetite was poor”				
3. “I felt that I could not shake off the blues even with help from my family or friends”				
4. “I felt I was just as good as other people”				
5. ‘I had trouble keeping my mind on what I was doing”				
6. “I felt depressed”				
7. “I felt that everything I did was an effort”				
8. “I felt hopeful about the future”				
9. “I thought my life had been a failure”				
10. “I felt fearful”				
11. “My sleep was restless”				
12. “I was happy”				
13. “I talked less than usual”				
14. “I felt lonely”				
15. “People were unfriendly”				
16. “I enjoyed life”				
17. “I had crying spells”				
18. “I felt sad”				
19. “I felt that people dislike me”				
20. “I could not get ‘going’”				

UCLA LONELINESS SCALE

Indicate how often each of the statements below is descriptive of you.	I often feel this way	I sometimes feel this way	I rarely feel this way	I never feel this way
1. “I am unhappy doing so many things alone”				
2. “I have nobody to talk to”				
3. “I cannot tolerate being so alone”				
4. “I lack companionship”				
5. “I feel as if nobody really understands me”				
6. “I find myself waiting for people to write or call”				
7. “There is no one I can turn to”				
8. “I am no longer close to anyone”				
9. “My interests and ideas are not shared by those around me”				
10. “I feel left out”				
11. “I feel completely alone”				
12. “I am unable to reach out and communicate with those around me”				
13. “My social relationships are superficial”				
14. “I feel starved for company”				
15. “No one really knows me well”				
16. “I feel isolated from others”				
17. “I am unhappy being so withdrawn”				

18. “It is difficult for me to make friends”				
19. “I feel shut out and excluded by others”				
20. “People are around me but not with me”				

CENSHARE PET ATTACHMENT SURVEY

Indicate how often each of the statements below is descriptive of you.	Almost Always	Often	Sometimes	Almost Never
1. “Within your family, your pet likes you best”				
2. “You are too busy to spend time with your pet”				
3. “You spend time each day playing with or exercising with your pet”				
4. “Your pet comes to greet you when you arrive”				
5. “You talk to your pet as a friend”				
6. “Your pet is aware of your different moods”				
7. “Your pet pays attention and obeys you quickly”				
8. “You confide in your pet”				
9. “You play with your pet when he/she approaches you”				
10. “You spend time each day training your pet”				
11. “You show photos of your pet to your friends”				
12. “You spend time each day grooming your pet”				

13. “You ignore your pet when he/she approaches you”
14. “When you come home, your pet is the first one you greet”
15. “Your pet tries to stay near by following you”
16. “You buy presents for your pet”
17. “When you feel bad, you seek your pet for comfort”
18. “You prefer to be with your pet more than most people you know”
19. “When your pet misbehaves, you hit him/her”
20. “Your pet is a nuisance or bother to you”
21. “You consider your pet a member of your family”
22. “When you feel bad, you seek your pet for comfort”
23. “You feel sad when you are separated from your pet”
24. “You like to have your pet sleep near your bed”
25. “You like to have your pet sleep on your bed”
26. “You like to have your pet near you when you study, read or watch TV”
27. “You don’t like your pet to get too close to you”

Appendix 4 – De-briefing sheets

I'd like to thank you for taking part in my research study which explores the effects of pets on levels of depression and loneliness.

Please read the material on this form carefully to learn important information about your experience in this study and ask me any questions that you have.

Right to withdraw

Your right to withdraw remained in place until you fully submitted your data. There were no penalties or negative consequences to withdrawing from this study as it is based off a voluntary participation.

Confidentiality

Whether you allow your data to be used in this study or not, this does not affect your confidentiality and right to privacy. Although there is no personal information which you provided for this study, any information in relation to your case will be kept completely confidential including your decision to withdraw from this study.

If You Have Any Questions or Concerns

Please keep a copy of this Debriefing Form for future reference. If you have any questions or concerns about this study and the research procedures used, you may contact me via email at x19382583@student.ncirl.ie. If you would like to receive a copy of the final report of this study or a summary of the findings when it is complete, please feel free to contact me. In case you experience any adverse effects that you feel result from being in this study, please contact the support or helplines provided below;

Samaritans 116 123

Pieta House 24/7 helpline 1800 247 247

Teenline 1800 666 666

Aware 1800 80 48 48

Turn2me @ www.turn2me.ie

Appendix 5 – Evidence of Data