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**Relationship Between Pet and Human Separation Anxiety on
Owners' Anxiety and Physical Health**

An Honors Thesis Submitted in partial fulfillment of the requirement for
Honors Studies in Biology

By

Noah Ross

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Correspondence concerning this article should be addressed to Noah Ross, Department of Psychology, University of Arkansas, 1 University of Arkansas, Fayetteville, AR 72701. Email: noahross@uark.edu

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Abstract

Pet ownership has always been thought to be beneficial, but some recent studies have not been consistent with this statement. A possible explanation for this is an unhealthy overdependence that pets and pet owners have developed as a result of the Coronavirus pandemic. In this paper, I examine whether separation anxiety from pets, people, and separation behavior of pets could be predictors of anxiety and physical health. The first prediction was that pet and non pet owners differed demographically. Also, it was hypothesized that separation anxiety from humans, separation anxiety from pets, but not pet separation behaviors predicted anxiety and physical health. Finally, it was also predicted that those who adopted their pet during the pandemic experienced greater separation anxiety from them. Participants ($N= 691$, aged 18-69, $M = 26.6$), completed demographic information and online questionnaires measuring separation anxiety from humans, separation anxiety from pets, pet separation behaviors, levels of anxiety, and levels of physical health. Pet owners and non pet owners were different in every demographic category but ethnicity and physical health. Also, separation anxiety from humans and pets were positively correlated. Furthermore, separation anxiety from humans was a predictor for both anxiety and physical health. Separation anxiety from pets was a predictor for anxiety, while pet separation behaviors was the predictor for physical health. This study demonstrates that separation anxiety from pets has parallels, but is also different, than separation anxiety from humans.

Keywords: Pet, Pet attachment, Separation anxiety, Anxiety, Physical health, Separation behavior

Relationship Between Pet and Human Separation Anxiety on Owners' Anxiety and Physical Health

The pet industry is a massive industry in the United States. American citizens spent a total of 103.6 billion dollars in the year 2020 on their pets (American Pet Products Association, 2020). A possible explanation for this massive number is the physiological benefits of pet ownership. These benefits have been well documented in past literature. Not only do pet owners recover from certain illnesses faster than non pet owners, but pets may prevent owners from becoming ill in the first place. Moreover, pet owners were shown to have less health problems than non pet owners after acquisition of a pet (Friedmann & Thomas, 1995). In addition to physical health, pet ownership has been shown to have benefits when it comes to well-being as well. Kanat—Maymon et al. (2016) found that pet ownership significantly increased well-being (i.e, positive affect, emotional ties, and life satisfaction).

Pet ownership also provides benefits socially as well. Studies have shown that when it comes to everyday people, pet owners benefit more from their pets whenever these pets fulfill their social needs (McConnell & Brown, 2011). Historically, it has been found that pet ownership is complementary to your relationships with other people. That is, a pet owner's positive relationship with their pet results in closer ties and support from best friends, parents, and siblings (Kanat-Maymon et al., 2016). It should be noted that cats are included in providing important social benefits as well. Cats are commonly portrayed as asocial or even antisocial, yet there is increasing evidence that supports that cats form social bonds that are similar to dogs (Schwartz 2003).

Although past evidence has shown that pet relationships benefit well-being physiologically, psychologically, and socially, there has been recent evidence that suggests the opposite. Beike (2022) found that participants that owned pets showed no significant difference

in well-being when compared to non pet owners, and even had a compensatory effect (peoples' relationships with other people were worse off) on pet owners' relationships with other people. A potential cause of this could be an unhealthy overdependence on pets for social interaction due to the inability to be around others because of the COVID-19 pandemic. During the beginning of COVID-19 pandemic people spent significantly more time home around their pets. Previous research suggests that during the lockdown pets showed certain behavior changes that were consistent with stress (Bowen et al., 2020). There is evidence to suggest that when people feel disconnected socially, they turn to their pets to reestablish social connection. In a particular study, people who were induced to feel lonely began to anthropomorphize (give humanlike qualities related to social connections such as considerateness and sympathy) their pets. Individuals who did this scored lower and higher on happiness and depression questionnaires respectively (Epley et al. 2008). In addition, one study found that those who had a strong emotional bond with their pets were less likely to undergo a physician recommended fabricated surgery to avoid being separated from their pet (Peacock et al., 2012). Humans are not the only ones that suffer the consequences of this unhealthy overdependence on pets for social connection. The pets in these relationships are not given the opportunity to learn how to cope being away from their owners which can encourage a neurotic social attachment between pet and owner (McCrae 1991).

As quarantine is coming to an end, and people are beginning to return to work or reconnect with their social circles, there's a possibility that peoples' relationships with their pets are going to continue to negatively impact them. One potential negative effect is a development of separation anxiety. Separation Anxiety Disorder (SAD) is defined as excessive and recurrent distress associated with separation from home or a majority attachment figure (DSM-IV). It is

logical to assume that those who have anthropomorphized their pets will experience these symptoms when they are not around them. Consequences of being diagnosed with SAD were more severe symptoms of anxiety and stress, greater levels of disability, and higher neuroticism scores (Silove 2010). Moreover, it has been found that attachment to a companion animal is positively predicted with psychological distress among pet owners even after accounting for demographic differences (Peacock et al., 2012). In addition to individuals with separation anxiety having these consequences, pet owners with separation anxiety also experienced negative symptoms. In a recent study, researchers found that participants with a higher degree of separation anxiety from animals reported greater attachment anxiety involving humans. Furthermore in this study, separation anxiety from humans and separation anxiety from animals were positively correlated (Dowsett et al., 2020).

Not only can owners potentially experience separation anxiety, their pets are not immune to the development of separation anxiety either. Separation anxiety is a very common anxiety condition that is diagnosed in pets by many behavioral consultants. Dogs that are sent to kennels, abandoned by owners, or left alone at home experienced negative emotional reactions (Hennesy 1997). Cats also experienced similar separation reactions (Schwartz 2003). For pets the degree of distress is dependent on the degree of attachment to the action figure. The greater the attachment the greater the degree of distress (Hennesy 1997). These pets experience a number of different “separation behaviors”. Some of these behaviors include destruction of property, excessive salivation, and defecating or urinating in inappropriate places away from the presence of the owner.

The purpose of this study is to determine if separation anxiety between pets and their owners has any effects on owners’ anxiety and physical health. Participants will be asked to

choose what pet they own (or the pet they are closest to) and indicate their level of separation anxiety from their pet, and the pet separation behaviors shown when away from them. Then, participants' level of anxiety, and physical health will be measured. Also, the participants degree of separation anxiety from other humans will be measured, and they will be asked if they acquired their pet during the coronavirus pandemic. It is hypothesized that: 1. Pet owners and non owners will differ demographically, but pet owners will perform better on physical health measures. 2. All participants who have a higher degree of separation anxiety from people will have worse scores for both well-being variables. 3. Separation anxiety from people and separation anxiety from pets will be positively correlated among pet owners, and pet separation anxiety and pet separation behaviors will predict both anxiety and physical health variables. 4. Separation anxiety from the pet predicts anxiety and physical health symptoms by itself (independently from separation anxiety from other people or pet separation behaviors). 5. Owners who acquired their pet during the pandemic will experience a higher degree of separation anxiety from their pet, but not people. Also, their pet will display more separation behaviors.

Method

Sample

The sample comprised 691 total participants (245 male, 431 female, 11 other, and 4 who failed to specify) aged 18 to 69 ($M = 26.6$ years). Roughly half of these participants (351) were workers on the crowdsourcing site prolific. Only workers who indicated their nationality as U.S, U.K, or Canada were invited to participate. The average duration of the survey was 12.4 mins, and participants were paid \$2.22, for a rate of \$10.74 per hour. The other half of these participants (373) were General Psychology students attending the University of Arkansas. Of all

participants there were 555 White, 36 Black, 38 Asian/Asian-American, 4 Native American, 29 Hispanic, 2 Other, and 23 More than one of these. Out of all participants 203 indicated living with a pet during the last month (488 did not). Among pet owners, 117 answered questions about their dog, 81 about their cat, and 5 about another domestic cat. Participants who lived with more than one pet were asked to select the pet that they were closest with. Participants in the prolific sample were more likely to own a pet.

Instrument

Informed Consent and Captcha

Participants agreed to participate in the survey. A Captcha was used to ensure that all participants were human and not automated users.

Well-Being

Participants well-being was measured across two different measures: the Arizona Integrative Outcome Scale and Self-Evaluation of Quality of Life (Ventegodt et al., 2003). The Arizona Integrative Outcome Scale is a one-item, 100-mm visual analogue scale (ranging from *worst you have ever been* (0) to *best you have ever been* (100)., with higher scores indicating greater sense of well-being (Bell et al., 2004). This and all other measures were phrased to include “in the last month.” The other measure was a modified version of the Self-Evaluation of Quality of Life questionnaire. This self questionnaire was comprised of eight different quality-of-life concepts (Ventegodt et al., 2003) where participants answer questions using a 5 point scale. For example, participants were asked the question “How happy have you been during the past month?” and were asked to respond on a scale of *very unhappy* (1) to *very happy* (5). There were four measures targeted here. These were Quality of Life, Happiness, Satisfaction with Life,

and Well-Being. The four quality of life responses were averaged together to form a single score from 1 to 5 ($\alpha = .93$). Both measures were modified to ask “in the last month” instead of “now”.

Relationship With Pet

Participants were asked which pet they had (or which they were closest to): Dog, Cat, or Other. Next they were asked a series of questions from a modified version of the Adult Separation Anxiety-27 self-questionnaire. The ASA-27 questionnaire is the most commonly used self report assessment of adult separation anxiety (Manicavasagar et al., 1997). Each item was rated on a scale from *has never happened* (1) to *happens very often* (4). Since the primary interest was observing the degree of separation anxiety people experienced away from their pet, phrases such as “someone close to you” or “people that are close to you” were changed to “your pet”. For example, “Have you felt more secure at home when you are with people that are close to you?” was modified to: “Have you felt more secure at home when you are with your pet?” Items were averaged together with reverse-phrased items reverse-scored, resulting in a number between 1 and 4 ($\alpha = .92$). Next participants were shown an Inclusion of Other in Self scale. This measure is a single-item, pictorial measure of closeness (Aron et al., 1992). This is a 7 item measure with two overlapping circles. One circle has the word “You” and the other has the word “Pet”. The degree of how much the circles overlap increases from 1 to 7. Finally, participants received a questionnaire measuring the degree of separation anxiety their pets had from them. Participants either received a measure of cat separation behaviors (de Souza Machado et al., 2020; $\alpha = .71$) or a measure of separation anxiety behaviors in dogs (Gahee, 2017; $\alpha = .81$). In the measure for cat separation behaviors, participants were asked about frequency of behaviors like “vocalizes constantly, with cries and sharp meows, when you leave.” In the measure for dog separation behaviors, participants were asked about similar separation behaviors such as,

“Barks/whines excessively within 30 minutes of your departure.” Participants rated the frequency with which their pet engaged in each of these behaviors on a scale from *never* (1) to *always (90+% of the time)* (5). The items were averaged into a single index resulting in a number from 1 to 5.

Relationships With People

The unmodified version of the ASA-27 questionnaire was provided to participants to measure their degree of separation anxiety from other adults. Just like the modified version, Items will be averaged together with reverse-phrased items reverse-scored, resulting in a number between 1 and 4 ($\alpha = .94$). Additionally, participants were once again provided with two Inclusion of Other in Self scales, with the word “Other” replaced with “Family” for one measure and “Friends” for the second measure.

Psychological Symptoms

The Depression, Anxiety and Stress Scale (DASS-21) was designed to measure the emotional states of depression, anxiety and stress (Henry & Crawford, 2005). This 21 item self reporting questionnaire included three subscales; depression, anxiety, and stress. Participants rated how much each statement related to them on a scale from *does not apply at all* (1) to *applies very much or most of the time* (4). Within each subscale, items will be averaged together with reverse-phrased items reverse-scored, resulting in a value for each of the three types of symptoms, depression ($\alpha = .93$), anxiety ($\alpha = .90$), and stress ($\alpha = .87$) between 1 and 4. Only analyses of the anxiety subscale are reported in this thesis.

Meaning in Life

The Meaning in Life questionnaire (MLQ) assessed the presence of meaning and search for meaning (Steger et al., 2006). This self-reporting questionnaire contains ten items. Participants

answer each item on a 7 point Likert scale ranging from *absolutely untrue* (1) to *absolutely true* (7). Items were averaged together with reverse-phrased items reverse-scored, resulting in a number between 1 and 7 ($\alpha = .68$). The MLQ analyses are not reported in this thesis.

Physical Health

The RAND 36-Item Short Form Survey (SF-36) measures a number of different quality of life variables (Hays et al., 1993) . This was modified to include 24 items that particularly related to physical health. Participants were asked two items regarding general health. These two items were rated on a 5 point scale ranging from *Excellent* (1) to *Poor* (5). The next ten items dealt with physical activities that were limited. Participants were given activities such as “lifting or carrying groceries” and asked on a 1 to 3 point scale how limited they felt completing them. This ranged from *limited a lot* (1) to *not limited at all* (3) The four following items dealt with problems completing daily tasks. Participants were asked questions such as have they “accomplished less than (they) would like”. They would respond with *yes* (1) or *no* (2). The next two items dealt solely with pain. One of these items had a 1 to 6 point scale ranging from *no bodily pain over the past month* (1) to *very severe bodily pain over the past month* (6). The other item was on a 1 to 5 point scale and participants were asked how much pain interfered with their normal work. They would answer on a scale ranging from *not at all* (1) to *extremely* (5). The final four items dealt with general health. Participants were given statements such as “My health is excellent” and were asked to respond on a scale of *definitely true* (1) to *definitely false* (5) with how true the statement is. Two of these items needed to be reversed. Since the items are on a different scale each item needed to be converted into a z-score, and the resulting z scores will be averaged together ($\alpha = .94$). Finally, participants were asked if they had COVID. They were

given three options: *tested positive* (1), *I think so, but did not get tested* (2), or *No, I've never had it* (3).

Demographics

Participants provided details of their age, ethnicity, gender, the date first returned to employment, date first returned to high school, college or university, and household annual income. To indicate their income participants were asked their total income after taxes this year. This scale ranged from *Less than \$20,000* (1) to *More than \$300,000* (16). Participants were also asked whether or not they adopted a pet during the pandemic.

Procedure

Recruitment to this study was conducted two different ways. One group was a collection of paid workers. This was accomplished through the use of Prolific, which is an On-demand, self-service data collection website. The other was a group of undergraduate students in General Psychology. After reading a page ensuring that this study complied with ethical guidelines, participants completed the 10-15 minute survey that contained all of the measures previously listed and demographic questions. Participants were first asked to complete the measure targeted at well-being. Next, they completed a self questionnaire to measure their separation anxiety from their pets. Subsequently, participants were asked which pet they were closest to: Dog, Cat or Other. Depending on what they selected they received a questionnaire to measure the degree of separation anxiety their closest pet had to them. Then all participants completed self questionnaires that measured separation anxiety from other people, psychological symptoms, meaning in life, physical health, and demographics all in that order.

Results

Hypothesis 1: Do Pet Owners Differ From Non Owners in Demographics, Relationships With Others, Anxiety, or Physical Health?

Before determining if pet separation anxiety had any kind of effect on anxiety and physical health we wanted to measure certain demographic differences in pet owners and non pet owners. Table 1 illustrates that pet owners and non pet owners differed on most demographic variables (age, gender, income) as predicted. This was only untrue for ethnicity that did not differ from pet owner to non owner. Pet owners were older, typically female, and had a lower income. Pet owners and non pet owners had no difference in their degree of separation anxiety to other people, also as predicted. However, pet owners also showed no difference in level of physical health when compared to non pet owners, contrary to predictions that pet owners would have increased physical health compared to non owners.

Hypothesis 2: Does Separation Anxiety From People Predict Levels of Anxiety And Physical Health Across All Participants?

I examined whether participants levels of anxiety and physical health differed for those with greater separation anxiety. As illustrated in Table 2 those with greater levels of separation anxiety had greater levels of anxiety and lower levels of physical health across the entire sample. This accurately represents our predictions for this variable.

Hypothesis 3: Are There Correlations Between Separation Anxiety From People And Separation Anxiety From Pets Among Pet Owners And Does Separation Anxiety From The Pet and Pet's Separation Anxiety Behaviors Predict Levels of Anxiety And Physical Health Among Pet Owners?

I predicted that pet owners separation anxiety from people will be positively correlated with their separation anxiety from their pet. This turned out to be correct. Those with a higher level of separation anxiety from other people had more separation anxiety from their pet (Table 3). Having observed that those with higher levels of separation anxiety from people had worse levels of anxiety and physical health I wanted to make sure that this was the case for those that had separation anxiety from their pet, or from those whose pet showed separation anxiety from them. As shown in Table 3, pet owners with separation anxiety and owners with pets who showed separation anxiety behavior had higher scores on the anxiety measure and lower scores on the physical health measure. This was in line with our predictions.

Hypothesis 4: Does Separation Anxiety From The Pet Predict Anxiety and Physical Health Variables Over And Above Separation Anxiety From People Among Pet Owners?

After establishing that separation anxiety from people and separation anxiety from pets were both predictors of anxiety and physical health, I wanted to see if pet owners' separation anxiety from their pets was a significant predictor as well. Through regression analysis of anxiety and physical health (Table 4 and Table 5) I saw that this was exactly the case when it came to anxiety. Owners' separation anxiety from pets was a significant predictor of anxiety just like it was with separation anxiety from people. This result was consistent with our prediction. However, when it came to physical health this was not the case. Owners' separation anxiety from their pet was not a predictor. In fact it was the separation anxiety behaviors of the pet that was a predictor of decreased physical health. This did not match our prediction for this variable.

Hypothesis 5: Did Pet Owners Who Adopted Their Pet During the Pandemic Report Greater Separation Anxiety From Their Pet And Greater Pet Separation Anxiety Behaviors?

After seeing how separation anxiety between pet and owner affected anxiety and physical health, there was interest in seeing if owners who adopted their pet during the pandemic experienced any greater degree of separation anxiety, and if their pets showed a greater amount of pet separation anxiety behaviors. As illustrated in Table 6, owners who adopted their pet during the pandemic experienced a greater amount of separation anxiety from their pet. This matched with our prediction. However, owners who acquired their pet during the pandemic reported no increase when it came to pet separation anxiety behaviors. This did not match our prediction.

Discussion

The aim of this study was to examine the relationship between pet and pet owner. Previous research has shown that owning a pet has a number of benefits to the owners well-being (Bao & Schreer, 2016). However, an unhealthy dependence on a pet or pet owner can cause separation anxiety to occur which has high comorbidity with things such as anxiety and depression. With people being unable to interact outside with each other due to the Coronavirus pandemic, it is plausible to assume that this type of unhealthy overdependence developed as a result of how much time pets and their owners spent with each other.

Our first hypothesis was only partially supported. Pet owners and non pet owners were different in every demographic category (income, age, gender) and were similar in ethnicity and separation anxiety from humans. Our results showed pet owners as having a lower income compared to non pet owners. This is not a trend that is consistent with previous research; dog owners particularly have higher income than non pet owners (Saunders et al., 2017). The most likely cause of this is because this study took results from two samples: College students at the University of Arkansas and an online participant recruitment website called Prolific. The University of Arkansas participant pool had a greater percentage of non pet owners than the

prolific participants. Therefore, it is plausible that students attending a large university would have a larger household income than the general population, who were more often pet owners.

Separation anxiety from humans was a predictor for both anxiety and negative physical health. When individuals with separation anxiety disorder are away from those that they are close to, or imagine themselves as being separated from them, they can experience anxiety. Also, Adult Separation Anxiety Disorder (ASAD) is often termed a “gateway anxiety disorder”. Those with ASAD are more likely of developing panic disorder, agoraphobia, social phobias, and other anxiety disorders (Feriante & Bernstein, 2021). Those with ASAD also reported worse physical health. Individuals with ASAD tend to have sleep issues and a variety of other physical issues (Vaughan et al., 2017). This is enough evidence to explain why participants with higher levels of separation anxiety from humans performed worse on physical health and ability to perform daily activities measures.

After determining that separation anxiety from humans was a predictor for anxiety and physical health variables, there was interest in determining if this was also the case for separation anxiety from pets. In other words, I wanted to determine if the relationship between people and the relationship with pets were the same for individuals experiencing separation anxiety. It turned out that separation anxiety from humans was positively correlated with separation anxiety from pets. Also, separation anxiety from pets and pet separation behaviors were also predictors of anxiety and poor physical health. Moreover, the negative effects of separation anxiety from pets was the significant predictor of anxiety over and above the effects those who had separation anxiety from humans experienced. These pieces of evidence both suggest that these relationships are in fact similar. A possible explanation for this is that the pet owners experiencing separation anxiety are anthropomorphizing (assigning humanlike qualities and emotions) their pet. In a

separate study, participants who were induced to feel lonely anthropomorphized their pets (McConnell et al., 2011). Since part of the definition of separation anxiety is the fear of being alone (loneliness) it is plausible that those experiencing separation anxiety from their pets will also anthropomorphize their pet. Holding your pet to this humanlike standard would cause those experiencing loneliness/separation anxiety to equate their pets with other humans they are close to, and could be a predictor of anxiety and poor physical health.

Since it was determined that separation anxiety from pets and separation anxiety from humans were positively correlated among pet owners, there was interest in determining if separation anxiety from pets still served as a predictor for anxiety and physical health. It was predicted that separation anxiety from pets still would be a predictor for both variables, and that pet separation behaviors would not be. A regression analysis was done to confirm these hypotheses. It was discovered that for anxiety, this was exactly the case. Separation anxiety from pets and people were both predictors, and pet separation behaviors were not. In general, pets have been shown to reduce stress (Jennings 1997). It is plausible to assume that these pet owners who experience separation anxiety from their pets have an overdependence on them to decrease their anxiety, and the thought of being apart from or being apart from their pet is actually increasing their anxiety. Another possible explanation is that those who are already experiencing anxiety are more likely to develop disorders like separation anxiety (Johnson 2018).

Our hypothesis was not supported when it came to the physical health variable. Separation anxiety from people was still a predictor for physical health, but in this case it was the separation behavior of the pets that was the main predictor and not the separation anxiety from pets. One possible explanation for this is the nature of pet separation behaviors. There are some pet behaviors that can have physical health consequences on the owners. Examples of this kind

of behavior could be destruction of property in the owner's absence or defecating or urinating in inappropriate areas. Repeatedly having to clean up could begin to take a toll on the owner's physical well-being. Additionally, having to constantly replace objects such as furniture, carpets, and other objects that pets destroy could place a financial strain on the owner. In extreme cases the owner could potentially have to work/work more to replace these objects which would only increase the separation behavior of the pet. Another potential cause of this could be that the age of the owner is serving as a confounding variable. The longer pets and owners spend time together the more likely they both are to develop an unhealthy overdependence for each other. Older participants who are retired would most likely spend far more time with their pets than younger employed participants. As a result older individuals might report more separation behaviors and experience more physical health limitations due to their age. My final hypothesis was that owners who acquired their pet during the Coronavirus pandemic would be more likely to experience separation anxiety from their pets, and that their pets would experience more separation behaviors. It turned out that this was partially the case. Owners who acquired their pets during the Coronavirus pandemic experienced more separation anxiety from their pets. During the pandemic there were nationwide lockdowns that prevented or seriously limited people from leaving their homes. This provided an opportunity for pets and their owners to spend an unhealthy amount of time together and foster this overdependence that owners have for their pet. However, pet separation behaviors were the same, they did not increase if they were adopted during the pandemic. A possible explanation for this is that these pets have not had an opportunity to display these behaviors yet. In order to display separation behaviors the pets need to be separated from the owner. If they still have not had enough time spent away from their owner pets may not have had the opportunity to display separation behaviors. Also, these pets

are completely unaware of the uncharacteristic tough conditions that are present as a result of this pandemic. This is something that could cause anxiety for the owner, but no effect on the pet itself.

Past studies have revealed that during the COVID 19 pandemic pets became more poorly behaved. Owners reported a number of different behavior problems such as: excessive vocalization, fear of unexpected noises, etc (Bowen et al., 2020). This type of behavior remains true in the results presented in this current study as well, as there are still a number of pets experiencing similar pet separation behaviors. Furthermore, this study looks at the impact that pets experiencing separation behaviors has on their owners, which was decreased physical health. In a similar study to this current one, researchers found that owners who experienced separation anxiety from their pets performed worse on anxiety measures compared to those with no separation anxiety. Moreover, they found that pet separation anxiety and human separation anxiety was positively correlated (Dowsett et al., 2020). All of these results are consistent with the findings laid out in this current study. To expand on this, data in this current study illustrated that separation anxiety from pets predicted anxiety over and above the harmful effects of separation anxiety in humans. In addition, our results found that it was not separation anxiety from pets that predicted physical health but was pet separation behaviors.

Implications

Although adult separation anxiety from humans has received more research and attention, separation anxiety from pets is in fact an issue amongst pet owners and should be treated seriously. Pet owners experiencing separation anxiety experience symptoms that are similar to symptoms that are present in separation anxiety from humans. Pet owners should be aware of the possible consequences of developing a relationship like this. Pet owners that already possess this

form of separation anxiety should practice common methods that decrease separation anxiety such as practicing separation and keeping goodbyes quick (Robinson 2022). Furthermore, owners whose physical health has taken a toll as a result of pet separation behaviors should take action to prevent those behaviors. Actions such as giving the pet a special treat only when they owner is gone or giving them recently worn clothing that has the scent of the owner on them are potential ways to prevent this problem (WebMD 2017).

Limitations

Due to the coronavirus pandemic, it was not possible to complete any in person research, or run any kind of experimentation. The cross-sectional correlational design of this study did not allow for any investigation of direct causes. In particular, a number of different plausible explanations in this study are based on the assumption that the longer the pet and pet owner spend together the higher the separation anxiety of both of them will be. Being able to bring animals and people into contact and separate them and observe behavior of pet and pet owner will be necessary to test this assumption.

Conclusion

In society today all of the wonderful benefits of pet ownership are constantly talked about. Pets teach kids responsibility, provide owners with emotional support, decrease loneliness, and even increase physical health. The number of benefits of pet ownership seem endless, and the unfavorable aspects of the pet relationship are seldom discussed. The present research suggests that, similarly to the way that people can have unhealthy relationships with other people, people can have unhealthy relationships with their pet. This study demonstrates that separation anxiety from pets can have some of the same effects as separation anxiety from people. Training pet owners on how to avoid this harmful relationship, and treatment specifically

tailored to pet owners who have separation anxiety from pets should be seriously considered prior to owning a pet.

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Tables

Table 1

Comparison of Pet Owners and Non-Owners (Hypothesis 1)

Variable	Pet Owners		Non-Owners		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Percent from student sample**	<u>33.99</u>	4.748	<u>57.17</u>	4.953	50.36	5.003
Age**	<u>29.22</u>	12.59	<u>25.56</u>	11.13	26.62	11.69
Percent non-male*	<u>69.95</u>	4.596	<u>61.98</u>	4.859	64.34	4.794
Percent non-white	<u>15.27</u>	3.606	<u>20.87</u>	4.068	19.21	3.943
Income (1-9)**	<u>4.02</u>	2.08	<u>4.65</u>	2.39	4.46	2.32
Separation Anxiety (People)	<u>1.83</u>	0.60	<u>1.89</u>	0.59	1.86	0.60
Anxiety	<u>1.69</u>	0.72	<u>1.74</u>	0.73	1.72	0.73
Physical Health	<u>0.03</u>	0.65	<u>-0.01</u>	0.61	0.01	0.62

* $p < .05$ for owners vs. non-owners

** $p < .001$ for owners vs. non-owners

Notes. Underlined values were hypothesized differences. Highlighted values show confirmed hypotheses. Means for the analyses testing Hypothesis 1 are corrected for age, income, gender, and ethnicity. Separation anxiety scores range from 1 to 4, Global Well-Being from 0 to 100, Quality of Life from 1 to 5, Anxiety and Depression from 1 to 4, and Physical Health is a z-score.

Table 2

Descriptive Statistics and Correlations for Hypothesis 2: Separation Anxiety from People as a Predictor of Well-Being Measures for Entire Sample

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Separation Anxiety (People)	1.87	0.60	--					
2. Anxiety	1.73	0.73	<u>.73**</u>	-.42**	-.44*	--		
3. Physical Health	.00	0.62	<u>-.45**</u>	.38**	.42**	-	-	--
						.44**	.44**	

* $p < .05$

** $p < .001$

Notes. Underlined values were hypothesized relationships. Highlighted values show confirmed hypotheses. Age, income, gender, and ethnicity are partialled out of the correlations. Separation anxiety scores range from 1 to 4. Anxiety scores range from 1 to 4. Physical Health scores are z scores.

Table 3

Descriptive Statistics and Correlations for Hypothesis 3: Separation Anxiety from Pets as a Predictor of Separation Anxiety from People and Well-Being Measures

Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Separation Anxiety (Pets)	1.70	0.53	--		
2. Separation Anxiety (People)	1.82	0.60	<u>.52**</u>	--	
3. Pet's Separation Behaviors	1.69	0.55	<u>.39**</u>	<u>.37**</u>	--
4. Global Well-Being	60.56	21.75	-.30**	-.32**	<u>-.14</u>
5. Quality of Life	3.35	0.94	-.33**	-.40**	-.22*
6. DASS Anxiety	1.69	0.72	<u>.49**</u>	.72**	<u>.38**</u>
7. DASS Depression	1.89	0.84	<u>.47**</u>	.63**	<u>.26**</u>
8. Physical Health	.00	0.65	<u>-.40**</u>	-.50**	<u>-.45**</u>

* $p < .05$

** $p < .001$

Notes. Underlined values were hypothesized relationships. Highlighted values show confirmed hypotheses. Age, income, gender, and ethnicity are partialled out of the correlations.

Table 4*Regression Analysis for Anxiety Symptoms of Pet Owners (Hypothesis 4)*

Variable	B	SE	β	<i>t</i>	<i>p</i>	95% CI	
						Lower Bound	Upper Bound
(Intercept)	-.635	.259		-2.454	.015	-1.146	-.125
Age	.001	.003	.019	.384	.701	-.005	.007
Gender	.123	.075	.079	1.629	.105	-.026	.271
Ethnicity	.161	.095	.080	1.703	.090	-.026	.348
Income	.011	.017	.032	.637	.525	-.023	.045
Separation Anxiety (People)	.745	.070	<u>.629</u>	10.638	.000	.607	.883
Separation Anxiety (Pet)	.169	.076	<u>.127</u>	2.216	.028	.018	.319
Pet's Separation Behaviors	.122	.071	<u>.093</u>	1.724	.086	-.018	.261

Note. Underlined beta values were hypothesized relationships. Highlights show confirmed hypotheses.

Table 5*Regression Analysis for Physical Health of Pet Owners (Hypothesis 4)*

Variable	B	SE	β	<i>t</i>	<i>p</i>	95% CI	
						Lower Bound	Upper Bound
(Intercept)	1.582	.295		5.360	.000	1.000	2.164
Age	-.011	.003	-.217	-3.423	.001	-.018	-.005
Gender	-.050	.086	-.035	-.582	.561	-.220	.119
Ethnicity	.217	.108	.118	2.012	.046	.004	.430
Income	.021	.020	.067	1.069	.287	-.018	.060
Separation Anxiety (People)	-.381	.080	<u>-.355</u>	-4.778	.000	-.539	-.224
Separation Anxiety (Pet)	-.138	.087	<u>-.115</u>	-1.590	.113	-.309	.033
Pet's Separation Behaviors	-.338	.080	-.284	-4.206	.000	-.497	-.180

Note. Underlined beta values were hypothesized relationships. Highlights show confirmed hypotheses.

Table 6*Comparison of Pandemic Pet Adopters and Other Pet Owners (Hypothesis 5)*

Variable	Pandemic Pet Adopters <i>n</i> = 76		Other Pet Owners <i>n</i> = 122	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Separation Anxiety (Pet)*	<u>1.81</u>	0.57	<u>1.63</u>	0.50
Separation Anxiety (People)	1.88	0.62	1.79	0.59
Pet's Separation Behaviors	<u>1.72</u>	0.53	<u>1.67</u>	0.55

* $p < .05$ ** $p < .001$

Notes. Underlined values were hypothesized differences. Highlighted values show confirmed hypotheses. Means are corrected for age, income, gender, and ethnicity.

Appendix

Pets and People Separation Anxiety

Start of Block: Default Question Block

Q1 Implied Consent to Participate in an Experiment Title: Well-Being and Relationships Researcher: Dr. Denise Beike University of Arkansas Fulbright College of Arts and Sciences Department of Psychological Science 216 Memorial Hall Fayetteville, AR 72701 479-575-4256 dbeike@uark.edu Compliance Contact Person: Ro Windwalker IRB Coordinator Research Compliance University of Arkansas 109 MLKG Fayetteville, AR 72701-1201 479-575-2208 irb@uark.edu If you are 18 OR OLDER, you are invited to participate in this study. It is an online survey about your well-being, relationships, and living situation, and it will take about 20 minutes to complete. There are no foreseeable risks to participating in this study. It has been approved by the Institutional Review Board at the University of Arkansas. The benefits include increasing our understanding of relationships and well-being, and the satisfaction of knowing that you have contributed to this understanding. Your responses will be anonymous, as you will never provide your name, and the name of the student who referred you will be unlinked to your responses. The privacy of your responses will be protected to the fullest extent of law and University policy. Your data will be stored in a secure place. Other researchers who are interested in reproducing our results may be given access to your data though always on an anonymous basis, that is, without any identifying markers attached to it. Dr. Beike and associates may present their findings to governmental agencies, funding agencies, and scientific bodies. Dr. Beike and associates may publish their findings in academic outlets, and these findings may be widely publicized. In all cases, you will not be identified, and the results will be published in aggregate form only. If you refuse to participate, there will be no penalty or loss of benefits. You have the right to end your participation at any time during the survey by simply clicking on "Exit this survey" in the upper right corner of the window. If you have questions or concerns about this study, you may contact Dr. Denise Beike at (479) 575-4256 or by e-mail at dbeike@uark.edu. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University's Compliance Coordinator, at (479) 575-2208 or by e-mail at irb@uark.edu. Restrictions: You must be at least 18 years old to participate, and you may participate only once. Informed Consent: "I have read the description, including the nature and purposes of the study, the procedures to be used, the potential risks and benefits, the confidentiality, as well as the option to end my participation any time during the study by closing the survey window. Each of these items has been explained to me fully, and my questions have been answered. I believe I understand what is involved in agreeing to participate. Giving responses in this survey indicates that I am at least 18 years old, that I agree to participate in this experimental study, and that I have printed this page if I wish to do so." If you agree to participate in this experiment, please click on "I agree." If you do not agree to participate, please close the window. By clicking "I agree" below, you affirm your consent for us to use your

responses Please check this box if you agree to participate, then click on the red arrow below to start the survey.

Q2 Check this box:

I agree to participate. (1)

Q4 Please reflect on your sense of well-being, taking into account your physical, mental, emotional, social, and spiritual condition during the COVID pandemic. Move the slider to a point that summarizes your overall sense of well-being during the past month.

Worst you have ever been Best you have ever been

0 10 20 30 40 50 60 70 80 90 100

()



Q29 How would you assess the quality of your life during the past month? (base your answer on what you believe quality of life to be)

- Very high (1)
- High (2)
- Neither high nor low (13)
- Low (14)
- Very low (15)

Q30 How happy have you been during the past month?

- Very happy (1)
- Happy (2)
- Neither happy nor unhappy (13)
- Unhappy (15)
- Very unhappy (16)

Q74 How satisfied have you been with your life during the past month?

- Very satisfied (1)
- Satisfied (2)
- Neither satisfied nor dissatisfied (13)
- Dissatisfied (15)
- Very dissatisfied (16)

Q75 How have you been feeling during the past month?

- Very good (1)
- Good (2)
- Neither good nor poor (13)
- Poor (15)
- Very poor (16)

Q77 With whom have you been living during the past month? Please check ALL that apply.

- Living alone (1)
- Spouse or partner (3)
- Own children (4)
- Partner's children (5)
- Adopted children (6)
- Friends (7)
- Biological parents (8)
- Others (9)
- Dog (10)

Cat (11)

Other domestic pet (12)

Display This Question:

*If With whom have you been living during the past month? Please check ALL that apply. = Dog
Or With whom have you been living during the past month? Please check ALL that apply. = Cat
Or With whom have you been living during the past month? Please check ALL that apply. = Other domestic pet*

Q78 We will ask some questions about your pet. If you have more than one pet, choose the pet you are closest to, or is your favorite. Which pet have you chosen to answer questions about?

Dog (1)

Cat (2)

Other domestic pet (3)

End of Block: Default Question Block

Start of Block: Other Pet



Q99 The following statements refer to symptoms that you might have experienced regarding your pet. Please select the appropriate response for each item, according to whether you have experienced any of these symptoms during the past month.

	Has never happened (1)	Happens occasionally (2)	Happens fairly often (3)	Happens very often (4)
Have you felt more secure at home when you are with your pet? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced difficulty in staying away from your pet for several hours at a time? (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you been carrying around a photo of your pet in your purse or wallet that gives you a sense of security or comfort? (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress before leaving your pet in a kennel or with a sitter to go on a long trip? (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you suffered from nightmares or dreams about being separated from your pet? (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress about being away from your pet when going away on a trip? (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you been worried about the intensity of your relationship with your pet, e.g., that you are too strongly attached? (30)

Have you experienced symptoms such as headaches, stomach aches or nausea (or other) before leaving your pet for work or other regular activity outside the home? (31)

Have you been especially concerned about what your pet is doing when you leave them, e.g., when you leave them to go to work or go out of the house? (32)

Have you experienced difficulty in sleeping alone at night, e.g., is your sleep better if your pet is in or on your bed? (33)

Have you noticed that you are better able to go off to sleep if you can hear the noises of your pet or the sound of the TV or the radio? (34)

Have you become very distressed when thinking about being away from your pet? (35)

Have you suffered from nightmares or dreams about being away from your pet? (36)

Have you been worrying a lot about your pet coming to serious harm, for example, being hit by a car, or suffering from a fatal illness? (37)

Have you become very upset with changes to your usual daily routine if they interfere with your contact with your pet? (38)

Have you been worrying a lot about your pet running away and leaving you? (39)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness of breath, pounding heart) when thinking about leaving your pet or about your pet running away?
(40)

Have you been afraid that you would not be able to cope or could not go on if your pet ran away?
(42)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness or breath, pounding heart) when separated from your pet? (43)

Have you been worrying a lot about possible events that may separate you from your pet e.g., because of work requirements?
(44)

Have you been
worrying that
your relationship
with your pet is
so close that it
may cause your
pet problems?
(45)



Q98

Which of the above pictures best describes your relationship with YOUR PET during the past month?

1 (1)

2 (2)

3 (3)

4 (4)

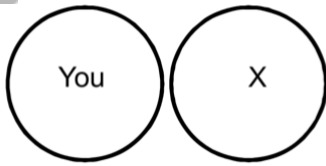
5 (5)

6 (6)

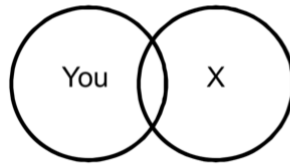
7 (7)

End of Block: Other Pet

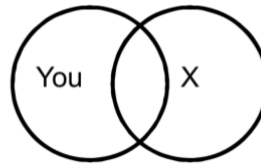
Start of Block: Cat



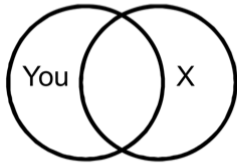
1



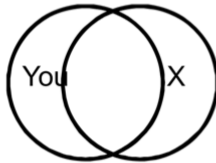
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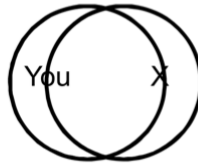
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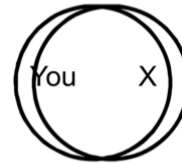
4



5



6



7

Q94 The following statements refer to symptoms that you might have experienced regarding your cat. Please select the appropriate response for each item, according to whether you have experienced any of these symptoms during the past month.

	Has never happened (1)	Happens occasionally (2)	Happens fairly often (3)	Happens very often (4)
Have you felt more secure at home when you are with your pet? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced difficulty in staying away from your pet for several hours at a time? (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you been carrying around a photo of your pet in your purse or wallet that gives you a sense of security or comfort? (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress before leaving your pet in a kennel or with a sitter to go on a long trip? (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you suffered from nightmares or dreams about being separated from your pet? (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress about being away from your pet when going away on a trip? (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you been worried about the intensity of your relationship with your pet, e.g., that you are too strongly attached? (30)

Have you experienced symptoms such as headaches, stomach aches or nausea (or other) before leaving your pet for work or other regular activity outside the home? (31)

Have you been especially concerned about what your pet is doing when you leave them, e.g., when you leave them to go to work or go out of the house? (32)

Have you experienced difficulty in sleeping alone at night, e.g., is your sleep better if your pet is in or on your bed? (33)

Have you noticed that you are better able to go off to sleep if you can hear the noises of your pet or the sound of the TV or the radio? (34)

Have you become very distressed when thinking about being away from your pet? (35)

Have you suffered from nightmares or dreams about being away from your pet? (36)

Have you been worrying a lot about your pet coming to serious harm, for example, being hit by a car, or suffering from a fatal illness? (37)

Have you become very upset with changes to your usual daily routine if they interfere with your contact with your pet? (38)

Have you been worrying a lot about your pet running away and leaving you? (39)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness of breath, pounding heart) when thinking about leaving your pet or about your pet running away?
(40)

Have you been afraid that you would not be able to cope or could not go on if your pet ran away?
(42)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness or breath, pounding heart) when separated from your pet? (43)

Have you been worrying a lot about possible events that may separate you from your pet e.g., because of work requirements?
(44)

Have you been
worrying that
your relationship
with your pet is
so close that it
may cause your
pet problems?
(45)



Q95 Please indicate the percentage of the time your cat has shown each of these behaviors during the past month.

	Never (1)	Rarely (2)	Often (40-60%) (3)	Almost always (60-90%) (4)	Always (>90%) (5)
Vocalizes constantly, with cries and sharp meows, when you leave (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Destroys the furniture or other objects only in your absence (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Urinate in inappropriate places only in your absence (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Defecates in inappropriate places only in your absence (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shows itself agitated and moving too much, with signals of agitation-anxiety, after you leave (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shows sadness or depression, with signals of depression-apathy, after you leave (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becomes aggressive when you leave (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q93

Which of the above pictures best describes your relationship with YOUR CAT during the past month?

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

6 (6)

7 (7)

End of Block: Cat

Start of Block: Dog



Q80 The following statements refer to symptoms that you might have experienced regarding your dog. Please select the appropriate response for each item, according to whether you have experienced any of these symptoms during the past month.

	Has never happened (1)	Happens occasionally (2)	Happens fairly often (3)	Happens very often (4)
Have you felt more secure at home when you are with your pet? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced difficulty in staying away from your pet for several hours at a time? (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you been carrying around a photo of your pet in your purse or wallet that gives you a sense of security or comfort? (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress before leaving your pet in a kennel or with a sitter to go on a long trip? (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you suffered from nightmares or dreams about being separated from your pet? (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress about being away from your pet when going away on a trip? (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you been worried about the intensity of your relationship with your pet, e.g., that you are too strongly attached? (30)

Have you experienced symptoms such as headaches, stomach aches or nausea (or other) before leaving your pet for work or other regular activity outside the home? (31)

Have you been especially concerned about what your pet is doing when you leave them, e.g., when you leave them to go to work or go out of the house? (32)

Have you experienced difficulty in sleeping alone at night, e.g., is your sleep better if your pet is in or on your bed? (33)

Have you noticed that you are better able to go off to sleep if you can hear the noises of your pet or the sound of the TV or the radio? (34)

Have you become very distressed when thinking about being away from your pet? (35)

Have you suffered from nightmares or dreams about being away from your pet? (36)

Have you been worrying a lot about your pet coming to serious harm, for example, being hit by a car, or suffering from a fatal illness? (37)

Have you become very upset with changes to your usual daily routine if they interfere with your contact with your pet? (38)

Have you been worrying a lot about your pet running away and leaving you? (39)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness of breath, pounding heart) when thinking about leaving your pet or about your pet running away?
(40)

Have you been afraid that you would not be able to cope or could not go on if your pet ran away?
(42)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness or breath, pounding heart) when separated from your pet? (43)

Have you been worrying a lot about possible events that may separate you from your pet e.g., because of work requirements?
(44)

Have you been worrying that your relationship with your pet is so close that it may cause your pet problems?
(45)



Q81 Please indicate the percentage of the time your dog has shown each of these behaviors during the past month.

	Never (1)	Rarely (2)	Often (40-60%) (3)	Almost always (60-90%) (4)	Always (>90%) (5)
Follows you around the house (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loses appetite after you leave (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive drinking in your absence (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excessive salivation in your absence (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pacing when you leave (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shaking when you leave (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Panting when you leave (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becomes aggressive when you leave (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barks/whines excessively within 30 minutes of your departure (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Destroys property only in your absence (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Repetitive behavior (chases tail, licks self, etc) when you leave (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Decrease activity after you leave (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhibits an excessive greeting on your return (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21

Which of the above pictures best describes your relationship with YOUR DOG during the past month?

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

End of Block: Dog

Start of Block: No Pet

Q101

Which of the above pictures best describes your relationship with YOUR FAMILY (parents, siblings, spouse and/or children) during the past month?

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

6 (6)

7 (7)

Q102

Which of the above pictures best describes your relationship with YOUR FRIENDS during the past month?

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

6 (6)

7 (7)

End of Block: No Pet

Start of Block: WB and Demo



Q101 The following statements refer to symptoms that you might have experienced as an adult (over the age of 18 years). Please select a response for each item, according to whether you have experienced any of these symptoms during the past month.

	Has never happened (1)	Happens occasionally (4)	Happens fairly often (5)	Happens very often (6)
Have you felt more secure at home when you are with people that are close to you? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced difficulty in staying away from home for several hours at a time? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you been carrying around something in your purse or wallet that gives you a sense of security or comfort? (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress before leaving home to go on a long trip? (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you suffered from nightmares or dreams about being separated from someone close to you? (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have you experienced extreme stress before leaving someone close to you when going away on a trip? (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Have you become very upset when your usual daily routine is disrupted? (9)

Have you been worried about the intensity of your relationship with those people closest to you, e.g., that you are too strongly attached? (10)

Have you experienced symptoms such as headaches, stomach-aches or nausea (or other) before leaving for work or other regular activity outside the home? (11)

Do you find that you talk a lot in order to keep people close to you? (12)

Have you been especially concerned about where people close to you are going when you are separated from them, e.g., when you leave them to go to work or go out of the house? (13)

Have you experienced difficulty in sleeping alone at night, e.g., is your sleep better if someone close to you is in the house? (14)

Have you noticed that you are better able to go off to sleep if you can hear the voices of people you are close to or the sound of the TV or the radio? (15)

Have you become very distressed when thinking about being away from people that are close to you? (16)

Have you suffered from nightmares or dreams about being away from home? (17)

Have you been worrying a lot about people close to you coming to serious harm, for example, meeting with a car accident, or suffering from a fatal illness? (18)

Have you become very upset with changes to your usual daily routine if they interfere with your contact with persons close to you? (19)

Have you been worrying a lot about people you care about leaving you? (20)

Have you found that you sleep better if the lights are on in the house or in the bedroom? (21)

Have you tried to avoid being at home alone especially when people close to you are out? (22)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness of breath, pounding heart) when thinking about leaving people close to you or about them leaving you? (23)

Have you found that you get anxious if you do not speak to people that are close to you on the telephone regularly, e.g., daily? (24)

Have you been afraid that you would not be able to cope or could not go on if someone you cared about left you? (25)

Have you suffered from sudden bouts of anxiety or panic attacks (e.g., sudden shaking, sweating, shortness or breath, pounding heart) when separated from people close to you? (28)

Have you been worrying a lot about possible events that may separate you from those close to you e.g., because of work requirements? (29)

Have people close to you mentioned that you 'talk a lot'? (30)

Have you been
worrying that
your relationships
with some people
are so close that
it may cause
them problems?
(31)



Q99 Please read each statement and select an option to indicate how much the statement applied to you during the past month.

	Did not apply to me at all (1)	Applied to me to some degree or some of the time (2)	Applied to me a considerable degree or a good part of the time (3)	Applied to me very much or most of the time (4)
I found it hard to wind down (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of dryness of my mouth (126)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't seem to experience any positive feeling at all (127)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion) (128)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to work up the initiative to do things (129)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tended to over-react to situations (130)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I experienced trembling (e.g. in the hands) (131)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was using a lot of nervous energy (132)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was worried about situations in which I might panic and make a fool of myself (133)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt that I had nothing to look forward to (134)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found myself getting agitated (135)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I found it difficult to relax (136)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt down-hearted and blue (137)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was intolerant of anything that kept me from getting on with what I was doing (138)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I was close to panic (139)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was unable to become enthusiastic about anything (140)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt I wasn't worth much as a person (141)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt that I was rather touchy or irritable (142)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat) (143)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I felt scared without any good reason (144)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I felt that life was
meaningless
(145)



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Q100 Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers.

Q111 Pets make their owners' lives

	Strongly disagree (1)	Disagree (2)	Slightly disagree (3)	Neither agree nor disagree (4)	Slightly agree (5)	Agree (6)	Strongly agree (7)
happier (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
healthier physically (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
more meaningful (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Q102 In general, would you say your health during the past month has been

- Excellent (1)
- Very good (2)
- Good (3)
- Fair (4)
- Poor (5)

Q103 Compared to one year ago, how would you rate your health in general during the past month?

- Much better than one year ago (1)
- Somewhat better than one year ago (2)
- About the same (3)
- Somewhat worse than one year ago (4)
- Much worse than one year ago (5)

Q104 The following items are about activities you might do during a typical day. Has your health during the past month limited you in these activities? If so, how much?

	Yes, limited a lot (1)	Yes, limited a little (2)	No, not limited at all (3)
Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lifting or carrying groceries (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climbing several flights of stairs (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Climbing one flight of stairs (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bending, kneeling, or stooping (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking more than a mile (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking several blocks (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Walking one block (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bathing or dressing yourself (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q105 During the past month, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	Yes (1)	No (2)
Cut down the amount of time you spent on work or other activities (1)	<input type="radio"/>	<input type="radio"/>
Accomplished less than you would like (4)	<input type="radio"/>	<input type="radio"/>
Were limited in the kind of work or other activities (5)	<input type="radio"/>	<input type="radio"/>
Had difficulty performing the work or other activities (for example, it took extra effort) (6)	<input type="radio"/>	<input type="radio"/>

Q106 How much bodily pain have you had during the past month?

- None (1)
- Very mild (2)
- Mild (3)
- Moderate (4)
- Severe (5)
- Very severe (6)

Q107 During the past month, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at all (1)
 - A little bit (2)
 - Moderately (3)
 - Quite a bit (4)
 - Extremely (5)
-

Q108 How true or false is each of the following statements for you?

	Definitely true (1)	Mostly true (2)	Don't know (3)	Mostly false (4)	Definitely false (5)
I seem to get sick a little easier than other people (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am as healthy as anybody I know (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect my health to get worse (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My health is excellent (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Those were selected items from the RAND 36-Item Short Form Survey Instrument (SF-36): [36-Item Short Form Survey Instrument \(SF-36\) | RAND](#)]

Q112 Have you ever had COVID 19?

- Yes, I tested positive for COVID at some point (1)
- I think I had it, but I didn't get tested (2)
- No, I've never had it (3)

Page Break

Q33

Demographic Information (Optional)

We will use this information to describe our sample as a whole (e.g., "Participants ranged in age from 18 to 75.") and for statistical purposes (e.g., to see if older versus younger participants in general responded differently).

Q34 Your age in years (e.g., 35)

Q35 Which of these best describes your ethnicity?

- Black/African American (1)
 - White/Caucasian (2)
 - Asian/Asian-American (3)
 - Native American (4)
 - Hispanic or Latinx (5)
 - Pacific Islander (6)
 - Other (7)
 - More than one of these (8)
-

Q36 Your gender

- Male (1)
 - Female (2)
 - Other (3)
-

Q98 When did you FIRST return to face-to-face (in person) attendance at your place of employment?

- Summer 2020 (right after the initial lockdown period) (1)
 - Fall 2020 (2)
 - Spring 2021 (4)
 - Summer 2021 (5)
 - Fall 2021 (very recently) (6)
 - I'm still working remotely (7)
 - Not applicable--I have not been employed in the time period of summer 2020 to now (3)
-

Q108 When did you FIRST return to face-to-face (in person) attendance at your high school, college or university?

- Summer 2020 (right after the initial lockdown period) (1)
- Fall 2020 (2)
- Spring 2021 (4)
- Summer 2021 (5)
- Fall 2021 (very recently) (6)
- I'm still attending remotely (7)
- Not applicable--I have not been a student in the time period of summer 2020 to now (3)

Q34 What is your best estimate of your household's total annual income from all sources before taxes last year?

- Less than \$20,000 (1)
- \$20,000 - \$39,999 (2)
- \$40,000 - \$59,999 (6)
- \$60,000 - \$89,000 (7)
- \$90,000 - \$119,000 (12)
- \$120,000 - \$159,000 (13)
- \$160,000 - \$199,000 (14)
- \$200,000- \$300,000 (15)
- More than \$300,000 (16)

Q16 There have been a lot of news stories about people adopting pets during the pandemic--that is, "pandemic puppies." We're trying to get a sense of how common this actually is. Have you gotten a new pet since the pandemic began in March 2020?

- Yes, and that new pet was the one I was referring to when I answered questions about my pet (4)
 - Yes, but when I answered questions about my pet I was referring to a pet I already had prior to the pandemic (1)
 - I wanted to get a new pet but wasn't able to (2)
 - No, and I didn't want to get a new pet (3)
-

Q23

Explanation of the Survey

This survey is testing the role of pets, and one's relationship with their pets, to health and well-being. Prior research shows that pet ownership is associated with higher well-being, as well as healthier activities such as exercise and social interaction. But pets also present the possibility of separation anxiety, meaning that you miss and worry about your pet when you're away. Some mental health experts are concerned about people missing their pets--and their pets missing them--as they return to work and/or school in recent months, leaving their pets alone during the day.

We asked you questions about your feelings of separation anxiety from your pet and from other people, and about how you're doing emotionally and physically. We also asked whether you currently own a pet and your relationship with your pet and with people.

We expect to find that separation anxiety from pets as well as people is associated with lower happiness and greater anxiety. But we also expect to find that having pets provides greater meaning in life, perhaps offsetting the anxiety experienced by those who worry about being away from their pets.

We thank you for your participation! You've added to our knowledge about the extent to which relationships with pets are similar to relationships with people. If you have questions or concerns about this study, or would like to know the results, you may contact Dr. Denise Beike at (479) 575-4256 or by e-mail at dbeike@uark.edu. For questions or concerns about your rights as a research participant, please contact Ro Windwalker, the University's Compliance Coordinator, at (479) 575-2208 or by e-mail at irb@uark.edu.

End of Block: WB and Demo