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Pilot Testing a Qualitative Methodology to Evaluate the Perceived Benefits and Stressors of Sole-Dog Ownership in Full-time College Students

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Abstract

The number of individuals acquiring pets is continually increasing, with 71.5% of Americans owning a pet in 2012. Companion animals are a huge source of benefits but owning them can also come with several stressors. However, little research has been conducted on the negative aspects of dog ownership. This pilot test evaluates the perceived stressors and benefits of sole dog ownership in full-time college students. The pilot aimed to hold three focus groups from which qualitative thematic data were collected and quantitative were collected from a demographic survey of participants. Participants were asked a series of questions about sole dog ownership such as their dog's behavior, monthly expenses, daily time commitment, etc. Participants referenced four common themes under perceived benefits (developed responsibility, physical health, emotional support, and sense of pride) and three common themes under perceived stressors (traveling, commitment, behavior). This pilot can be adapted and expanded on to conduct qualitative research in the future on the benefits and stressors of dog ownership. In addition, data from this pilot test could be combined with future data to inform potential pet owners of all the areas associated with ownership, to enhance the decision-making process.

Introduction

Background

In the United States, companion animals are becoming increasingly popular as household pets, service animals, and therapy animals. According to the American Veterinary Medical Association (2012), 71.5% of households in the United States own a dog, cat, bird, or horse. The interaction between dogs and humans is physically and emotionally beneficial for both species. A handful of studies have been conducted to understand the physiological response in animals, such as pigs and rats, when positively interacting with humans (Lafollette, O'Haire, Cloutier, & Gaskill, 2018; Rault et al., 2019). Also, a significant amount of research exists on the dog-human relationship and the benefits humans receive from owning dogs. Studies show that pet ownership reduces stress, lowers blood pressure, helps to prevent heart disease, fights depression, and overall lowers the owner's healthcare costs (Maugeri et al., 2019). According to research, younger people benefit more from owning a dog (Dotson & Hyatt, 2008). Pet-human relationships have been studied quantitatively in a variety of areas, but not as much research has taken a qualitative approach to examining such relationships.

Problem Statement

There is evidence that college students face many stressors (Beiter et al., 2015), and research indicates interaction with dogs is beneficial to the health and well-being of students. However, there is not much information on the impact of owning a dog on stress levels of college students. Does owning a dog decrease stress and anxiety, therefore adding value to interactions, or does it create more stress when juggling class attendance and a social life? Additionally, information on this topic is mainly quantitative with measuring of blood pressure,

cortisol levels, etc. This lack of qualitative research highlights a need for an exploratory qualitative approach to this topic.

Purpose

Therefore, the purpose of this pilot study was to develop an interview protocol for exploring, through a qualitative approach, whether owning a dog increases or decreases various stressors in the lives of full-time college students. This pilot also sought to explore sole college-student dog owners', who are also college students, perceived benefits and stressors associated with dog ownership.

Research Questions

1. What are the perceived stressors associated with being a sole owner of a dog as a full-time college student?
2. What aspects of being a sole dog owner do college students find beneficial?

Literature Review

Dogs are the first domesticated animal in human history and research suggests they are descended from originally domesticated gray wolves (Perri, 2016). For the past 16,000 years, humans have been utilizing the characteristics of dogs for hunting, gathering, companionship, and protection (Perri, 2016). This utilization has led to the growth of the human-animal relationship throughout the years as both faced similar evolutionary pressures and benefitted from holding a relationship with each other (Hodgson et al., 2015). Understanding the benefits of dog ownership, in the present day, on physical and psychological health is becoming an increasingly popular research focus. However, no research has solely addressed possible negative effects of dog ownership on human psychological health.

Dog Ownership

Dog ownership has continually increased in popularity over the years. In 2012, the AVMA recorded that 36.5% of households in the U.S. own a dog. In comparison, in 2017-2018, the AVMA recorded that 38.4% of households in the U.S. own a dog. To further put this into perspective, there are approximately 76.8 million pet dogs in the U.S (AVMA, 2012). Among these households that own dogs, the range of demographic, such as age, race, household income, socioeconomic status, etc., is broad. In a survey conducted by Marx, Stallones, Garrity, and Johnson (1988), within 1300 U.S. households, 816 owned a dog, 399 owners were female, and 204 owners fell into a college-age range of 21-30. Also, 309 of 816 U.S. households owning a dog had a family income between \$20,000-\$40,000 and 733 of 816 U.S. households owning a dog were white. It is important to note that these data are older as there are not any recent basic demographic studies or surveys on dog ownership in the U.S. as opposed to other areas of the world. Due to this lack of information, it is important as animal scientists to continue researching aspects of dog ownership to provide pertinent current information.

Stress in College Students

College students, no matter their age or year of school, experience stress to varying degrees. Stress is commonly defined as a person's response to pressures and demands placed on them or to worrying situations (Matthew, 2017). These pressures, demands, and worrying situations are known as stressors (Matthew, 2017). Furthermore, students with greater levels of stress usually view themselves as less healthy, having lower confidence and are more likely to practice poor health habits (Matthew, 2017). Matthew (2017) found that in a normal semester, 52.1% of college students indicated experiencing high levels of stress. Within this stress group, 55.6% said they felt stressed all of the time. Furthermore, it was discovered that the prominent

sources of stress for students are worries about time, fear of failure, classroom interactions, financial issues, and academic worries (Matthew, 2017). The majority of college students who felt stress often were females (63.8%), while only 36.3% of males stated that they were stressed often (Matthew, 2017). Nonathletes also perceived higher levels of stress. Eighty percent of college students who reported not participating in exercise activities regularly reported high levels of stress (Matthew, 2017). This statistic could tie into research showing that dog ownership leads to better physical fitness of people and since dog owners exercise more often it is possible they would be less stressed.

Previous Studies on Stress in College Students

A study conducted by Baghurst and Kelley (2013) on examining stress in college students throughout a semester found that physical activity is an effective means of perceived stress reduction but does not help to reduce test anxiety. Another similar study was performed by Matthew (2017) on stress and coping strategies among college students and this study came to a similar conclusion that students who regularly exercise report feeling lower stress levels. Saleh, Camart, and Romo (2017) performed a study to determine predictors of stress in college students. They reported more information on the link between stress and gender of students and concluded that female students are found to be more stressed than male students. Furthermore, this study revealed psychological distress to be the greatest predictor of stress as opposed to self-esteem and self-efficacy. A study conducted by Weinstein and Laverghetta (2009) found that there was a negative correlation between college student stress level and college student life satisfaction. Similar to the study conducted by Saleh, Camart, and Romo (2017), Weinstein and Laverghetta (2009) also found that female college students reported higher stress levels than male college students.

Previous Studies on Benefits of Dog Ownership to Mental Health

A study conducted by Ramírez, Berumen, Farfano, and Hernández (2018) on the benefits of dog ownership explained that there could be a relationship between dog ownership and human well-being. Based on their findings, they suggested that lower depression rates in dog owners may be due to less loneliness and owners having more access to companionship which could be due to owning a dog. A study conducted by Hodgson et al. (2015) on pets' impact on patients' health concluded that pets contribute to better emotional well-being and physical health. Cline (2010) conducted a study on the psychological effects of dog ownership and found that there were no primary effects of dog ownership on depression but discovered that dog ownership is more beneficial for single people and women and caused lowered depression among women. Dogs and pets as a whole can positively impact well-being but this study indicated that these positive impacts might not be the same for everyone.

Previous Studies on Benefits of Dog Ownership to Physical Health

A study conducted by McDonald, McDonald, and Roberts (2017) on the effects of novel dog exposure on college students' stress prior to examination revealed that students who interacted with a dog before taking an exam measured reduced blood pressure, while students who did not interact with a dog before taking an exam measured increased blood pressure. This study concluded that exposure to an untrained, normal dog can reduce the blood pressure of students as an effect of stress. In a study by Knight and Edwards (2008), it was concluded that, since the recommended level of exercise is 150 minutes per week of moderate activity, then study participants greatly exceeded this amount by simply walking their dogs. This increasing exercise level could lead to health care cost savings. Future research could be conducted to determine if there are any negative effects of dog ownership on both mental and physical health, due to the

lack of research on the negative effects of dog ownership. Also, future research could determine if there is a correlation between students who have lower stress levels and students who own dogs, due to dog ownership leading to greater exercise level.

Methods and Materials

Introduction

Dogs are an integral part of human culture today and have been shown to play a role in the mental and physical health of humans of all ages. As seen in many studies, understanding the effects of dog ownership on physical and psychological health is a popular research area today. Most studies exploring these effects of dog ownership are quantitatively based and focus on physiological responses, which highlights a need for the same topics to be explored qualitatively. Additionally, not much information exists on the negative effects of dog ownership, if any, that dog owners experience.

Restatement of the Research Questions

1. What are the perceived stressors associated with being a sole owner of a dog as a full-time college student?
2. What aspects of being a sole dog owner do college students find beneficial?

Design of Study

This research used a pilot test design to prepare methodology for a larger scale focus group approach. A pilot study can be utilized for many reasons such as designing and testing instrumentation for a larger study, testing sampling and recruitment techniques, and collecting preliminary data (Connelly, 2008). This pilot study primarily focused on testing methods to collect qualitative data through focus group utilization but also tested gathering quantitative data through a survey. Completion of a survey by study participants allows researchers to collect

information about the targeted population (Gomez & Jones, 2010). This pilot utilized a quantitative survey after focus group discussions because the quantitative data can be used to group and present data that is subsequently gathered in the interviews (Gomez & Jones, 2010).

Focus groups were the primary data collection method of this pilot study and allowed comparisons or differences to be drawn between participants' experiences (Kitzinger, 1995). Focus groups utilize group interview questions that lead to group discussion and interaction in order to collect information (Kitzinger, 1995). The utilization of a focus group method allows for answers to questions as well as the opportunity for participants to provide explanations for thoughts and reasoning (Kitzinger, 1995). Focus groups also help provide participants with group support in order to facilitate discussion on feelings that are common throughout the group (Kitzinger, 1995). The most effective focus groups are composed of 6-10 participants and typically last around 90 minutes (Morgan, 1997).

Participants and Sampling

The population for this pilot study was undergraduate college students in America. The sample included undergraduate college students enrolled at the University of Arkansas between the ages of 18-23, who are enrolled in at least 12 college hours, and who are the sole owner of a dog.

Two types of sampling methods were utilized in this pilot, purposeful sampling as well as snowball sampling. Purposeful sampling is a common method utilized in qualitative research because it requires the purposeful selection of participants according to the needs of the specific research (Morse, 1993). This method was used because individuals must exactly fit sample parameters in order to fit into this pilot. The second method of sampling used, snowball sampling, is a common method of forming a qualitative sample. This form of sampling is

dependent on an individual already participating in the study to refer another potential participant (Morse, 1993). This type of selection was beneficial in the pilot due to the anticipation of a lack of availability of participants. In addition, snowball sampling provided the opportunity to branch out the process of selection which allowed for potentially differentiated responses and reduced experimental bias.

Rigor

Credibility. This pilot sought to add rigor in the form of peer debriefing, which is the process of presenting research data to a person who is less invested in the study in order to gain a separate viewpoint from that of a person who is directly invested in the study (Lincoln & Guba, 2006). A qualitative researcher evaluated the pilot study's data for any aspects the sole student researcher might have overlooked and to locate any assumptions that have been made.

Transferability. This pilot sought to establish transferability, which is a form of external validity that allows a study to be applicable in other conditions by providing as much detail as possible (Lincoln & Guba, 2006). To provide adequate detail, in each focus group, the audio was recorded, and the student researcher took notes throughout. The audio was then transcribed to provide all information gathered in focus groups and audio in combination with notes were analyzed thoroughly.

Dependability. To establish dependability an external auditor was used. External auditing is useful in qualitative research to reaffirm that the study material is accurate and valid and if the conclusions made are supported by the data (Cohen & Crabtree, 2006). A faculty member in Bumpers College was asked to review the pilot research process and data related to this pilot and asked to provide feedback on the questioning and analysis.

Confirmability. In terms of confirmability, an audit trail was used in this study. The audit trail is a compilation of all materials gathered from the study (Lincoln & Guba, 2006). The audit trail for this pilot included initial planning information such as typed timeline, typed script for recruiting participants from classrooms, typed follow-up email sent to interested participants, informed consent, survey questions, focus group questions, and documents related to IRB approval. In addition to this information, typed notes and recorded audio from each focus group as well as analyses of collected data were saved. Access to all information remains available on the researchers' password-protected computers as well as documents provided in appendices at the end of this thesis paper. A reflexivity statement was created, a second technique utilized to establish confirmability, to acknowledge any pertinent background or position of involved researchers that might affect aspects of the study (Cohen & Crabtree, 2006).

Reflexivity statement. The student researcher acknowledges her potential bias in the pilot study due to being the sole dog owner of a dog and an animal science student at the University of Arkansas. The student researcher is very familiar with animals and dog ownership and plans to attend veterinary school. She has taken steps to be objective through developing her line of questioning and attempted to somewhat remove herself from the data.

Instrumentation

This pilot study tested both a focus group interview protocol and a quantitative survey. In the initial testing of the pilot study's materials, cognitive interviews were utilized because they are a technique that determines how study participants might interpret questions or what, if any, aspects of questions participants may find confusing (Miller, Willson, Chepp, & Padilla, 2014). A total of three cognitive interviews were conducted with individuals who met all the pilot's parameters. In relation to the survey questions, two individuals suggested adding the option of

owning zero dogs in the family before becoming the sole downer of their dog. In addition, another individual suggested changing the question about dog age to allow the participant to provide an estimate if unsure of exact age. After feedback was provided and collected from the cognitive interviews, the survey and focus group questions were updated. This allowed for the strengthening of all research questions included in the methodology.

Developing the line of questioning for the focus groups was another form of instrumentation used in this pilot because, due to the nature of the research questions, explanations for answers to questions made data collected from this pilot more meaningful. The focus group questions were derived from previous questions asked in various research studies. For example, Ramírez et al. (2018) conducted a study on the differences in stress and happiness between owners who perceive their dogs as well behaved or poorly behaved when they are left alone. This study reported that owners who perceive their dog as well behaved were less stressed about leaving their dogs home alone. To expand on this research, a focus group question was developed to ask how long owners are away from home on an average day in order to see if the amount of time owners spend away from their dogs leads to higher perceived stress levels.

Additional examples of focus group questions include:

- Do you have help with caring for your dog from others?
- Describe your dog's temperament when they are outside of the home.
- Describe how interacting with your dog makes you feel when you're having a bad day.

Following the completion of the first focus group, emergent design was utilized to modify the line of questioning. Emergent design is the practice of researchers adapting to new information or findings that come to light while conducting qualitative research (Pailthorpe, 2017). Already developed questions were expanded to include additional questions that the

researchers deemed important to gather data. For instance, at the beginning of the focus group participants were asked to describe their personal ownership situation so future answers to questions could be better understood.

Participants were asked to complete a paper-based survey directly following focus group participation to collect demographic information such as age, race/ethnicity, and gender. In addition, the survey also collected answers to basic questions related to history of dog ownership such as the number of dogs owned, age of the dog(s), etc. Hodgson et al. (2015) conducted a study on the impact of pets on medical patients' health and utilized a similar form of initial questioning to gather basic information on study participants.

Data Collection

This pilot involved human subjects and required approval from the Institutional Review Board (IRB) of the University of Arkansas, the received protocol number from IRB for this pilot is 19110225266. The pilot collected data in the fall of 2019 and the spring of 2020. Participants were recruited from undergraduate classes at the University of Arkansas and interested individuals were invited to provide their email on a sign-up sheet to be contacted with more information. Individuals then received an email explaining the purpose of the pilot, pilot procedures, focus group dates, benefits of participation, and confidentiality. The researchers aimed to conduct pilot testing methodology for use in full scale qualitative focus groups of 8-10 people per focus group. A moderator who was a qualitative researcher was utilized and led the focus group discussions, while the student researcher's role was to take electronic notes and make observations throughout the focus group. At the beginning of each focus group, similar information provided in the email was restated and an informed consent signature page was provided to each individual. Each focus group took at most 60 minutes to complete and was

audio-recorded with a digital tape recorder and notes were taken on a laptop throughout. After the conclusion of each focus group, participants reviewed the key points of agreement to ensure credibility. After this, participants were asked to complete a short survey which included demographic questions and a few basic questions related to the nature of this pilot study. Participants' responses in both the focus group and survey were only identifiable by an assigned number for audio recording purposes and for the drawing for the incentive prize to protect their anonymity to the fullest extent possible. Participants' assigned numbers were entered into a random generator at the end of the focus groups, following the survey for the chance to win one of three available gift cards.

Data Analysis

Following transcription of audio from each focus group, the data were analyzed. Transcribed audio in combination with detailed notes from each focus group was analyzed for common thematic elements. The primary method of data analysis used was textual content analysis. This is a type of qualitative thematic analysis and is the process of looking through data and developing a series of words or phrases for identifying themes (Cohen & Crabtree, 2006). This was done by reading through both the transcribed audio and the notes from each focus group and looking for common elements in the participant's responses. Also, the coding software NVivo was used to electronically code themes to organize the data set. NVivo provides qualitative researchers with the opportunity to sort themes from data and can identify patterns from data (Richards, 2002). Additionally, the demographic surveys were analyzed through descriptive statistics and an excel spreadsheet was utilized to group participants based on different characteristics and identify percentages of responses.

Results

During pilot testing, the following themes were identified by common beliefs and statements between participants concerning sole dog ownership as full-time undergraduate college students. The most prominent theme was the benefit of emotional support from owning a dog and several varieties of support were described. Other themes about the benefits of sole dog ownership included developed responsibility, physical health, and a sense of pride. In addition, a few themes about the stressors of sole dog ownership were identified as behavior, commitment, and traveling. The benefits and stressors of sole dog ownership are briefly described below along with quotes to tie discovered themes back to the data.

Quantitative data from the survey given after the focus groups is portrayed in tables below with one table for the participant's demographic information and one table for participants history of dog ownership.

Demographics of the Participants

Using the quantitative survey developed for this pilot, data about the demographics of the participants were collected and are listed in Table 1. There were a total of three participants (n=3).

Table 1

Participant Demographics

Variable	Age	Gender Identity	Race/ethnicity	Undergraduate enrolled hours
Speaker 1	20-21	Female	Caucasian	16-17
Speaker 2	20-21	Female	Caucasian	16-17
Speaker 3	20-21	Female	Caucasian	16-17

History of Dog Ownership

Using the quantitative survey developed for this pilot, information about the participants' history of dog ownership was collected and is listed in Table 2.

Table 2

Participants' History of Dog Ownership

Variable	Length of dog ownership	Dogs owned before being a sole owner	Age of dog when adopted/bought	Travel time to the University of Arkansas
Speaker 1	1-3 years and 4-6 years	>5	8 weeks and 4 weeks	10 minutes
Speaker 2	1-3 years	5	14 weeks	7-10 minutes
Speaker 3	<1 year	>5	Day of birth	5 minutes

NVivo Coding Results

Several themes were established throughout the coding of the transcripts and numerous references were coded for each theme. Referring to the first research question, perceived stressors of sole dog ownership were identified from the transcripts.

Behavior. Throughout the transcriptions, certain dog behaviors were referenced a total of five times by participants for causing them stress and or difficulties in their daily lives. Speaker 1 indicated how their dog's behavior is sometimes a stressor when they said:

She just stresses me out. She's constantly wanting to do something, so when I'm trying to do homework and stuff she's a bad distraction because she constantly wants to play fetch or she constantly wants to play tug-o-war, and then if I don't pay attention to her, then she'll find something to bark at or just something like that.

Additionally, Speaker 2 indicated their dog's behavior sometimes causes her stress when they said, "He can be stressful because he is, um, he likes to play. And so, when I'm trying to do something, um, he is sometimes can be the problem."

Commitment. Participants indicated that the amount of time and energy that they put into caring for their dogs sometimes causes them stress. This stressor of commitment was referenced by participants a total of ten times. The first quote that stood out about this theme was from Speaker 3 when they said, "...kind of like with those bad moments, I get very frustrated and I'm thinking, what the heck have I gotten myself into?" Another significant quote about commitment to sole dog ownership was from Speaker 1 when they said, "...it definitely puts challenges on like just following their schedule and realizing that, hey, you know, even though they are just a part of my life like we still have to make them happy and keep them happy."

Traveling. Participants explained how making plans for upcoming travel is stressful due to having to make accommodations for their dogs whether that be finding a sitter or driving out of the way to take their dog to someone who can care for them while they are away. The instance of traveling causing stress was referenced a total of seven times by participants. Speaker 2 referenced this theme by stating, "...if I went back and really thought about it, there's a good chance I probably wouldn't have a dog right now because I do travel a lot..." Speaker 1 addressed the theme of traveling by stating, "So definitely planning ahead is a challenge for that. And it really deters me from going on any trips cause I'm life, it's not worth the hassle. I don't want to stress the dogs out."

In addition to the themes about the perceived stressors of dog ownership, perceived benefits of sole dog ownership, as mentioned in the second research question, were also identified from the transcripts and are as follows:

Developed responsibility. Each participant indicated that sole dog ownership taught them some form of developed responsibility and some of these acquired skills mentioned were time management, organization, sense of responsibility, accountability, or prioritizations. In total, there were five statements coded under the theme of developed responsibility. Speaker 1 stated they have developed greater responsibility and said, “So just kind of like fitting everything into a schedule I’m much more organized now.” Additionally, Speaker 3 referenced this theme by saying, “It’s a huge responsibility...I consider myself pretty responsible before I had a dog. But when you bring another life into the situation...it kind of brings on a whole new level of accountability.” Speaker 3 also said, “I guess like a good skill is even better time management and like prioritizing things...because it is a challenge with all of the other things.”

Emotional support. This theme of sole dog ownership providing owners with emotional support was the most coded theme with a total of fifteen references. Participants indicated that their dogs supported them through companionship, increased happiness, less loneliness, and overall comfort. Speaker 2 stated the following about their dog, “I’m not really great with being alone, so just like having someone there. Um, to just pet on when I’m feeling lonely, like, oh, someone’s there for me. It’s kind of, it’s comforting.” Furthermore, Speaker 3 stated, “He has been a great blessing for me as far as like, overall mental health and um, happiness.” Additionally, Speaker 1 stated that since she owns dogs it encourages her to take more walks with then alleviates some of her stress, “I’m able to go out and like take walks. I walk up to three miles a day with both of mine. So that’s almost like a way to blow off steam for me. Or just to like get my head back in like a good place.”

Physical health. Dog walking was seen as a benefit of sole dog ownership and participants indicated that without their dog they would not get near as much exercise. A

commonality between participants was not wanting to exercise, leave the house, or walk but ultimately doing so due to owning a dog. Participants spoke of the increased exercise due to dog ownership in a positive way and appreciated the physical activity. The following quotes are examples of how dogs have helped to increase their owner's physical health.

"I definitely get a lot more activity because of them...whether I welcome that or not. I mean it really does help me physically and mentally, but I would definitely not do it without them."

"We got at least three miles a day and I would definitely not do that if it were up to me."

"I would be a lot lazier if I didn't have Duke and I wouldn't want to do as many things."

Sense of pride. In the pilot research, participants indicated a sense of pride associated with being the sole owner of a dog. This theme was referenced by participants a total of six times. The following are significant quotes within this theme.

"I think it's a really good point that like it does give you something to say, like to be proud of that and say like, hey, I'm doing this."

"...it was like a way to prove that I can raise a dog and I know how to raise a dog."

These results were coded themes contingent upon significant quotes from participants and some quotes were significant references for more than one theme. Some themes were found to be interrelated such as physical health from walking dogs also contributing to emotional support in terms of mental health.

Discussion and Recommendations

The findings in this pilot suggest that even though sole dog ownership comes with multiple benefits it also comes with many stressors. With a growing number of young people

adopting dogs, these stressors are important to acknowledge when considering adopting or purchasing a dog while enrolled in college full-time.

Limitations

There are a few limitations to this pilot that need to be addressed before discussing any results. First, this is a pilot research study and therefore data should not be considered significant and merely used to inform future projects. No funding was received due to the time limit available to complete the pilot study and therefore there were issues with recruiting an ample number of participants. In addition, because of these constraints, this pilot is not generalizable to the sample population. However, it does still provide some notable information in this particular area of research.

The information on participants' history of dog ownership reported by participants helps provide more current statistics. As mentioned in the literature review, dog ownership statistics are outdated and focus on older adults, such as the survey conducted by Marx, Stallones, Garrity, and Johnson in 1988. This pilot only includes data from three participants, but the data is still useful in providing slight information about college-aged students who own dogs. However, for data to be significant, more participants should be surveyed across a greater diversity.

Research Question 1

The first research question for this pilot asked full-time college students about the stressors associated with sole dog ownership. As mentioned in the results section, the analyses of this question revealed three themes related to the stress of sole dog ownership: behavior, commitment, and traveling. When reading through past studies on dog ownership, it was nearly impossible to identify studies that focused on or even slightly incorporated data on stressors of dog ownership. For this reason, that is the main takeaway of the data from this pilot. As

expressed earlier, there are several limitations which are reflected in the data but the findings in this pilot are still impactful in providing a base for further research.

Research Question 2

The second research question asks what full-time college students find beneficial about sole dog ownership. The themes discovered upon analysis of data shared commonalities with previous studies' findings. Firstly, the results show a theme of benefits of emotional support which is congruent with the study conducted by Ramírez, Berumen, Farfano, and Hernández (2018) on the benefits of dog ownership potentially revealing a relationship between dog ownership and human well-being. Just as this study found that dog owners' lower depression rates may be due to less loneliness, participants in this study also indicated feeling less lonely in their dog's company. In addition, a study conducted by Matthew (2017) concluded that students who regularly exercise report feeling lower stress levels. This conclusion is reinforced by quotes from participants stating that walking their dogs supports healthier mental health and is an effective way to relieve the stress of schoolwork. Similarly, Knight and Edwards (2008) concluded that study participants greatly exceeded the recommended level of exercise, 150 minutes per week of moderate activity, by simply walking their dogs. Participants in this pilot test indicated getting greater levels of exercise as dog owners than they would if they did not own dogs. Through this data, there appears to be a positive link between owning a dog and having lower stress levels/better mental health due to increased exercise levels.

Another significant theme was the owners having a sense of pride in caring for a dog on their own. In reading through past studies this theme was not mentioned and was not expected in focus group discussions. However, each participant, in some way, mentioned being proud of

themselves for being the sole owner of a dog and a sense of satisfaction in knowing they can provide great care for their dog on their own.

Recommendations

Although this pilot has its limitations, it should be considered a base to expand on for future qualitative studies in this area because it provides information on methodology to explore a scarcely analyzed aspect of dog ownership. Future researchers should utilize funding resources to assure an adequate amount of participation so that results are more impactful. Not only will an increased number of participants enhance thematic data, but it will also enhance demographic information about sole dog owners who are college students, which is still lacking in research.

In addition, when future researchers ask specific questions, they should utilize emergent design to adapt the line of questioning as needed. This will allow the opportunity to potentially tap into relevant conversation. For example, if researchers ask participants about monthly costs associated with dog ownership, they should then ask how these charges affect the participants. When results from future studies are substantial enough, data can be transformed into an informational pamphlet, presentation, graphic, etc. which can be distributed to college students to aid in the decision-making process of adopting or buying a dog. Additionally, researchers might consider adapting this pilot test's methodology to focus on sole cat ownership, horse ownership, small rodent ownership, etc. and subsequently compare those results to studies on sole dog ownership.

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Appendix A



To: Isabel Maria Whitehead
 BELL 4188
From: Douglas James Adams, Chair
 IRB Committee
Date: 11/18/2019
Action: **Expedited Approval**
Action Date: 11/18/2019
Protocol #: 1910225266
Study Title: A qualitative exploration of college students perceived benefits and stressors associated with sole-dog ownership.
Expiration Date: 10/24/2020
Last Approval Date:

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Emma Marie Williams, Investigator

Appendix B

1. How old are you?
 - a. 18-19
 - b. 20-21
 - c. 22-23
 - d. Other: _____

2. What is your gender identity?

3. What is your race/ethnicity?
 - a. Asian
 - b. African American
 - c. Hispanic and any other race
 - d. American Indian or Alaska Native
 - e. Caucasian
 - f. Non-Resident Alien
 - g. Hawaiian or Pacific Islander
 - h. Two or more races
 - i. Other: _____

4. How many undergraduate course hours are you currently enrolled in?
 - a. 12-13
 - b. 14-15
 - c. 16-17
 - d. Other: _____

5. List any and all activities you are involved in outside of course work. *You may include community or campus involvement, jobs, et cetera.*
 - a. Greek Life
 - b. Registered Student Organizations or Student Clubs
 - c. Volunteer Work
 - d. Faith-Based Organizations
 - e. Parent
 - f. Full-Time Job
 - g. Part-Time Job
 - h. List an additional activity if needed _____
 - i. List an additional activity if needed _____

6. How long have you owned your current dog?
 - a. Less than a year
 - b. One to three years
 - c. Four to six years
 - d. Six or more years

7. How many dogs has your family owned before you've become a sole owner?
 - a. Zero
 - b. One
 - c. Two
 - d. Three
 - e. Four
 - f. Five
 - g. Other

8. How old was your dog when it came into your life? Specify age in weeks, months, years, or estimate age if unknown. _____

9. Indicate the travel time from your residence to the University of Arkansas campus. Specify in minutes or hours if applicable. _____

Appendix C

Focus Group Questions

To protect your anonymity, please select either a pseudonym or start with the first person and number off. Please write the pseudonym on your card and verbally say your number and/or name and hold it up before you speak to allow for us to accurately record and return to your answers.

1. We assume each of you are dog owners, describe for the group a bit of context about your personal ownership situation.
2. Describe your daily routine and how your dog ownership responsibilities fit in.
3. Approximately how many hours a day does your dog spend at home alone?
4. When your dog is left alone, is it crated, does it roam the house, or is it in a yard?
5. About how much money do you spend on your dog in an average month?
6. Do you have help with caring for your dog from others (roommates, boyfriend/girlfriend, friend, etc.)
7. If applicable, describe the type of support you receive (financial support, someone is available to walk your dog/let them out, someone is available to feed your dog, etc.)
8. Describe your dog's temperament when they are outside of the home (ex: timid, energetic, aggressive).
9. If applicable, how does this differ from your dog's temperament at home?
10. Describe how interacting with your dog makes you feel when you're having a bad day.
11. Describe how interacting with your dog makes you feel when you're having a good day.
12. What are your perceived benefits of owning a dog?
13. What are your perceived difficulties of owning a dog?