

## Pet Attachment vis a vis Disaster Awareness on Animal Safety and Security of Pet Owners in Angeles City

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### Abstract

Animal companions are an integral part of human society. But when disaster strikes, evacuation and sheltering of companion animals are often overlooked. Due to the past calamities that happened in the Philippines, animals are seen as one of the least priority during disasters. According to Santos (2020), during the typhoon Ulysses some animals especially stray dogs and cats were inevitably left behind in the evacuation. Some dogs have been spotted trapped in floodwaters or on top of roofs. This study aims to describe the Level of Pet attachment and Life- Impact on Animal Safety and Security during Disaster Preparedness among Pet Owners in Angeles City. With 151 Respondents answered to self administrative survey, quota sampling was utilized to recruit respondents and in analyzing the data descriptive and inferential statistics are applied. This study found that Majority of the respondents are: aged 18 to 21 years old, females, and students. As for pet history, most of the respondents are: Owning dogs as pets, influenced by their friends, being pet owners for one (1) to six (6) years, and having their pets to freely roam. After statistical analysis, results show that there is a strong significant relationship between pet attachment and life impact and animal safety and security during disaster preparedness. Specifically, Age, Pet Environment, and Reason for Having Pet have significant association with Pet Attachment and Life Impact while pet environment and reason for having a pet shows significant association with Disaster Preparedness of Pet Owners to their pets.

**Keywords:** *pet attachment, disaster preparedness, animal companion, pet owners*

### Background of the Study

Animal welfare is a human duty that includes all aspects of animal well-being, including proper accommodation, management, prevention and treatment of diseases, responsible care and human handling. In the recent calamities that happened in the Philippines, many homes were devastated and it raised awareness on the needs of animals in disasters. During the typhoon Ulysses, some animals especially stray dogs and cats were inevitably left behind in the evacuation. Some dogs have been spotted trapped in floodwaters or on top of roofs. It also caused P27.83 million worth of losses in the livestock and poultry sector as it affected 53,122 heads of cattle, carabao, goat,

swine, sheep, chicken, duck, quail and turkey, according to the Department of Agriculture (Santos, 2020).

There are effective ways to prepare for disasters. Most importantly, make arrangements ahead of time to ensure animals' safety in the event of evacuation. Whether the emergency is a flood, a fire, or a human-made disaster, evacuees should never assume that they will be able to return home soon, despite any assurances to the contrary (PETA, 2021). Since, the researchers aim to describe the animal safety during disasters to find out the preparedness of the pet owners throughout

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calamities. This article shows the things that need to be considered when calamities happen and the significance of having an effective emergency plan before, during and after the disaster takes place.

According to Towel (2021), a 10-year animal shelter volunteer experienced a lot of stray dogs come in the door, but the animals who really touch her are the ones who called “owner surrenders”. Towel tried to understand why people abandon their animal companions who had a home and lost it over the years. She also says that after natural disasters evacuees moved out and usually abandoned their animal companions due to some reasons such as having a limited space for animal shelters. With this, the researchers find out that lack of emergency planning towards safety and security including shelters of animals will make the pet owners push to abandon them.

In Section 7 of RA 10631 “It shall be unlawful for any person who has custody to an animal to abandon the animal. If any person being the owner or having charge or control of any animal shall without reasonable cause or excuse abandon it, whether permanently or not, without providing for the care of that animal, such act shall constitute maltreatment under Section 9. If the animal is left in circumstances likely to cause the animal any unnecessary suffering, or if this abandonment results in the death of the animal, the person liable shall suffer the maximum penalty. Abandonment means the relinquishment of all right, title, claim, or possession of the animal with the intention of not reclaiming its ownership or possession.” In this section it was clearly stated that abandonment of animals without valid reason may cause the owner to be subjected to penalization and face different sanction stated in this law.

In addition, the negative effects of climate change on animal health and welfare will be the consequence of different disasters combined with changes of air temperature, precipitation, frequency, and magnitude of extreme weather events and may be both direct and indirect

(Lacetera, 2018). Due to the demand of climate change that causes different disasters that have a both impact on Animals and human beings. In these situation, it tested the sense of responsibility of the pet owners, especially the vulnerable ones. With this according to the Section 1 of Republic Act 10631, “It is the purpose of this act to protect and promote the welfare of all animals in the Philippines by supervising and regulating the establishment and operations of all facilities utilized for breeding, maintaining, keeping, treating or training of all animals either as objects of trade or as household pets.” By this law, pet owners should be responsible by providing a safe environment in any type of disaster.

Therefore, owners and keepers are responsible for ensuring that the welfare needs of their animals are met. These include the need: for a suitable environment (place to live) for a suitable diet and the basic needs to survive like air, water, food, and shelter (protection from predators and the environment); plants need air, water, nutrients, and light. Every organism has its own way of making sure its basic needs are met.

#### *Factors Influencing Disaster Preparedness*

Many factors that may possibly influence the disaster preparedness such as, schools still remain unprepared in case disasters occur. Also, there is a gap between policy makers and implementation in the ministry of education and the schools since the guidelines on safety in schools still seem an alien concept to many of the schools (Wangui, 2015). With this, school educational platforms have a factor that can influence disaster preparedness.

According to the previous studies on disaster response competency among EMTs in South Korea, they used variables such as demographic information (gender, position, career, region, and so on) and disaster-related characteristics (evaluation and experience of disaster education/training, experience of disaster victims, and so on) and other variables such as disaster

preparedness perception, budget for disaster education/training, command communication system, and so on (Jung et.al, 2019).

According to the study, It's not just demographic and educational platforms that can influence disaster preparedness. (Feygina & Parod, 2018). Social support, mental health, and self-efficacy have been identified as potentially important predictors of risk mitigation. The public health literature suggests a strong positive association, better mental health, a stronger sense of self-efficacy, and higher levels of social support with greater engagement in prohealth behaviors and reduction of health.

Government is the main stakeholder of the community that has a huge influence in emergency disaster preparedness according to the study of Factors Affecting Hazard Risk. Governments are often stable and democratic and have lots of agencies that can help during an emergency. Being democratic means that the public can put pressure on the government to have life-safe buildings that survive natural disasters, or makes them want to rally have much to do with the exposure and vulnerability of people and places as they do with the severity of the hazard event (Gallo, 2020). With this it is proven that there's a lot of factors that may influence the disaster such as demographic, educational platform and the response quickly as it will help get the politicians votes." (Gamesby, 2015).

In line with this it is proven that there's a lot of factors that may influence the disaster such as demographic, educational platform and the government. It is proven that there's a lot of factors that may influence the disaster such as demographic, educational platform and the government.

#### *Factors Influencing Animal Safety Awareness*

Safety of animals is based on how people consider them in preparation for emergency

planning. There are a lot of factors that can influence the safety of animals. In this study it is proven that the success of biological conservation initiatives is not solely reliant on the collection of ecological information, but equally on public adherence to protection programs. Awareness and perception of target species condition the intensity and orientation of public involvement in conservation initiatives. Their evaluation is critical in the case of elusive animals, for which uncertainty surrounding public attitude is maximized (Collazo, 2015).

Multiple factors motivate people to risk their safety for companion animals during disasters. Often, this entails people re-entering dangerous areas, delaying evacuation, and risking personal harm to protect animals. Importantly, the intensity of this behaviour varies between individuals, with the capacity to take risk-mitigating actions also limited by self-efficacy when managing companion animals under threatening conditions (Bennett et.al, 2017).

There is also factors in influencing the safety of animals during the disaster, according to the study of animals welfare in natural disasters that there is certainly seem to be practical constraints to the evacuation of animals (either pets or livestock/working animals) ranging from physical transport, handling by untrained rescue staff through to lack of consideration at points of shelter and the care required to maintain such animals (Hesterberg et al. 2018).

During the evacuation it was seen that there are factors that influence animal safety when it comes to rescue response. With this there are key barriers to effective animal protection from disasters are: insufficient knowledge on animal needs in emergencies and a lack of skills in animal management and absence of resources for animal emergencies within the disaster cycle (Huertas & Sawyer, 2018).

For those who own companion animals, make a living from animal-related activities or have a strong bond with an animal, the importance of keeping animals safe from natural disasters may be self-evident. However, this view is not shared by all householders, animal guardians or emergency responders. For those who do not own companion animals, do not make a living from animal-related activities, have never bonded with an animal, or who have multiple vulnerable humans in their household, animals may seem irrelevant and unrelated to keeping humans safe from natural disasters (Thompson, 2018).

Animal ownership and animal attachment have been considered risk factors for surviving emergencies and disasters. However, there is reason to believe that pet guardianship and animal attachment could be reconfigured from risk factor to protective factor. The actions of a guardian will not only affect an animal's emergency and natural disaster survivability, but their ability to continue in the co-dependent relationship of guardianship in which they are invested. A consideration of these influences reveals an additional dimension to the 'pet as protective factor' proposal (Thompson, 2015). With this it was shown that rescuing and bond and companion of owners to their pet has factors that can influence the awareness of the owners on the safety of their animals.

#### *Animal safety During Disasters*

During a disaster, many pet owners want to evacuate their pets with them, only to find that evacuation and sheltering options are limited or nonexistent. This disregard for companion animal welfare during a disaster can have public health consequences. Pet owners may be stranded at home, unwilling to leave their pets behind. Others refuse evacuation orders or attempt to re enter evacuation sites illegally to rescue their animals. Psychopathologies such as grief, depression, and posttraumatic stress disorder are associated with pet abandonment during an evacuation (Chadwin, 2017).

North Shore Animal League America (NSALA, 2016) noted during a Disaster bring your pets inside well in advance of a storm and reassure them. Never leave a pet chained outside, pets can become frightened by unfamiliar noises, keeping your pet within sight when possible will reassure him, never tranquilize your pets, it will inhibit their natural survival instincts that they need to escape potential danger, and have your pet emergency kit handy.

During a disaster, people may make evacuation decisions based on their companion animal's welfare, therefore exposing themselves, their companion animals, and emergency responders to increased risk for injury or death. The loss and suffering of companion animals in disasters causes deep distress, diminishing people's capacity to rebuild their lives (Degeling & Rock, 2017).

Animal-related consequences were not anticipated in disaster preparedness planning in Japan at the time of its massive earthquakes in 2011. Evacuation failure was quite common due to pet ownership in this disaster. Public attention to the welfare of affected animals in this disaster triggered an awareness of the importance of caring for their needs. However, research on human behavior toward pets or effect of pets on humans during disasters remains sparse. In this study, post-traumatic stress disorder (PTSD) scores among pet-owners and non-pet owners in Japan's 2011 earthquake disaster were compared, and attitudes toward pets were evaluated (Hayama et.al. 2019).

In the case of any kind of natural disaster, a domestic pet is incredibly vulnerable. They rely on you to feed and shelter them, but emergency conditions may prevent you from doing so properly. With correct preparation, you can avoid this. Considering a number of situations, you can ensure that your pet is either kept within a safe space or stands a chance at being rescued and reunited with you again in the case of an emergency. Neglecting to plan for the unknown not

only puts your own safety at risk but also seriously lowers any chance of your animal surviving disastrous conditions (Allan, 2016).

### *Factors Influencing Pet Attachment Among Owners*

Majority of this research has focused on human-pet attachment, and consequently attachment to pets has most commonly been evaluated through self-report surveys, such as the Lexington Attachment to Pets Scale (LAPS) that are designed to assess relative attachment strength as opposed to the attachment described in Table 3. Attachment refers to the innate ability to form bonds of affection and love toward others and plays a significant role in infancy and later in life (Hawkins et al, 2017).

The relationship was interacting physically and emotionally with the pet while attachment was making the bond stronger and further enhancing it physically and emotionally. (Khalid, 2016). (Rothgerber et.al, 2016) highlighted the role of pet attachment and found that owning pets in childhood had predictive value for developing empathy in adulthood. There is growing evidence that animals are capable of offering features of a secure attachment relationship for children and that children can form emotional attachment with pets that are consistent in some respects with human attachment.

Attachments to a pet dog may function as a secure base by providing security and stability from which children can explore their environment. Furthermore, pets may help humans to regulate their emotions because they can trigger and respond to a person's attachment related behaviour (Williams, 2017).

Importantly, in this study, the ability of pets to function as a secure base and safe haven for their owners was related to the security of the attachment relationship reported by the owner. Animal-assisted

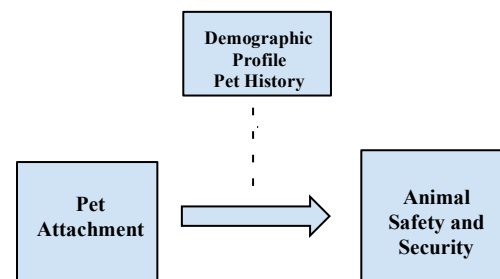
activities have also been shown to be effective in treating and managing depression (Wanser, 2019).

The following stated literature are the factors that influence the level of attachment. In line with that literature it shows how attachment affects the owners to consider animals in emergency preparedness.

The purpose of this study is to describe the Level of Pet attachment and Life- Impact on Animal Safety and Security during Disaster among Pet Owners in Angeles City. Furthermore, this research will have to answer the following specific questions:

1. What is the level of pet attachment and life impact of the respondents?
2. What is the level of life impact on pet safety and security of the respondents?
3. How may the level of safety and security of pet owners influence the level of disaster preparedness during Disaster?
4. What is the implication of the study in teaching disaster preparedness and environmental health?

### **Conceptual Framework**



**Figure 3. Level of Pet Attachment Influencing the Animal Safety and Security of the Angeles City Pet Ownership**

Companion animals are increasingly being recognized by society as beneficial to our health and considered by many owners as authentic and affectionate family members (Massavelli,2017).

Awareness on animal safety and security, prevents animal disease and safety toward disaster animal security. It is essential that pet owners carefully consider the safety of their pets in any circumstances such as man-made or natural disasters.

Figure 3 shows the *paradigm* of the study that illustrates the impact of the level of animal attachment and life-impact to the animal safety and security during the disaster of Angeles City pet owners. In this framework independent variables show how it influences the dependent variable.

Humans have the ability to influence how animals are affected by natural disasters, how they react, and how well they recover. Pet ownership may have had a positive effect on recovery for disaster victims to help overcome their distress, as the benefits of pets on physical and mental health of humans are well-documented. For example, dog and cat owners in general made fewer doctor visits and took less medication for heart problems and sleeping difficulties than non-pet owners (Benette et.al, 2015). As a result, there is a pressing need to keep animals healthy before, during, and after natural disasters, and to do so in ways that benefit rather than endanger the health of others.

It explains how pet attachment influences the disaster response and will improve the humans' physical and mental health and well-being long after the disaster has passed, as shown by the framework's animal safety and security awareness. Pet owners address these consequences in terms of animal health. Apart from emergency management team reaction, terms for the guardians, while the treatment of animals in disasters can never prevail over the care of pet owners (Thompson, 2018). In this, the relationship of the said variables has both an implication on each other as stated above in the literature, the connection between pet attachment of owners and emergency management teams and personal safety care of pet owners has an impact in animal safety and security during calamities. It can also define the pet owners' responsibility towards

their animals' welfare. It also shows how the level of pet attachment influences the awareness of pet owners when it comes to animal safety and security.

The following hypotheses will be answered:

1. Ho = There is no significant relationship between demographic profile and pet history towards the level of pet attachment and life-impact.
2. Ho = There is no significant relationship on the demographic profile and pet history towards the level of awareness on pet safety and security
3. Ho = There is no significant relationship between the levels of pet attachment on pet safety and security

## Methodology

This study employed a Quantitative which is according to quantitative research and analysis (2020). It is a method emphasizing objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. -Descriptive research is defined as a research method that describes the characteristics of the population or phenomenon studied (Question Pro, 2020). Descriptive methods will be used to analyze the relationship of disaster preparedness towards awareness of animal safety and security on pet owners. In line with this the researchers will be able to conduct a self-administered online survey among pet owners living in Angeles City.

A self-administered questionnaire (SAQ) refers to a questionnaire that has been designed specifically to be completed by a respondent without intervention of the researchers (e.g. an interviewer) collecting the data. To recruit respondents, quota sampling techniques will be utilized.

Quota Sampling is a method of non-probability sampling when the samples are selected based on the probability proportional to the distribution of a variable in the population. It will be used to determine the respondents and will be recruited via the following selection criteria:

- the respondents must be a resident in Angeles City
- should be at least below or more than 6 months as a pet owner of any kind of pet
- must have any type of pets
- must be 18 years old and above

### **Instrumentation**

This study will be using a three (3) part questionnaire. Part I deals with the demographic profile and history. The researchers aim to look at the basic information of the respondents such as age, gender and barangay where they live. The researcher also looks for the pet owner's history when it comes to adopting a species or pet, the month or number of years of adoption and where they get their pet. All items on part I are identified by the researchers based on the existing literature review.

For part II, the researchers adapted Factors and Convergent Validity of the Pet Attachment and Life Impact Scale (PALS). This questionnaire has a Cronbach Alpha of = .86. The 24-item version is used in the current study. Responses are provided on a 5- point Likert scale. The researchers aim for the behavioral scale describing the relationship between pet owners towards animals. Magnitude Interpretation of the scale, 1.00-1.99 is low significant results while 2.00-3.99 is mean average of the response results, 4.00- 5.00 Interpret as a high level of significant.

For part III, the researchers adapted Mercalli Disaster Management Consulting's "Pet Owner Emergency Preparedness and Perceptions Survey" (2010) and has been widely used as a tool in New Zealand. This questionnaire has an eight-items statement that contains facts about disaster

preparedness of pet owners. Responses are provided on a 5- point Likert scale. With this, the researchers aim to know the level of pet attachment of pet owners and awareness towards pet safety and security.

Magnitude Interpretation of the scale, 1.00-1.99 is low significant results while 2.00-3.99 is mean average of the response results, 4.00- 5.00 Interpret as a high level of significant.

To improve the validity and reliability of the data gathering tool to be used, the researchers will pilot test the adapted questionnaire. Pilot testing is a rehearsal of your research study, allowing you to test your research approach with a small number of test participants *before* you conduct your main study. For this part, the target pilot testing will be required for Quantitative 10 pax. To facilitate this, the following protocol will be followed:

Verbal consent is seeking to target individuals indicating the objectives of the study and the respondents expected contribution, risks, and benefits. Provided by sample questionnaire with the preferred method of gathering data either via online or face to face, provided minimum health protocols will be observed on the scheduled date of pilot testing. Pilot testing is conducted based on agreed conditions.

The above individuals were selected because they have the similar characteristics of the target respondents of the study. At this point, the data gathering tool was tested on its understandability as well as the time it will take to finish the whole data gathering protocol. Items were adjusted based on the result of the pilot testing.

### **Sampling and Data Gathering**

As mentioned earlier, the sampling technique to be utilized for this research study is Quota Sampling is a method of non-probability sampling when the samples are selected based on the probability proportional to the distribution of a

variable in the population. The target sample size for this study is for quantitative: 151 pax. To recruit the respondents in this study, the following protocol will be followed:

The researcher sought verbal consent to the office of the center for academic events, as a gatekeeper of the research for approval attached with a formal letter request. Indicating the objectives of the study and the respondents expected contribution, risks, and benefits. Provided a sample questionnaire with a secure list of names and contact information, if possible. Contact potential respondents and properly explain objectives of the study and the respondents' expected contribution, risks, and benefits. Both verbal and written consents are asked. The preferred method of gathering data either via online provided with the minimum health protocols is to observe and schedule the date of data gathering. Data gathering was conducted based on agreed conditions. The tables below depict the summary of information from the respondents' demographic and pet history:

**Table 1. Demographic Profile of Pet Owner**

Profile	Frequency	Percentage
<b>Age</b>		
18-21	104	68.9
22-30	38	25.2
31 and above	9	6.0
<b>Gender</b>		
Male	52	34.4
Female	85	56.3
LGBTQ+	14	9.3
<b>Occupation</b>		
Student	102	67.5
Employed	41	27.2
Self-employed	8	5.3

In this table it shows the pet owners' age who responded to our questionnaires. Out of 151 respondents, 18-21 were 104 (68.9%), 22-30 were 38(25.2%) and 31 and above were 9 (6%). This analysis suggests that the majority ranging from 18-21 from Angeles city are young adults which is

68.9% more likely to own a pet, while older people are 6% more likely to own their pet, a comparatively higher difference.

The Gender distributions reveal the largest discrepancy regarding the representativeness of our sample is that out of the 151 responded, 52 (34.4%) were male, 85 (56.3%) female and 14 (9.3%) are from LGBTQ+. Our study consisted predominantly of women compared to male and those in LGBTQ+.

It shows that of pet owners' occupations, 102(67.5%) are students ,41 (27.2%) are employed and 8(5.3%) are self-employed. This analysis suggests that the majority who are still students who are in college level tend to get or adopt a pet even while they are still studying.

**Table 2a. Types and Number of Animals as Pets**

Type of Animal	No. of Pets	No. of Pet Owners	%
<b>Dogs</b>			
	1-3	101	66.9
	4-6	26	17.2
	7-9	1	0.7
	10 and above	2	1.3
	<b>Total</b>	<b>130</b>	<b>86.1</b>
<b>Cats</b>			
	1-3	45	29.8
	4-6	16	10.6
	7-9	5	3.3
	10 and above	2	1.3
	<b>Total</b>	<b>68</b>	<b>45.0</b>
<b>Birds</b>			
	1-3	16	10.6
	4-6	5	3.3
	7-9	2	1.3
	10 and above	5	3.3
	<b>Total</b>	<b>28</b>	<b>18.5</b>
<b>Rodents (mice, hamster, guinea pig, etc)</b>			
	1-3	5	3.3



	4-6	1	0.7
	7-9	0	0.0
	10 and above	2	1.3
	Total	8	5.3
Rabbit			
	1-3	5	3.3
	4-6	1	0.7
	7-9	1	0.7
	Total	7	4.6
Reptiles (lizards, snakes, etc.)			
	1-3	0	0.0
	4-6	0	0.0
	7-9	1	0.7
	10 and above	1	0.7
	Total	2	1.3
Fish (gold fish, betta fish, etc)			
	1-3	9	6.0
	4-6	7	4.6
	7-9	1	0.7
	10 and above	5	3.3
	Total	22	14.6
Invertebrates (spiders, scorpions, etc)			
	1-3	4	2.6
	4-6	3	2.0
	Total	7	4.6
Others			
	1-3	1	0.7
	4-6	1	0.7
	Total	2	1.3

The table 2a shows the types and number of animals as pets. Out of the 151 respondents, 130 (86.1) are owning a dog, 48% are cat owners with 15 cats (29.8%), 28 bird's owners (18.5%), owners (14.6%), Rabbits show a score of 7 (4.6%) and Reptiles and others consist of 2 respondents each (1.3%). This table shows that the majority of the respondents are owning a dog, having the highest rate of 101 for having a number of one to three pets (66.9%) while the lowest is having only one (0.7%).

On the other hand, the number of cat owners ranked second. People who invest in this type of pet may see benefits in their human-to-human relationships. Researchers found that cat owners are more socially sensitive, trust other people more, and like other people more than people who don't own pets (Newman, 2017) that means it's more likely that cats actually do bring us as much delight and joy.

Having fish now is less common than having a pet like dogs and cats while Rabbits show a score that out of 7 respondents 5 of them are having one to three rabbits. Invertebrate shows the same data results as the rabbit owners. For the reptiles, one response from 7-9 and 10 and above. And for pet owners having other animals that also have one response each from one to three and four to five.

The table 2a found out that the man's best friend, the dog, is the most loved household pet and follows the usual pattern of being the most commonly owned species. Having 11,600,000 dogs in the Philippines according to Worldwide Pet Ownership. Dog owners indicated statistically that having a dog is significantly higher than those owners of cats, birds, fish, invertebrates, reptiles and other animals.

**Table 2b. Pet History**

History	Frequency	Percentage
Who influenced you?		
<i>Family</i>	17	11.3
<i>Friends</i>	102	67.5
<i>Professional Advice</i>	20	13.2
<i>Social Media</i>	2	1.3
<i>Others</i>	10	6.6
how long as pet owner		
<i>Below 6 months</i>	9	6.0
<i>6-12 months</i>	9	6.0
<i>1-6 years</i>	67	44.4
<i>7-10 years</i>	31	20.5
<i>11-15 years</i>	17	11.3
<i>16-20 years</i>	10	6.6
<i>Above 20 years</i>	8	5.3
Pet environment		
<i>Freely</i>	121	80.1
<i>Encaged</i>	19	12.6
<i>Leashed</i>	11	7.3

Reasons for having pet		
<i>Animal lover</i>	104	68.9
<i>Hobby</i>	20	13.2
<i>Therapy</i>	14	9.3
<i>Business</i>	2	1.3
<i>Others</i>	11	7.3

Out of the 151 respondents, majority of them are influenced by their friends with a total of 102 (67.5%) and the least influenced is from social media 2(1.3%). And the respondents show that they are one to six years as a Pet Owner 67 (44.4%) while the lowest is having a pet above 20 years as a Pet Owner 8 (5.3%).

In the Pet environment, most of them claimed that their pets are free to travel around their environment 121(80.1 %), while others answered that their pets are leashed 11 (7.3%).

Lastly, the reason of the pet owners to have pets is that they are animal lovers 104 (68.9%) while having 2 responses because of business related reasons (1.3%).

**Data Analysis**

In order to come up with reliable results after reaching the target quota, the following quantitative data analysis procedures will be implemented:

- Descriptive – To provide an accurate portrayal of the characteristics of a particular individual, situation, group. Discovering new meaning, describe what exists, determining the frequency with which something occurs or categorizing information.
- Inferential- is a process whereby a conclusion is drawn without complete certainty, but with some degree of probability relative to the evidence on which it is based are often used to compare the differences between the treatment groups and make generalizations about the larger population of subjects.

Chi-square test is used to determine whether the association between two qualitative variables is

statistically significant, researchers must conduct a test of its significance.

**Results and Discussion**

This study is about the Levels of pet attachment and awareness on animal safety and security during disasters among pet owners in Angeles City thus respondent’s age, gender, occupation and pet history are considered important demographic characteristics in our findings are presented below.

**Table 3. Level of Pet Attachment and Life-Impact**

Level	Frequency	Percentage
Middle	45	29.8
High	106	70.2

Findings shown in table 3: Level of Pet Attachment and Life-Impact shows that the respondents are significantly high 70.2% in attachment to their pets for all of the factors except negative impact. Meaning the level of pet attachment can positively impact human physical and psychological health and is associated with increased life expectancy (Barlow, 2015).

Other research has indicated that the simple act of stroking a pet can help lower blood pressure and cholesterol (Barton et al, 2015). The level of pet attachment also influences performance abilities and many people show their attachment to their pets more than others and those feelings could influence the impact of the pet on the person’s health.

Furthermore, with reference to how Giddens used the term, pets provided ontological security through generating a sense of order and continuity to individual experiences and through this close connection provided a sense of meaning to people’s lives (Rogers, 2016). Based on the data shows that most of the pet owners feel a strong sense of companionship to their animal. And in many cases, that loyalty is reciprocated. Beyond the natural advantages having pets can provide to home

security, their comforting presence alone can make a world of difference to your day-to-day peace of mind. In general, it's a comforting feeling to have an active, physical presence in your home to feel security.

**Table 4. Level of Animal Safety and Security during Disaster**

Level	Frequency	Percentage
Middle	69	45.7
High	82	54.3

The table 4: Level of Animal Safety and Security of Pet Owners during Disaster shows the 82 (54.3%) respondents shows that they agree that they are prepared and have the willingness to evacuate with their pets. The positive effect on recovery for disaster victims to help overcome their distress, as the benefits of pets on physical and mental health of pet owners. Pet ownership was significantly associated with their attachment toward pet evacuation.

Meaning that the level of awareness in animal safety and security influences the level of disaster preparedness which they consider the human-animal bond, and to include animals in evacuation and disaster planning has been promoted. There are indications that around 80% of companion animal guardians are willing to risk their lives to rescue their animals.

However, instead of seeing companion animal guardianship as a risk factor for human survival of natural disasters, the desire to keep animals safe from such disasters could be used to motivate improved planning and preparedness (Thompson, 2018).

**Table 5a. Contingency Table between Level of Pet Attachment and Life Impact and Demographic Profile and Pet History**

Profile	Level of Pet Attachment and Life Impact			Mean
	Middle	High	Total	
Age 18-21	28	76	104	4.28

22-30	11	27	38	4.32
31 and above	6	3	9	3.72
Total	45	106	151	
Gender				
Male	20	32	52	4.17
Female	22	63	85	4.30
LGBTQ+	3	11	14	4.33
Total	45	106	151	
Occupation				
Student	25	77	102	4.31
Employed	16	25	41	4.20
Self-employed	4	4	8	3.86
Total	45	106	151	
Influencer				
Family	5	12	17	4.27
Friends	32	70	102	4.23
Professional	4	16	20	4.40
Advice				
Social Media	0	2	2	4.37
Others	4	6	10	4.20
Total	45	106	151	
How long as Pet Owner				
Below 6 months	4	5	9	3.63
6-12 months	2	7	9	4.46
1-6 years	22	45	67	4.26
7-10 years	9	22	31	4.26
11-15 years	6	11	17	4.23
16-20 years	2	8	10	4.45
Above 20 years	0	8	8	4.55
Total	45	106	151	
Pet environment				
Freely	31	90	121	4.19
Encaged	6	13	19	4.19
Leashed	8	3	11	3.73
Total	45	106	151	
Reasons for having pet				
Animal lover	24	80	104	4.33
Hobby	9	11	20	4.06
Therapy	6	8	14	4.26
Business	0	2	2	4.63
Others	6	5	11	3.78
Total	45	106	151	

The analysis of the results on the study revealed that respondents differ on the results by demographic variables. In the age of pet owners, the mean in 22-30 (4.32) mean is significantly higher than the pet owners aging from 18-21 and 31 and above. According to the study of companion animals' child and adolescent, companion animals (including horses, dogs, cats, rabbits and other

rodents) have the potential to promote healthy emotional youth development in many ways, as shown by research in Human-Animal Interactions (HAI). The mutual and dynamic relationships between people and animals and the ways in which these interactions may affect physical and psychological health and well-being of both people and their pets (Purewal et al. 2017).

This means that youth are more likely engaged in human - animal interactions that help them to develop their character in growing evidence of research, that children turn to their pets for comfort, reassurance and emotional support when feeling anger, sadness, or happiness.

It also revealed that mean values are significantly higher for LGBTQ+ (4.33) than Male and Female. This means that LGBTQ+ are more engaged when it comes to attachment of animals, according to a quantitative study conducted by Muraco et al. found that pet-owning LGBTQ+ older adults reported significantly higher perceived social support than LGBTQ+ older adults without pets.

The owners who are the students (4.31) have the highest mean. This means that students were considered as adolescents are more attached through their pets according to the study. There is growing evidence that adolescents turn to their pets for comfort, reassurance and emotional support when feeling anger, sadness, or happiness. Thus, it is plausible that companion animals may have the potential to encourage better emotional health and reduce anxiety and depression. Physiological mechanisms, such as activation of the oxytocin system may partly explain this reduction of psychological stress for humans who are in contact with animals. (Purewal et al. 2017). This means that the companion of animals has a great contribution to the student with their level of attachment.

It signifies that the highest mean for the influence of getting an animal is the Professional Advice (4.40). It means that most of the owners that

are attached to their pets are influenced by professionals. According to psychological benefits of pet ownership. 'Pet owners often experience greater well-being, self-esteem, and exhibit healthier personality characteristics and show more positive attachment styles. This means that due to the development stage of humans, animals are one of the coping mechanisms of the respondents who are attached and adopt their animals due to the psychological benefits of pet ownership.

Animals can provide a sense of calm, comfort, or safety and divert attention away from a stressful situation and toward one that provides pleasure. Some of the licensed psychotherapists advise and advocate. Animal-assisted therapy that developing a bond with an animal can help people develop a better sense of self-worth and trust, stabilize their emotions, and improve their communication, self-regulation, and socialization skills (Rimi, 2020). This means that some professionals influence owners to use pets as their coping mechanism during stressful situations such as disasters.

Owners who had owned their pets above 20 years (4.55) have higher mean value. The table showed that the longer the pet owner is, the more they are attached with their pets. According to the study of veterinary service Singapore, owning a pet is a lifelong commitment. It means that the owner above 20 years are more engaged in attachment of their pets because of their commitment as an owner.

The highest mean for the pet environment which is freely and engaged (4.19) have similar mean value. This means that pet owners are allowing their pet grooming around with their given environment. According to the beacon broadside "Animals can live in companionable relationships with humans and have a life with optimal welfare and a high degree of freedom. "This means that as pet owners they should provide animals a freedom in their environment and actively engage in their human activity (Pierce, 2017).

The University of Tennessee’s Gordon Burghardt, ethologist and world-renowned student of reptile behavior, argues that the best we can do for captive reptiles and amphibians is “controlled deprivation.” (Pierce,2017). In other words, these animals cannot be kept in captivity and still have a good quality of life. This means that owners who have that are reptiles or amphibians should also provide a quality of treatment to the owners such as having a good shelter etc.

And the highest mean for the reasons of having a pet is the Business (4.63) that has a mean. The table shows that owners are attached with the companion of their animals due to its business. According to the study, Profit is decoupled from welfare, which means that those in the business of selling animals have little economic motivation to care about what animals need.

Animals are often sold cheaply, so it isn’t worth the extra cost for a supplier or seller to improve conditions and reduce suffering and death, nor do people have to think carefully about purchasing an animal (Beckof, 2017). This means that owners are just attached to their animals with concerning purposes such as selling animals. With this, owners are more concerned with the companion of their animals for the profit purposes.

**Table 5b. Contingency Table between Level of Animal Safety and Security during Disaster and Pet and Demographic Profile and Pet History**

Profile	Level of Animal Safety and Security			
	Middle	High	Total	Mean
Age				
18-21	47	57	104	3.94
22-30	15	23	38	3.94
31 and above	7	2	9	3.63
Total	69	82	151	
Gender				
Male	25	27	52	3.95
Female	37	48	85	3.90
LGBTQ+	7	7	14	3.99
Total	69	82	151	
Occupation				

<i>Student</i>	43	59	102	3.98
<i>Employed</i>	22	19	41	3.79
<i>Self-employed</i>	4	4	8	3.86
<i>Total</i>	69	82	151	
Influencer				
<i>Family</i>	10	7	17	3.88
<i>Friends</i>	49	53	102	3.92
<i>Professional</i>	7	13	20	3.91
Advice				
<i>Social Media</i>	0	2	2	4.13
<i>Others</i>	3	7	10	4.00
<i>Total</i>	69	82	151	
How long as Pet Owner				
<i>Below 6 months</i>	6	3	9	3.46
<i>6-12 months</i>	5	4	9	3.96
<i>1-6 years</i>	28	39	57	3.97
<i>7-10 years</i>	17	14	31	3.88
<i>11-15 years</i>	7	10	17	3.93
<i>16-20 years</i>	4	6	10	3.95
<i>Above 20 years</i>	2	6	8	4.13
<i>Total</i>	69	82	151	
Pet environment				
<i>Freely</i>	49	72	121	3.90
<i>Encaged</i>	10	9	19	3.74
<i>Leashed</i>	10	1	11	3.50
<i>Total</i>	69	82	151	
Reasons for having pet				
<i>Animal lover</i>	40	64	104	4.01
<i>Hobby</i>	13	7	20	3.71
<i>Therapy</i>	8	6	14	3.85
<i>Business</i>	2	0	2	3.81
<i>Others</i>	6	5	11	3.58
<i>Total</i>	69	82	151	

In the Table of Level of Animal Safety and Security, it shows that ages from 18-21 and 22 to 30 (3.94) have similar mean values. The table shows that pet owners are more aware of the safety and security of their pet at the age of 18-21 and 22-30. According to Michigan State University, Involving youth in disaster planning and recovery can increase their awareness of hazardous situations that may occur in their neighborhood and teach them how to respond in various types of emergencies.(Bush, 2015). This means that engaging the youth in disaster preparedness will raise their level of safety and security which will reflect on their level of awareness in animal safety and security during disaster .

The LGBTQ+ that has the (3.99) highest mean value. According to the study, Pet owners of companion animals, who have experienced stigma, value the non-judgmental acceptance of an animal that provided calming and physical comfort (Jin, 2018). The LGBTQ do not have access to adequate human peer support that is why they connect with companion animals as a source of stress reduction and possible social support. Thus, the pet owners who are in LGBTQ+ community tend to consider adverse risk factors in disasters for human survival due to animal attachment and post-disaster distress.

Pet owners influenced by Social Media (4.13) had the highest means. This means that Pet owners who are influenced by social media due to the economic and social issue are more aware of the level of safety and security of their pets specially those who abandon and overpopulate animals some of them were inevitably left behind due to circumstances such as disaster.

According to Santos (2020), During the typhoon Ulysses some animals, especially stray dogs and cats were inevitably left behind in the evacuation. With these scenarios pet owners are influenced to adopt abandoned pets during the aftermath. The pet owners who adopted the abandoned animals and influenced by social media like Facebook, Twitter, Instagram, etc. are more aware of the level of safety and security of the animals. The famous people or artists who use their platforms in social media to help the animals get adopted by other individuals is a strong technique in helping the abandoned animals.

Pet owners who owned pets for more than 20 years (4.13) scored the highest mean. Owning a pet is a major commitment that may last through the animal's lifetime (Weber,2021). This means that owners who have owned more than 20 years committed to their animals. They live with them until they get old. As an animal, pet ownership is important to consider within the context of natural disasters (Day, 2017). Therefore, pet ownership's awareness is high because of their attachment to

their pets that lead them to include in disaster planning and evacuation. The longer the pet owner you are, the more aware you are in safety and security of animals during disaster.

Also, the Pet environment for pets which is freely (3.90) has the highest mean. When we talk about pets, we are looking for a companion, a friend that we can talk to, whether it be a bird or an animal or an insect. But not all animals are meant to be kept as pets. Some animals prefer to live in the wild while some prefer to live domestically (Shrestha, 2015). Therefore, before keeping any sort of animal as a pet in the house, we should know about its nature and the kind of environment it is comfortable with. Thus domesticated animals rely on their human companions for many things and are totally helpless and vulnerable outside, especially during disasters (PETA, 2021). So Instead, leave them in a secure area inside your home with access to the upper floors or other places inside the house so that they can escape rising flood water or any disaster that may occur.

The reason for having their pet is because they are Animal Lovers (4.01) which have the highest mean. This analysis shows that respondents are animal lovers because they see their pets as a part of the family (Ketchell, 2019). Humans form strong attachments to pets and other animals. The complex interdependence of human and animal survival has been demonstrated during natural disasters when people risk their own lives to save those of animals (Kirg,2015). Meaning their attachment to their pets lead them to save and include their pets in terms of planning and evacuation when disaster occurs.

**Table 6a. Chi Square Test Between Pet Attachment and Life Impact and Demographic Profile and Pet History**

Profile	X <sup>2</sup>	df	Phi Cramer's V	p
Age	6.272	2	.204	.043
Gender	2.957	2	.140	.228
Occupation	4.593	2	.174	.101
Influencer	7.087	5	.217	.420

How long as Pet Owner	8.934	6	.243	.257
Pet Environment	10.592	2	.265	.005
Reason	15.054	4	.316	.020

The table shows the **Age, Pet Environment, and Reason for Having Pet have significant association with Pet Attachment and Life Impact.** Which means these variables such as the Age ( $p < .043$ ), Pet Environment ( $p < .005$ ) and Reason for having a pet ( $p < .020$ ) affects the level of pet attachment and life impact of pet owners. This study found that adults who had pets in their childhood showed more positive attitudes towards animals in general, pets, laboratory animals, and wildlife. They were also more concerned about environmental problems and were more likely to be members of animal welfare/environmental organizations.

Other researchers have also shown that younger students tend to have more positive environmental attitudes and behaviors than older students. It is worrying that older students care less about the environment than younger students (Torkar et al, 2020). The pet attachment and Life impact of pet owners had a significant connection in the reason for having a pet, with this the table found out that age and pet environment has an impact in pet attachment.

**Table 6b. Chi Square Test Between Animal Safety and Security during Disaster and Demographic Profile and Pet History**

Profile	X <sup>2</sup>	df	Phi Cramer's V	p
Age	4.336	2	.169	.114
Gender	.384	2	.050	.825
Occupation	1.622	2	.104	.444
Influencer	6.750	5	.211	.455
How long as Pet Owner	10.988	6	.270	.139
Pet Environment	10.355	2	.262	.006
Reason	13.203	4	.296	.040

In the Table of Using the Chi square test between **pet environment and reason for having a pet shows significant association with Disaster Preparedness of Pet Owners to their pets.** These variables affect the level of disaster preparedness of pet owners. From an emotional perspective, ‘animal attachment’ is often used to explain why people refuse to leave without their pets, or enter hazardous areas to ‘rescue’ them. The degree of human risk taking to save animals increases with the strength of their attachment (Tanaka, 2019).

In relation to the preparedness stage of a natural disaster, there is a need to understand how attachment levels might be associated with the pet environment ( $p < .006$ ) and reason for having a pet ( $p < .040$ ) and having evacuation kits, first aid and perceptions of animals’ behaviors in response to disaster.

**Table 6c. Correlation between Pet Attachment and Life-Impact and Animal Safety and Security during Disaster**

	Animal Safety and Security	
Pet Attachment and Life-Impact	r	p
	.601	<.001

As shown in the table of Correlations between Pet Attachment and Life-Impact and Animal Safety and security during Disaster has **a strong significant relationship between pet attachment and life impact and animal safety and security during disaster preparedness** ( $p < .001$ ). Recent research has suggested that this risk factor could be reconfigured as a protective factor, whereby desires to save animals from natural disaster could motivate increased planning and preparedness behaviors amongst animal guardians (O’ Dwyer, 2018).

Meaning as the pet attachment and life impact gets higher, animal safety and security during disaster gets higher too. The study found that the attachment of owners has an impact in Level of preparedness during disasters which may affect the

level of awareness of animal safety and security during disaster.

### Implications

Based from the results of the study, the researchers would like to emphasize the following propositions within the areas of disaster preparedness and environmental health:

1. Emphasis on the inclusion of pets as part of disaster planning which can be integrated on Responsible Pet Ownership lessons under Environmental and Community Health.
2. The importance of inclusion of pets in animal safety and preparedness during disaster. And for the future students of Bachelor of Physical Education, for the students to know how animals could be a positive factor in terms of the physical, mental and social aspects of each individual.
3. Establish the important benefits of having pets as a support system to improve mental health among trauma victims during disasters.
4. Prioritizing the implementation of guidelines on pet safety and care within the community setting that can be beneficial to the teachers in the education field that can serve as a training ground and to be integrated on the National Service Training Program under the Civic Welfare Training Service.
5. Adoption of awareness and educational initiatives from local disaster risk reduction offices or authorities to include pet safety during calamities.
6. Promote awareness in public on their responsibility as a pet owner. Also, initiate the local disaster organizations and pet veterinary offices to include animal safety planning.

### Limitations

Since the research is conducted within the time of pandemic, several restrictions were noted. These are as follows:

1. Scheduling of available time, as well as conflicts on other academic requirements made it difficult on the part of the researchers.
2. There are a limited number of available respondents taking part in the study primarily because of time, priority, and willingness.
3. Since the researchers are working and coordinating at their respective homes, internet connection is limited.
4. Majority of the articles were published before 2016. There is also dearth on local literature.
5. Not all pet owners are on the social media used to recruit respondents.

### Summary

The general outcome in this study are as follows:

1. Majority of the respondents are: aged 18 to 21 years old, females, and students.
2. As for pet history, most of the respondents are: Owning dogs as pets, influenced by their friends, being pet owners for one (1) to six (6) years, and having their pets to freely roam. The main reason for having pets is that they consider themselves as animal lovers.
3. In terms of the pet attachment and life impact scale, the majority of the respondents scored high. Specifically, the following garnered the highest mean among the sub-variables: 22 to 30 years old, those who belong to the LGBTQ+ community, currently as students, influenced to have pets due to Professional Advice, have been pet owners for more than 20 years, pets are freely roaming and encaged, and decided to have pets for business purposes.
4. In terms of the level of animal safety and Security, the majority of the respondents scored high. Specifically, the following garnered the highest mean among the sub- variables: belongs to both 18 to 21 and 22 to 30 years old, and those who belong to the LGBTQ+ community, currently as students, influenced to have pets due to social media, have been pet owners for more than 20 years, pets are freely roaming, and decided to have pets because they are animal lovers.



5. After statistical analysis, results show that there is a strong significant relationship between pet attachment and life impact and animal safety and security during disaster preparedness. Specifically, age, pet environment, and reason for having pet have significant association with pet attachment and life impact while pet environment and reason for having a pet shows significant association with disaster preparedness of pet owners to their pets.

## Conclusion

This study described the relationship of Level of Pet Attachment and Life- Impact on Animal Safety and Security during Disaster Preparedness among Pet Owners in Angeles City. Thus, the following conclusion are offered:

1. More young adults tend to become pet owners. This can be attributed to the perceived benefits of having pets as stress relievers and support mechanisms as they go through the developmental stages of their lives as students and young professionals. The companion of animals, child and adolescent (including horses, dogs, cats, rabbits and other rodents) have the potential to promote healthy emotional youth development in many ways, as shown by research in Human-Animal Interactions (HAI), the mutual and dynamic relationships between people and animals and the ways in which these interactions may affect physical and psychological health and well-being of both people and their pets (Purewal et al. 2017).
2. Age, Pet Environment, and Reason for Having Pet can influence the level of Pet Attachment and Life Impact. Young adults (aged 22 to 30) may have the tendency to have higher levels of pet attachment because their sense of responsibility at this developmental stage is concrete. This means that youth are more likely engaged in human - animal interactions that help them to develop their character in growing evidence of research, that children turn to their pets for comfort, reassurance and emotional support when feeling anger, sadness, or happiness (Purewal et al. 2017). On the other hand, pet owners with either pets being freely roaming or encaged, may value the emotion and safety of their pets, respectively. Therefore, before keeping any sort of animal as a pet in the house, we should know about its nature and the kind of environment it is comfortable with. Thus domesticated animals rely on their human companions for many things and are totally helpless and vulnerable outside, especially during disaster (PETA, 2021). And lastly, those pet owners who decided to have pets for business purposes are probably more attached to their pets because of their economic value.
3. Pet environment and reason for having a pet more likely influence the disaster preparedness of pet owners to their pets. Freely moving pets may have more chances of surviving calamities; thus they are not being caged by their owners. According to world animal protection, untie animals so they have a chance to move to safety should floodwaters rise. Tethered or penned animals have no chance in a flood or storm surge. Animals are strong swimmers and untying them gives them a chance to survive.
4. The more people are attached to their pets, the more likely the pets will be safe during disasters. Animal attachment can be used to motivate actions that improve survival and increase disaster resilience (Thompson et al., 2015).
5. Pet safety and responsible pet ownership can be integrated in the academic setting by infusing pedagogical strategies which eventually can result in higher levels of pet attachment and life impact and animal safety and security during disaster. The Emergency Animal Sheltering Best Practices white paper written by the National Alliance of State Animal and Agricultural Emergency Programs; the Federal Emergency Management Association Website, which includes both animal sheltering manuals and online training modules in the Incident Command System and disaster management for animals; and Developing a Local All Disaster Animal Evacuation and Sheltering Plan,

developed by the Regional Institute for Community Policing, Springfield, Illinois. This training and educational program will help recognizing the importance of pets to their owners and their role in public health is an important first step in ameliorating a public health problem that has been seen repeatedly in the past and is unlikely to change in the future.

## Recommendations

From the results acquired we recommend the following for better understanding and appreciation of the research:

1. The use of qualitative methods for better and in depth data would be obtained such as the respondents' engagements and narratives in pet attachment and safety. As the results showed, researchers suggest studying in depth the support mechanism of animals in the development stage of humans using different research designs.
2. Formulate another tool for data gathering in order to collect more information that may help the variables such as perceived benefits of having pets, veterinary visits, vaccinations, pet behavior, reasons for business etc. As the results showed, formulate a more aligned data gathering tool using the suggested variables.
3. It is also recommended that a larger sample size may be used such as to include other places and older populations so that the sample will be more reliable.

The following lists recommend to stakeholders on how to find appropriate studies that may be helpful to their field:

1. To the future researchers, that they may conduct and replicate the study or may use it as a reference in the future to further validate the results.
2. From the results, we recommend to the associates organization and city offices (Angeles city risk reduction management

council, Angeles city veterinary office and city government of Angeles) to make a webinar series about responsible pet ownership.

3. As mentioned in the implications of this study, school administrators and curriculum developers can integrate pet safety and responsible pet ownership in the academic setting by infusing pedagogical strategies which eventually can result in higher levels of pet attachment and life impact and animal safety and security during disaster.