THE BEST PET FOR YOU

By Gary Turner

The first set of criteria you will be marked against is called “FORMING and FINDING”. There are 5 criteria but only 3 you can write to directly. The criteria are:

* *a considered rationale identifying clear development of the research question from the claim* (write to)
* *a specific and relevant research question* (write to)
* *selection of sufficient and relevant sources* (write to)
* *appropriate use of genre conventions* (wholistic judgement over whole assignment)
* *acknowledgment of sources of information through appropriate use of referencing conventions* (references will mainly be marked on use here in the rationale, and judgement on referencing list at end of assignment)

**CLAIM**

Dogs are better than cats

**RATIONALE**

Humans have been domesticating animals for tens of thousands of years (National Geographic, 2022). This has allowed humans to rapidly increase the harvesting of animal resources for food, and for clothing (leather and fur). However, the domestication of animals has also been for companionship. Cats and dogs have been domesticated and bred specifically in a more modern world to serve as companions, or pets for humans. This practice is wide spread to the point where it is estimated that there are over 470 million pet dogs, and over 220 million pet cats worldwide (A-Z-Animals, 2023).

The ownership of a pet cat or dog has been shown to have significant benefits to owners of these pets in terms of increased physical health, less loneliness and depressive symptoms, and an increase in self-esteem and social interactions (Utz, 2014; Amiot, 2016; Guastello, 2017). The ownership of a pet cat or pet dog can mean tangible and measurable benefits to their owners.

However, these benefits are not guaranteed, and are likely to be very connected to two very important aspects of the pet owner relationship. The first is the owner’s perception of a close and caring relationship with their pet. This perception need not be real or valid to anyone else, but once it is held by the owner, the perception of a close pet relationship plays a significant role in providing positive outcomes for the pet owner (González, 2011). The second factor of pet ownership is degree of attachment the pet makes to the owner. This factor appears to reinforce the owner’s perceptions of a caring relationship, and well as influence the bonding between the owner and pet, which significantly affects the benefits experienced by the owner (Payne, 2015).

In combination, the two factors of owner’s perception and pet attachment would characterise an owner-pet relationship which would provide the most beneficial outcomes for the owner. Therefore, purely in terms of pet ownership, a question worth investigation is whether dogs better pets than cats in terms of the owners perception of the relationship to the pet, and the emotional attachment of the pet to the owner?”

**RESEARCH QUESTION**

To what degree are dogs better pets than cats in terms of the owners perception of the relationship to the pet, and the emotional attachment of the pet to the owner?

**DATA SOURCES**

Data Set 1

Published in the Journal *Animals,* by MDPI, in *September, 2021; issue 11.* The article was Pet–Human Relationships: Dogs versus Cats. Authors - *Monica Gonzalez-Ramirez* and *Rene Landero-Hernandez*. Animals is an international peer reviewed journal devoted entirely to animal studies.

Data Set 2

Published in the journal *Current biology, Sept 2019, issue 29,* published by Elsevier Ltd. The article was Attachment bonds between domestic cats and humans. Authors - Kristyn Vitale, Alexandra Behnke, and Monique Udell. *Current Biology* is an international bi-weekly peer reviewed journal.

Data Set 3 Published in the Journal *Attachment and Human Development,* in *2019, issue 21*. The article was Attachment security in companion dogs. Authors - *J. Solomon, A. Beetz, I. Schoberl, N. Gee,* and *K. Kotrschal.* This journal is an international peer review journal.

Should have all my marks for the first 3 criteria, and likely my mark for the last one (referencing). The genre criteria is marked across your whole assignment. To target the genre mark, use the heading I have here, in the order I have them (or similar); and use a passive tense (no personal pronouns - although this is becoming less strict - best be safe); use a tense (past or present) consistently (past or present tense is okay, but mixing is not).

**ANALYSIS**

The second set of criteria you will be marked against is called “ANALYSING”. There are 3 criteria but only 2 you can write to directly. The criteria are:

|  |
| --- |
| * *the identification of sufficient and relevant evidence (cannot write to – based in the quantity and breadth of your data)*
* *thorough identification of relevant trends/patterns/relationships in evidence (write to)*
* *thorough and appropriate identification of limitations of evidence (write to)*

The general structure of this section is a little different to the others. Here, I like to present the data, identify the trends, and identify the limitations – then repeat for each data set. You could present all the data sets, then do all the identifications of trends, then all the identifications of limitations. Either way is fine, but doing the data with the trends and limitations makes it easier for the teacher to confirm the veracity of your statements. |

The first criteria you will be marked against in “ANALYSING” is :

|  |
| --- |
| * *the identification of sufficient and relevant evidence*

This is a judgement your teacher will make about your data – not the sources (the articles your data was obtained from). Teachers will want to that you have three sets of data as a minimum. I have two criteria in my RQ. The first is owner’s perception of the relationship with the pet – and I have one piece of data for this, but it covers both cats and dogs. The second criteria of the RQ is the attachment of the pet to the owner and I have two sets of data (one on cats and one on dogs). This would be the minimum amount of data needed as it does cover the whole of the RQ. If your RQ has only one criterion, then you should have three pieces of data covering it.  |

Data Set 1 - The data table shows 132 owners (of both a cat and a dog) responses to the MDORS (Monash Dog Owner Response Scale) and CORS (Cat Owners Response Scale) surveys. Scores are a maximum of five and a minimum of zero. The mean values (M) are used for analysis.

| **Variable** | **CatMe** | **CatM** | **CatSD** | **Alpha** | **DogMe** | **DogM** | **DogSD** | **Alpha** | **Wilcoxon Rank Test** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pet–owner interaction | 4.8 | 4.6 | 0.6 | 0.81 | 3.4 | 3.3 | 0.8 | 0.85 | Z = −9.300; *p* = 0.001 |
| Perceived emotional closeness | 3.9 | 3.9 | 0.7 | 0.88 | 4.5 | 4.3 | 0.9 | 0.94 | Z = −6.522; *p* = 0.001 |
| Perceived costs | 1.7 | 1.7 | 0.5 | 0.68 | 1.9 | 2.2 | 0.8 | 0.86 | Z = −6.059; *p* = 0.001 |
| CORS/MDORS | 4.2 | 4.2 | 0.5 | 0.88 | 3.9 | 3.8 | 0.6 | 0.92 | Z = −6.801; *p* = 0.001 |

Me: Median; M: Mean; SD: Standard deviation.

**IDENTIFICATION OF TRENDS**

Data set one indicates that cat owners have significantly more care and affection interactions with their cat than with their dog. The difference was significant (*p=0.001)* and consistent (alpha scores >0.7), with a mean interaction score for cats of 4.6 versus a lower score of 3.3 for dogs.

Owner’s perception of emotional closeness to their cat was slightly lower than that recorded for dogs, indicating that owners felt a closer attachment to their dogs than their cat. The scores for emotional closeness for dogs was 4.3 which was only slightly higher than cats at 3.9, however both scores showed consistency (high alpha scores) and significance *(p=0.001)*.

In terms of perceived cost (including monetary and “inconvenience” cost) to owners, cat owners report significantly lower costs for their cat than for their dog. The mean score for cat cost was 1.7, compared to the mean cost score for Dogs of 2.2. Both scores showed significance *(p=0.001)*, but the reported score for cats did not quite reach the criteria for consistence (alpha score of 0.68, and 0.07 is consider the threshold for consistency in a survey score).

**LIMITATIONS OF THE DATA SET**

Data set one was compiled from owner responses to the MDORS and CORS surveys. Surveys can inherently contain bias due to the reliance of the respondents’ perceptions, and not the measurement of empirical data. However, in this instance it is the actual perceptions that were being measured, so the use of survey responses is appropriate, and not a limitation of this data set.

One limitation which does arise from this study is that the method of selecting respondents was not randomised, and relied on volunteers. The 132 respondents were not randomly selected, but self-selected by responding to an online invitation. Owners of pets which volunteer in response to an online invitation are likely to be more extroverted personality types than the “average” pet owner (Rosterfy, n.d.). Therefore the volunteer respondents may not broadly represent the perceptions of all pet owners, and this may produce bias in the survey results.

There is also a significant limitation of the study in terms of how applicable it is to a broader population of cat and dogs. There was a sample size of 132 used, however there was no indication of the breeds of cats and dogs, or that the breeds of dogs or cats was evenly representative of the greater population. Breeds of cats and dogs vary significantly in their attributes, and an over representation of any one breed may cause bias in the survey responses.

Note the structure of my paragraphs here. In identifying trends, I start with a simple statement of the trend, follow with justify using data, then include a detailed description (math) of the trend. This is the general TEE(L) structure but slightly out of order – I discuss the TEE(L) structure in detail after the conclusion and why the L in bracketed. So, for some reason in this Identifying Trends, my paragraph structure goes…Topic sentence, Evidence, Elaboration/Explanation – rather than the traditional… Topic sentence, Elaboration/Explanation, Evidence. I should reorganise this exemplar so that I am consistent with my paragraph structure, but more importantly you should!

When it came to limitations, I try to state the limitations (this takes a few drafts), explain it if it is a little complex, then finish with an explanation (evidence) about how this limits the data (this last part is very important when you get to evaluating the quality of the evidence).

Data Set 2 - Shows the proportion (percentage) of attachment formed by 108 (in total) Kittens, trained kittens (Kitten follow up), and adult cats. Attachment relationships are categorised as secure (=strong or good), ambivalent (meaning the cat requires reassurance of attachment), and avoidant (meaning the cat avoids the owner)

**IDENTIFICATION OF TRENDS**

Cats generally form secure attachments to their owners. Sixty-six percent (an average across ages) of the cats in the study were securely attached to their owner and 34% were insecurely attached. Of the insecurely attached cats, the majority (84%) were ambivalently attached, meaning that the cat often sought excessive proximity to the owner. Only 16% of the insecurely attached cats (less than 5% overall) demonstrated avoidance behaviour with their owner.

The trend in attachment did not change - with age or training of the cats. Kittens, trained kittens (6 weeks of training – the “follow up” kittens), and adult cats, showed very similar attachment profiles. This suggests that the attachment profile, once made by the cat, is persistence and resistant to natural change or training.

**LIMITATIONS OF THE DATA SET**

The methodology used to measure cat behaviour is not yet considered to be proven reliable. Cat behaviour was measured by the Secure Base Test, a variation of the very reliable “strange Situation” test commonly used for toddlers and dogs. The use on cats is a relatively novel adaptation, and although the principles of testing should transfer reliability, this cannot be guaranteed until the SBT has been definitely shown to be reliable.

Sample size may limit the reliability of the data. This study had a total of 117 cats tested across the categories, including a total of 79 kittens and 39 adult cats. This is a significant sample size but not extensive, and may limit the repeatability of the data.

The findings are very likely to have limited application to a broader cat population. Importantly, the breeds of cats were not described, nor was range of breeds stated to be representative of the broader cat population. Without evidence that the sample was broadly representative of “cats” in general, it is possible there is bias towards particular breeds in the result..

Data Set 3

The data table focuses on applying the principles of human attachment testing to dogs using the principles of the “Strange Situation” test for infants. Frequency distribution of dog attachment classifications are then compared to normal US infant samples.

| **Classification group** | **Dog“ 3-way” classification (A, B, and C)a*N*(%)** | **Infant“3-way” classification (A, B, and C)(Ainsworth et al.,**[**1978**](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6532729/#CIT0004)**)b*N*(%)** |
| --- | --- | --- |
| Secure (B) | 34(66%) | *66%* |
| Avoidant (A) | 7(14%) | *22%* |
| Ambivalent (C) | 10(20%) | *13%* |

a *N* = 51 dog–caregiver dyads; unclassified cases excluded.

b *N* = 2,104 infant–mother dyads; based on normative samples from 15 studies.

**IDENTIFICATION OF TRENDS**

Dogs generally securely attach to their owner. Sixty-six percent of dogs securely attached and 34% insecurely attached. Of the insecurely attached dogs, nearly 60% were ambivalent in their attachment, meaning these dogs required excessive proximity to, and demonstrable attention, from their owner.

The proportion of attachment types in the table are very similar to those measured in one year old toddlers in the United States. The proportions of securely attached individuals (66%) versus insecurely attached (34%) is exactly the same, although there is some variation within the subcategories of the insecurely attached individuals. There may be many ways to interpret this data, but one would be the degree of secure attachment may be related to the degree of cognitive development in the individuals.

**LIMITATIONS OF THE DATA SET**

Although the test used to evaluate the dog behaviour was an adaptation of the “strange Situation” test used for humans, it has been adequately tested for used with dogs, so the testing procedure itself does not limit the findings of the study.

The sample size of this study may limit its repeatability and thus reliability. The sample was 51 dogs. This is a relatively small sample size and the sample may not be representative of the larger dog population, and as such, individual responses can create bias in the results.

The findings are very likely to have limited application to a broader dog population. The breeds of the dogs were not specified, and if there was an over-representation of specific breeds within such a small sample size, the scores have very limited application to a broader, more generalised dog population.

The third set of criteria you will be marked against is called “INTERPRETING”. There are 3 criteria but only 1 you can write to directly. The criteria are:

• *justified scientific argument/s (wholistically judged across the assignment)*

*• justified conclusion linked to the research question (write to)*

*• fluent and concise use of scientific language/representations (wholistically judged across the assignment)*

The first criteria you will be marked against in “INTERPRETING” is :

• *justified scientific argument/s*

This is a judgement your teacher across the whole assignment based on how well you have argued and supported your main points. A key way to make you get this mark is to write in a TEE(L) writing style. In my final few drafts I try to reorganise each paragraph so that it start with a sentence containing the main point of the paragraph. That is the T… for Topic sentence. Then I Elaborate or Explain if the topic sentence is complex (the first E). Then I provide Evidence to support my main topic sentence (the second E). The L is for linking, which is mainly for essay style writing and I find difficult to do in a report format. But using TEE(L) really allows your teacher to see your scientific argument very clearly.

The third criteria you will be marked against in “INTERPRETING” is :

• *fluent and concise use of scientific language/representations*

This is again, a judgement your teacher will make across your whole assignment. Most of your arguments will be based on logical argument, not your science knowledge. But you are creating arguments about a scientific topic, so you need to be very precise in your use of key terms and representations such as equations and diagrams. In my exemplar most of the scientific language derives from the phrasing and key terms of the criteria in the RQ and a continual referring in my writing back to the two criteria, using appropriate language.

**CONCLUSION**

Despite some significant differences, dogs do not appear to be better pets than cats in terms of emotional attachment of the pet to the owner, and the owner’s perception of the relationship to the pet. The studies within this investigation showed that dog owners perceive themselves to develop a closer emotional attachment with their pet. This difference was significant, but conversely, was based on dog owners having significantly fewer interactions with their dog, than cat owners have with their cat. This suggests that cat and dog owners perceive the relationships they form with their pet in quite different ways. However, secure attachment of the cat or dog to the owner, was practically identical for cats and dogs, with some slight variation only in the way cats and dogs insecurely attached to their owner. This suggests that cat and dog owners are likely to experience similar benefits associated with pet ownership.

The degree of secure attachment for cats and dogs was also remarkably identical to that of one year old infants in the United States. Clearly this connectiveness has a value worth investigating further and is possibly related to the degree of cognitive development. If this assertion was true, it would suggest cats and dogs are equally intelligent.

The fouth set of criteria you will be marked against is called “EVALUATING”. There are 3 criteria and you write directly to all three. The criteria are:

* *justified discussion of the quality of evidence*
* *extrapolation of credible findings of the research to the claim*
* *suggested improvements and extensions to the investigation that are considered and relevant to the claim*

**QUALITY OF THE EVIDENCE**

All three studies were published in international journals utilizing a peer-review process. Peer-review is a well-accepted process for ensuring the research data has been judged to be of a high reliability and validity. This implies that the data within these studies is both reliable and valid.

The research methodology used to collect the data was valid, and generally considered to collect reliable data. The research methodologies used in all three studies are based on the very established “strange Situation” testing procedures first developed by Mary Ainsworth in the 1970’s. As such, the methodology is very well accepted in scientific literature. The adaptations for use in dog studies is far more recent, but nevertheless well accepted as being robust and reliable. The adaptation used in Study 2, the Secure Base Test does not yet have proven reliability, but given that the same testing principles as the “strange situation” procedure are applied, it can be considered reliable until future evidence is acquired.

The validity of all three studies is significantly affect by the inability to apply the findings to the broader cat and dog populations. The lack of detail around the breeds of cats and dogs within each of the studies does mean the findings may not accurately represent cats and dogs in general, or indeed a specific breed of cat or dog.

Therefore, it would appear that the methodology used, and data generated is reliable. Therefore, the conclusions derived from this data are valid for the population of animals studied. However, any general extrapolation from this data which relate to the general cat and dog populations, or specific breeds of cats and dog is not likely to be valid.

EXTRAPLOLATION TO THE CLAIM

The findings of this investigation do not support the claim that “dogs are better than cats”. It was found that dog and cat owners have significantly different perceptions of the relationship with their pet based on the nature of their owner/pet interactions. However, it was also true that dogs and cats attach to their owner to the same degree. Therefore, in this particular context, dogs must be considered equal with cats. However, as this investigation looked at dogs and cats only in terms being a pet, and specifically in terms of their connection to their owner as a pet, it would have only a limited application to the much broader “dogs are better than cats”. In order to more broadly address the claim, a much larger number of criteria comparing dogs and cats within pet ownership, and importantly outside the sphere of pet ownership, would need to be measured.

**IMPROVEMENTS and EXTENSIONS**

The most significant improvement to all of the studies would however be to have an even representation of breeds of cats and dogs in each of the studies. This would make the findings broadly applicable to the cat and dog populations, and significantly increase the validity of the studies. Alternatively, the studies could focus on one particular breed, and the findings would have very valid applications to a specific type of pet.

Another improvement common to all the studies would be to increase sample size. This could obviously be difficult logistically when working with family pets, and two of the studies did have minimum sufficiency in their sample sizes considering this constraint. Nevertheless, larger sample sizes would offer a significant improvement in terms of reliability of the data.

This investigation could be extended by measuring the attachment, and owner pet relationship for pets other than dogs and cats. This would provide information relating to the benefits of pet ownership across a larger range of pets. Alternatively, there are ways of measuring the “better pet” which have not been included in this investigation. An obvious example of this is the common need to walk dogs may provide significant health outcomes for dog owners compared to cat owners.

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