

Background

In human societies, ownership is a cooperative arrangement based on mutually respected norms (Kanngiesser et al., 2019). As humans, though, we also have cooperative relationships with nonhuman animals with whom we engage in interactions with objects, most obviously the domestic dog.

The current project is a first step in a larger project in which we will examine whether the “cognitive hallmarks” of ownership that are seen in humans--specifically, improved memory for owned objects (e.g., Cunningham et al., 2008)--are also present in dogs.

Yet, dogs are subject to their guardians’ beliefs and behaviours regarding object ownership; not all guardians may grant their dog ownership of, say, a toy. Thus, a guardian’s beliefs regarding ownership may reveal reasons for individual differences in dog behaviour during our future memory task. We developed a survey to examine guardian opinions on dog object ownership and assessed it with an initial online sample. We considered:

- (1) To what extent do dog guardians think that their dog can own objects?
- (2) To what extent do dog guardians think that other dogs can own objects?
- (3) How do dog guardians perceive their dogs’ favourite toy?
- (4) Do anthropomorphizing tendencies predict ownership beliefs?

Methods

Procedure

Guardians completed a Qualtrics questionnaire inquiring about:

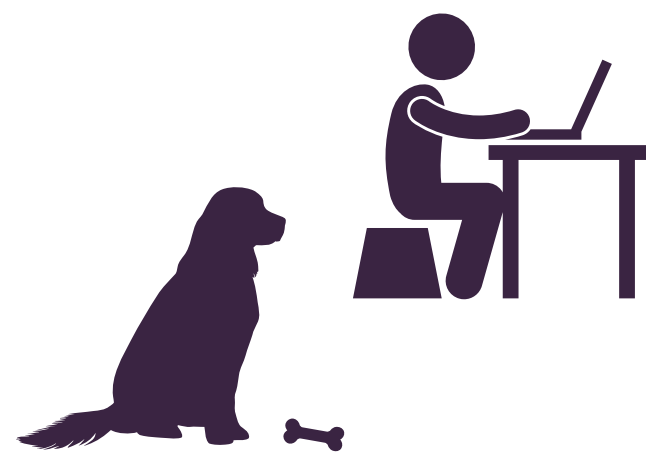
- Demographics of the dog and guardian
- Whether the guardian thinks *all* dogs can own objects (vignettes)
- Who owns dog-related items in the home
- The dog’s favourite toy and behaviours with that toy
- Anthropomorphic tendencies: whether guardians think animals can experience human-like consciousness, emotions, and complex thought (BAM: Hills, 1995)

Vignette scenarios:

1. A dog’s guardian gifts their dog a toy for a major holiday. The toy is wrapped so the dog can unwrap it.
2. A dog finds a ball at the park and begins to play with it.
3. A dog guardian buys a toy at the pet shop, brings the toy home, and immediately gives the toy to their dog.
4. A dog guardian has fed their dog with the same bowl every day for dog’s entire life.

Data Analysis

- Dependent samples t-test 1: Do guardians think that *their* dog can own objects?
- Dependent samples t-test 2: Do guardians think that *other* dogs can own objects?
- Chi-squared contingency test: Do beliefs about ownership depend on the type of toy (i.e., independent play toy, joint play toy)?
- Linear regression: Was there an association between guardians’ anthropomorphic tendencies and the beliefs regarding who owns dog-related items in the home?



Do Dog Guardians Think That Dogs Own Objects?

Dog-Object Relationships & Guardian Perceptions

Emily A. Sundby, Jessica V. Vance, & Valerie A. Kuhlmeier
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Survey Respondents

Recruitment

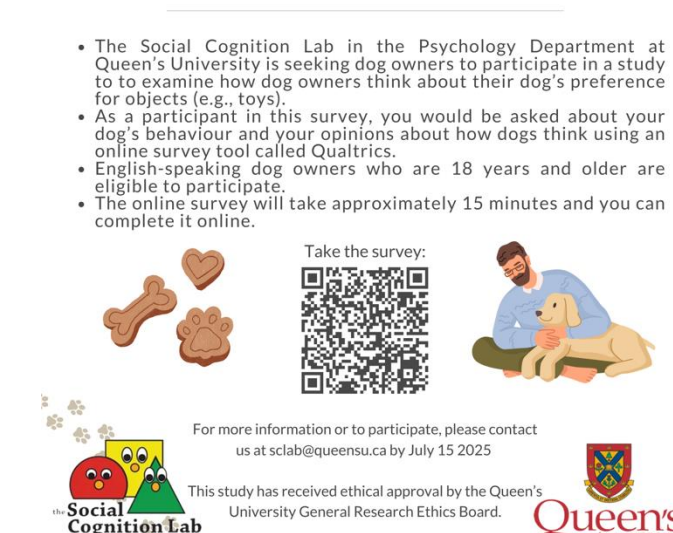
- 174 initial respondents
- $n = 92$ after inclusion criteria

Guardian inclusion criteria:

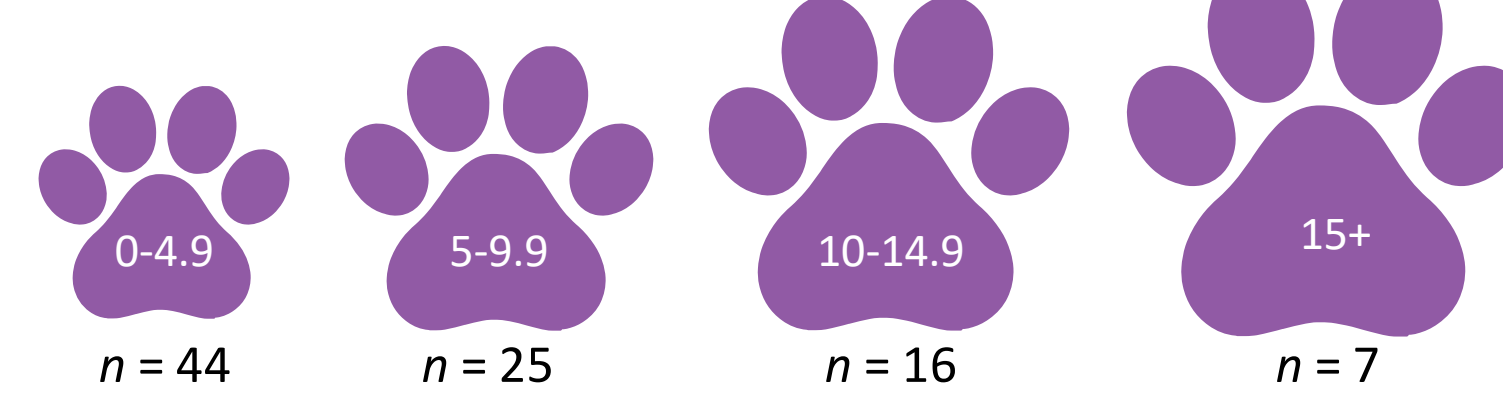
- Completed questionnaire
- Lives with the dog full-time



PARTICIPANTS WANTED FOR A RESEARCH STUDY
“The beliefs of dog owners about dogs’ preferences for objects”



Dog Ages (Years)



Dog Breeds



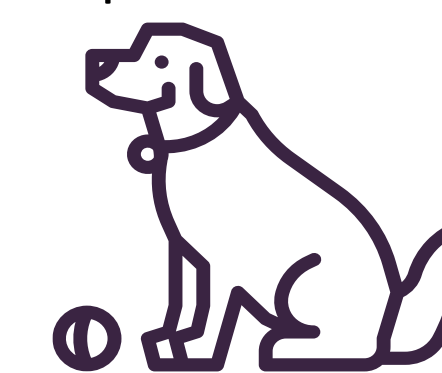
Guardian Demographics

Gender

- 12 Male
- 75 Female
- 4 Non-binary / Third gender
- 1 Other self-description

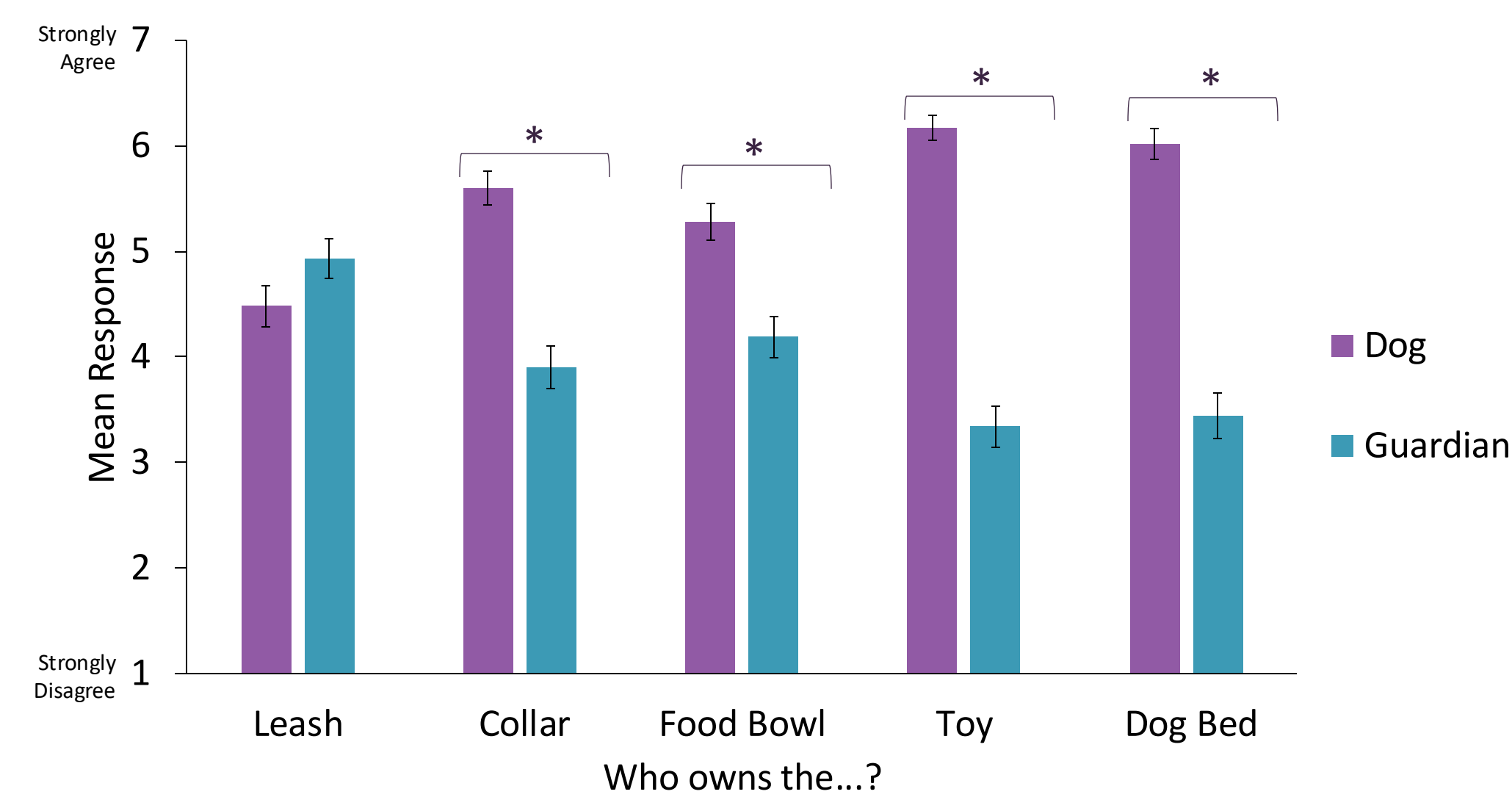
Household Income

- 19 respondents report less than \$99,000
- 62 respondents report between \$100,000 – \$150,000+
- 11 respondents prefer not to say



Results

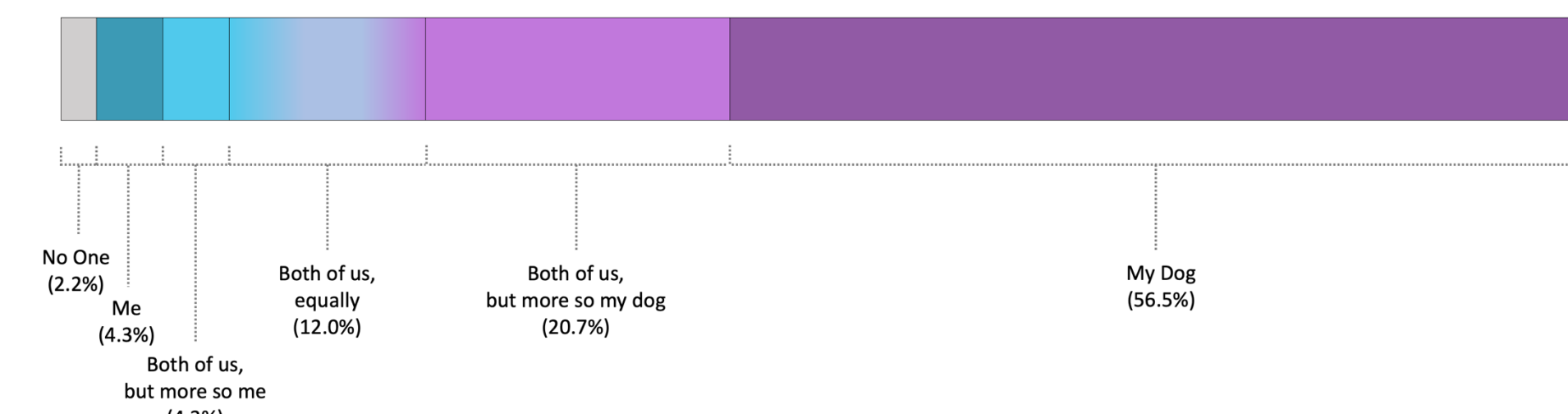
1) Do dog guardians think that *their* dog can own objects?



Comparison of dog-related and guardian-related questions in the Dog-Item Scale using dependent samples t-tests. For all questions, participants were asked to rate their opinion on a scale from strongly disagree (1) to strongly agree (7). Statements were formatted “My dog’s [item] belongs to [my dog/me].” Each item appeared in paired dog-related and guardian-related statements, resulting in 10 statement ratings total. * indicates $p < .02$

3) How do dog guardians perceive their dogs’ favourite toy?

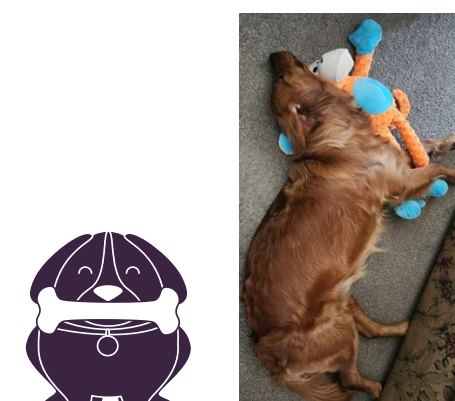
Who owns your dog’s favourite toy?



Do ownership beliefs depend on type of toy?

32 survey respondents provided images of their dog’s favourite toy. Of these, $n = 10$ were balls/throwing toys, $n = 12$ were stuffed toys, $n = 6$ were tug toys, and $n = 4$ were chew toys. While we hypothesised that toys meant for “independent play” (stuffed, chew) may be more likely to be considered owned by the dog, compared to toys designed for “joint play” between the dog and owner (tug, ball), we had an insufficient sample size to examine this relationship.

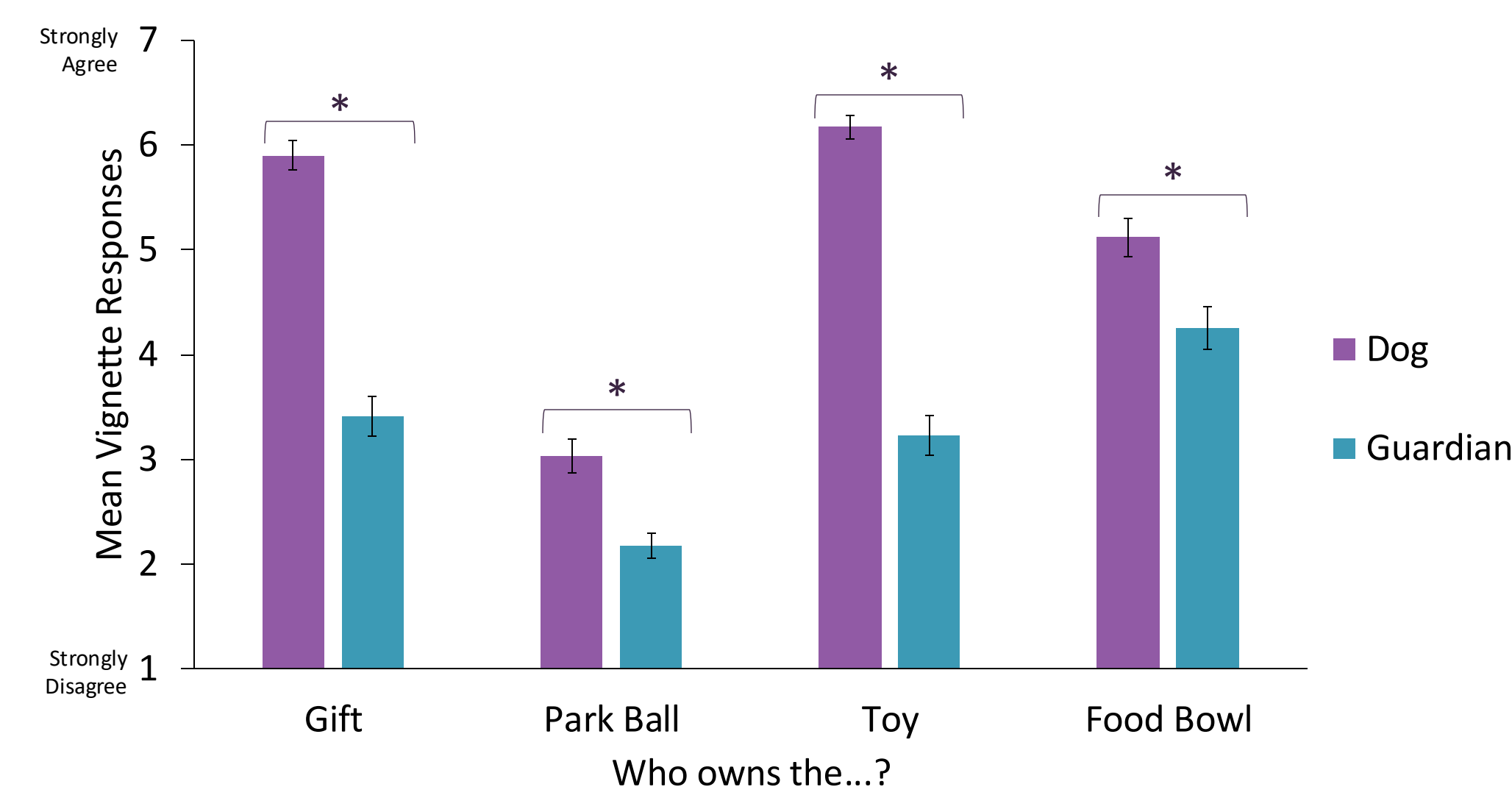
Independent Play Toys



Joint Play Toys

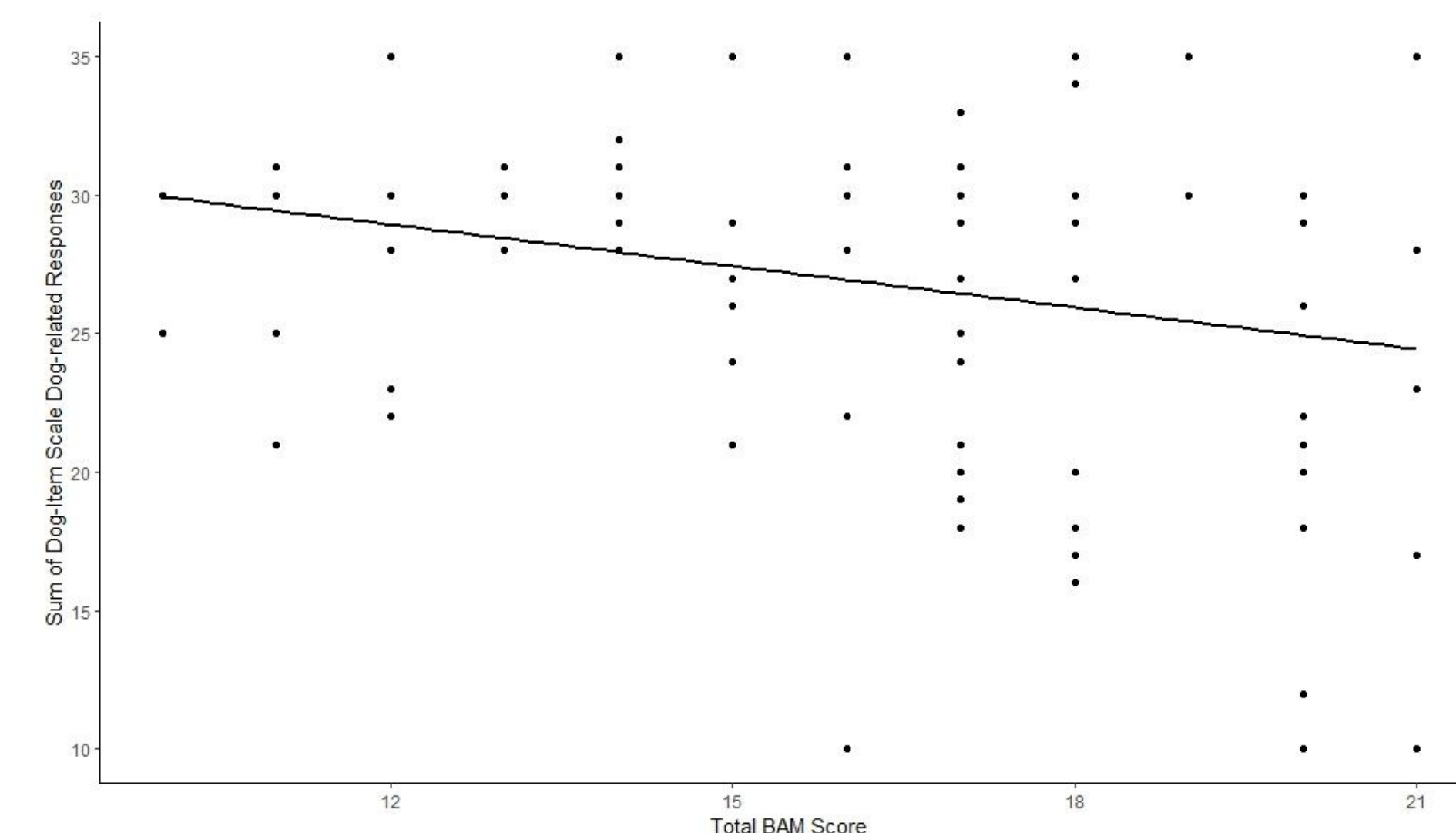


2) Do dog guardians think that *other* dogs can own objects?



Comparison of dog-related and guardian-related questions for four vignettes using dependent samples t-tests. After reading each vignette, participants were asked to rate their opinion about the vignette via dog-related and guardian-related statements (i.e., “In this scenario, the [dog/guardian] owns the [object].”), on a scale from strongly disagree (1) to strongly agree (7). This resulted in 8 statement ratings total. * indicates $p < .02$.

4) Do anthropomorphizing tendencies predict ownership beliefs?



Regression of the sum of dog-related Dog-Item Scale statements on the score of the Belief in Animal Minds (BAM) questionnaire indicate that anthropomorphizing tendencies negatively predict ownership beliefs, $b = -0.50$, $p = .019$; however, when notably lower scores (i.e., scores 2.5SD below the mean) on the Dog-Item Scale and BAM were removed, there was no longer a significant association present, $b = -0.26$, $n = 91$, $p = .161$.

Conclusions

- 1) On average, guardians agree that their dog can own some objects, to some extent. Some objects may be perceived to be ‘co-owned’, such as a leash. We suggest that the guardian’s use of an object like this as a tool for interactions may lead to the perception that both they and their dog own the object.
- 2) On average, guardians agree that other dogs can own some objects, to some extent. This suggests that ownership beliefs generalize beyond a specific guardian-dog dyad. However, a found object (e.g., a ball in a park) was not endorsed as an ‘owned’ object.
- 3) Most dog guardians reported that their dog owns a favourite toy, though over 30% of respondents indicated that these objects were co-owned to some extent. We are currently unable to determine whether the type of toy affects guardians’ beliefs about ownership.
- 4) Anthropomorphizing tendencies may be related to guardian ownership beliefs; however, due to small sample size and several outliers, we suggest that further investigation into this relationship is needed.

Future Directions

The current project is a first step in a larger project in which we will examine whether the “cognitive hallmarks” of ownership that are seen in humans--specifically, improved memory for owned objects (e.g., Cunningham et al., 2008)—are also present in dogs.

Using a variation of this questionnaire, we will examine whether guardians’ beliefs about object ownership predict their dogs’ memory for the objects during the in-lab task.

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Poster PDF

