The Effects of Age and Sex on Saving Pets Over Humans
Linsey M. Malia, Margaret A. Bohrmann, and Christopher R. Poirier* (i)
Stonehill College

ABSTRACT. The relationship between humans and animals is a bond that resembles the relationship between humans and family members. To better understand this relationship, we presented 122 undergraduates (18- to 22-year-olds) with 3 moral dilemmas in which they were forced to save their pet or a human (infant, 40-year-old, or 80-year-old) from death. We hypothesized that the older the human in the scenario, the more likely participants would be to choose saving their pet. We also hypothesized that women were more likely than men to save the pet than the human. A 3 x 2 mixed Analysis of Variance was performed to analyze the data. Our findings suggest that both age and sex influence people’s saving preference. Although most participants indicated a preference for saving humans over pets, participants were more likely to save their pet as human age increased (p < .001), and women were more likely than men to save the pet (p = .037). The findings from this study shed light on human-animal relationships, suggesting that some people value their pet’s life over human lives.

Many humans develop strong emotional bonds to their pets. Some have argued that pets have the ability to function as a surrogate child to families (Alexander, 1987). Similarly, Hume (1978) explained that humans can connect with animals as if they were a fellow human acquaintance, friend, or family member. The purpose of the present study was to analyze the strength of the relationship that humans have with their pets by presenting participants with moral dilemmas in which they were asked to save their pet or a human.

Moral decision-making scenarios have been the basis of numerous research studies on moral reasoning (e.g., Topolski, Weaver, Martin, & McCoy, 2013). In some classic scenarios, research participants were asked to choose whether to kill one individual in order to save a larger group of people. For instance, in the trolley dilemma, a trolley heads toward five workers, and a participant, as a bystander, has the option to pull a switch that will divert the direction of the trolley (Foot, 1967; Thomson, 1985). If the switch is pulled, instead of heading toward the five workers, the trolley will go toward one worker. Many studies have examined the effect of the character’s age in the scenario on moral decision making (Burnstein, Crandall, & Kitayama, 1994; Kawai, Kubo, & Kubo-Kawai, 2014; Li, Vietri, Galvani, & Chapman, 2010). For instance, when presented with the trolley scenario, participants were more likely to save younger individuals than older individuals (Kawai et al., 2014). Kawai et al. (2014) suggested that, when an older adult dies, the survivors experience shallow grief because they may think that the older adult had lived a long, healthy life. They referred to this reaction as “granny dumping.” In a related study, researchers gave participants a scenario in which three people of varying age were each in a room of a burning house (Burnstein et al., 1994). Participants were asked to rank which person they were most likely and least likely to save. They found that participants were
most inclined to save the younger individuals in the scenario. Similarly, researchers found that, when there was a limited supply of a vaccine, participants opted to supply the vaccine to younger individuals rather than older individuals (Li et al., 2010).

Although the age of the character influences moral decision making, participants’ sex also plays a significant role. Research has supported the notion that women tend to elicit a stronger emotional response when reading moral dilemmas (Bampton & Maclagan, 2009; Friesdorf, Conway, & Gawronski, 2015). For example, in a retail scam scenario, women deemed it unacceptable to deceive customers, whereas men thought this to be appropriate behavior (Bampton & Maclagan, 2009). The researchers concluded that women have a “care” orientation, meaning that they tend to care more about a human’s well-being.

In addition to exploring the effects of age and sex on moral decision making, researchers have explored the bonds between humans and their pets. Previous research found that, when participants were presented with a dilemma in which there was a limited supply of a drug, nearly all the participants said that they would give their pet, rather than a stranger, the drug under at least one circumstance (Cohen, 2002). In a related study, researchers examined the likelihood that one would save an animal’s life over a human life (Topolski et al., 2013). Specifically, Topolski et al. (2013) manipulated the degree of relatedness to the participant (i.e., sibling, grandparent, close friend, distant cousin, hometown stranger, and foreign tourist) and measured the effect of relatedness on participants’ likelihood of saving a human or their pet. The results indicated that participants were far more likely to save their own pet when the closeness of the given individual became less personal (i.e., a foreign tourist). Moreover, women were more likely to save their own pet than men, but only for nonimmediate family members. Perhaps this is not a surprising finding because pets tend to elicit strong empathy levels, especially for women (Angantyr, Eklund, & Hansen, 2011). Interestingly, previous research has found that women interact with their pets in a more “motherly way” than men (Prato-Previde, Fallani, & Valsecchi, 2006).

Although Topolski et al. (2013) and Cohen (2002) presented moral dilemmas in which human and animal lives were at risk, their studies lacked scenarios testing the effect of the age of the human on moral decision making. Also, although Kawai et al. (2014) investigated how age affects the likeliness to save other humans, their study did not include pets. To address this gap in the literature, we conducted a study to examine how the likelihood of saving a pet over a human is influenced by participant sex and the age of the human in the scenario. All participants read three scenarios, each with a different human age (i.e., infant, 40-year-old, and 80-year-old). We predicted that, as the age of the person increased, participants would be more likely to save their pet over the human. In addition, we predicted that women would choose to save their pet over the human more often than men.

Method

Participants

One hundred twenty-two 18- to 22-year-old undergraduates (90 women, 31 men, 1 unknown) enrolled at a small liberal arts college in the northeastern United States participated. Eighty-four percent of the participants owned pets. We recruited participants by using Sona-Systems, and they received partial course credit for their participation.

Design

We used a 3 (age of person in scenario: infant, 40-year-old, or 80-year-old) x 2 (sex of participant: male or female) mixed factorial design. The dependent variable was saving preference.

Materials and Procedure

Before conducting the study, we received approval from the Stonehill College institutional review board (#2016-17-03). Upon entering the laboratory room, participants were greeted and presented with an informed consent form to sign. Then, participants were brought into separate rooms where they had as much time as they needed to complete the study. Participants received three different scenarios, which were modified versions of a scenario used in previous research (Topolski et al., 2013). We presented the following scenario:

If you do not own a pet, imagine you do own a pet for all the following scenarios. A bus is traveling down a busy street. Your pet runs out in front of the bus. Unfortunately, at the same time an infant crawls out in front of the bus. Neither your pet nor the infant has enough time to get out of the way of the bus. It is clear given the speed of the bus, it will kill whichever one it hits. You only have time to save one. Who would you save?
Using a 4-point scale (1 = definitely save the infant, 2 = probably save the infant, 3 = probably save my pet, and 4 = definitely save my pet), participants indicated if they would save the human or their pet. The scenario was then presented two more times, but “infant” was replaced with “40-year-old” or “80-year-old.” We counterbalanced the order in which the ages were presented, and participants were randomly assigned to the orders.

After completing the scenarios, participants completed a 5-item questionnaire that consisted of questions about their sex, pet ownership, and what they imagined while reading the scenarios. Finally, we debriefed and dismissed the participants.

**Results**

We excluded two participants from the analysis. One participant declined to answer the sex question, and one participant did not respond to one of the scenarios. A 3 x 2 mixed Analysis of Variance was performed on the remaining participants’ scores to determine if the age of the human presented in the scenario and the sex of the participant influenced saving preference. Our data violated the assumption of sphericity. Therefore, we used the Greenhouse-Geisser correction. Table 1 shows the pattern of means. As predicted, there was a significant main effect of age $F(1.88, 221.22) = 56.02, p < .001$, partial $\eta^2 = 0.322$ (see Figure 1). Participants’ likelihood of saving the pet increased as the age of the human increased. Pairwise comparisons using the Bonferroni adjustment revealed that all the differences among the three ages were statistically significant ($p < .005$). There was also a significant main effect of sex, $F(1, 118) = 4.44, p = .037$, partial $\eta^2 = 0.036$. Overall, women were more likely to save the pet than the human. The interaction between sex and the age of human was not significant, $F(1.88, 221.22) = 1.24, p = .291$, partial $\eta^2 = 0.01$.

In addition to the above analysis, we calculated saving percentages. If participants chose either “definitely save the human” or “probably save the human,” they received a 0. If participants chose either “definitely save my pet” or “probably save my pet,” they received a 1. Then, using these scores, we computed saving percentages for each age category. Overall, participants chose to save the pet over the 80-year-old 40% of the time. Participants chose to save the pet over the 40-year-old 33% of the time. Finally, they chose to save the pet over the infant only 6% of the time.

**Discussion**

The results supported both hypotheses. Although most participants indicated a preference for saving humans over pets, participants’ saving preference was significantly influenced by the age of the human in the scenario. As the age of the human increased, participants were more inclined to save their pet over the human. Additionally, our data supported the prediction that women would be more likely to save their pet than men, but the effect size was small.

Overall, the current findings fit well with past research on moral judgments involving pets and humans. Topolski et al. (2013) manipulated degree of relatedness and found that participants were far more likely to save their own pet when the closeness of the given individual became less personal. Similarly, we found that participants were more likely to save their own pet as the age of the human increased. A comparison of the two studies indicates that the infant in the current study elicited a similar saving percentage as the sibling in Topolski et al., and the 80-year-old in the current study elicited a similar saving percentage as the foreign tourist in Topolski et al. Furthermore, in both studies, women
were more likely to choose to save the pet than men.

These results are not surprising because previous research has demonstrated effects of both age and sex on saving preference. Our data align with the “granny dumping” concept (Kawai et al., 2014) because participants were more likely to abandon the human as age increased. Alexander (1987) suggested that participants often have more empathy for younger children because they tend to be more helpless. Therefore, the infant in the moral dilemma might have elicited a great deal of sympathy due to the infant’s helpless demeanor. Furthermore, Angantyr et al. (2011) demonstrated that, when a pet and human are in danger, the pet tends to elicit at least as much empathy as the human. Drawing from these results, it is easy to understand why, in every age group, at least one participant chose to save the pet.

In addition to age, participant sex played a small role in the moral decision making process. The data we gathered aligned with Prato-Previde et al. (2006) in that women may have a more parent-like bond and maternal instinct with their pet than men do, which may lead to women’s tendency to grieve more over the loss of a pet than men would (Wrobel & Dye, 2003). However, it is not surprising that, regardless of participant sex, all participants were more likely to save the infant over the pet, as the loss of a younger life elicits more grief.

Our research had some limitations. First, we relied on a convenience sample of college-aged participants. And although we had a large sample size, we tested three times as many women as men, and we did not account for participants’ ethnic or racial group. Overall, these sampling issues threaten the external validity of our study. Second, although we measured pet ownership, our sample of nonpet owners was too small, so we could not analyze these data. Last, we used hypothetical moral dilemmas to study participants’ moral decision making. This has been the standard methodology for examining moral cognition, but recent research has suggested that participants’ responses to these moral dilemmas may not correlate with how they would act in real-life situations (Bostyn, Sevenhant, & Roets, 2018).

To address some of these limitations, future studies could rely on stratified random sampling to recruit an equal number of men and women from a variety of settings. Also, future studies should compare pet owners to nonpet owners. Moreover, researchers should manipulate degree of relatedness (i.e., family member, stranger) and age in the same study. For example, participants could be asked to choose between saving their pet or their infant, 40-year-old parent, 80-year-old grandparent, or strangers of the same ages. An additional study could present both the human and the pet in the scenario as “strangers” to see how that affects participants’ decision making. Finally, future research should replace hypothetical moral dilemmas with more realistic situations so that participants’ actual moral behavior is measured (Bostyn et al., 2018).

In summary, our research indicated that both age and sex influence people’s saving preference. Understanding the influence that human age has in moral dilemmas is an important factor when considering the bonds that humans have with animals. Although the human and pet bond is very strong, the value that humans hold toward younger individuals outweighs that of pets. Furthermore, our data also suggests that sex plays a role in the bonds that people have with their pets. Although most participants chose to save the human over the pet, women were more likely to choose to save the pet than men. Future studies should extend these findings to real-world settings to improve our understanding of moral behavior.

References

Alexander, R. (1987). The biology of moral systems. New York, NY: Aldine de Gruyter.

Angantyr, M., Eklund, J., & Hansen, E. M. (2011). A comparison of empathy for humans and empathy for animals. Anthrozoös, 24, 369–377. https://doi.org/10.2752/175303711X1359201798

Bampton, R., & Maclagan, P. (2016). Does a ‘care orientation’ explain gender differences in ethical decision making? A critical analysis and fresh findings. Business Ethics: A European Review, 18, 179–191. https://doi.org/10.1111/beer.12066

Bostyn, D. H., Sevenhant, S., & Roets, A. (2018). Of mice, men, and trolloys: Hypothetical judgment versus real-life behavior in trolley-style moral dilemmas. Psychological Science. Advance online publication. https://doi.org/10.1177/09567976177525640

Burnstein, E., Crandall, C., & Kitayama, S. (1994). Some neo-Darwinian decision rules for altruism: Weighing cues for inclusive fitness as a function of the biological importance of the decision. Journal of Personality and Social Psychology, 67, 773–789. https://doi.org/10.1037/0022-3514.67.5.773

Cohen, S. P. (2002). Can pets function as family members? Western Journal of Nursing Research, 24, 621–638. https://doi.org/10.1177/01939450232055388

Foot, P. (1967). The problem of abortion and the doctrine of double effect. Oxford Review, 5, 5–15. https://doi.org/10.1093/oxfordrev/5.3.309

Friedsorod, R., Conway, P., & Gawronski, B. (2010). Gender differences in responses to moral dilemmas: A process dissociation analysis. Personality and Social Psychology Bulletin, 4, 696–713. https://doi.org/10.1177/01461672103775731

Hume, D. (1978). The nature of moral systems. New York, NY: Oxford University Press.

Kawai, N., Kubo, K., & Kubo-Kawai, N. (2014). ‘Granny dumping’: Acceptability of sacrificing the elderly in a simulated moral dilemma. Japanese Psychology Research, 56, 254–262. https://doi.org/10.1111/jpr.12049

Li, M., Vietri, J., Galvani, A. P., & Chapman, G. B. (2010). How do people value life? Psychological Science, 21, 163–167. https://doi.org/10.1177/0956797609357707

Prato-Previte, E., Fallani, G., & Valsecchi, P. (2006). Gender differences in owners interacting with pet dogs: An observational study. Ethology, 112,
The Effects of Age and Sex on Saving Pets | Malia, Bohrmann, and Poirier

Author Note. This article is dedicated to the memory of Linsey Malia, the lead author, who passed away in May 2017. Malia completed the research design, data collection, data analysis, and a rough draft of this article. She was a curious and passionate student, and this project would not have been possible without her.

Linsey M. Malia, Psychology Department, Stonehill College; Margaret A. Bohrmann, Psychology Department, Stonehill College; and Christopher R. Poirier, Psychology Department, Stonehill College.

Special thanks to Psi Chi Journal reviewers for their support.

This article qualifies for an Open Data badge. Data is available at https://osf.io/mtsvy/.

Correspondence concerning this article should be addressed to Christopher Poirier, 320 Washington Street, Easton, MA 02357. E-mail: cpoirier@stonehill.edu
Find your career.
Eight graduate degree programs and four certificates in Educational Psychology

**PhD in Educational Psychology**
Engage in the science of learning. Prepare for a career where you can use your knowledge of human learning and development to help shape the school environment and public policy. Core program areas include learning, motivation, and research design.

**MS or MA in Educational Psychology***
Broaden your ability to apply psychological principles to a variety of professional contexts or prepare for your future doctorate in social science.

**MS in Quantitative Psychology***
Do you like numbers, statistics, and social science? Prepare for a career in research, assessment, and data analysis. Develop proficiency in advanced statistical techniques, measurement theory, and data analytics.

**PhD in School Psychology** (five-year program)
Prepare for a career as a licensed psychologist. Gain competencies in health service psychology to work in schools, private practice, or hospital settings. Accredited by the American Psychological Association (APA)** and approved by the National Association of School Psychologists (NASP). Scientist-practitioner model with advocacy elements. Specializations available.

**MA/EdS in School Psychology** (three-year program)
Be immersed in community engaged, real-world field experiences and intervention opportunities in our scientist-practitioner-advocate program. Leads to licensure as a school psychologist. Approved by NASP and the National Council for Accreditation of Teacher Education (NCATE).

**MA in School Counseling** (two-year program)
Be a leader and advocate for educational equity for all students in PK–12 schools. Leads to licensure as a school counselor. Accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and nationally recognized by The Education Trust as a Transforming School Counseling program.

**Certificates**
High Ability/Gifted Studies, * Human Development and Learning, * Identity and Leadership Development for Counselors, * Neuropsychology*

Graduate assistantships and tuition waivers are available.

bsu.edu/edpsy

*Online programs are available.**Questions related to the PhD in school psychology’s accreditation status should be directed to the Office of Program Consultation and Accreditation, American Psychological Association, 750 First St. NE, Washington, D.C. 20002; (202) 336-5979; apaaccred@apa.org; or apa.org/ed/accreditation.
Applying for Graduate School in Experimental Psychology?

Consider Cleveland State University’s Experimental Research Program

Program Highlights

- Rigorous scientific research training program
- Hands on laboratory experience
- Direct mentoring from productive research faculty
- Affordable tuition with remittances available
- Travel funds for presentation at scientific conferences
- Preparation for doctoral programs and/or careers in academia or health sciences

Learn more at csuohio.edu/gradpsych

The Department of Psychology also has graduate programs in Industrial-Organizational Research, Clinical Psychology, School Psychology, and Adult Development and Aging.

CSU’s vibrant urban campus is located in downtown Cleveland. Our 18 faculty in the Department of Psychology just moved to the newly renovated Union Building, next to historic Playhouse Square.
Are All Eligible People Encouraged to Join Your Local Chapter?

Psi Chi values people with diverse perspectives and a broad representation of social identities and cultural backgrounds! This year, we are launching Our Diversity Matters Membership Drive to help chapters identify potential members who are sometimes overlooked.

"Experiencing the full range of human diversity enhances individuals’ world views, empathy, and skills. A powerful way to grow from diversity is to seek it in our daily lives."

Melanie M. Domenech Rodríguez, PhD
Psi Chi President

Learn more and how to get involved at https://www.psichi.org/resource/resmgr/pdfs/2018_diversitymattersdrive.pdf

Gain Valuable Research Experience With Psi Chi!

Students and faculty are invited to visit Psi Chi’s free Conducting Research online resource at www.psichi.org/?page=ConductingResearch. Here are three ways to get involved:

Join a Collaborative Research Project
www.psichi.org/?page=Res_Opps

With Psi Chi’s Network for International Collaborative Exchange (NICE), you can join the CROWD and answer a common research question with researchers internationally. You can also CONNECT with a network of researchers open to collaboration.

Recruit Online Participants for Your Studies
www.psichi.org/?page=study_links

Psi Chi is dedicated to helping members find participants to their online research studies. Submit a title and a brief description of your online studies to our Post a Study Tool. We regularly encourage our members to participate in all listed studies.

Explore Our Research Measures Database
www.psichi.org/?page=researchlinksdesc

This database links to various websites featuring research measures, tools, and instruments. You can search for relevant materials by category or keyword. If you know of additional resources that could be added, please contact research.director@psichi.org
"MY JOB IS NOT JUST TO TEACH, BUT ALSO TO HELP STUDENTS SEE THEIR INNER STRENGTHS."

At the College of Clinical Psychology at Argosy University, we believe in a practitioner-scholar model of training. Our programs offer a rigorous curriculum grounded in theory and research, while also offering real-world experience. What’s more, all our PsyD programs have received accreditation from the American Psychological Association (APA), certifying that they meet the industry’s standards.

Learn more at clinical.argosy.edu/psichi

Arizona School of Professional Psychology at Argosy University
American School of Professional Psychology at Argosy University | Southern California
American School of Professional Psychology at Argosy University | San Francisco Bay Area
Florida School of Professional Psychology at Argosy University
Georgia School of Professional Psychology at Argosy University
Hawai’i School of Professional Psychology at Argosy University
Illinois School of Professional Psychology at Argosy University | Chicago
Illinois School of Professional Psychology at Argosy University | Schaumburg
Minnesota School of Professional Psychology at Argosy University
American School of Professional Psychology at Argosy University | Northern Virginia

DR. NAHID AZIZ
Associate Professor at the American School of Professional Psychology at Argosy University | Northern Virginia

Dr. Aziz is committed to mentorship, training, and addressing issues relevant to the ethnic and racial diversity.
Publish Your Research in *Psi Chi Journal*

Undergraduate, graduate, and faculty submissions are welcome year round. Only the first author is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
- free access of all articles at psichi.org
- our efficient online submissions portal

View Submission Guidelines and submit your research at [www.psichi.org/?page=JN_Submissions](http://www.psichi.org/?page=JN_Submissions)

---

**Become a Journal Reviewer**

Doctoral-level faculty in psychology and related fields who are passionate about educating others on conducting and reporting quality empirical research are invited to become reviewers for *Psi Chi Journal*. Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—Please join us!

To become a reviewer, visit [www.psichi.org/page/JN_BecomeAReviewer](http://www.psichi.org/page/JN_BecomeAReviewer)

---

**Resources for Student Research**

Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at [www.psichi.org/?journal_past](http://www.psichi.org/?journal_past)

---

**Add Our Journal to Your Library**

Ask your librarian to store *Psi Chi Journal* issues in a database at your local institution. Librarians may also e-mail to request notifications when new issues are released.

Contact PsiChiJournal@psichi.org for more information.