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Gender and other social effects in people's perceptions of domesticated animals

Clayton W. Bell and A. Hayden Brown†*

ABSTRACT

It is no secret that people possess radically differing opinions and philosophical beliefs regarding domesticated animals. These contradictory perceptions are especially evident when examining people's thoughts regarding the mental capabilities of animals and issues related to animal welfare. To determine whether or not gender and social environments play a role in these various perceptions, a survey was formulated and randomly distributed to 1000 undergraduate students across the University of Arkansas campus. Upon examination of the survey results, some very intriguing correlations became apparent. Of particular interest were the differences between the perceptions of males and females regarding domesticated animals. Women who participated in the survey were significantly more likely to consider pets to be "members of the family" and were twice as likely as men to respond that animals possess a soul. Also, women were less likely to support animal research for medical advancement. These examples illustrate that women generally hold animals in higher esteem than do men. Another conflicting set of responses came from survey participants who had children versus those who did not have children. According to analysis of participant responses, people with children were drastically less likely to respond that animals were capable of experiencing pain and pleasure. Participants with children were also less prone to consider their pets as "members of the family." Owning pets also had a major impact on the way people viewed domesticated animals. People who owned pets were considerably more likely to respond that animals are capable of experiencing emotions such as love and anger. Also, those participants who own pets were much more apt to respond that domesticated animals are aware of their own existence. Gender and social environments were repeatedly shown to have a considerable influence on people's responses regarding domesticated animals.

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† A. Hayden Brown, honors and research mentor, is a professor in the Department of Animal Science.

MEET THE STUDENT-AUTHOR



Clayton W. Bell

My name is Clayton Bell and I am a first-year medical student at UAMS (University of Arkansas for Medical Sciences), where I preside on the Honor Council. Before beginning my odyssey at medical school, I spent three wonderful years at the University of Arkansas as an animal science major and a Bumpers College Honors student. While attending the UofA, I was also a member of the Gamma Sigma Delta Honor Society of Agriculture and the Alpha Epsilon Delta Pre-Med Society before obtaining my B.S.A. and graduating with Magna Cum Laude distinction. Fayetteville and the UofA served as an excellent springboard for much of my personal and intellectual growth. Undoubtedly, the solid science background that I attained from the Department of Animal Science has prepared me very well for the rigors of medical school. I would like to give a very special thanks to my Honors College and research mentor, Dr. Hayden Brown, for his support and guidance over the years.

Currently I live with my wife, Heather, and our three dogs on our family farm in El Paso, Ark. We enjoy participating in many outdoor-oriented activities

including camping, hiking, and especially mountain biking. We like the mountain biking so much that we travel across the state and compete in the Arkansas Mountain Bike Championship Series with many of our family members and friends. In the future, my goal is to promote health, healing, and happiness by advocating a healthy lifestyle through the art and science of medicine.

INTRODUCTION

Have you ever watched your pet and wondered to yourself, what is he thinking? Unfortunately, there are no indisputable methods to satisfy this inquiry. Instead of hard facts, we are presented only with conflicting hypotheses and philosophical rhetoric. In the end, animals cannot tell us what they are thinking, so we cannot discern the depth of their intellectual aptitudes. This predicament often leads to anthropomorphism, which is the practice of applying human characteristics—such as thought processes—to non-human subjects, such as animals (Serpell, 2003).

Following in the anthropomorphic mode, numerous people advocate that animals possess similar thought patterns to humans. Even history's most famous biologist, Charles Darwin, espoused that there were no characteristics truly unique to man (Povinelli and Bering, 2002). Darwin wrote, "The difference between the mind of the lowest man and that of the highest animal is

immense. Nevertheless the difference, great as it is, certainly is one of degree and not of kind" (Darwin, 1871). In addition to proposing that animals possess thinking faculties similar to those of humans, Darwin also viewed domesticated animals as agents capable of experiencing emotions such as disappointment and pleasure. He even went so far as to use those specific terms when describing the behavior of dogs (Wynne, 2004). Undoubtedly for his time, Darwin's perceptions of animals were radical and defiant of his culture's 19th century religious and philosophical dogmas (Povinelli and Bering, 2002).

Over a century later, Darwin's anthropomorphic hypotheses regarding lower animals are still as controversial as ever. Even many of Darwin's contemporaries argued very strongly against the notion that animals could exhibit self-aware thought (Wynne, 2004). In studies where animals supposedly demonstrated rational thought processes, additional in-depth analysis has often contested the studies' results as manifestations of associative learning as an alternative conclusion (Call

and Tomasello, 1999). These controversies may be attributable to the circumstances that different researchers hold different beliefs and opinions, and that those various subjective perceptions influence the way researchers interpret animal behavior and the related research data and observations.

Personal beliefs and opinions also have a major impact on the way we perceive and treat domesticated animals. Unfortunately, personal beliefs and perceptions can put us at odds with some of our peers. Our personal beliefs and opinions can blind us to relative objectivity and at times isolate us from those who think differently than we think. Undoubtedly, people will continue to have diverse opinions about domesticated animals, but learning even some of the reasons why people embrace their specific attitudes and perceptions will help us to better understand and appreciate our peers.

The goal of this research project was not to determine whether or not domesticated animals have the ability to engage in rational thought processes. Instead, the intention was to shed light on why people hold such various beliefs concerning the mental capabilities of lower animals and animal welfare issues. The aim of this research was to explore and perhaps reveal that social environment and demographics can play a major role in what people believe about these topics. Therefore, the objective of this study was to discover correlations between people's demographic and social environments and their opinions and philosophical beliefs pertaining to domesticated animals.

MATERIALS AND METHODS

The research data were drawn from a survey, (see Appendix 1) wherein people were asked for limited personal information and about their social environments, opinions, and philosophical beliefs. Questions were administered in multiple formats. Some questions were answered in a simplistic *yes* or *no* arrangement while other questions provided multiple-choice answers for the survey recipient to choose from, such as which college he/she attended at the University of Arkansas.

To allow for more accurate results, the survey was adapted to Snap Survey Software and was distributed via e-mail to a representative sample population of 1000 University of Arkansas undergraduate students, who were drawn randomly by computers at the University of Arkansas' Survey Research Center. Survey recipients were drawn and categorized by variables such as sex, age, race, undergraduate classification, and to which college at the University of Arkansas the students belonged. The sample population's demographic-variable frequencies

were then compared against the entire University of Arkansas undergraduate student body's demographic frequencies to ensure that the sample population was an approximate representation of UA undergrads. The sample population was exceptionally well-drawn, especially with regard to the male-female ratio and the frequency of students from each respective college within the University of Arkansas.

After obtaining an approximate sample population, the survey was distributed to the 1000 survey recipients simultaneously through a Microsoft Outlook e-mail. As the survey participants completed and submitted their surveys, the results were immediately returned to a secure data collection account. After one week, 129 sets of survey results were collected, then passed on to a password-protected SPSS Survey Software account. To ensure utmost privacy for respondents, survey results were transmitted without any form of student identification. Within the SPSS Survey Software, survey responses were collaborated, categorized, analyzed, and interpreted. Bar graphs and pie charts were utilized to illustrate demographic and social effects relative to people's perceptions of domesticated animals. Pearson Correlation Analysis was employed to identify significant correlations between people's demographics, social environments, and perceptions of domesticated animals. The Pearson Correlation Analysis identified significant positive and inverse correlations at the 0.05 level ($P < 0.05$) and the 0.01 level ($P < 0.01$).

RESULTS AND DISCUSSION

Whether a person was male or female was demonstrated to have a major effect on that person's perceptions of domesticated animals. Males were much more likely to support animal research for the benefit of medical advancement (.290, $P < 0.01$), and males were significantly more likely to be hunters when compared to females (.354, $P < 0.01$). This strong correlation between surveyed males and hunting reinforces the male's traditional role as the predominant hunter throughout human history (Molnar, 2006). On the other hand, women were significantly more likely to consider their pets to be "members of the family" (.195, $P < 0.05$), and women were twice as likely as men to respond that animals possess a soul (.174, $P < 0.05$) (Fig. 1). These results strengthened the idea that women are more likely than men to develop a strong connection with domesticated animals. According to Jahme et al 2001, women are able to feel such strong connections with animals because, "Women intuitively understand much of what the animals are feeling" (Jahme et al, 2001).

Having children also had profound effects on people's perceptions of domesticated animals. Participants with children were significantly more likely to support animal research compared to participants without children (.192, $P < 0.05$). Also, people with children, when evaluated against people without children, were less likely to respond that animals were capable of experiencing pain and pleasure (.174, $P < 0.05$). Furthermore, parents were far less likely to respond that animals have souls when compared to non-parents (.182, $P < 0.05$), and although the correlation was not significant at the 0.05 level, people with children were much less likely to consider their pets to be "members of the family." It appears from this survey that people without children tend to hold animals in higher esteem. One probable rationale is that a parent's admiration for animals begins to wane as they develop a prioritized appreciation for and bond with their children.

Owning pets also appears to have a major impact on the way people view domesticated animals. As one might imagine, survey participants who owned pets were far more likely to consider pets to be "members of the family" when compared to participants who did not own pets (.307, $P < 0.01$) (Fig. 2). People with pets also appeared significantly more likely to respond that animals are aware of their own existence when evaluated against respondents with no pets (.186, $P < 0.05$). Furthermore, respondents with pets were much more likely to respond that animals are capable of experiencing emotions such as love and anger (.201, $P < 0.05$).

Those participants who responded that pets could experience emotions such as love and anger were significantly more likely to respond that animals also had the ability to experience pain and pleasure (.269, $P < 0.01$). Individuals who responded that pets could experience emotions were also significantly more likely to respond that animals were aware of their own existence when evaluated against respondents who did not indicate that pets could experience emotions (.327, $P < 0.01$). Similarly, participants who responded that animals were aware of their own existence also believed that animals could experience pain and pleasure more often than survey participants who disputed the notion that animals were aware of their own existence (.184, $P < 0.05$). From these three viewpoints, a triad of perception emerges (Fig. 3). It becomes evident that a person who selects one of these three perceptions will also be significantly more likely to embrace the other two perceptions as well.

Nearly all of the survey participants agreed that animals could experience pain and pleasure (96.12%). Most participants also responded that animals could experience emotions (78.91%), and many participants

responded that animals were aware of their own existence (61.24%). However, there was much more controversy over the idea that animals possess souls (Fig. 4). The group in strongest opposition to the perception that animals have souls were the supporters of animal research for the benefit of medical advancement (.293, $P < 0.01$). Participants who hunt also strongly opposed the notion that animals possess souls (.287, $P < 0.01$). This makes logical sense, because people who responded that animals have souls were far less likely to utilize animals for food or knowledge. Those students who responded that animals have souls also predominantly responded that animals have emotions (.240, $P < 0.01$). Significant correlations also existed between participants who responded that animals have souls and participants who responded that animals are aware of their own existence (.187, $P < 0.05$).

Participant responses also provided some interesting insights into the realms of human spirituality and science. Not surprisingly, participants who responded that animals have souls also responded that people have souls (.431, $P < 0.01$). Students who responded that they themselves have souls were extremely likely to indicate belief in a divine creator (.653, $P < 0.01$). This positive correlation between the perceptions of people having souls and a divine creator was the strongest correlation found throughout the entire research project, yet these perceptions appeared to be inversely related to people's opinions about Darwin's theory of evolution. Participants who agreed with evolution were far less likely to respond that people possess souls (.285, $P < 0.01$), and the respondents who support the theory of evolution were even less likely to believe in a divine creator (.306, $P < 0.01$). According to the survey participants' responses, it appears that some of the sampled group believe in a divine creator and people having souls and some believe in Darwin's theory of evolution, but few responded with both alternatives.

In conclusion, demographic and social variables most likely have an effect on the way people perceive domesticated animals. Furthermore, these effects can be isolated and analyzed to discover predisposed perceptual tendencies that a person might have. By analyzing a person's demographics and social environment, we will have a better opportunity to understand and appreciate another's beliefs. When we develop a greater comprehension and respect for another person's beliefs, we give ourselves an opportunity to connect with that individual on a more personal, intellectual, and intricate level. This could be beneficial in the classroom, in business, and even among friends and colleagues.

ACKNOWLEDGMENTS

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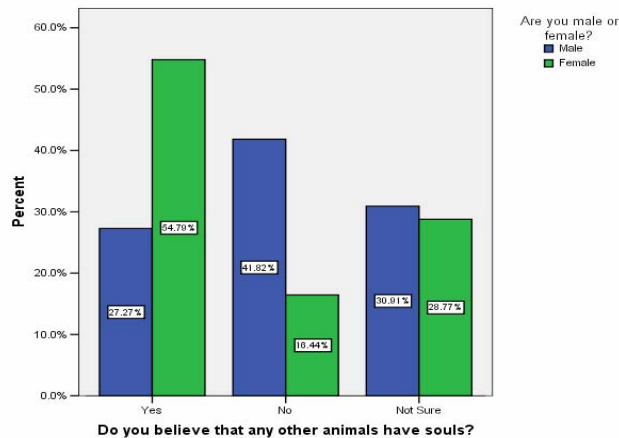


Fig. 1. According to responses from survey participants, women were twice as likely as men to believe that animals possess souls.

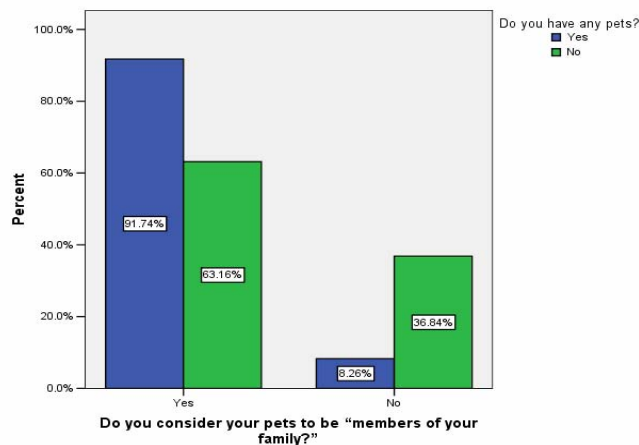


Fig. 2. The effect of having pets on people's perceptions of pets as "family members." People with pets almost always consider pets to be "members of the family," while people without pets are much less likely to perceive pets as worthy of "family member" status.

Correlations

		Do you believe animals are aware of their own existence?	Do you believe domesticated animals are capable of experi...	Do you believe domesticated animals have emotions such as...
Do you believe animals are aware of their own existence?	Pearson Correlation	1	.184*	.327**
	Sig. (2-tailed)		.037	.000
	N	129	129	128
Do you believe domesticated animals are capable of experi...	Pearson Correlation	.184*	1	.269**
	Sig. (2-tailed)	.037		.002
	N	129	129	128
Do you believe domesticated animals have emotions such as...	Pearson Correlation	.327**	.269**	1
	Sig. (2-tailed)	.000	.002	
	N	128	128	128

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Fig. 3. These three sets of beliefs form a triad of perception. If a person embraces one of these perceptions, it is highly likely that he/she will also embrace the other two beliefs.

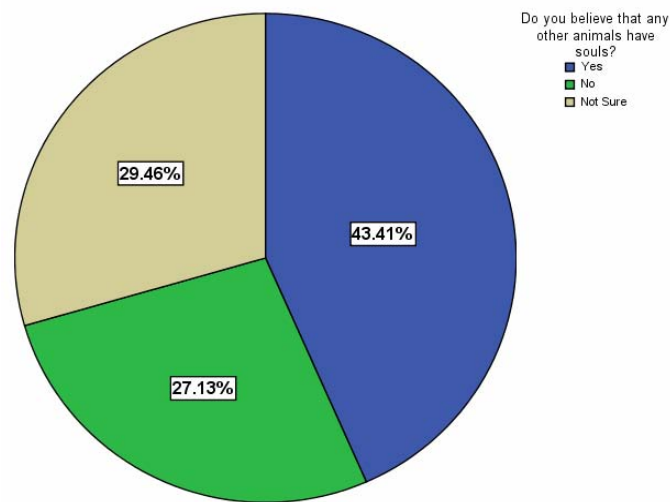


Fig. 4. Participants' responses on whether or not animals have souls proved to be highly controversial.

Appendix 1

Demographic and Social Effects on People's Perceptions of Domesticated Animals

My name is Clayton Bell, and I am an Animal Science Honor Student at the University of Arkansas. I have formulated this survey so that I may find the correlations between people's demographic and social backgrounds with respect to their perceptions of domesticated animals. In essence, this thesis project will enable me to objectively identify which environmental influences predispose an individual to hold certain beliefs about domesticated animals. Participation in this survey should only be completed on a voluntary basis. Refusal to participate will not result in any penalties or loss of benefits whatsoever. If you choose to participate, your survey shall be kept completely confidential through the security of the SNAP Survey Software. Once your survey has been completed you will be freed of all ties to this research project. If you have any questions please feel free to contact me through e-mail at cwbell@uark.edu <<mailto:cwbell@uark.edu>>.

Q1 What is your favorite animal?

Q2 Do you have any pets?

Yes

No

If so which species?

Q3 Do you consider your pets to be "members of your family?"

Q4 Did you grow up with animals?

Q5 Have you ever owned or worked with livestock?

Q6 Do you eat meat?

Q7 Do you hunt?

Yes

No

If so which species?

Q8 Do you support animal research for the benefit of medical advancement?

Q9 Do you believe domesticated animals are capable of experiencing pain and pleasure?

Q10 Do you believe domesticated animals have emotions such as love and anger?

Q11 Do you believe domesticated animals communicate with each other?

Q12 Do you believe animals are aware of their own existence?

Q13 Do you believe that domesticated animals engage in rational thinking?

Q14 Do you believe people engage in rational thinking?

Q15 Do you believe that people have souls?

Q16 Do you believe that any other animals have souls?

Q17 Please list which animals.

Q18 Regardless of religious preference or lack thereof; do you believe in a divine creator?

Q28 **What is your current class standing?**

Q29 **Do you have any children?**