



## Evaluating educational training impact on Pre-service Students' attitudes towards Human-Animal relationships

Yuleinys A Castillo<sup>1\*</sup> Denise Silcox<sup>2</sup> Lynn K. Fisher<sup>2</sup>

<sup>1</sup> Human Services Department, Stephen F. Austin State University, 1936 North St., Nacogdoches, Texas, USA. <sup>2</sup> School of Rehabilitation, University of Texas Rio Grande Valley, 1201 W University Dr, Edinburg, TX 78539, United States.

Received: 2-Aug-2018 Accepted on: 28-Dec-2018 Published on: 21-Apr-2019

### ABSTRACT

Experts suggest that human-animal relationships can bring benefits to households, work environments, and training facilities. Animals can also have a positive impact on humans' psychological well-being, interpersonal relationships, and interaction with human services providers. Even though human services providers need to understand clients' holistic experiences, animals are often excluded from treatment and services. Therefore, human services students, who have exposure to the human animal bond, can be more effective providers and understand the role of animals in society. This study evaluated the impact of information about the human-animal bond on attitudes towards animals among pre-service human services students. In addition, the educational background of participants was considered to identify differences in attitudes towards animals. Factor analyses of the attitudes measure revealed three factors – positive and negative attitudes towards animals and law related items. Since exposure to material, by reading or lectures, was found to influence attitudes of human services majors, information about human-animal relationships should be incorporated in higher education and professional development programs. Subsequent major-specific analyses indicated favorable attitudes associated with human services majors (rehabilitative services and social work). Implications for educators and higher education programs to incorporate material on animal welfare, animal assisted interventions, and animal-human relationships, and professionals are discussed.

*Keywords: human services, education, human-animal bond, attitudes, animals*

### Introduction

Humans and animals have different type of relationships establishing benefits like protection, companionship, and support. In the field of human services, professionals need to understand clients' experiences and lifestyle when considering treatments and services (Summers, 2016). Since the presence of animals in homes and human services facilities continue to increase in households (Herzog, 2011), training programs can help to rise consciousness about respectful and ethical interactions between future human services professionals and animals.

Attitudes, as in the case with animals, can be shaped by external and internal factors. Human attitudes towards animals are influenced by perceptions and personal experiences (Serpell, 2004). For instances, previous research has reported

that specific animal characteristics, human experiences, and cultural forces can shape attitudes towards animals among individuals (Knight, Nunkoosing, & Cherryman, 2003; Signal & Taylor, 2006). Although substantial research has studied the role of animals in society, additional investigation can help to identify contributors to contemporary attitudes and treatment of animals (Shapiro & DeMello, 2010). Because of the potential role of animals in clients' lives, human services practitioners can benefit from understanding their own attitudes as well as sources of views towards animals.

Education can influence attitudes towards animals improving animal welfare orientation of human service professionals as well as enhancing the utilization of animal assisted interventions in treatment (Silcox, Castillo, & Reed, 2014). Educators and schools administrators face a challenge to create a sense of responsibility and care for the environment among students to prevent an environmental crisis and cultivate a sustainable society (McMillan & Vasseur, 2010). Educating students about different type of plants and animals, benefits from the environment, and the interdependence between organisms can improve the probability of protecting nature (Pilgrim, 2008) and promote ethical inclusive human-animal relationships (Sjögren, Gyberg, & Henriksson, 2015).

In practice, human services workers infuse personal experiences with professional preparation when working with clients. Effective human services practitioners need to understand clients' perspective and dynamics in the personal,

\*Yuleinys A Castillo  
Stephen F. Austin State University  
Email: yuchas@hotmail.com

-----  
Cite as: *Integr. J. Soc. Sci.*, 2019, 6(1), 6-11.

©IS Publications

IJSS ISSN: 2348-0874

<http://pubs.iscience.in/ijss>

social, and community levels by obtaining and interpreting adequate personal histories and motivations (Summers, 2016). Adequate training on companion animals, service dogs, and animal assisted interventions in training human services programs can help to improve attitudes towards animals among future professionals (Silcox et al., 2014). In order to understand the influence of education on students' attitudes, this study examined students' educational background role in influencing attitudes and exposure to the human animal bond in training.

### **Attitudes towards Animals**

Attitudes are defined as a "psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p.1). Attitudes involve an object or entity, a good or bad set of beliefs, and a tendency to display a behavior toward this object (Culbertson, 1968). Attitudes have three components-affective, behavioral, and cognitive- has long been proposed and studied (Eagly & Chaiken, 1993; Ostrom, 1969). An affective component explains the feelings and emotions about the object while the behavioral component explains how the attitude influences behavior or actions (MacKenzie & Lutz, 1989). The cognitive component involves a person's beliefs about an attitude object (Ostrom, 1969). Humans can then develop different attitudes towards animals that involve emotions, knowledge, and beliefs.

Individual characteristics such as demographic elements (Signal & Taylor, 2006) and personality traits (Beatson, Loughnan, & Halloran, 2009) can influence attitudes towards animals. Eating styles and gender, for instance, seemed to impact views of animals, where vegetarian women showed more empathy and positive attitude toward companion animals than men (Preylo & Arikawa, 2008). Finally, class content can also influence students' self-reported attitudes toward nonhuman animals leading to a positive change (Nicoll, Trifone, & Samuels, 2008). Consequently, individual factors can shape treatment and behavior toward animals. From a social-psychological research, attitudes toward animals could predict behavior toward animals when the person holds strong attitudes for a long time and perceives support within the peer group (Henry & Pulcino, 2009).

Attitudes towards animals can affect relationships and interaction with humans; considering that, attitudes lead to intentions, which in turn can lead to behaviors (Winkle, Crowe, & Hendrix, 2012). Anecdotal research suggest that people with disabilities experience many positive experiences when they are with a service dog including more people approaching them, more smiles and more social interactions in public (Camp, 2001; Fairman & Huebner, 2000; Hart, Zasloff, & Benfatto, 1996; Mader, Hart, & Bergin, 1989; Valentine, Kiddoo, & LaFleur, 1993). Research has also shown that people generally rate pictures of individuals as being more relaxed, safer and happier when accompanied by a dog (Rossbach & Wilson, 1992), and that students rated professors more friendly and their office more comfortable when a dog was present (Wells & Perrine, 2001). These studies suggest that having a positive attitude toward animals can positively influence perception of people and social interactions.

Even though intentions, based on attitudes, have been found to predict actual behavior, in some instances actual and intended behavior can differ from intentions (Baumeister, Vohs, & Funder, 2007). In previous research, varieties of external and internal dynamics have been found to influence

attitudes about animals. Situational factors (Sims, Chin & Yordon, 2007), cultural influences (Al-Fayez, Awadalla, Templer, & Arikawa, 2003; Matsunaka & Koda, 2008), and curriculum material (Saucier & Cain, 2006), for example, have shaped individuals' attitudes and views of animals. Therefore, attitudes towards animals can vary depending on contextual factors leading to behaviors and reactions to animals.

### **Education: Shaping Attitudes**

Education and exposure to material on animals can impact student's attitudes towards animals. For instance, Saucier and Cain (2006) explained that taking psychology classes, which discussed animal research, increased the likelihood that a participant endorsed positive attitudes toward animal research. However, the type of animal, purpose of animal use, and knowledge of animal used as well as the concern about the disease studied could also influence students' attitudes toward animal research (Henry & Pulcino, 2009; Knight & Barnett, 2008). It is not only exposure to material but also the content presented to students that also affected their views and perceptions of animals (Wadhwa, 2017, 2018).

The material included in curriculum can affect students' relationships with animals. Students can experience positive attitudinal changes towards animals, which in turn shapes the treatment of animals, after being in an animal-welfare course (Hazel, Signal, & Taylor, 2011). Sherman and Serpell (2008), for example, reported that enhanced appreciation of species among students helped to ensure that veterinary patients were handled safely and humanely. These authors also explained that students, with a strong understanding of animal behavior, would be better clinicians and support positive human-animal relationships. The information presented in courses would influence the attitudes of future professionals towards the inclusion and consideration of animals in practice. Education can play a role in changing attitudes and developing behaviors that demonstrate caring for humans and non-human animals (Castano, 2012).

Professionals have also emphasized a desire to increase their knowledge and awareness of animal assisted therapy through training or professional development programs (Berget, Grepperud, Aasland, & Braastad, 2013; Black, Chur-Hansen & Winefield, 2011). However, there is still a need to increase public education about assisted animal interventions (Matsunaka & Koda, 2008), to address a lack of preparation in human-companion animal relationships among practitioners (Risley-Curtis, 2010), and to improve training for practitioners working with clients (Schaefer, Hays, & Steiner, 2007). Human services professionals, including social work and rehabilitation services, are expected to focus on the well-being of individuals and society while promoting needed changes in social structure and policies affecting communities (Faver & Munoz, 2014; Silcox et al., 2014).

In order for training programs to effectively impact students' attitudes, understanding and identifying prominent factors can help in shaping human service professionals' views and interaction with animals. Even though curriculum can result in positive attitudes towards inclusion of animals in services, educational programs fail to continuously include relevant content about human-animal relationships. Therefore, this study aims to explore whether exposure to material about the human animal bond- by reading or lectures- can indeed influence attitudes -towards the human-animal relationship among pre-service human service professionals. In addition,

differences in attitudes towards animals among majors are also considered.

## Methodology

### Participants

Respondents were 223 undergraduate students from a state university located in a border town with Mexico. For the purpose of this study, only 211 participants were included in the analyses; the others were excluded because of missing data on the tested variables. After obtaining IRB approval, students enrolled in junior and senior level major courses were invited to participate in the research by completing a paper-and-pencil survey. In this study, rehabilitative services and social work were considered human services majors because of their training focused on working with clients and providing human services.

A profile of the student sample indicated that the majority of students 198 were Latino (92.5%), and 168 were female (78.5%). The high presence of Latino population in the sample could be due to the location of the university on the Southwest part of the United States. The range of ages was between 18 to 48 years old with an average age of 22.80. About 86% of participants were between the ages of 18-24 with 35% majoring in rehabilitative services, 39.3% in social work, and 25.7% in non-human services majors (e.g, psychology, biology, and other majors).

### Instruments

The survey consisted of demographic questions pertaining to age, ethnicity self-identification, major, and gender. The students entered their age, selected an ethnic group, chose a gender (female/male) and selected a major from rehabilitative services, social work, or other. For participants who selected other, they were asked to write in their specific major. In addition, participants answered two separate questions to indicate, with yes/no answers, whether they had read material and discussed in class lectures the human-animal bond.

To measure the students' attitudes towards animals, a survey was developed based on current literature. The authors identified four factors attitudes, negative attitudes, and law based attitudes, and cruelty attitudes. The negative attitude items were written using negative language and reverse in analyses. Participants rated their answers with a 5 point Likert scale ranging from strongly disagree = 1 to strongly agree = 5. The Cronbach's Alpha for the scale used in this study was .737.

The data was screened for univariate outliers with over 12 cases per variable satisfying a minimum amount for factor analysis. The factorability of the instrument was examined with 14 of the 17 items correlated at least .3 with at least one other item, suggesting reasonable factorability. The Kaiser-Meyer-Olkin measure of sampling adequacy was .73, above the recommended value of .6. A factor analysis was conducted with all 17 items. The three factors, which explained 39% of the variance, were used to evaluate attitudes towards animals.

The original survey had 17 items but three of the items failed to meet a minimum criterion of having a primary factor loading of .4. The items related to animal abuse or cruelty were excluded from analysis. A factor analysis of the remaining 14 items, using varimax rotation was conducted, with the three factors explaining 49% of the variance.

## Procedure

The instruments were provided directly to students in different undergraduate rehabilitation, social work, and psychology face-to-face courses. Participants were asked to anonymously and voluntarily complete and return the surveys to researchers. If they had been offered the opportunity to participate in the research in other classes, students were reminded that they could complete the survey only once.

## Results

Participants reported their familiarity with and exposure to the human-animal bond through lectures/class discussion and reading. Based on participants' answers, only about 26% of undergraduate students were exposed to this topic in an undergraduate college class while about 41% had read about it. Consequently, the majority of rehabilitative services, social worker, and non-human services undergraduate majors in this study had not received formal training on the human-animal bond in their education. More specifically, only about 33% and 17% of rehabilitative and social work majors respectively had discussed about HAB in class while 56% rehab and 25% social work students had read about it.

To test for an association between majors (rehabilitative services, social work, and others) and exposure to information about the human animal bond, either by reading or lecture, Chi-Square tests were performed ( $\alpha = 0.05$ ). For reading, the relationship between major and exposure to material by reading was significant,  $X^2(2, N=214) = 17.13$ . Since the p-values were less than the significance level, there was an association between majors and whether or not students had read about the human-animal bond. Similarly, there was an association between majors and having lectures about this topic was significant,  $X^2(2, N=214) = 7.09$ . These results suggest an association between exposure to material relevant to the human animal bond and majors.

A MANOVA examined the three types of attitudes as dependent variables, and majors as independent variables. It showed a statistically significant difference in positive and negative attitudes towards animals based on students' majors. Because a statistically significant result was found, a post hoc test was computed to further compare each major. This post hoc test allowed comparison of the rehabilitative services, social work and non-human services majors. The Univariate ANOVAs were used to determine how attitudes differed from the independent variable. From these results, students' majors had statistically significant effect on positive attitudes ( $F(2, 211) = 8.87$ ;  $p < .0005$ ; partial  $\eta^2 = .08$ ) and on negative attitudes ( $F(2, 211) = 8.47$ ;  $p < .0005$ ; partial  $\eta^2 = .07$ ). There was no effect on law attitudes.

After performing Tukeys's HSD post-hoc tests, the results showed that for mean scores for positive attitudes were statistically significantly different only between rehabilitation and other majors ( $p < .0005$ ). Mean negative attitude scores were statistically significantly different between rehabilitation service and other majors ( $p = .001$ ), and rehabilitation services and social work ( $p = .005$ ), but not between social work and other majors ( $p = .583$ ). There were no statistically significant differences between undergraduate group means of attitudes related to law. Thus, the educational background of students had no significant impact on their attitudes towards items pertaining to law about animals.

## Discussion

For undergraduate students, specifically those who may work with clients with companion animals and use animal assisted interventions, having an understanding of the human-animal bond can prepare them to be effective and caring professionals (Silcox et al., 2014). This study was an attempt to evaluate the potential impact of exposure to information about the human animal bond on attitudes among undergraduate human services students. The study showed variation on attitudes towards animals among participants.

The formal training on the human-animal bond was slight since about only 26% of undergraduate students received information on this topic in a university class. Future professionals may fail to include animals in services due to the lack of content in courses. Including valuable information in the curricula can help to improve service delivery for human services professionals and to reinforce practices that respect all living species. Moreover, about 41% of students had read about the human animal bond. These findings support a previous study where a deficiency on proper training on the benefits of owning an animal was an issue among professionals (Risley-Curtiss, 2010). Specifically, that previous research found that the vast majority (95.7%) of 1,629 practitioner social workers reported that they had no special training in companion animals or animal intervention practices. Based on the results of this study, future human service professionals may lack an understanding of the benefits and roles of animals in society.

Although there was some difference in positive and negative attitudes towards animals, attitudes related to law was similar among participants. The lack of information about human-animal relationships, including benefits and use in services, could be a factor affecting the misinformation about law-related issues concerning clients' and animals' rights. Previous exposure to information about human-animal relations can affect professional and ethical practices of practitioners in human services (Risley-Curtiss, Rogge, & Kawam, 2013). As reported in the previous study, participants, who had read or heard about the link between animal abuse and domestic violence as well as treatment of animal abuse, were more likely to include animals in assessment protocols. Moreover, future human services may lack proper knowledge about mandates that protect the rights of clients and animals. This finding suggests a need to infuse relevant legislation of services involving animals in educational training to increase awareness among future professionals and protect the rights of clients in different human services facilities.

The lack of knowledge about the benefits and legislation relevant to emotional support animals, therapy animals, and service animals among undergraduate students proposes that these future professionals are less likely to incorporate trained animals and evaluate animal-human relationships in their practices. Similar findings, in a previous research, were that the vast majority of social workers failed to consider companion animals in their practice (Risley-Curtiss, 2010). Explicitly, many of these human service professionals were not including animal assisted therapy and/or asking about companion animals in their practice due to a lack of formal education and training on this topic. Therefore, exposing pre-service students to the human-animal bond, role of animals in family dynamics, and attitudes towards animals can improve preparation of future providers as well as foster holistic services.

## Implications

The limitation notwithstanding, it is intended that the present results aid in understanding the attitudes towards animals among undergraduate students. Human services programs need to infuse their curriculum with material about the human animal bond to increase awareness about animals among future practitioners (Silcox et al., 2014). Since exposure to educational material seemed to have an impact on attitudes, human service educational programs could include learning objectives related to the human animal bond and different type of animal assisted interventions – emotional support animals, animal assisted therapy and service animals. Rehabilitative services and social work majors can benefit from learning about the interaction between humans and animals to promote appropriate normative behaviors and practices in society. Additionally, human services professionals have critical opportunities to influence perceptions and policies related to the normative uses of animals in society (Faver & Muñoz, 2014; Rawat, 2018).

Education should include information on the five basic freedoms the animals need to be happy: (1) the right to be free from hunger and thirst; (2) the right to be free from pain, injury and disease; (3) the right to be free from discomfort (4) the right to be free from fear and distress; and (5) the freedom to express behavior that is normal for their species (Serpell, Coppinger, Fine, & Perlata, 2010). The “five freedoms” were originally summarized by the Brambell Report in 1965 and refined and expanded by the Farm Animal Welfare Council in the early 1990s (Serpell et al, 2010 ). Of all of these, the last is perhaps the hardest for individuals to understand the importance of and should be stressed in educational programs about animals to protect animal rights and promote equal human-animal relationships.

Attitudes among undergraduate students appeared to be influenced by exposure to the topic of the human-animal bond. Professionals with former therapeutic experience and an understanding of animal assisted interventions were more inclined to use animal in their practice and learn more about interventions (Berget et al., 2013). A potential explanation for some of the differences between rehabilitative services majors and other concentrations could be an elective course on human animal relationships available in the rehab services program. Students reported an attitudinal change towards animals after taking a course to learn about animal welfare and ethics (Hazel et al., 2011). In addition to improvement of services, students can learn to respect and value animals in society. For instances, attitudes and practices regarding companion animals were more positive among highly educated individuals who were less likely to chain dogs outdoors and mistreat animal (Faver & Cavazos, 2008). Education about the human-animal bond could not only improve human services training but the relationship between students and animals.

Another relevant implication for human services programs is to identify effective methods to instruct the topic of human-animal bond and animal-assisted interventions. These research findings suggested that reading and discussing about the human animal bond in class might not be sufficient to enhance attitudes and knowledge among undergraduate students. In a previous study, human service practitioners identified having a direct relationship with other workers, who include animals in their practice, as a more salient reason to include animals in their practice than reading or hearing about animal-human relationships (Risley-Curtiss et al., 2013). Therefore,

educational programs could explore different teaching strategies to incorporate animals in practice and to promote pro-animal welfare attitudes among practitioners. Observation of animal assisted interventions or opportunities for personal experiences with service dogs or emotional support animals could help to influence attitudes that can translate to greater concern for society vulnerable groups. Furthermore, training programs could also consider using technology to improve students' exposure and understanding of the impact of animals in clients' services and treatment.

Practitioners and educators could increase the incorporation of animal assisted intervention and evaluation of the role of companion animals in practice. Clients could improve their perception of health care professional trustworthiness and be more willing to participate in services, as established in previous studies, by interacting with animals (Schneider & Harley, 2006). Using animal assisted interventions, combine with recognizing the impact of service animals and companion animals, are ways to enhance services available to clients. It is equally important to educate students on the needs and rights of animals. Teaching pet owners proper animal care and control helps not only protect the welfare of the animals but improves public health and safety as well (Balcombe, 2000).

There are some limitations and future directions related to this study. Participants were mainly young undergraduate college students living in a specific geographic region in the South United States. These students, therefore, do not reflect a representative sample of all undergraduate students in the country. Hence, caution should be used when attempting to generalize from this student sample to other populations. Equally, this study involved self-reported data being difficult to determine whether respondents were being honest or were just expressing their hopes in their answers. The instrument used to measure attitudes may not accurately separate different attitudes. Future research directions could evaluate the perspective and practices of human service professional in the field regarding animal interventions, animal welfare and advocacy for pet owner's rights. Identifying additional factors that can shape attitudes and behaviors of human service professionals towards animals, as well as, other educational methods for training options that enhance the quality of services and promotes respectful human-animal relationships can also be evaluated in future research. Finally, future research could evaluate the attachment and relationship of human services students and professionals with their own animal companions and the impact of these relationships on their attitudes towards animals.

## References

Al-Fayez, G., Awadalla, A., Templer, D. I., & Arikawa, H. (2003). Companion animal attitude and its family pattern in Kuwait. *Society & Animals*, 11, 17–28.

Balcombe, J.P.(2000). *The use of animals in higher education: Problems, alternatives, and recommendations*. Washington, DC: Humane Society Press.

Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science*, 2, 396–403. doi: 10.1111/j.1745-6916.2007.00051.x

Beatson, R., Loughnan, S., & Halloran, M. (2009). Attitudes toward animals: The effect of priming thoughts of human-animal similarities and mortality salience on the evaluation of companion animals. *Society & Animals*, 17(1), 72–89.

Berget, B., Grepperud, S., Aasland, O. G., & Braastad, B. O. (2013). Animal-assisted Interventions and psychiatric disorders: Knowledge and attitudes among general Practitioners, Psychiatrists, and Psychologists. *Society & Animals*, 21(3), 284–293. doi:10.1163/15685306-12341244

Black, A.F., Chur-Hansen, A., & Winefield, H.R. (2011). Australian psychologists' knowledge of and attitudes towards animal-assisted therapy. *Clinical Psychologists*, 15, 69–77.

Camp, M. M. (2001). The use of service dogs as an adaptive strategy: A qualitative study. *The American Journal of Occupational Therapy*, 55, 509–517.

Castano, C. (2012). Fostering compassionate attitudes and the amelioration of aggression through a science class. *Journal of Research in Science Teaching*, 49(8), 961–986.

Culbertson, H. (1968). What is an attitude?. *Journal of Cooperative Extension*, 79–84.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, FL: Harcourt Brace Jovanovich College Publishers.

Fairman, S. K., & Huebner, R. A. (2000). Service dogs: A compensatory resource to improve function. *Occupational Therapy in Health Care*, 13, 41–52.

Faver, C.A., & Cavazos, A. M. (2008). Love, safety, and companionship: The human-animal bond and Latino families. *Journal of Family Social Work*, 11(3), 254–271.

Faver, C.A., & Muñoz, J. D. (2014). Orientations to nonhuman animal welfare: A view from the border. *Society & Animals*, 22, 372–389.

Hart, L. A., Zasloff, R. L., & Benfatto, A. M. (1996). The socializing role of hearing dogs. *Applied Animal Behaviour Science*, 47, 7–15. doi: 10.1016/0168-1591(95)01006-8

Hazel, S. J., Signal, T. D., & Taylor, N. (2011). Can teaching veterinary and animal-science students about animal welfare affect their attitude toward animals and human-related empathy? *Journal of veterinary medical education*, 38(1), 74.

Henry, B., & Pulcino, R. (2009). Individual difference and study-specific characteristics influencing attitudes about the use of animals in medical research. *Society & Animals*, 17, 305–324.

Herzog, H. (2011). The impact of pets on human health and psychological well-being: Fact, fiction, or hypothesis? *Current Directions in Psychological Science*, 20(4):236–239. doi: 10.1177/0963721411415220

Knight, S., & Barnett, L. (2008). Justifying attitudes toward animal use: A qualitative study of people's views and beliefs. *Anthrozoös*, 21, 31–42.

Knight, S., Nunkoosing, K., Vrij, A., & Cherryman, J. (2003). Using Grounded Theory to examine people's attitudes toward how animals are used. *Society & Animals*, 11(4), 307–327.

Mackenzie, S. B., & Lutz, R. J. (1989). An empirical examination of attitude toward the ad in an advertising pretest context. *Journal of Marketing*, 53, 48–65.

Mader, B., Hart, L. A., & Bergin, B. (1989). Social acknowledgements for children with disabilities: Effects of service dogs. *Child Development*, 60, 1529–1534.

Matsunaka, K., & Koda, N. (2008). Acceptance of dog guides and daily stress levels of dog guide users and nonusers. *Journal of Visual Impairment & Blindness*, 102, 295–304.

Nicoll, K., Trifone, C., & Samuels, W. (2008). An in-class, humane education program can improve young students' attitudes toward animals. *Society & Animals*, 16(1), 45–60.

Ostrom, T. M. (1969). The relationship between the affective, behavioral, and cognitive components of attitude. *Journal of Experimental Social Psychology*, 5, 12–30.

Preylo, B. D., & Arikawa, H. (2008). Comparison of vegetarians and non-vegetarians on pet attitude and empathy. *Anthrozoös*, 21(4), 387–396.

Rawat, C., & Gulati, R. (2018). Influence of Parenting style on emotional and social maturity of Adolescents. *Integrated Journal of Social Sciences*, 5(2), 31-34.

Risley-Curtiss, C. (2010). Social work practitioner and the human companion animal bond: A national study. *Social Work*, (55), (1), 38–46.

Risley-Curtiss, C., Rogge, M.E., & Kawam, E. (2013). Factors affecting social workers' inclusion of animals in practice. *Social Work*, 58(2), 153–161.

Rossbach, K. A., & Wilson, J. P. (1992). Does a dog's presence make a person appear more likable? Two studies. *Anthrozoös*, 5, 40–51. doi: 10.2752/089279392787011593

Saucier, D. A., & Cain, M. E. (2006). The foundations about animal research. *Ethics and Behavior*, 16, 117–133.

Schaefer, K. D., Hays, K. A., & Steiner, R. L. (2007). Animal abuse issues in therapy: A survey of therapists' attitudes. *Professional Psychology: Research and Practice*, 38, 530–537.

Schneider, M. S., & Harley, L. P. (2006). How dogs influence the evaluation of psychotherapists. *Anthrozoös*, 19, 128–142. doi: 10.2752/089279306785593784

Serpell, J. A. (2004). Factors influencing human attitudes to animals and their welfare. *Animal Welfare*, 13, S145-S152.

- Serpell, J., Coppinger, R., Fine, A., & Perlata, J. (2010) Welfare considerations in therapy and assistance animals. In Fine, A. (Ed.), *Handbook of animal assisted therap* (pp. 481–503). Amsterdam: Elsevier.
- Shapiro, K., & DeMello, M. (2010). The state of human-animal studies. *Society & Animals*, 18(3), 307–318.
- Sherman, B. L., & Serpell, J. A. (2008). Training veterinary students in animal behavior to preserve the human-animal bond. *Journal of veterinary medical education*, 35(4), 496.
- Signal, T. D., & Taylor, N. (2006). Attitudes to animals in the animal protection community compared to a normative community sample. *Society & Animals*, 14(3), 265–274.
- Silcox, D., Castillo, Y. A., & Reed, B. J. (2014). The human animal bond: Applications for rehabilitation professionals. *Journal of Applied Rehabilitation Counseling*, 45(3), 27–37.
- Sims, V., Chin, M., & Yordon, R. (2007). Don't be cruel: Assessing beliefs about punishments for crimes against animals. *Anthrozoös*, 20, 251–259.
- Valentine, D. P., Kiddoo, M., & LaFleur, B. (1993). Psychosocial implications of service dog ownership for people who have mobility or hearing impairments. *Social Work in Health Care*, 19, 109–125. doi: 10.1300/J010v19n01\_07.
- Wadhwa nee Dabas, M., & Kaur, K. (2017). Child's Construction of Knowledge: Role of Activities in Classroom. *Integrated Journal of Social Sciences*, 4(1), 20-25.
- Wadhwa, M., Nashier Gahlawat, I., Lakra, P., & Nischal, S. (2018). Children's Questions in Science Classrooms: A Potential Source of Learning. *Integrated Journal of Social Sciences*, 5(2), 41-46.
- Wells, M., & Perrine, R. (2001). Pets go to college: The influence of pets on students' perceptions of faculty and their offices. *Anthrozoös*, 14, 161–168. doi:10.2752/089279301786999472
- Winkle, M., Crowe, T. K., & Hendrix, I. (2012). Service dogs and people with physical disabilities partnerships: A systematic review. *Occupational Therapy International*, 19, 54–66. doi: 10.1002/oti.323