Animal Assisted Therapy and Animal-human Interaction: Social Animals' Effects on Depression and Anxiety in College Students

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BACKGROUND

General: *Animal assisted therapy (AAT)* is defined as inclusion of an animal in a treatment plan for the purpose of alleviating mental and physical problems (Nimer & Lundahl, 2007); *animal-human interaction (AHI)* is defined as routine pet ownership or everyday interactions with animals (Athy, 2006).

Benefits of AAT and AHI: effective in lowering BP, stress levels, depressive symptoms (Folse, Minder, Aycock, & Santana, 1994 & Wilson, 1987), reducing anxiety (Shiloh, 2003), and in providing college students with social support and companionship (Ohio State University, 2008).

Typical demographic focus: primarily on the elderly (Baun & McCabe, 2000), mentally handicapped (Nathans-Barel, Feldman, Berger, Modai, & Silver, 2005), young children (Athy, 2006), and traumatized individuals (Yorke, Adams, & Coady, 2008).

Current focus of investigation: the focus of this study was to understand the relationships between adjustment to college and how our histories with pets (and animals in general) may be related in a non-clinical sample.

PURPOSE & HYPOTHESES

We sought to uncover the **relationship between college students' past histories with animals and their sense of adjustment, as through sense of community and social support.** We investigated the correlations among attachment to pets and past experiences with animals (e.g. positive/negative, amount) to depression and anxiety as well sense of community, and sense of social support.

Based on previous research, we expected that:

- Individuals who have had positive experiences with animals and who were high in attachment to pets would score lower on measures of depression and anxiety as well as show a better sense of social support and sense of community.

METHOD

Participants (*N* = 242 Kenyon College students)

- Age ranged from 18-23, mean age = 19.38
- 92% had at least one pet while growing up (75% dog, 58.5% cat, and 42.7% rodent)
- Number of pets owned: mean = 3.53, SD = 1.96
- Racial composition: 86.8% Caucasian, 5.3% Asian, 4.4% African American, 4.4% Hispanic, .9% Native American, and 3.5% "other" (includes mixed race)
- 66.2% female
- 65.6% grew up in suburban areas, 18.5% urban, and 15% rural

Measures

- *Beck Depression Inventory* (Beck, 1987)
- *State-trait Anxiety Inventory* (Spielberger, 1983)
- *Sense of Community Scale* (Chavis, Florin, & Wandersman, 1987)
  - Community we were interested in was Kenyon College.
- *Social Support Scale* (Steinhardt & Dolbier, 2000)
- *Lexington Attachment to Pets Scales* (Johnson, Garrity, & Stallones, 1992)
- *Experiences with Animals Survey*
  - We compiled 38 questions that were divided into 5 subscales:
    - **Positive experiences** (e.g. *I have had positive experiences with other people's animals.; Overall, I have enjoyed spending time with animals.*)
    - **Negative experiences** (e.g. *I have been bitten by a dog.; I have had negative experiences with my animals.*)
    - **Amount of experiences** (e.g. *I volunteer or have volunteered at shelters with animals.; I have never had a pet.* (r))
    - **Dog experiences** (e.g. *I have walked other people's dogs and/or dog-sat.; I have shown and/or been a part of the breeding process for dogs.*)
    - **Cat experiences** (e.g. *I have owned a cat.; I have cat-sat.*)
- *Types of Animals Inventory*
  - 10 items assessed the types of animals owned as pets, ranking of 7 categories of animals from most to least preferred, and how many different types of animals owned.

Procedures

- The study was approved by the Kenyon College Institutional Review Board (IRB).
- Participants were recruited through emails sent to all Kenyon psychology classes and all-student emails requesting participation. Informed consent was obtained through an online form on surveymonkey.com. After agreeing to the informed consent, participants were provided a link for the survey.

Data Analysis

- SPSS for Windows was used for all analyses.

RESULTS

Reliability

- We calculated Cronbach's alpha to assess the internal reliability of the past animal experiences subscales. An alpha score above .70 was acceptable reliability.
  - Positive Experiences with Animals: α = .701 (reliability was acceptable)
  - Negative Experiences with Animals: α = .591
  - Amount of Experience with Animals: α = .692
  - Dog Experiences: α = .117
  - Cat Experiences: α = .172

Correlations

- Scores on the **LAPS were positively correlated with scores on the Positive Experiences Subscale** (r=.648). This provided evidence of validity of the Positive Experiences with Animals Subscale.
- **Depression (BDI) was positively correlated with both state anxiety** (r=.680) **and trait anxiety** (r=.715). State anxiety and trait anxiety were highly correlated with each other (r=.744).
- **Social support was positively correlated with sense of community** (r=.432). Sense of community scores were negatively correlated with depression (r=-.428), state anxiety (r=-.366), and trait anxiety (r=-.541).
- Overall, our **hypotheses were not supported**. **There were no significant associations among past experiences or attachment, depression, anxiety, social support, or sense of community.**

Table of Scale Correlations, Means, Standard Deviations, and Ranges

Scales		State Anxiety	Trait Anxiety	Depression	Sense of Community	Social Support	Attachment to Pets	Positive Experiences with Animals
State Anxiety	Pearson Correlation	1						
	Sig. (2-tailed)							
Trait Anxiety	Pearson Correlation	.744**	1					
	Sig. (2-tailed)	.000						
Depression	Pearson Correlation	.680**	.715**	1				
	Sig. (2-tailed)	.000	.000					
Sense of Community	Pearson Correlation	-.198**	-.259**	-.189**	1			
	Sig. (2-tailed)	.004	.000	.006				
Social Support	Pearson Correlation	-.366**	-.541**	-.428**	.432**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
Attachment to Pets	Pearson Correlation	.092	.083	.041	.090	-.114	1	
	Sig. (2-tailed)	.202	.251	.571	.204	.111		
Positive Experiences with Animals	Pearson Correlation	.050	-.073	-.027	.001	.024	.648**	1
	Sig. (2-tailed)	.498	.324	.719	.990	.742	.000	
Mean		39.36	39.62	29.55	41.11	51.55	41.68	24.80
Standard Deviation		11.38	11.64	7.09	7.21	7.47	15.03	5.05
Range		20-74	20-73	21-58	12-59	26-63	1-66	11-28

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

DISCUSSION

Summary

- Experiences with animals were not related to measures of mental health (e.g. depression and anxiety) or adjustment to college (e.g. social support and sense of community). Based on the past research on AAT and AHI, we were surprised to find that attachment did not correlate with depression, anxiety, or social support.

Strengths

- Although our hypotheses were not supported, this study provides evidence that college students' mental health is related to their available social support and their sense of community. The model we hoped to create about the relationship among depression, anxiety, past experiences with animals, attachment, and adjustment to college was not possible; however, we were still able to find significant correlations between depression and anxiety, sense of social support and sense of community, and attachment and positive experiences with animals.

Limitations

- Lack of reliability for animal experiences subscales prohibited us from investigating these variables for relation to mental health and adjustment.
- This study examined *past* experiences with animals. Perhaps *current* pet experiences play a role in college students' adjustment.

Future Directions for Research

- Current mental health (e.g. state anxiety, sense of community) may be associated with daily interactions with animals. This study may have shown significant correlations if we used a sample that was made up of both state university students as well as private college students and compared them with each other. A 2008 Ohio State study found that interactions with animals reduced stress and anxiety; perhaps the opportunity to live off campus or at home and have pets allows for the needed daily interactions with animals that makes a significant differences in perceived social support and sense of community.

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