

Attitude to Animals and Empathy: Comparing animal protection and general community samples.

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Abstract

Although a number of studies have examined a range of demographic and personality variables that may impact upon attitudes towards the treatment of non-human species little consensus has been reached within the literature. The aim of the current study was to evaluate and assess levels of human-directed empathy and attitudes towards the treatment of animals in two diverse populations, namely the general community (n=543) and those within the animal protection field (n=389). Both groups of participants completed the Attitude towards the Treatment of Animals Scale (AAS) and the Davis Interpersonal Reactivity Index (IRI), a measure of human-directed empathy. Comparisons between the two samples indicated that those within the animal protection community scored more highly on both the animal attitude and human-directed empathy measures. Correlational analyses revealed a positive relation between AAS and IRI scores for both samples whilst the strength of the correlation was greater for those within the animal protection sample. These findings are discussed.

Research which has attempted to quantify the factors which may influence attitudes towards, and treatment of, animals falls into two broad categories: demographic and personality variables. Some demographic factors which are reported to influence attitudes towards the treatment of animals include the presence of a companion animal in the current home and/or in childhood (Paul and Serpell, 1993; Daly and Morton, 2003); ethical, religious and/or political ideology (Bowd and Bowd, 1989; Kimball, 1989; Galvin and Herzog, 1992); gender and other variables such as age and race (Kellert, 1988; Herzog, Betchart and Pittman, 1991; Signal and Taylor, 2006a). Whilst complete consensus as to the strength and extent of the impact of demographic factors is lacking, nevertheless they remain relatively well researched.

Personality variables which may influence attitudes towards the treatment of animals on the other hand are not well quantified. One of the few studies to address this is that of Mathews and Herzog (1997), who reported on a questionnaire-based investigation into links between a general personality measure (16 Personality Factor Questionnaire (16PF)) and the Animal Attitude Scale (AAS). However, they reported that the correlations between personality and attitudes to animals were generally low and non-significant. Broida, Tingley, Kimball and Miele (1993) investigated the influence that the personality differences of approximately 1000 college students had on their attitudes towards vivisection. They reported that those who supported animal rights were more likely to oppose the use of animals in research and those who were not opposed to vivisection tended to be less empathic. Studies such as these two, however, measure generic personality factors which may account for the low correlations reported; the age and validity of the instruments in some of the research may also be a factor. Within the growing body of research which addresses human-animal relationships, one particular aspect of personality which is beginning to receive substantial attention is human-directed empathy (e.g., Ascione and Arkow, 1999; Taylor and Signal, 2004). More specifically, researchers have posited an association between violence towards humans and/or animals and a lack of human-directed empathy, with empathy being proposed as a mediating factor in aggression to both humans and animals (Miller and Eisenberg, 1988;

Hastings, Zahn-Waxler, Robinson, Usher and Bridges, 2000; Taylor and Signal, 2005).

Whilst debate exists within the literature as to whether empathy is a learned ability (i.e., distinct from personality factors), a relatively stable personality trait (e.g., Daly & Morton, 2003) or a combination of these (i.e., a personality trait mutable by experience, e.g., Preston and de Waal, 2002) in the current study it is treated as the latter and defined as the ability to understand and share in another's emotional state (Eisenberg & Strayer, 1987).

In an earlier paper, it was reported that within a student sample there was a moderate, significant correlation between aspects of human directed empathy and attitudes towards the treatment of non-human species (Taylor and Signal, 2005). The tool used to assess human-directed empathy was the Davis Interpersonal Reactivity Index (IRI), a self-report measure which assumes that empathy is a learned ability consisting of both cognitive and affective skills (Davis, 1980). The findings of the study suggested that students who scored more highly on the empathy measure also tended to score highly on the AAS, indicating more pro-animal welfare attitudes. It must be noted that there is a lack of consensus about both the direction and the strength of any such links between empathy and attitudes towards the treatment of animals (e.g., Paul, 2000; Daly and Morton, 2003; Furnham, McManus, and Scott, 2003; Taylor and Signal, 2005). This disparity in research findings highlights the need for further research. Additionally, previous studies often have the methodological limitation of utilizing student and/or child samples, which may limit the generalisability of such results. Given the limitations of previous studies, there remains a need for further research to quantify personality and demographic variables and their influence on attitudes towards animals. Such research also needs to, if possible, begin to establish causal links. An examination of specific groups of individuals where there is an a priori expectation of elevated attitudes towards the treatment of animals may help in establishing baseline data.

Therefore, in the current paper, links between empathy and attitude towards the treatment of animals within two different populations are examined. That is, a general community sample was contrasted with a sample drawn specifically from the animal protection community. It was expected that those in the animal protection sample should

have elevated attitudes towards the treatment of animals and thus, that they should have attendant elevated levels of human-directed empathy (Broida et al., 1993). It was also expected that the relationship between these would be stronger than seen in the general community sample.

Method

Sample One: Community Sample

Participants

An existing data set from a study which aimed to assess links between empathy, aggression and attitudes towards the treatment of animals within the general community formed the first sample in the current study. Questionnaires were administered by telephone to a random sample of approximately 600 adults throughout Australia (further details of this initial study can be found in Signal and Taylor, 2006a).

Sample Two: Animal Protection Community

Participants

Participants within this sample were recruited from within the animal ‘protection’ community. The researchers originally contacted 18 animal protection groups, 13 of whom were able to disseminate the survey via email and listservs resulting in approximately 400 responses. All groups had a significant presence on the internet and ranged from larger, international to smaller, more locally based groups.

Survey Instruments

A small number of demographic questions and two previously validated scales were used with both samples. The first, the Animal Attitude Scale (AAS) (Herzog, Betchart and Pittman, 1991), is a 20 item, 5 point Likert based scale with respondents indicating answers from Strongly Disagree to Strongly Agree to statements regarding attitudes to the treatment of animals. Sample items include “Wild animals should not be trapped and their skins made into fur coats,” “Basically humans have the right to use animals as they see fit,” and, “The use of

animals in rodeos and circuses is cruel.” The scale has been found to have high internal consistency (Cronbach’s $\alpha = 0.86$; Signal & Taylor, 2006b) and has previously been used successfully (e.g., Herzog et al., 1991; Taylor and Signal, 2005; Signal and Taylor, 2006a, 2006b). A high score on this scale indicates pro-welfare attitudes (Herzog, 2004 pers. comm.).

The second scale used was the Davis Interpersonal Reactivity Index (IRI) (Davis, 1980), one of the most commonly used and, according to Alterman, McDermott, Cacciola and Rutherford (2003), one of the most comprehensive measures of empathy. Although the full IRI consists of four sub scales, several studies support the use of a truncated version of the IRI (Cliffordson, 2001; Alterman et al., 2003) consisting of the Empathic Concern (EC) and Perspective Taking (PT) sub-scales. Therefore, in order to keep the current questionnaire as short and accessible as possible, only the two sub-scales EC (measuring feelings of warmth, compassion and concern for others) and PT (assessing an individual’s ability to adopt other-orientated perspectives) were used. Items within the IRI are answered using a five-point scale from Strongly Disagree to Strongly Agree. Examples of these items include; “I often have tender, concerned feelings for people less fortunate than me” and “I sometimes find it difficult to see things from the ‘other guy’s’ point of view”.

Results

Raw data from 612 participants in the general community sample and 407 participants in the animal protection community were entered into *SPSS v12.0*. Negatively worded items in the AAS and the IRI were recoded before the following analyses were conducted. Removals due missing data resulted (i.e., some items were not answered by all participants) in 543 and 389 valid entries from the general and animal protection communities respectively. As has been highlighted in previous studies (e.g., Matthews and Herzog, 1997; Taylor and Signal, 2005), a consistent gender difference in both the AAS and the IRI sub-scale scores were found.

Presented in Table One are the average AAS, EC, and PT scores gained within each of the two samples (general community and animal protection community). Scores on the AAS potentially range from 20 to 100, with higher scores indicating a more pro-animal welfare attitude. Scores on the sub-scales of the IRI range from 5 to 35, with higher scores indicating higher levels of the empathy trait being measured. As can be seen in Table One, those within the animal protection community have substantially higher average scores on all scales. Further analyses showed these differences to be significant (AAS: $t = 32.280$, $p=0.000$; EC: $t = 6.185$, $p=0.000$; PT: $t = 6.146$, $p=0.000$).

Insert Table One here

Pearson product-moment correlations between the sub-scales of the IRI and AAS scores were calculated for each sample with positive correlations indicating a tendency for higher levels of an IRI sub-scale to be related to higher scores on the AAS. Within the general community sample correlations of 0.272 and 0.218 were found between the AAS and EC and PT sub-scales respectively. In contrast, correlations of 0.301 (AAS/EC) and 0.144 (AAS/PT) were found within the animal protection community sample. All these correlations were significant at the 0.01 level.

A multivariate analysis was run (Group x Gender x Scale) to investigate potential gender-based interactions within the relations highlighted above. Analysis of between-subject effects showed that both Group (Community vs Animal Protection) and Gender had a significant effect on all three scale measures (AAS: $F_{\text{GROUP}}=371.284$, $p=0.000$; $F_{\text{GENDER}}=71.923$, $p=0.000$; EC: $F_{\text{GROUP}}=8.634$, $p=0.003$; $F_{\text{GENDER}}=28.208$, $p=0.000$; PT: $F_{\text{GROUP}}=13.978$, $p=0.000$; $F_{\text{GENDER}}=8.877$, $p=0.003$). However the interaction between Group and Gender was not significant on any of the dependent measures (AAS: $F_{\text{GROUP*GENDER}}=1.692$, $p=0.194$; EC: $F_{\text{GROUP*GENDER}}=0.002$, $p=0.964$; PT: $F_{\text{GROUP*GENDER}}=0.826$, $p=0.364$). This suggests that the over representation of females within the animal protection community was not the source of the significant difference found between the Groups. While females scored higher than males generally, males within the animal protection community consistently

scored higher than males from the general community on all three measures, as can be seen in Table 2. Interestingly males within the animal protection community also scored higher than females from the general community on the AAS and PT scales. For a further discussion of the gender interactions on AAS scores within the general community alone, see Signal and Taylor (2006a).

Insert Table Two here

Discussion

It was anticipated that those within the animal protection community would have elevated attitudes towards the treatment of animals (as measured by the AAS) and attendant elevated levels of human-directed empathy. Furthermore it was anticipated that the relationship between these variables would be stronger than that seen in the general community sample. The first of these hypotheses was supported in that participants drawn from the animal protection community scored significantly higher on all three measures than those from the general community, thus tentatively supporting the hypothesis that there is a link between attitudes towards the treatment of animals and human-directed empathy.

When the relationships between the scales were investigated, despite all correlations being significant, only the EC – AAS relation was stronger in the animal protection community. The EC sub-scale has been found to relate to global measures of emotion, i.e., it reflects a general concern for others whereas the PT sub-scale relates to general and interpersonal social functioning (Davis, 1980). Whilst those from the animal protection sample scored more highly on both the EC and PT sub-scales than those within the general community sample, the weaker strength of the PT – AAS correlation may be due to the fact that it measures social functioning, which prima-facie has no bearing on individual attitudes towards the treatment of animals. In contrast the greater strength of the EC – AAS relation maybe due to an overall elevated concern for others which is not necessarily restricted to non-

human species. It may therefore be that the EC component of the IRI taps into animal-directed as well as human-directed empathy, a possibility that warrants further attention.

Alternatively it may be that the relation between PT – AAS within the animal protection community is less strong due to their commitment to a particular philosophy/ideology which precludes their taking the perspective of others and in particular taking the view of others who may have a more functional attitude to the treatment of animals. The findings of Galvin and Herzog (1992) go some way to supporting this idea in that they found that animal rights supporters were more likely to be absolutist rather than relativist/situationist in their philosophy. Again this indicates an area in need of further investigation.

In terms of gender, as was expected females scored higher on the current measures of empathy and attitude towards the treatment of animals within each group. However what was unexpected was the fact that males from the animal protection community scored more highly on the AAS and the PT scales than anyone in the general community regardless of gender. Again this may lend some weight to the argument that there is a link between attitude towards the treatment of animals and human-directed empathy if one considers PT to be a more socially sanctioned expression of male empathy than EC (Vogel, Wester, Heesacker, and Madon, 2003).

Strengths of the current study include the large sample sizes and the potential generalisability of the findings due to the use of a normative community sample. Additionally, the reliance on a large community-based sample also provides much needed baseline data in this area of inquiry. Furthermore, this study represents one of the few which examines the attitudes of those within the animal protection community on a large scale (for notable exceptions see Plous, 1991). Limitations may include the scales used in this study, inasmuch as there may be other noteworthy interactions between facets of human-directed empathy and attitudes towards the treatment of animals that have been overlooked by the use of the truncated IRI.

In summary, the results from this study further corroborate the thesis that there is a link between attitudes to the treatment of animals and human-directed empathy. However, it should be noted that there is still insufficient evidence to imply causality. This, along with the topics highlighted above, suggests areas worthy of future research.

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Table One *Average AAS, EC, and PT scores as a function of group.*

	General Community		Animal Protection Community	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
AAS	67.6	9.32	84.7	10.53
EC	27.3	2.95	28.5	3.98
PT	25.6	3.32	26.8	4.01

Table Two *AAS, EC and PT scores presented as a function of Group and Gender*

Scale	Gender	Group	Mean	SD
AAS	Male	Community	63.95	8.64
		Animal Protection	78.05	14.90
	Female	Community	69.58	9.06
		Animal Protection	85.72	9.02
EC	Male	Community	26.45	2.88
		Animal Protection	27.25	3.78
	Female	Community	27.91	2.85
		Animal Protection	28.74	3.97
PT	Male	Community	24.93	3.52
		Animal Protection	26.31	3.55
	Female	Community	26.09	3.16
		Animal Protection	26.93	4.09