

# THE CONTRIBUTION OF ATTACHMENT TO PETS AND ATTACHMENT TO NATURE TO DISSOCIATION AND ABSORPTION

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## ABSTRACT

*The intent of this study was to determine if people who were highly attached to pets and /or nature would have higher levels of dissociation and absorption as measured by the Dissociative Experiences Scale (DES) and the Tellegen Absorption Scale (TAS). Three hundred and five college students were given the DES, the TAS, the Pet Attachment Questionnaire (PAQ) and five questions devised to measure attachment to nature. Correlational analyses showed pet attachment was significantly correlated with both dissociation and absorption, while high nature attachment was significantly related to absorption but not significantly related to dissociation. Forty-one percent of subjects with high pet attachment had clinical levels of dissociation. As dissociation is often related to trauma, pet attachments may provide a compensatory relationship for people with histories of trauma. An attachment to nature may be indicative of seeking an experience of sensory absorption, but not a relationship.*

Although many studies have shown that being in the presence of companion animals reduces stress (Allen, 1991; Katcher & Wilkins, 1993) and that being in nature also reduces stress (Kahn, 1997; Ulrich, 1993), none have been able to demonstrate the mechanism behind these effects. We speculated that perhaps it is a trance-like state that one enters either while interacting with companion animals or being in nature that decreases physiological arousal and increases feelings of relaxation and well-being. To assess this hypothesis about the role of a trance-like state, we decided to measure dissociation and absorption using the Dissociative Scale (DES) and the Tellegen Absorption Scale (TAS). Our hypothesis was that people who are highly attached to pets and/or nature would also score highly on both the DES and the TAS.

Although one might think that an attraction to nature

and a liking for pets might be related phenomena, the study of these two characteristics have been carried out by two different sets of researchers and published in two different sets of journals with little cross-fertilization and/or cross-references. Recently however, E.O. Wilson has promulgated the concept of biophilia; (Kellert & Wilson, 1993) a hypothesis suggesting that humans have been genetically shaped to pay selective attention to other forms of life, and that association with other species improves fitness. Although the hypothesis in its general form is difficult to test, there is ample evidence that association with companion animals and contact with natural scenery has positive effects on health and well-being. For example, the presence of companion animals reduces physiological arousal during stress inducing tasks more than the presence of a friend or being alone (Allen, 1991). The stress-reducing effects of interaction with a pet may have health consequences as the presence of a pet in the family is associated with a higher probability of survival after myocardial infarction (Friedmann, Katcher, Lynch, & Thomas, 1979). In similar fashion, viewing natural scenery has been reported to accelerate recovery from stress, and the presence of a view of a park from a hospital room has been shown to decrease narcotic analgesic usage and reduce the length of hospital stay in surgical patients (Ulrich, 1984). There have been no studies of the combined effect of natural scenery and companion animals.

There is evidence from a whole variety of sources that engagement with natural scenery or animals can result in trance-like states (Kahn, 1997). In Kahn's review of the literature, he points out that some cultures see being one with nature and/or animals as a spiritual goal. Also, involvement with nature was one of the personality correlates of high hypnotizability found by J.R. Hilgard (1970). Furthermore, there is some suggestive evidence that people who are highly attached to their animals interact with them with a specialized form of discourse (Beck & Katcher, 1996) that may have dissociative qualities. Despite these suggestive findings, no one has previously investigated the relevance of absorption or dissociation to people's relationship with nature and companion animals.

TABLE 1  
Mean Scores on Independent and Dependent Variables

	Mean	SD
Pet Attachment	12.30	11.74
Nature Attachment	25.83	5.90
Dissociation	19.36	13.05
Imaginative involvement	29.36	17.85
Activities of dissociated states	11.37	11.78
Depersonalization / derealization	13.10	14.08
Absorption	18.52	6.63

*N* = 305

## METHOD

### Participants

Subjects were 305 undergraduates recruited from the University of the Sciences in Philadelphia (232 subjects, 162 females and 70 males) and the veterinary technicians program at Harcum College (73 subjects, all of whom were female). Seventy-seven percent of the total subject group were women. All subjects were over eighteen and their mean age was 20 years.

### Procedure

Subjects signed a consent form and then completed a questionnaire consisting of the following: the Pet Attachment Questionnaire survey (Stallones, Marx, Garrity, & Johnson, 1990); a series of questions designed to test their use of the outdoors; and the Nature Index (designed by the authors); a description of their history of pet ownership; the Dissociative Experiences Scale (Bernstein & Putnam, 1986); and the Tellegen Absorption Scale (Tellegen & Atkinson, 1974).

### Materials

The DES (Bernstein & Putnam, 1986) and the TAS (Tellegen & Atkinson, 1974) are widely used questionnaires with well established reliability and validity. The Tellegen Absorption Scale was modified by eliminating any questions with direct reference to absorption in nature. Five of the thirty four questions were altered, for example "I like to watch cloud shapes change in the sky" was changed to "I like to watch the moving patterns on a computer screen-saver."

The five questions about engagement with nature, Nature Index (NI), were devised by the authors and arranged

on a seven-point Lickert scale (strongly agree to strongly disagree). The general content of the questions included enjoying nature through books or television, spending time in parks, feeling emotions while in nature, preference for living around trees, gardens and open spaces, and preferring to take vacations by the sea or mountains. All questions intercorrelated well and the overall reliability coefficient of the questionnaire was  $\alpha = .71$ .

The Pet Attachment Questionnaire (Stallones et al., 1990) is an eight-question self report questionnaire that is frequently used in the companion animal literature. The content of the questions includes feeling a pet has helped your health, seeing a pet as part of your family, taking your pet with you to visit people, keeping a picture of your pet with you, feeling a pet is more loyal than people,

viewing a pet as having the same privileges as a family member, and being affected by the way others react to your pet. The various options for answering are given numerical values (e.g., Never = 0; Seldom = 1; Occasionally = 2; Often = 3; Always = 4) and the total of the individual values is the total score. Stallones et al. (1990) reported Chronbach's alpha was .75 for reliability and that using a principal component analysis, all questions loaded on one single factor, suggesting that the questions were cohesive and depicted a single component of pet attachment. Similarly, our data showed all eight questions intercorrelated well with each other and the Chronbach's alpha for the total scale was .87.

In the analysis, the total score on the Tellegen Absorption Scale (TAS) and the score on the Dissociative Experiences Scale (DES) were used as the major dependent variables. The three subscores, or factors, on the DES (as used by Ross, Ellason, & Anderson, 1995) were also analyzed separately as dependent variables. The subscores for the DES are absorption-imaginative involvement, activities of dissociated states (or amnesia) and depersonalization-derealization. Independent variables consisted of the score on the Pet Attachment Questionnaire (PAQ) and the total of all five questions on the Nature Index (NI).

## RESULTS

Mean scores and standard deviations for the 305 subjects on all independent and dependent variables can be seen in Table 1.

In a bivariate correlational analysis (see Table 2), the two independent variables, pet attachment and nature attachment, were significantly correlated ( $r = .36$ ) as were

TABLE 2  
Pearson's Bivariate Correlation Coefficients  
(N=305)

	Imaginative Involvement	Depersonalization	Dissociative Activities	Nature Attachment	Pet Attachment	Absorption
Dissociation	.942*	.819*	.851*	.056	.240*	.468*
Imaginative Involvement		.679*	.728*	.036	.243*	.456*
Depersonalization			.741*	.034	.183*	.406*
Dissociative Activities				.024	.173*	.334*
Nature Attachment					.355*	.329*
Pet Attachment						.236*

\* Significant at the .01 level (two tailed)

the two dependent variables, dissociation and absorption ( $r = .47$ ). All significant correlations were significant at the  $p < .01$  (two tailed) level. Attachment to pets was significantly correlated with dissociation ( $r = .24$ ) and absorption ( $r = .24$ ). Of the three dissociation subscales, pet attachment was most closely associated with the imaginative involvement-absorption subscale ( $r = .24$ ) and, significantly, but not as strongly correlated with depersonalization-derealization ( $r = .18$ ) or activities of dissociated states ( $r = .17$ ). Attachment to nature was significantly correlated with absorption ( $r = .33$ ) but not to dissociation ( $r = .06$ ) or any of the dissociation subscales.

In order to show the multiple correlation between TAS, PAQ, DES, and the NI, we performed a multiple correlation and obtained a coefficient of determination of  $R = .51$ , which accounted for almost 25% of the variance. The TAS accounted for most of the variance in DES (about 22%). However, the addition of PAQ and the NI accounted for an additional 3% of the variance.

Finally, chi-square analyses were done to explore the relationship between high scores on the PAQ and the DES. Subjects with higher levels (one standard deviation above the mean) of attachment to pets had higher scores (above 30) on the DES (chi-square = 21.6,  $p < .001$ ). Although these relationships are interesting from the perspective of relationships with animals and nature, it is also important to recognize the clinical significance of the findings. As recommended by Carlson & Putnam (1993), a score of 30 was chosen as the cut-off point for a clinical disorder. Forty-one percent of the 46 subjects with a pet attachment score more than one standard deviation above the mean had DES scores

of 30 or above. Only 13% of the 259 subjects with lower pet attachment scores had DES scores at or above the clinical level. Thus, the frequency of serious dissociative symptoms was three times more frequent in people who were highly attached to their pets.

## DISCUSSION

We started the study with the hypothesis that both people highly attached to pets and people highly attached to nature would score higher on measures of dissociation and absorption than people who were not as attached. We speculated that there may be a trance-like state one enters when interacting with pets and/or nature and that it is this trance state that has health-enhancing effects. What we found was that attachment to pets was associated with higher levels of dissociation and absorption, but a high level of engagement with nature was associated with higher absorption but not dissociation.

It is possible that the relationship between attachment to animals and dissociation has something to do with a disturbance in early childhood relationships. The subjects with the highest levels of pet attachment were three times more likely to have a clinical level of dissociation (30 or above) than people with low pet attachment. According to Carlson and Putnam (1993), a considerable proportion of people with DES scores of 30 or above will have some clinical disorder with a dissociative component. It could be that people with high attachment to animals do so as a substitute for human relationships. There is some evidence that people who score high on pet attachment indices have fewer social



networks (Stallones et al., 1990) and have more prevalent negative life events, such as bereavement (Nynke, 1990). This may be related to early attachment problems or issues with trust of other human beings. This would be consistent with the increased incidence of trauma in the histories of people with high DES scores.

Future research could further explore this relationship between attachment to animals and dissociation. It would be interesting to measure the level of pet attachment in a clinical group with high dissociation levels to see if the correlation persists. Similarly, it would be interesting to take a sample of people with high pet attachment and measure their level of dissociation, as well as survey their histories for early trauma or attachment issues. This would help test the hypothesis that some people with high pet attachment and high dissociation attach to animals as a substitute for people.

Subjects who showed a high affinity for nature also scored highly on absorption, but not on dissociation. This is especially interesting as absorption and dissociation have some similar qualities. It may be that the experience of being in nature is a more diffuse, sensory experience while being in the presence of companion animals is more related to being involved in the relationship with the pet.

Another implication of these findings is that there may be different styles of entering hypnosis between people highly attached to pets and people whose primary attachment is more diffusely related to nature and its sensory phenomena. This would be consistent with J. R. Hilgard's (1972) theory of two pathways to hypnotizability, one of dissociation and the other of imaginary involvement. These two pathways may correspond to our groups of subjects attached to animals (dissociation) and subjects attached to nature (imaginary involvement).

This suggests a few practical implications. First, although both interaction with pets and being in nature have been shown to have positive effects on health, people with high dissociation and absorption may be attached to companion animals, while those with low dissociation and high absorption may find more benefit by spending time in nature. Secondly, if either of these groups of people should present themselves for hypnosis, it may be helpful to ask about their attachment to pets and nature, and use hypnotic interventions that would capitalize on their strengths, (i.e., using techniques with dissociation or absorption). Thirdly, using companion animals in psychotherapy may be a way of helping patients with dissociation restore their trust in people. By first forming a trusting relationship with the animal, the patient could learn to build a relationship with the therapist associated with the animal. Finally, asking dissociative patients about their relationships to their pets (both past and present) could give the therapist a more complete picture of the patient's object relationships.

Overall, these findings indicate that people with high

levels of attachment to pets and to nature may be two different types of people in terms of cognitive style. The pet attached people tend to have high levels of dissociation and lower levels of absorption, while people with high attachment to nature tend to have high levels of absorption and less dissociation. People highly attached to pets may be seeking a reparative relationship while those attached to nature may be seeking an experience of sensory absorption, both of which seem to have health enhancing effects. ■

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