How dogs influence the evaluation of psychotherapists

Margaret S. Schneider and Lorah Pilchak Harley

Department of Adult Education and Counselling Psychology,
University of Toronto, Canada

Abstract

Research has shown that the presence of a companion animal reduces anxiety, encourages interaction among humans and enhances the way in which people are perceived. These are all effects which would be useful in a psychotherapeutic setting. On this basis the current study investigated the effect of the presence of a dog on the way in which people perceive psychotherapists. The study utilized an experimental design in which participants viewed a videotape of one of two therapists who were either with or without a dog. It was hypothesized that people would respond more positively to the psychotherapists when accompanied by a dog; specifically, that they would be more generally satisfied and would be more willing to disclose personal information, and that these effects would be influenced by attitudes towards pets. The first two hypotheses were confirmed. The effect was most pronounced among those who were the least positive toward the psychotherapist, demonstrating a ceiling effect. Contrary to the last hypothesis, attitudes toward pets had no influence on the perceptions of psychotherapists. History of pet ownership had only minimal impact on the results. Practical applications and directions for further research are discussed.

Keywords: *companion animal, dog, psychotherapy*

There is both anecdotal and scientific evidence that companion animals can contribute to the well-being of humans in many ways. Consequently, animals have been used in a variety of mental health settings to enhance the therapeutic process. They seem to provide an environment that enables clients to feel more at ease and comfortable, thereby strengthening the client-therapist relationship and resulting in greater levels of self-disclosure. The purpose of the present study was to investigate this phenomenon experimentally. Specifically, the study was designed to investigate the effect of the presence of a companion animal (in this case, a dog) on people's satisfaction with psychotherapists and the level of self disclosure to psychotherapists.

The Impact of Animals on Human Well-Being

Previous research has shown that companion animals have a number of positive effects on humans. They reduce physiological stress responses, reduce emotional

Address for correspondence: Dr Margaret Schneider, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor St. W., Toronto, Ontario, Canada M5S 1V6. E-mail: mschneider@oise.utoronto.ca.

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stress, particularly anxiety, encourage communication, and enhance the way that people are perceived. All these effects have the potential to have a positive influence on the relationship between a psychotherapist and client.

Physiological and Psychological Health

The earliest study to demonstrate the health benefits of animals showed that the presence of a pet in the home was the strongest predictor of survival one year after discharge from a coronary care unit (Friedmann et al. 1980). A more recent study had similar results (Friedmann and Thomas 1995), while others have documented the positive effects of pets on physiological indices such as blood pressure and triglyceride levels (Friedmann et al. 1980; Katcher et al. 1983; Anderson, Reid and Jennings 1992). A comprehensive review of these and similar studies concludes that the presence of animals has a positive effect on physiological responses (Friedmann 2000).

On an emotional and behavioral level, studies have shown that animals can ease anxiety in stressful situations (Katcher, Segal and Beck 1984; Riddick 1985; Cole and Gawlinski 1995; Arambašić 1998; VizekVidović 1998) and that pet ownership is generally associated with lower anxiety (Rowan and Beck 1994). However, the results have not always been consistent. For example, in an experimental study of children undergoing dental procedures there were no overall differences in behavioral distress or physiological arousal between the experimental group (in which a dog was present) and the control group. However, there was a positive effect on physiological arousal for those children who initially verbalized distress (Havener et al. 2001). These results suggest that further research must examine differential effects that companion animals might have, depending upon the characteristics and emotional states of individuals.

It is also important to acknowledge that many of these studies are correlational. In most cases, correlational studies preclude establishing a causal relationship between variables. For example, in a doctoral dissertation examining the relationship among pet bonding, self-esteem and empathy in children, adolescent dog owners were compared with adolescents who had no dogs (Biere 2001). The dog owners proved to be higher on self-esteem and empathy, especially those who were highly bonded to their dogs. The author concluded that pet ownership and bonding has a positive effect on adolescent development. It is entirely possible, however, that the causal relationship is the other way around; that is, that higher levels of empathy and self-esteem lead to stronger human–animal bonding. It is also possible that there is an intervening variable; specifically, that parents who promote self-esteem and empathy in children are also more likely to have a companion animal.

Naturalistic experimental studies (such as randomly assigning families to a pet or no pet condition regardless of their attitudes towards pets) that would establish cause and effect also pose serious practical and ethical issues. The challenge is to find acceptable ways of investigating the underlying mechanisms of the phenomena under observation using experimentally controlled and generalizable designs. As Beck and Katcher (2003) conclude in their review of the literature, "There is solid evidence that animal contact has significant health benefits and that it positively influences transient physiological states, morale and feelings of self-

worth."(p. 87). However, because a considerable portion of this research is correlational and there are some inconsistencies in the literature, Beck and Katcher (2003) advocate for carefully controlled experimental studies.

Impact on Social Interactions

One of the processes by which companion animals influence well being is through their role as "social lubricants." That is, companion animals facilitate social interaction among humans. Individuals accompanied by pets experience more social contact with strangers than when they are alone (Lockwood 1983; Messent 1983; Hunt, Hart and Gomulkiewicz 1992; Kidd and Kidd 1994; McNicholas and Collis 2000). Service dogs have been found to have a similar effect (Hart and Hart 1987; Eddy, Hart and Boltz 1988; Allen and Blaskovich 1996). The presence of animals is also known to increase the level of interaction among residents in settings such as nursing homes and hospitals (Corson and Corson 1978; Robb, Boyd and Pristash 1980; Francis, Turner and Johnson 1985; Nielsen and Delude 1994).

One explanation for these findings may be related to the finding that the mere presence of an animal in some way makes a person appear nicer, approachable, and more inviting (Veevers 1985; Hunt, Hart and Gomulkiewicz 1992). Experimental studies using photographs or drawings have demonstrated that people are viewed more positively when they pose with an animal (Messent 1983; Rossback and Wilson 1991). In an early study using line drawings, Lockwood (1983) found that people portrayed with animals were judged to be happier, friendlier, wealthier, more relaxed and less dangerous than when they were portrayed alone. However, two follow-up studies revealed less consistent results (Friedmann and Lockwood 1991; Friedmann, Locker and Lockwood 1993). Although, the presence of animals usually had a positive influence, it also depended upon the context and, to some extent, the gender of the observer and the person being observed. In one ambiguous drawing in which the dog could be interpreted as either friendly or unfriendly, its presence did not have a consistent effect. In general, though, it seems that animals have a halo effect, imparting positive attributes onto the people they accompany, and the study by Friedmann, Locker and Lockwood (1993) suggests that pet ownership is not a factor in this effect.

The Use of Animals in Psychotherapeutic Settings

Successful psychotherapy is dependent upon the quality of the relationship between the therapist and client, referred to as the therapeutic alliance (Orlinsky, Grawe and Parks 1994; Horvath 2001). It is founded upon the ability of a therapist to connect with a client and instill a sense of confidence and trust. In turn, the client must perceive the therapist to be flexible, honest, trustworthy, and warm (Ackerman and Hilsenroth 2003). Self-disclosure, that is, the process of revealing personally intimate thoughts, feelings and information, is also a necessary component of psychotherapy (Jourard 1971; Regan and Hill 1992). Without the client's willingness to talk about sensitive or painful issues, psychotherapy cannot proceed. Both research results and anecdotal evidence, summarized below, indicate that the presence of companion animals facilitates the psychotherapeutic process and helps strengthen the client-therapist relationship; perhaps they do so by enhancing the psychotherapist's image. The ability of animals to facilitate

social interaction may play a role in self-disclosure. The quality in animals that makes them a social lubricant may also encourage the kind of disclosure that is necessary for therapy to be successful.

Boris Levinson, a clinical child psychologist who is considered to be the founder of animal-assisted therapy, was the first to document the value of using companion animals as aides or "co-therapists" in psychotherapy sessions with disturbed children (Mallon 1994). He proposed that the use of animal companions facilitates the establishment of rapport, and aids in building trust between the client and therapist, creating a more relaxed and comfortable atmosphere for the client (Levinson 1984).

Since Levinson first proposed the use of animals in the early 1960s, a steadily growing number of studies have demonstrated the positive impact of animals in therapeutic settings. They have been shown to facilitate the development of a positive sense of self (Corson et al. 1977; Katcher and Wilkins 1998), decrease depression and/or anxiety (Barker and Dawson 1998), facilitate communication (Peacock 1984; Marr et al. 2000) and increase self-disclosure (Mallon 1992; Beck and Katcher 1996). Animals have had a significant impact even with withdrawn, isolated and difficult patients (Corson et al. 1977; Holcomb and Meacham 1989) and those with severe emotional disturbance (Ross et al. 1984).

This body of research clearly points to the therapeutic benefits of companion animals, especially since the correlational and quasi-experimental studies (for example, Ross et al. 1984; Mallon 1992) are increasingly complemented by experimental studies utilizing control groups (for example, Baker and Dawson 1998; Katcher and Wilkins 1998; Marr et al. 2000). However, we still do not know very much about the process by which the animal is having this impact. The research reported here is designed to explore some of the variables that may have some influence on the therapeutic alliance when a companion animal is present.

Methods

The study utilized an experimental design in which participants viewed one of four videotaped segments of a psychotherapist introducing him/herself. Participants were then asked to complete a demographic questionnaire and three measures, two of which assessed their evaluation of the psychotherapist, the other being an attitude toward animal scale.

Participants

There were 85 participants, all of whom were students at the University of Toronto. Thirty five (41%) were undergraduates and fifty (59%) were graduate students. There were 51 females (60%) and 34 males (40%). Their ages ranged from 18 to 52 years old, with a mean of 26 and a standard deviation of 8 (Table 1). Participants were entered in a draw to win one of ten movie gift certificates valued at $20.00, as compensation for their participation.

Materials: Videotapes

Four videotapes were made, one for each of the four experimental conditions. These were: a) male psychotherapist alone, b) the same male psychotherapist accompanied by a dog, c) female psychotherapist alone, and d) the same female psychotherapist accompanied by a dog.

Table 1. Participants' age, gender and previous experience in counselling.

Experimental Settings	*n*	Participants				
		Mean Age (yrs)	Gender		Previous Counselling	
			Male	Female	Yes	No
Male therapist, no animal	22	27.4	8	14	12	10
Male therapist, with animal	24	26.4	9	15	16	8
Female therapist, no animal	20	21.7	8	12	6	14
Female therapist, with animal	19	28.1	8	11	8	11

The psychotherapists were videotaped in their own offices with their own dogs. This was, in part, to ensure that the dogs would be calm. In addition, we reasoned that, for the most part, in reality, psychotherapists are accompanied by their own companion animals in their own work settings, and conduct psychotherapy according to their own modality. Therefore, we decided to give priority to ecological validity rather than experimental control.

Both psychotherapists were given general instructions to introduce themselves and to describe their qualifications and approach to therapy. They took about a half hour just prior to videotaping to decide what they wanted to say and to practice. They were not given a script. The resulting video segments appeared to be relatively spontaneous. Each psychotherapist was videotaped twice, once with and once without his/her dog. When the dog was present, the psychotherapist introduced the dog at the beginning of the segment but made no other mention of the animal. Both dogs were large; the female therapist's dog was a Golden Retriever; the male therapist's was a black Collie/Labrador cross. Because the therapists' introductions were neither scripted nor memorized, there were some minor variations in tone and wording between the dog/no dog conditions.

There were, however, conspicuous differences between the two therapist conditions. In order to avoid deception and to encourage spontaneity, each therapist decided what he/she would say. They were videotaped in their own offices rather than in a controlled environment, to avoid the dogs becoming agitated by unfamiliar surroundings. In addition, the Golden Retriever lay quietly on the floor during the video segment, while the other dog was somewhat restless and sat up to be petted. Lastly, the Golden Retriever was easier to see in detail because of her coat color. The features of the black dog were less distinguishable. Although these factors need to be acknowledged, they did not, in our judgment, undermine the validity of the results. This will be discussed in more detail later in the paper.

Materials: Measures

Each participant was asked to complete three measures and a background questionnaire.

Counsellor Rating Form – Short Version (CRF-S). The CRF-S (Corrigan and Schmidt 1983) is a brief, 12-adjective instrument. It was developed to measure the perception of the therapist as trustworthy, expert, credible, attractive, powerful, and an overall "good guy" (Atkinson and Carskasddon 1975; Corrigan and Schmidt 1983).

The CRF-S requires respondents to rate their perceptions of the therapist, using a 7-point scale, from 1 (not very) to 7 (very). Characteristics such as "honest," "sincere," "sociable" and "experienced" are rated. To score the measure, the scores on each item are summed for an overall rating ranging from 12–84, with higher scores indicating more positive ratings. Three subscales can also be derived for trustworthiness, expertness and attractiveness. The scores on these subscales range from 4 to 28.

The subscales have a split-half reliability of 0.90 (expertness), 0.91 (attractiveness) and 0.87 (trustworthiness) (Ponterotto and Furlong 1985) and predictive validity (Kokotovic and Tracey 1987). However, there is some question as to whether the subscales are, in fact, independent of each other, with studies of the structure of the measure yielding contradictory results (Corrigan and Schmidt 1983; Tracey, Glidden and Kokotovic 1988; Wilson and Yager 1990). For the purposes of this study it was decided to use the overall score as well as the subscale scores, since they might yield useful information even if they were not independent.

Disclosure to Therapist Inventory – III (DTI-III). The DTI-III (Farber and Hall 2002) is a 101-item inventory that covers a range of topics normally discussed in therapy. Topics range from neutral to highly sensitive in nature. The measure is usually used to assess self-disclosure levels within a current therapeutic relationship. In this study, participants were asked to complete the inventory with the following question in mind; "How willing would I be to discuss these topics in the first few sessions of therapy, with the therapist I just saw?" A five-point scale ranging from "not at all" to "thoroughly" is used for responding to each item. The respondent could also choose "not applicable" if the item was not personally relevant. Respondents are also asked to indicate how salient the topic was on a five-point scale. Subtracting the salience value from the self-disclosure value generates a discrepancy score, and these are totaled to arrive at an overall score.

Internal consistency of the DTI-R was reported at 0.96 and split-half reliability at 0.92 (Farber and Hall 2002). In terms of validity, Farber and Hall (1997) reported a correlation between scores of the DTI-R and clients' independent perceptions of how they reveal themselves to their therapists (Farber and Hall 1997). Furthermore, scores are not influenced by demographic variables (Sohn 2001; Farber and Hall 2002).

Pet Attitude Scale – (PAS). The PAS was developed specifically to measure favorableness of attitudes towards pets (Templer et al. 1981). Responses to the 18-items are on a 4-point scale ranging from "strongly disagree" to "strongly agree." Questions are phrased so that they can be answered regardless of whether or not the respondent actually has a pet. In the version of the PAS used in this study, the lower the score, the more favorable attitude the individual has towards animals. The measure has been shown to have a test-retest reliability of 0.92 (Templer et al. 1981) and has been shown to distinguish between people who work with animals and a more general population (Netting, Wilson and Fruge 1988). It was chosen from among a number of scales because of its psychometric properties, face validity and brevity.

Background Questionnaire. This questionnaire was included to obtain information about the participant's age, sex, current and past companion animal ownership, as well as previous involvement in therapy.

Procedure

Participants were recruited using flyers posted on campus at the University of Toronto, through classroom announcements, and posting a message on several student list-serves. Potential participants were informed that they would be participating in a study of impressions of psychotherapists. Potential participants contacted the researcher by phone or email for additional information about the study or to schedule a time to participate.

Typically, participants were run one at a time, although, for their convenience, some were run in groups of three or four, resulting in slightly uneven numbers in each group. The original plan was to randomly assign participants to experimental conditions throughout the study. However, early on it became apparent that participants would be assigned in order to keep the number and gender of participants in each condition relatively even.

At the beginning of the session, participants were provided with an information letter and were asked to sign a consent form. Ballots for the draw were completed as well. The participants were then seated at a large table facing a television and they watched one of the four versions of the videotape. They then completed the Counselor Rating Form - Short Version (CRF-S), the Disclosure to Therapist Inventory – III (DTI-III), the Pet Attachment Scale (PAS), and the Background Questionnaire.

Participants sealed the measures in an unmarked envelope and deposited it into a box. They were then given a debriefing letter describing the rationale for, and a fuller description of, the study. The participants had an opportunity to ask questions and comment.

Hypotheses

There were three main hypotheses in the study:

1) Psychotherapists accompanied by a dog would receive a higher overall score for the Counselor Rating Form - Short Version (CRF-S), as well as a higher score on the three sub- scale (expertness, attractiveness and trustworthiness) than those without a dog.
2) Psychotherapists accompanied by a dog would elicit a greater willingness to self-disclose as indicated by the score on the Disclosure to Therapist Inventory – III (DTI-III) than those without a dog.
3) There would be an interaction effect for attitude toward pets as measured by the Pet Attachment Scale (PAS) and history with companion animals.

Results

Forty-two percent ($n = 36$) of participants had a companion animal at the time of the study, a proportion that is more or less consistent with studies that report pets can be found in approximately 55% of households in North America (Beck and Meyers 1996). The fact that this sample is made up exclusively of students may account for the difference, since they might not have the lifestyle to accommodate pets at this particular time.

Thirty-one percent ($n = 26$) of the sample indicated that they had had companion animals "most of their lives," 37% ($n = 32$) indicated that they had an animal for "part of their life," and 21% ($n = 18$) indicated that they had a companion animal "once or twice." Only 10% ($n = 9$) reported that they had never owned a

Table 2. Summary of scores for all measures.

Measure	*n*	Range	*M*	*SE*	*SD*
TOTAL CRF	85	31–82	61.91	1.25	11.49
CRF-ATTRACTIVE	85	6–28	19.64	0.57	5.24
CRF-TRUSTWORTHY	85	9–28	21.24	0.43	3.95
CRF-EXPERT	85	9–27	21.04	0.42	3.90
DTI	85	-96–284	53.04	8.71	80.30
PAS	85	20–59	38.05	1.06	9.83

companion animal. Nearly half the participants had been a client in psychotherapy at some time in their life (49%, $n = 41$).

In interpreting the results, it is important to note that each participant viewed only one video. Thus, comparisons between the dog/no dog conditions involve comparisons of the results from different groups of participants. However, a statistical analysis indicates that there were no significant differences among the four groups in terms of demographic characteristics, history with companion animals and scores on the PAS.

Unless otherwise stated, all tests were 2-tailed. Table 2 provides information for scores on each of the measures.

Hypothesis 1

Overall, the presence of the dog exerted a positive influence on perceptions of the psychotherapists compared with the condition where there was no dog present. The psychotherapists were rated significantly higher on the CRF-S when accompanied by a dog ($t_{(1,83)} = 4.59$, $p < 0.05$), and were perceived to be significantly more trustworthy ($t_{(1,83)} = 8.167$, $p < 0.005$). Therapists with a dog were also perceived to be more attractive than those without a dog. This reached significance with a 1-tailed test ($t_{(1,83)} = 3.36$, $p = 0.035$), which is justified since it is in the predicted direction. The presence of a dog had no influence on the ratings of expertness.

There was no interaction for participants' scores on the PAS, indicating that a favorable attitude towards animals did not influence participants' ratings, one way or the other, when the animal was present. There were also no interactions for sex or age of participant, current pet ownership, or history of pet ownership.

For a further, *post hoc* analysis, participants were divided into three groups, based on the results of the CRF-S: those who gave the therapists a low, medium or high score, respectively. An ANOVA was conducted with these three groups to determine the influence of the presence of the dog. The presence or absence of the dog had no significant effect among those who rated the psychotherapists most highly. However, among those rating the therapists low overall, the therapists were rated significantly higher when in the presence of dog ($F_{(1,83)} = 4.585$, $p < 0.05$), and this was largely accounted for by scores on the "trustworthy" subscale.

Hypothesis 2

Participants reported a greater willingness to disclose when the therapist was accompanied by a dog ($t_{(1,83)} = 15.52$, $p < 0.0001$) than when without a dog. This supports the second hypothesis. However, a *post hoc* 2 x 2 ANOVA indicated a

notable difference between the two therapists in terms of the magnitude of the influence of the dog. The dog's presence had a much greater impact on willingness to disclose to the female therapist, with a significant interaction effect ($F_{(1,80)} = 5.29$, $p < 0.05$). While the presence of the dog increased the willingness to disclose to both the male and female therapist, a further post hoc analysis revealed that the effect was actually significant only for the female therapist ($t_{(37)} = -3.79$, $p < 0.001$).

Another post hoc analysis revealed that the presence of the dog had a differential effect on those participants who were inclined to disclose the least. Participants were divided into three groups: those indicating low, medium and high levels of self-disclosure, respectively. An analysis of variance revealed that disclosure ratings were significantly higher for those in the "low disclosure" group when there was an animal present ($F_{(1,27)} = 4.90$, $p < 0.05$) compared with when no dog was present. There was a tendency for those in the "medium disclosure" group to have higher disclosure scores when the therapist was in the presence of an animal compared with when no dog was present, although the difference approached, but did not reach, significance ($F_{(1,26)} = 3.497$, $p = 0.07$). Self-disclosure ratings for those in the "high disclosure" group did not differ between the two conditions. These results indicate that animal presence has the most impact on disclosure ratings for individuals who are low or moderately low on willingness to disclose in therapy.

There were no interactions for sex or age of participant, history of pet ownership or scores on the PAS. However, current pet owners were, overall, more willing to disclose, but this was not significant ($F_{(1,83)} = 3.79$, $p = 0.055$).

Hypothesis 3

The final hypothesis predicted that there would be an interaction between the participants' rating of the therapist and their attitude toward pets. In the animal condition the highest therapist ratings were expected to be from participants who had more favorable attitudes towards pets. As can be seen from the above results, the third hypothesis was not supported by the results of the study. With one exception, history of pet ownership, current pet ownership, and attitudes toward pets had no influence on the impact of the presence or absence of the dog.

Discussion

In summary, this study utilized an experimental design to demonstrate that the presence of a companion animal (in this case, a dog) enhances perceptions of therapists and the willingness to disclose to therapists, regardless of attitude toward companion animals or past history with companion animals. The effect was strongest among those who were the least positive toward the therapist, which is consistent with the results of the Havener et al. (2001) study, in which only the distressed children were influenced by the presence of the dog, suggesting a ceiling effect. Furthermore, the magnitude of the impact of the companion animal was influenced by the characteristics and context of the individual therapist.

These findings raise a number of issues. First, it is interesting that the positive effect of the companion animal on satisfaction with the therapist (as measured by the CRS) affected perceptions of personality characteristics (i.e., attractiveness

and trustworthiness) but not perceptions of competence. It appears that the companion animal appeals to people's emotional response rather than their evaluative response. In other words, the presence of a companion animal only selectively enhances aspects of a person's overall impression. Further research into this selectivity may tell us more about the nature of the human–animal bond.

The second issue is that the companion animal does not exert the same magnitude of effect on each therapist. The results showed that the presence of the dog had a significantly greater positive impact on perceptions of the female therapist than on the male therapist. There are at least three factors, relevant to the dogs, themselves, that might be relevant here. The first has to do with the quality of the videotape, itself. Because the male therapist's dog was dark in color, it was difficult to capture her features on videotape, while the image of the female therapist's dog was clear, making her more salient. Second, the male therapist's dog did not settle during the videotaping, even though we tried several takes. In response, the therapist petted the dog throughout the segment, appearing to be somewhat distracted. This might have dampened the positive effect of the dog. The female therapist's dog lay quietly at her feet, allowing her to focus her attention on the camera and the hypothetical audience. In addition, the female therapist's dog may have appeared to be generally more endearing not only because her features were more distinguishable, but also because she settled down quietly after a wide yawn. In fact, when the video was shown as part of a conference presentation (Schneider and Harley 2004) there was mild laughter at this. This underscores that the attitude toward the animal —itself, its behavior, features and type—is also an important variable.

As mentioned earlier, context is an important variable (Friedmann and Lockwood 1991; Friedmann, Locker and Lockwood 1993) affecting attitudes towards dogs. There are many contextual variables in this study which could also account for the differential effect for the male and female therapists: their gender and individual characteristics, their scripts, and the appearance of their respective offices, to name a few. These are all variables that merit attention in further research in which we could opt for experimental control rather than ecological validity. What is remarkable, however, is that the impact of the dog was sufficiently robust, overall, to overcome the impact of extraneous variables.

The challenge is to identify the many different variables, especially in a naturalistic setting, that have an impact on the effect, including type and appearance of animal, familiarity of the animal, and the context. However, the results are encouraging regarding the possible role of companion animals in enhancing the therapeutic relationship, particularly among clients who are the least inclined to be positive about the therapeutic relationship. Further research is called for to improve the generalizability of the results and to clarify the practical implications of the study.

With regard to generalizability, the sample was demographically homogeneous in terms of educational level and ethnic and cultural background, and most participants were under age 35. In addition, none of the participants were extremely negative in their attitudes toward pets; although scores on the PAS proved not to be a significant factor in this study, it might prove to be a factor among people who have a strong aversion to companion animals, either because of personal experience and preference, or because of ethnically or culturally based attitudes

toward companion animals. Friedmann, Locker and Lockwood (1993) also found that attitudes toward pets did not influence participants' ratings of scenes with and without animals. However, potential participants who were the most negative toward dogs were screened out of their study because they did not want to be in a room with an actual animal, which was one of the variables under study. Clearly this issue merits more research.

It is also important to consider the degree to which the results of an experiment conducted in a laboratory setting are generalizable to a real client-therapist relationship. There are two issues here. First, even though 49% of the participants had been in psychotherapy at some time in their lives, they were not actually clients in psychotherapy or seeking psychotherapy. Related to this, it is important to note that the scores on the DTI-III indicate *intention* to self-disclose, not the actual behavior.

These issues regarding generalizability raise the question as to whether the results of this study would be sufficient evidence to support introducing companion animals into psychotherapeutic settings. We have had personal communication with many therapists who are routinely accompanied by their own companion animal (typically a dog, although in one instance, there was a reptile in the office) when conducting psychotherapy; they provide anecdotal evidence of the positive influences of the animals. However, these were animals who were already family pets who happened to work well in a therapeutic setting; they were not acquired specifically for a therapeutic purpose. The question is whether the results of this study, combined with existing anecdotal evidence, are sufficiently convincing for a psychotherapist to undertake to deliberately introduce an animal into the therapeutic setting with all the planning and caretaking of the animal that would be required.

This area of research, in general, raises the question as to what is actually changing when the therapist is accompanied by a companion animal and the process by which the change takes place. At the heart of this is the nature of the human–animal bond and the impact of animals on humans. Keeping this overall issue in mind, there are a number of avenues for further research that can be pursued. First, there is a question as to whether the differences in perceptions of the therapists is due solely to the presence of the dog or whether in fact the therapists' behavior, itself, changes when the companion animal is present. We are currently in the process of running a second experiment to answer this question, using the same design, with the videotapes modified to remove the dog.

The second question is whether the effect varies depending upon the nature of the companion animal. It would be very interesting to conduct the same experiment using different types and sizes of dogs, as well as other species of animal. This might tell us something about what people seem to be responding to, but also has some practical applications. If smaller animals such as hamsters, fish or birds are shown to have an impact similar to that of dogs, it might be easier and equally beneficial to utilize them in therapeutic settings.

Lastly, this research, in particular the differential impact on the subscales of the CRF-S, suggests the importance of developing a more nuanced measure of the human–animal bond, one that measures the complexity of the cognitive and emotional factors that influence the way that humans relate to animals. A more sophis-

ticated measure will be helpful in unraveling the processes by which animals enhance the humans they accompany.

Overall, this study provides evidence that the presence of a companion animal enhances perceptions of psychotherapists, and raises questions for further research and practical applications.

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