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Animals as Friends

Social Psychological Implications of Human–Pet Relationships

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People talk to them, include them in family portraits, spend time picking out the perfect outfit for them, hunt with them, jog with them, send them to school, forgive them quickly even after they are hurt by them, turn to them on bad days for a lift, spend thousands of dollars on them, choose places to live that are best for them, post videos of them on the Internet, include them in their wills, confide in them, and feel torn apart inside when they die. Although these descriptions could easily apply to one's family members or close friends, they are also descriptive of many people's relationships with animals. In our chapter, we explore the social connections people experience with pets and outline some of the social psychological implications of human–animal relationships.

Approximately 68% of US households have a pet (American Pet Products Association, 2014), and people spend more than \$60 billion annually on their pets for food, medical care, supplies, and pet services (Henderson, 2013). Yet these animals are more than just ubiquitous and economically consequential, they are meaningful in people's lives. For example, in a study conducted in our lab involving 349 college students, 244 of them reported having at least one dog (70% of the sample, with an average of 1.43 dogs in those households) and 111 of them reported having at least one cat (32% of the sample, with an average of 1.36 cats in those households). We also asked those people with pets to report the number of those animals that they considered to be "family." The vast majority of these dogs (76%) and cats (78%) were considered to be family members.

These findings, however, are not unique to college students. Past research in our lab on self-concepts revealed that people spontaneously mention "pet owner" as an important aspect of their self-identity (McConnell, 2011), suggesting a strong linkage between one's pets and sense of self. We followed up on this observation in another study, asking a community sample of 167 pet owners about how integrated their pets were in their sense of self in comparison with other meaningful

entities in their lives, such as their best friends, parents, and siblings (McConnell, Brown, Shoda, Stayton, & Martin, 2011). Although people reported feeling closest to their best friends and parents, they reported feeling just as close to their pets as they did to their siblings. Further, when asked to indicate how much overall support they experience from these entities, these community members reported that they received as much support from their pets as they did from their parents or siblings (only best friends provided more support than pets). These findings clearly demonstrate that people feel a meaningful connection with their pets and that they experience support from pets comparable to even some of their closest blood relations.

When thinking about the friendship bonds that people form with animals, it is surprising how little we know about this important type of social relationship. In our view, social psychology researchers have not devoted much work to understanding many forms of social relationships beyond romantic dyads, which is surprising because friends undoubtedly serve many key functions ranging from social support to self-concept development to social identification. In domains beyond mainstream social psychology (e.g., family studies, clinical and developmental psychology), there are programs of research that address issues of friendship more directly (e.g., Campo et al., 2009; Fingerman, Hay, & Birditt, 2004). Yet, we believe there are important insights that social psychology can offer for understanding human–pet relationships, and our chapter focuses on some of these connections.

Can Animals Be Friends?

In formal terms, friendship is defined as a consensual participation in a close, mutual, dyadic relationship between peers (Nangle, Erdley, Newman, Mason, & Carpenter, 2003). Friendship can also be construed by how it is assessed, with common measures including reciprocal friendship nominations between two people (i.e., do both individuals identify the other as a friend; Berndt, 1984) or the presence of friendship-related qualities between people (i.e., companionship, conflict, help and aid, security, and closeness; Bukowski, Hoza, & Boivin, 1992). Overall, several positive features of good friendships have been identified, including prosocial behavior, self-esteem support, intimacy, and loyalty (Berndt & Keefe, 1995). After romantic partners, young adults report friends as their top companions and confidants, and friends are among their primary sources of social support (Carbery & Buhrmester, 1998). Although friendships may vary, they all involve some level of mutual knowledge and affection, and are likely to be characterized by a relatively high level of intimacy or mutual disclosure and support (Reis & Shaver, 1988).

When thinking about pets as friends, these well-established definitions of friendship pose interesting challenges. The inability of animals to communicate their endorsement that a person is “their friend too” or “to engage in mutual disclosure” means that, based on traditional definitions, determining that one’s pet is a friend is

an inferential leap. Moreover, people often ascribe qualities and abilities to pets in ways incompatible with their true capabilities, such as viewing “doggie kisses” as a sign of affection rather than being an artifact of canine evolution (Horowitz, 2009). To be clear, we are not arguing that people who view pets as friends, buddies, or family members are wrong or crazy. Our point is that in so doing, they are engaging in some degree of psychological projection (e.g., anthropomorphism, theory of mind) in order to make friendship with an animal possible. In fact, we would further argue that part of the intrigue of studying human–pet relationships is that the same “projection processes” involved with bestowing friendship on an animal (e.g., divining intentions from behaviors, drawing inferences about intimacy and connectedness in situations filled with inherent ambiguity, trying to ascertain the rationale underlying others’ actions) also operate for people with their human relationships as well. For example, critical relationship forces like love and trust are inferred about people too. This is why we believe there is an important role for social psychologists in understanding constructed relationships such as “my cat is my friend” or “our dog is a family member.” Processes involving expectations, anthropomorphism, theory of mind, and integrating others into one’s sense of self are studied extensively by social psychologists. Accordingly, understanding human–pet relationships not only speaks to important issues such as seeing pets as friends but also informs researchers about how we construct close relationships with people as well.

If human–animal relationships are psychologically constructed, what is the glue? We believe one important element is anthropomorphism, or the degree to which people ascribe human-like qualities to nonhuman agents, ranging from household objects to deities to pets. Several factors increase people’s likelihood of engaging in anthropomorphism, including having beliefs about how an agent could be viewed as possessing human qualities, the need to explain complex events in the environment, and people’s desire to seek out social connection in general (Epley, Waytz, & Cacioppo, 2007). For example, dog owners are more likely to say that their dog “loves them” (an anthropomorphism) when they have relevant beliefs (e.g., I believe that pets experience love toward their owners), are explaining complex events (e.g., my dog always seeks me out when I cry), and desire social connection (e.g., my partner broke up with me, and I felt lonely, and my dog cheered me up). For instance, in one experiment (Epley, Akalis, Waytz, & Cacioppo, 2008), participants were either induced to feel lonely or to feel socially connected through an initial writing exercise. Next, they were asked to describe qualities that dogs possess, with some of them being anthropomorphic traits associated with social connection (e.g., being considerate, sympathetic). Those who were made to feel lonely (rather than socially connected) reported that dogs possess more of these human-like, social connection qualities. In other words, when lonely, people seek out sources of affiliation and are more likely to imbue animals with the qualities necessary to foster social connection. Obviously, many owners anthropomorphize their pets even in circumstances where they do not feel socially isolated (in part because our need for belongingness

is considerable; Baumeister & Leary, 1995), but they are even more likely to do so when they feel socially disconnected.

Some research in our lab has examined factors related to people anthropomorphizing their pets (McConnell et al., 2011). For example, when people feel that their pets are more integrated into their sense of self (i.e., greater overlap between their pet and their self-concept on the inclusion of other in self scale) and when they report that their pets provide them with more support, they anthropomorphize their pets more (i.e., describe their pet as being more sympathetic, thoughtful, and considerate). Moreover, consistent with Epley et al. (2008), we have also found that people anthropomorphize their pets more when they are more depressed and when they tend to be less happy in general (McConnell et al., 2011). Overall, we observed large amounts of anthropomorphism among our pet owners, but these people ascribe human-like traits to their pets more strongly when their need to be socially connected is greater or when they feel more negative emotions.

Another factor related to seeing animals as entities capable of being friends involves people's theory of mind about them. When someone says things like, "my dog knows when something is wrong with me and tries to make me feel better," that person presumes a relatively sophisticated theory of mind about dogs. One way to think about the question of "what entities have minds?" is to consider any given entity (a person, a dog, a robot) in two-dimensional space, where one dimension is experience (has the ability to *feel* pain, joy, embarrassment, etc.) and the other is agency (has the *capacity* to engage in self-control, planning, communication, etc.). For example, adults may be high on both dimensions (feel a lot and have great capacity), whereas children may be high on experience but expected to only exhibit moderate amounts of agency (e.g., challenges with delaying gratification, poor planning). A study conducted by Gray, Gray, and Wegner (2007) found that people have a theory of mind for dogs comparable to babies and chimpanzees (i.e., high experience but lower amounts of agency). This finding is interesting, because although dogs were ascribed less agency than adult humans, seeing dogs as relatively indistinguishable from chimpanzees in theory of mind (primate brains are, in terms of evolution, considerably more advanced than are canine brains) suggests that people's theory of mind for dogs may exaggerate their actual capacities (cats and other common pets were not assessed by Gray et al.). Because of these lay theories of mind about dogs (and probably other highly anthropomorphized pets), people may be well equipped to extend friendship to their pets.

Friendship and Social Support Promote Health and Well-Being

Many positive outcomes result from a sense of interconnectedness, shared experience, unconditional support, and altruism (e.g., Buhrmester, 1996; Buhrmester

& Furman, 1986, 1987; Sullivan, 1953). For example, the close bonds that adolescents experience with their friendships are central to having supportive relationships (Buhrmester, 1996; Chow, Roelse, Buhrmester, & Underwood, 2011; Furman & Buhrmester, 1985), which in turn promote healthy mental and social development (Hartup, 1993). More broadly, social connectedness and support provide benefits ranging from greater self-esteem to longer lives. In terms of physical and mental health, research consistently shows that quality and quantity of social relationships are related to important outcomes such as increased enjoyment of life, reduced cardiovascular disease, lower blood pressure, reduced cancer rates, and lower mortality (Ertel, Glymour, & Berkman, 2009; Everson-Rose & Lewis, 2005; House, Landis, & Umberson, 1988; Rook, 1987). Similarly, feelings of loneliness predict many negative health outcomes such as hypertension (Hawkey, Masi, Berry, & Cacioppo, 2006), poor sleep (Cacioppo, Hawkey, Berntson, et al., 2002), diminished immune functioning (Cacioppo, Hawkey, Crawford, et al., 2002), suicidal behavior (Goldsmith, Pellmar, Kleinman, & Bunney, 2002), and depression (Russell, Cutrona, Rose, & Yurko, 1984). Even temporary periods of social exclusion harm people's sense of belongingness, meaningful existence, perceived control, and self-worth (Williams, 2007).

And when thinking about the role of friends in particular, there is considerable evidence that the social connection and support provided by friendships have meaningful downstream consequences. Research on adolescents finds that social inclusion and greater intimacy (i.e., mutual disclosure and support) in friendships improves well-being and emotional health (Almquist, Ostberg, Rostila, Edling, & Rydgren, 2014; Kenny, Dooley, & Fitzgerald, 2013). Further, friendship attachment security (i.e., feeling that one's friends are positive and dependable) predicts social and emotional benefits (e.g., less distress, greater self-esteem) above and beyond the contributions of parent-child and romantic relationship attachments (e.g., Bartholomew & Horowitz, 1991; Goh & Wilkinson, 2007; Trinke & Bartholomew, 1997).

Animals Provide Benefits for People

Having now described how pets are perceived as meaningful entities possessing the characteristics necessary for social connectedness and outlining how social support generally benefits people, is there evidence that pets provide mental and physical benefits for their owners? The answer to this question is a resounding yes. We now summarize some of the literature showing how owner-pet relationships are beneficial for people and even for their pets. These benefits have been revealed for many individuals, including children, adults, and people facing stigma and serious health challenges.

For example, children growing up with an animal companion experience a range of social and developmental advantages, including greater self-confidence,

self-esteem, and autonomy, compared with children without pets (Van Houtte & Jarvis, 1995). Also, pets can serve the role of a “security blanket” for children, encouraging exploration and confidence while simultaneously decreasing anxiety and fearfulness (Passman, 1977; Passman & Weisberg, 1975). Relatedly, children with a newly adopted dog showed greater confidence and improved behavior (e.g., less arguing, fewer tears) than children in non-pet-owning households (Paul & Serpell, 1996).

Similar to children, adults also experience social support benefits from their pets, with research indicating that pets combat feelings of stress, insecurity, loneliness, and depression (Crawford, Worsham, & Swinehart, 2006; Garrity, Stallones, Marx, & Johnson, 1989; Siegel, 1990). For example, college-aged pet owners revealed greater empathy and greater interpersonal trust than non-pet owners (Hyde, Kurdek, & Larson, 1983). Similarly, research in our own lab found that pet owners, compared with nonowners, had greater self-esteem, reported greater physical fitness and exercise activity, and tended to be less lonely (McConnell et al., 2011). Further, we observed that pet owners had healthier personality characteristics, such as being more conscientious, being more extraverted, and having healthier attachment styles (i.e., less fearful, less preoccupied) compared with nonowners. Moreover, we found that people derived more well-being benefits from their pet relationships as the quality of their human social support was *better*, not worse. In other words, the “crazy cat woman hypothesis” (i.e., the people who get the most benefits from pets are those with poorer human social support) was not observed—indeed, the opposite was found (i.e., people with more healthy human social support enjoyed better social connection experiences with their pets). This is not to say that people with poor human social support (compared with those with better human relations) do not benefit from having animals in their lives (they most certainly do), but these findings indicate that such individuals do not receive qualitatively better benefits from their pets. Overall, among normal adult populations, there is considerable evidence that pet ownership is associated with a variety of positive outcomes and personality attributes that not only help maintain beneficial human–pet relationships but also serve these owners well in having more healthy social connections with their fellow human beings.

In another study conducted in our lab, we tracked 29 community members who visited an animal shelter with an interest in adopting a pet. Ultimately, 15 of them adopted a pet (11 dogs, 4 cats), whereas the remaining 14 people did not. We assessed these community members on a variety of measures (e.g., well-being, personality) at the time they visited the animal shelter, and we followed-up with the adopters approximately 2 months later to assess changes in well-being and their pet adoption experiences (e.g., pet satisfaction, degree to which they anthropomorphized their new pet). There were few factors that distinguished those who adopted pets from those who did not (though admittedly, the sample size was small and all of our participants elected to visit an animal shelter on their own accord and

thus were relatively motivated to consider adopting a new animal), however, we observed several interesting effects among those who adopted pets. For example, pet adopters showed lower depression (comparing their levels of depressed affect at the time they visited the shelter to the follow-up session 2 months later) as they anthropomorphized their pet more ($r = .73, p < .04$) and as they reported greater satisfaction with their pet ($r = .77, p < .03$). Also, pet adopters who reported that their pet was more included in their sense of self (i.e., their pet was more integrated into their self-concept) showed improved happiness following adoption over that 2-month period ($r = .69, p < .05$) and greater satisfaction with their pet ($r = .84, p < .01$), and they anthropomorphized their pet to a greater degree ($r = .71, p < .05$). These findings indicate that the psychological glue that makes human–animal relationships powerful (i.e., anthropomorphism) and allows one to experience a greater social integration of the pet into one’s self-concept was related to better outcomes (e.g., less depression, greater pet satisfaction).

Beyond positive pets-related experiences for children and adults, research has investigated the benefits of pet ownership for populations who are susceptible to feelings of loneliness or isolation. For example, among the elderly, strong pet attachment is related to less depression (Garrity et al., 1989) and in some cases to greater happiness (Ory & Goldberg, 1983). Also, elderly people visited by volunteers with dogs showed a dramatic increase in positive mood after only 2 weeks of these visits, whereas the control group (visited by volunteers without a canine companion) experienced only a small increase in positive mood. With mounting evidence that pets and animal companions reduce stress and improve mood, facilities that may house people with chronic stress or loneliness (e.g., prisons, hospitals) have begun using animals to provide social support (Kaminski, Pellino, & Wish, 2002; Strimple, 2003).

Not only are pets a form of social support in their own right but also they promote socialization with people, increasing owners’ avenues for social support. For example, Wells (2004) found that a female experimenter was more likely to receive positive glances or engage in positive conversations when accompanied by a Labrador Retriever than when she was alone or had another object such as a teddy bear. Interestingly, even when using a highly trained dog to ensure that the dog itself does not solicit attention from passers-by, the mere presence of a dog increases positive interactions between its owner and strangers (McNicholas, & Collis, 2000).

Beyond soliciting friendly glances and conversations, findings from our lab indicate that having a pet can also increase romantic attraction. In one study, 49 female undergraduates were presented with a series of different manipulated photographic images of a man who was, or was not, accompanied by a dog (see Figure 10.1). Participants read innocuous descriptions about each man (e.g., “Ted spends most weekends working on projects around the house”), and image manipulation software allowed us to vary whether any given scene contained a dog with each man shown. After viewing each image and reading the short description, these women

rated the man on dimensions pretested to be associated with romantic attraction (e.g., affectionate, kind) and with nonromantic attributes (e.g., creative, happy) on 9-point scales. As the interaction illustrated in Figure 10.1 shows, women's evaluations of man's romantic attributes, but not his nonromantic attributes, were greater when he was accompanied by a dog than when he was presented without a dog, $F(1,47) = 10.45, p < .01$.

In addition to increasing social interaction and romantic attraction, the social lubricating effect of animals has also been observed for disabled or physically handicapped individuals. For example, an observational study examined the number of friendly glances and conversations children in wheelchairs received as a function of whether or not a service dog was present. The children received more friendly gazes, smiles, and conversations when service dogs were present than when the children were alone (Mader, Hart, & Bergin, 1989), which clearly could have positive implications for people facing stigma because of medical conditions or pejorative societal stereotypes.

Perhaps some of the best-known research investigating the benefits of pet ownership focuses on how pets can produce concrete and meaningful health benefits. For instance, Allen, Blascovich, Tomaka, and Kelsey (1991) asked female undergraduates to complete a stressful task (i.e., difficult mental arithmetic) in the laboratory to obtain a baseline of their performance, and later, these women completed the same task for a second time at home. During this follow-up session, these women were either accompanied by a friend, by their dog, or by no one (control condition). Participants who completed the second stress task with their dogs displayed less physiological reactivity (e.g., lower heart rate and blood pressure) than participants

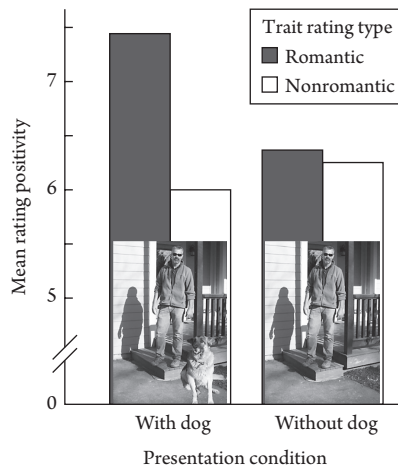


Figure 10.1 Interaction between presentation condition and rating type, revealing that women's ratings of a man's romantic attractiveness is greater when he is accompanied by a dog.

in the other two conditions (friends or control). Critically, pets did not impede their performance. This research suggests pets may be especially useful in times of stress (i.e., providing support without worries of being evaluated by people), producing measurable effects on physiological measures. Relatedly, Shiloh, Sorek, and Terkel (2003) demonstrated that petting an animal decreases people's anxiety in stressful situations (i.e., being in close proximity to a tarantula spider).

Similar stress reduction effects have been observed in naturally occurring stressful life events (e.g., Havener et al., 2001; Nagengast, Baun, Megel, & Leibowitz, 1997). For instance, healthy children undergoing a physical examination exhibited reductions in systolic arterial pressure, heart rate, and behavioral indicators of distress when a dog was present (Friedmann, Katcher, Thomas, Lynch, & Messent, 1983). Havener et al. (2001) reported similar findings involving children undergoing dental procedures, observing that children waiting for the dentist to arrive in the presence of a dog revealed warmer skin temperatures (an indicator of relaxation), whereas children in the control condition had colder skin temperatures (indicative of stress).

It is worth noting that the positive effects of pets on stress management and physiological responses are not limited to healthy individuals. In fact, the advantages of pet ownership may be more pronounced for individuals who are at greater risk for illness or experiencing stressful life events. For example, men diagnosed with AIDS who owned a pet reported less depression than similar men without pets (Siegel, Angulo, Detels, Wesch, & Mullen, 1999). Further, research on elderly Medicare patients found that seniors who owned a pet had fewer physician visits than did patients without pets (Siegel, 1990). Moreover, dog ownership moderated the effect of stress on physician visits. In other words, patients without dogs showed a connection between having more stressful life events and more physician visits, whereas patients who were dog owners did not show this stress-physician visit correlation.

Other research indicates that pets offer value and benefits for those who are at greater risk for cardiovascular disease or heart attack. For example, Allen (2003) randomly assigned stockbrokers with preexisting histories of high blood pressure to either an experimental condition where they adopted a pet (cat or dog) or to the control condition where they did not adopt a pet. In this study, stockbrokers who adopted a pet experienced lower blood pressure levels when under stress than their counterparts who did not adopt a pet. Thus, for people who habitually face stress, the benefits of pet ownership may be especially pronounced. Similarly, research has shown that following heart attacks, pet owners are less likely to die within 1 year compared with those who do not own pets (1% vs. 7%, respectively; Friedmann & Thomas, 1995). Thus, in the most important outcome of all, pet ownership predicted survival.

In addition to observing the benefits of pets for people facing stress and health-related challenges, pets help people through therapy or can even serve as a source of

therapy in their own right. For example, animals sometimes serve as guides for visually impaired people, and research indicates that guide dog owners report increased self-esteem, independence, and socialization compared with similar others without such pets (Sanders, 2000). In addition to the visually impaired, people with hearing impairments who have guide dogs show lower anxiety, depression, isolation, and dependence on others (Guest, Collins, & McNicholas, 2006). Dogs have also been used to improve the lives of individuals with severe ambulatory disabilities (e.g., spinal cord injuries, traumatic brain injury). In an experimental study, Allen and Blascovich (1996) found that patients with ambulatory disabilities who were given a service dog showed well-being improvements (e.g., self-esteem, locus of control) within 6 months, relative to wait-listed control patients. The benefits of these animals can be financial as well as medical. Specifically, Allen and Blascovich estimated that despite the expense of purchasing and training such a dog, the patients in their study would save approximately \$60,000 over an 8-year period as a result of greater personal independence and less paid assistance.

Pet therapy has also become popular with children. For hospitalized children, pet therapy is as effective as traditional forms of play therapy, as it increases positive affect, serves as a distraction, and reduces boredom (Kaminski et al., 2002). Another study involving postoperative children found that these young patients reported less physical and emotional pain after receiving canine therapy (Sobo, Eng, & Kassity-Krich, 2006). Moreover, pet therapy has also been used as a therapeutic technique for autistic children, revealing that incorporating animals into therapy improves language and socialization skills in autistic children better than more standard forms of therapy (Sams, Fortney, & Willenbring, 2006).

Human–Animal Relationships: Everyday Benefits for People and for Pets

Consider the following scenario: After experiencing a horrible day at work, you return home to find a cheerful cat or a playful puppy waiting at the door. Within minutes, all of the stress and negativity of your day seem to melt away and your mood seems markedly improved. Are such experiences genuine or fiction? Research from our lab confirms that such experiences are real (McConnell et al., 2011). In one study, college students who were pet owners came to the laboratory and completed an initial measure of social needs fulfillment (e.g., self-esteem, sense of meaningful existence). Next, based on random assignment to conditions, half of them were asked to recall a time when “they felt excluded or rejected” to induce a social rejection experience or they were asked to recall events from the previous day (control condition). Afterward, all participants completed a second activity where some were asked to write about their favorite pet (pet condition), to write about their favorite friend (friend condition), or to draw a map of campus

(control condition). Finally, they completed the social needs measure again, and a difference score between the two was computed, allowing us to determine how their well-being improved by the end of the study compared with the beginning. As Figure 10.2 shows, participants in the control condition (white bars, who wrote about yesterday) showed no meaningful changes in well-being as a function of the second activity condition. On the other hand, participants who experienced rejection but then drew a campus map (black bar, far right) felt significantly worse at the end of the study, revealing the negative effect on their well-being of recalling a time in their lives when they were excluded. However, those who also experienced rejection but then got to reflect on their pet showed no drop in well-being (black bar, far left), and thinking about their pet was just as effective at warding off feelings of rejection as thinking about their best friend (black bar, middle). This study provides an experimental analog to the example noted earlier about coming home to one's pet after a bad day—indeed, people's pets can improve one's well-being in the wake of negative, self-relevant experiences.

Although we have focused primarily on the benefits for pet owners from human–animal interactions, it is reasonable that pets themselves may benefit from their relationships with people too. Clearly, pets experience material benefits from their owners, such as food, water, shelter, and medical care. However, just as petting a dog can soothe people's stress, can pets enjoy similar perks too? Indeed, research by Coppola, Grandin, and Enns (2006) found evidence of this bidirectional benefit. Specifically, they examined stray dogs that were brought into animal shelters, which can be stressful environments for these animals. They assayed cortisol (a hormone released in response to stress) from the saliva of dogs, half of which were provided with human contact for approximately 45 minutes (e.g., walking, grooming, tactile

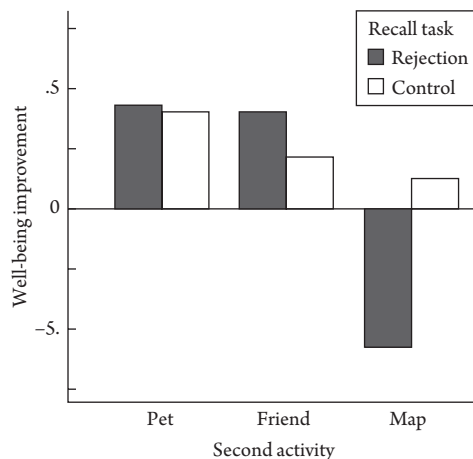


Figure 10.2 Following a social rejection experience (black bars), thinking about one's pet offsets negativity as effectively as thinking about one's best friend.

touch), while the other half of the dogs did not receive human contact. Coppola et al. found that cortisol levels were lower in the dogs provided with human contact than in the dogs without human contact, demonstrating that interactions with people reduced stress in these dogs within 3 days of arriving at the shelter. In a similar fashion, other research has demonstrated that stress reactions in dogs triggered by electric shocks can be eliminated simply by having people pet the dogs after the shocks are administered (Lynch & McCarthy, 1967). Overall, these findings indicate that pets, as well as owners, can benefit from pet–human interactions.

Broader Insights for Our Understanding of Human Nature

In this chapter, we have discussed some of the implications of animal–human interactions, and in particular, considered the social psychological aspects of viewing pets as friends. It is clear that animals play a very meaningful role in people’s lives, however, the fact that a person can characterize an animal from an entirely different species as a family member or as a friend raises a number of interesting questions both with respect to our understanding of friends and family in the psychological literature and to the functions that pets serve for their owners.

Most people anthropomorphize animals and perceive them as having a relatively evolved mind, thereby allowing them to project their own social needs, identity motivations, and societal expectations on these creatures. In particular, people anthropomorphize animals to a greater degree when feeling socially rejected (Epley et al., 2008), reflecting the power of belongingness needs. Moreover, people often project abstract qualities (e.g., love, guilt, sympathy) on their pets even though many such capacities are beyond animals’ capabilities (Horowitz, 2009). Although viewing pets as friends is a social construction, our position is that such relationships are no less real because of it. Other socially constructed relationships, such as people’s perceptions of their own family and their basic properties, are idiosyncratic as well (McConnell, Shoda, Lloyd, & Skulborstad, 2015). Thus, the qualities that people ascribe to their human friendships and relationships, such as love, support, and trust, are inferential leaps too.

We believe that imbuing animals with relatively sophisticated capabilities (e.g., anthropomorphizing them) starts with critical assumptions regarding their mental and emotional capacities. Work on theory of mind (e.g., Gray et al., 2007) has shown that a variety of species (e.g., people, dogs, chimpanzees, frogs) vary with respect to experience (i.e., their ability to feel) and agency (i.e., their ability to plan). In our view, the potential of animals to provide empathy for people (i.e., qualities associated with social anthropomorphism; e.g., Epley et al., 2008; McConnell et al., 2011) requires viewing them as possessing a relatively strong degree of experience relative to agency (though greater agency may equip animals with the ability to anticipate people’s

needs better). Thus, we would anticipate that animals viewed as greater in experience (theory of mind) will be better candidates for being viewed as possessing empathy and concern (anthropomorphism). This is not to say, however, that perceptions of animal agency are irrelevant. For example, people who assume service animals possess considerable agency may view support animals as more effective. Thus, we believe that understanding how service animals are perceived to assist people (e.g., emotional support, helping physically challenged people navigate their environments) may start with more basic assumptions about the capabilities that people presume that these animals possess, and this is an area that awaits future research.

In addition to understanding the implications of the basic mental and emotional capacities that people assume animals possess, additional work is needed to understand how human–animal interactions improve lives. In reviewing the literature, we described a number of ways that pets enhance people’s mental and physical health. These effects have been documented with children, with adults, and with people facing significant health challenges. The latter findings are especially noteworthy in that pets may very well play a role in reducing depression among people with AIDS or in decreasing mortality among people who suffer heart attacks (Friedmann & Thomas, 1995; Siegel et al., 1999). Although some of this evidence is correlational in nature, there is also a compelling collection of creative experimental studies that help establish the causal role of pets in benefiting people (e.g., Allen, 2003; Allen & Blascovich, 1996; Epley et al., 2008; McConnell et al., 2011). For example, work from our lab has shown that pets have implications ranging from increasing the romantic attractiveness of potential mates (Figure 10.1) to neutralizing the negativity that results from social rejection experiences (McConnell et al., 2011). Further, not only do human–animal relationships appear to benefit pet owners but also even simple human–pet interactions produce positive consequences for animals as well (e.g., Coppola et al., 2006).

Although the benefits of animals for children, the elderly, the emotionally distraught, and the physically impaired are well documented, other populations might benefit from interactions with animals as well. For example, it seems likely that socially anxious people may enjoy benefits from pet ownership in ways that help them negotiate their anxieties. Specifically, people with social anxiety often are fearful of interactions with other people, and they are particularly fearful of negative evaluation or rejection (American Psychiatric Association, 2013). For socially anxious people, animals may provide a source of affiliation that is nonevaluative and nonthreatening, allowing them to reduce their sense of loneliness in circumstances that do not evoke concerns about being judged. In other words, people who view pets as sources of unconditional love may find a social companion that does not trigger concerns about being evaluated or about being socially rejected. As noted earlier, people enjoy many physiological and psychological benefits from pets that help them deal with anxiety, and having a friend who is perceived to be nonjudgmental and wholly accepting may be especially valuable to people struggling with social anxiety. Indeed, returning to

our theorizing about how anthropomorphism and theory of mind underlie many of the positive consequences produced by human–animal interactions, having a service animal such as a dog may offer anxious people a companion with the presumed capacity to feel empathy (i.e., relatively greater experience) that at the same time seems relatively incapable of judging them (i.e., relatively little agency). Although there have not yet been systematic investigations involving the benefits of pet ownership for people who are socially anxious, the Americans with Disabilities Act includes animals that calm a person during an anxiety attack or anxiety-provoking event as “service animals” (United States Department of Justice, 2011). We believe that additional work with populations who find social interactions challenging (e.g., socially anxious people, stigmatized individuals) is needed to explore how pets can help supplement (though certainly not replace) social support for people who may find human interactions more taxing or limited.

In sum, the socially constructed nature of human–pet relationships underscores the power of expectation, beliefs about theory of mind, and social belongingness needs in determining people’s happiness, health, and well-being. Animals can serve as important resources for people in roles including friend, assistant, therapist, and family member. It is clear that when we project capabilities on animals such as theory of mind and anthropomorphism, we empower them to provide us with significant social support and meaning. As social resources, animals are associated with an impressive range of positive health and well-being benefits. Reflecting on the nature of human–pet relationships encourages psychologists to reexamine fundamental questions such as “What is a friend?” or “What is family?” After all, if a member of a different species can be considered a member of one’s family, perhaps the classic attributes in many definitions of family (e.g., blood relations) fail to adequately capture the key elements of what truly defines such a powerful in-group. In studying human–animal interactions, we not only understand more about the ways that animals impact and improve our lives but also discover more fundamental truths about important elements of our own humanity, including the building blocks of friendship, family, and love. Thus, it is no wonder that people confide in their pets, take them on family vacations, and are devastated by their deaths. When animals become friends, people’s connections with them can be as deep and as meaningful as any other relationship in their lives.

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