

Human-Canine Relationships: Dog Behavior and Owner Perceptions

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Abstract

Owning a dog has many physiological and psychological advantages; however, dog behavior can manifest itself in a variety of negative ways, including aggression. Research suggested that genetics and environment might play a role in aggression. It was demonstrated that owners can affect their dogs' behaviors. Owners can unwittingly condition or encourage their dogs to misbehave, whether through their inaccurate perceptions or misguided actions towards the dogs. Dog behavior specialists view owner education as the key to solving the communication barrier between human and canine. The present study's purpose was to assess if this view was possible. The research question asked if owners who perceived to know about their dogs' breed characteristics would have better behaved dogs than those who did not know. A survey scrutinized some owner factors, their perceptions of their dogs, and whether or not they thought a behavior therapist would be beneficial. The sample of rural participants generally believed their pets to be well behaved, and were not interested in a behavior therapist. However, there was a significant correlation between dog misbehavior and thinking that a behaviorist would be beneficial. There appeared to be no relationship between perceived knowledge and the amount of misbehavior.

Human-Canine Relationships: Dog Behavior and Owner Perceptions

The relationship between people and dogs is one of the oldest human-animal liaisons in history. In modern times, dogs have provided aid in the mental health field, especially in regards to children and the elderly, and provided an exercise companion to encourage a less sedentary lifestyle. Nevertheless, they can express a number of unwanted behaviors, the most pressing misbehavior taking the form of aggression. There are a large number of theories and studies done to ascertain the causes or factors of misbehavior (chiefly aggression) and how they are exhibited, some of which conflict with one another. A number of dog behavior specialists now claim that owners play a major role in their dogs' behavior. They believe that education is the key to the dilemma of misbehavior. The main purpose of this research was to determine if there was a correlation between perceived knowledge of the owned breed and the dog's behavior, as well as assessing the desire for professional intervention. This study is done in the hope that others may improve upon it, so that not only will there be more knowledge concerning the human-canine bond, but a subsequent enhancement of the relationship for both owners and the dogs they love.

Importance of Human-Canine Bond

The human-animal bond has been defined by the American Veterinary Medical Association as a mutually beneficial, dynamic relationship between people and animals that is influenced by behaviors that were essential to the health and wellbeing of both (Schaffer, 2009). Out of all the bonds made between humans and animals, the human-canine relationship was arguably the strongest and oldest. J. Archer commented that fossils show people associating with canines since the dawn of humanity (Fawcett & Gullone, 2001). Tomb paintings, ancient artifacts and texts revealed that dogs have played a role in human societies for thousands of years. Through the ages, dogs have helped guard and herd livestock, guard homes and castles, pull sleds and

carts, find criminals and victims, and hunt and provide meat, and were the first animal to be domesticated (Dotson & Hyatt, 2008; Schaefer, 2002).

Today, canines have become a part of the human family. “Approximately 61 million dogs are pets in the United States” (Marinelli, Adamelli, Normando & Bono, 2007, p. 457). The 2002 United States Pet Ownership and Demographics Sourcebook stated that, out of American dog owners, 51 percent perceived their dogs as members of the family (Dotson & Hyatt, 2008). After domesticating the dog, man formed a bond between owner and canine (Marinelli et al., 2007).

The Positive Effects of Canines on Humans

The positive correlation between physiological and psychological benefits with canine companionship has been well documented. Many researchers have listed such benefits as, lowered heart rates, blood pressure, and anxiety. Dog companionship has also been associated with the, “alleviation of depression and greater self-esteem” (Martin & Farnum, 2002, p. 658).

The history of using animal companionship for physically or mentally ill people dated back to the York Retreat in England, one of the few places in the 1700s that did not treat mentally ill patients like criminals. William Tuke, the founder, encouraged patients to do activities such as reading, writing, exploring the grounds, wearing normal clothing (as opposed to uniforms), and caring for animals. Nurturing animals was supposed to present socialization, provide pleasure, and promote recovery. Other early organizations to use companion animals as a part of treatment were Bethel in Germany, and the American Red Cross study at the AAF Convalescent Center (Schaefer, 2002).

Canines began to be used in other ways than to bring psychological health to the mentally ill, one of which was in the offices of child psychologists. The utilization of animals in child psychology began with Boris Levinson using his dog as a bridge to communicate with a

withdrawn boy. At the time, Levinson called it social facilitation, later dubbed Animal Assisted Therapy, or AAT (Fawcett & Gullone, 2001). Animal Assisted Therapy was the latest method of helping people with many physiological and psychological issues (Schaffer, 2009). In the clinical realm, dogs were utilized to aid children with a plethora of physical, behavioral, and cognitive disorders with positive results. Lately, research conducted on the effects of AAT on children with pervasive developmental disorders (Martin & Farnum, 2002). Studies indicated that AAT might improve children with conduct disorder and deficit hyperactivity disorder. The idea behind it was that caring for animals gave children an opportunity to feel competent without fear of any negative evaluation. However, there has been a lack of empirical evidence that strongly concluded the benefits of AAT for children (Fawcett & Gullone, 2001), especially children with developmental disorders (Martin & Farnum, 2002).

There were studies that indicated that owning pets, like dogs, exhibited positive effects for children. Owning a pet could heighten their autonomy, supporting the popular notion that a pet encouraged responsibility. Children with pets tended to have higher self-esteem and more positive self-concept than their pet-less counterparts. Explanations for such findings included that pets acted as a resource for support during stress, especially when there was no human support available (Van Houtte & Jarvis, 1995). It was previously found that children developed a sense of security from an animal companion, stuffed animal, or fictional animal (Schaefer, 2002). At night, a small child may have received comfort from his pet dog sleeping by his bed, or by cuddling his stuffed dog (Martin & Farnum, 2002). Pets might have special benefits for boys' social development, as seen in a study concerning the effects of pets on children's behavior. It was found that caring and playing with a pet was not affected by the children's

gender. This finding was significant because it showed that pets gave boys an opportunity to display nurturing behavior without upsetting gender roles (Schaefer, 2002).

Dogs are not only used with children. They have often been in nursing home environments to bring joy to the residents, who often spend the rest of their lives cut off from friends and family. AAT has been known to help victims of loneliness begin to interact more with their environment, eliciting smiles and even conversation from the most socially distant elderly person (Schaffer, 2009). Dog ownership in general has been shown to benefit the elderly. There was an association between the frequency of visiting physicians and the accumulation of stressful life events, such as the death of loved ones, for seniors without pets. However, this finding was negated when it came to pet owners. Pets provided a sense of companionship, security, and love for their elderly owners. Stronger attachment levels to pets tended to correlate with better mental and physical health. Out of the pets looked at in one particular research endeavor, dogs provided the most social benefits. Unlike the other pets, dogs were better stress relievers. Dog owners spent more time with their dogs, and did more activities outside with their dogs, which may have helped keep seniors more physically active. Dogs were more likely than other pets to provide feelings of security for their elderly owners (Siegel, 1990).

Another area where the human-canine bond has been positive is exercise (Cutt, Giles-Corti, & Knuiiman, 2008). With the rise in obesity, inactivity was connected with chronic health problems, early deaths, and billions of dollars spent on healthcare. Therefore, there have been a number of studies concerning the link between dog ownership and physical activity (Brown & Rhodes, 2006). In both the United States and Austria, dog owners were more likely to achieve the recommended amount of time of physical activity than non-dog owners (Brown & Rhodes, 2006; Cutt et al., 2008). In Australia, women were about 31 percent less likely to walk when they had

no companion or pet. A dog for a walking companion could provide her owner with a sense of safety when walking alone, especially at night or dangerous neighborhood. Dog-walking has been shown to increase social contact with other people (Cutt, Giles-Corti, Knuiman, & Burke, 2007).

Not all dog owners walk their dogs. Though dog owners walk more than others, about 60 percent of dog owners do not take walks with their dogs. People who do not perceive their dogs as a reason to walk (or as providing adequate social support to start walking), or who believed there were limited places to walk their dogs were less likely to take their dogs for a walk (Cutt et al., 2008). The research by S. G. Brown and R. E. Rhodes (2006) showed that the motive behind dog owners walking more was a sense of obligation or responsibility to the dog. Perhaps this added responsibility to give the dog exercise would provide a physical activity intervention for people at risk for health problems associated with sedentary lifestyles.

The Negative Behavior Issues within Canines

The story of the human-canine relationship has not been always positive. Dogs were bred to the consumers' liking, whether that was a cute little companion to carry around, or a status symbol. People who only saw the material side of dogs, their appearance or status they bring, ran a high risk of not only under appreciating their individual personalities, but also, "...owners motivated by a desire for control, domination, and status are more likely to treat their pets as objects for their own pleasure" (Beverland, Farrelly & Lim, 2008, p. 496). For some owners, especially ones with little dogs, pets were just a toy (Beverland et al., 2008). Talking about such dog owners, Cesar Millan noted, "Your dog is a living, breathing being with needs of his own – not a shiny new piece of stereo equipment" (Millan & Peltier, 2007, p. 96). Dogs were not

stuffed animals that passively accept however humans treated them. They were living creatures that react to stimuli.

Behavioral problems with the family pet were common. These common issues included excessive barking, jumping on people, over excitability, anxiety, and destructiveness (Kobelt, Hemsworth, Barnett & Coleman, 2003). The number one reason for relinquishing a dog to a shelter cited by the Regional Shelter Relinquishment Study was behavioral problems, including aggression (Salmon et al., 2000). Aggression was not only a common complaint of dog owners; it became a public safety dilemma (Beaver, 1983). There were a number of different kinds of documented aggression that domestic dogs display. Territorial aggression was when a dog warded off intruders from its property. Similarly protective aggression occurred when a dog defended its humans or any other creature it included in its pack. Irritable aggression stemmed from a dog's frustration or pain. Maternal aggression was displayed while a female was pregnant, with puppies, or having a false pregnancy. Only towards animals did dogs show predatory aggression. It was rare for dogs to kill and eat a human. In a study done by Borchelt (1983) on canine aggression, the researcher noted that, "In *all* of the cases observed, aggression developed over time" and was evoked by a stimulus-response situation (p. 58). The most common form of aggression dogs displayed towards members in their own household was dominance based aggression. Dominant conduct included a rigid posture, protracted direct eye contact, resistance to discipline/domination from owners, and aggression (Cameron, 1997).

Dominance based aggression is a normal canine behavior. In the wild, the canines that displayed the most dominance-aggression received the best mate, food, and shelter. In most packs, the alpha pair held exclusive mating rights, so the aggression was encouraged both socially and genetically. Perhaps stray or feral dogs also benefited and passed on dominance

based aggression. Even in the show ring, dogs were encouraged to have a dominant posture: head and tail high, and a confident bearing. Dominance-aggression was, therefore, a normal phenomenon in dogs and not pathological. In one particular study, the researchers found that owners did not notice their dogs' developing aggression, calling it sudden or unprovoked, until the dogs were one or two years old. On further investigation, the dogs were displaying dominance behavior even, "...sometimes beginning the day the young puppy was brought into the home," and the owner was unaware of the signals (Cameron, 1997, p. 270). When the dog thought it was alpha, it responded to the humans' lack of respect for its authority in a normal way: aggression (Cameron, 1997). This could be an explanation for the increased aggression problem dogs displayed towards their owners when the owners tried to use confrontational discipline such as pinning the dog to the ground (Herron, Shofer, & Reisner, 2009).

Owners were more likely than anyone else to be bitten by their dogs. Correlations with biting dogs included dominant/possessive behavior over food and beds, skin disorders, older age, lowered weight, and issues with fear. The worst bites came from dominant dogs, with no viable difference in the dominant dogs' genders, whether they were intact, or whether they were purebred or mixed. According to a telephone survey, adults were more likely than children to be bitten by their own dogs, especially on the hands or arms, yet hospital records show more children receiving medical treatment for bites, especially on the head (Guy et. al. 2001a).

Behavioral issues also correlated with the size of the dog. Since aggression was more tolerated in smaller dogs, it was possible that the genetic inclination to be aggressive was allowed to perpetuate in small dog breeding (Arhant, Bubna-Littitz, Bartels, Futschik & Troxler, 2010). Other studies also suggested a genetic link to aggression (Duffy, Hsu & Serpell, 2008). Researchers identified other correlations with the domestic dogs' aggression. These factors

comprised suburban environment (Kobelt et al., 2003), breed, gender, and reproductive status (Borchelt, 1983; Wright, Nesselrote, & Marc, 1987).

A study concerning the pet dog's environment in suburban Australia found that most dogs were confined to their owners' backyards. The behavioral issues common among these dogs were over excitability, marked by excessive barking and jumping/rushing at people. The next common behavior was aggression. Neither the size of the yard nor size of the dog correlated with behavior problems. Dogs that were walked less exhibited more behavioral issues, such as pacing, escaping, and restlessness. Whether the dogs were on or off leash when walked was irrelevant to their conduct (Kobelt et al., 2003). The type of housing and the number of household members affected the dogs' aggression. Dogs that lived in houses with yards, and dogs that lived with more people were rated more aggressive. Those that lived in rural areas were more aggressive towards strangers. Dogs kept only outside or inside were more aggressive with their owners than dogs who were allowed to go both inside and outside freely (Hsu & Sun, 2010).

The American Kennel Club recognized six main classifications for dog breeds: Hound, Non-sporting, Sporting, Terrier, Toy, and Working. Out of those categories, the Sporting group contained the most behavioral problems. Mixed breeds not recognized by the American Kennel Club and the Working group were rated closely behind the Sporting group (Wright et al., 1987). In one research finding, Labradors and Golden Retrievers were reported as non-aggressive (as assessed through biting incidents) toward their families. Contrary to popular opinion, German Shepherds were also ranked as non-aggressive toward their own owners. Springer Spaniels were ranked the highest in biting behavior (Guy et. al., 2001b). English Cocker Spaniels have also been labeled with aggressive behavior (Podberscek & Serpell, 1997).

Different breeds of dogs tended to exhibit different kinds of aggression. Dachshunds, Chihuahuas, Doberman Pinschers, Rottweillers, Yorkshire Terriers, and Poodles were more aggressive towards strangers than other individual breeds. They were also highly ranked for territorial behavior. Basset Hounds, Golden Retrievers, Brittany Spaniels, and Labrador Retrievers exhibited the least amount of aggression towards strangers and the least amount of territorial behavior. As a way of comparison, out of the 132 Pit Bulls (three sub-breeds), seven percent of their owners indicated that their dogs bit or attempted to bite a stranger, in contrast to the 20 percent of the 188 Dachshunds in the research.

Aggression against members of a household were usually associated with taking the dogs' food or objects the dogs were possessing. Basset Hounds, Beagles, Chihuahuas, American Cocker Spaniels, Dachshunds, English Springer Spaniels, and Jack Russell Terriers were ranked the highest in household directed aggression, all conspicuously on the small to medium size range. The suggestion was that aggression would be less tolerated in larger dogs. In support of the view that aggression towards owners was based on social dominance, there was a correlation between aggression against household members and other dogs within the home, but not with strange people or strange dogs (Duffy et al., 2008).

Aggression was expressed more towards other dogs than to people. The highest ranking breeds were Akitas, Boxers, Australian Cattle Dogs, German Shepherds, Pit Bulls, Chihuahuas, Dachshunds, English Springer Spaniels, Jack Russells, and West Highland White Terriers. Fear appeared to be related to aggression in some breeds, but not others. Fear was not linked with aggression for Rottweilers, Doberman Pinschers, Jack Russell Terriers, West Highland White Terriers, Australian Cattle Dogs, and German Shepherds. However, it was linked with Dachshunds, Chihuahuas and Yorkshire Terriers (Duffy et al., 2008). Breeding in itself was

postulated as a instigator of inter-canine aggression. Dogs that were not as distant physically from their wild cousins, like the Siberian Husky, show more ability to overcome inter-canine conflict, while others distorted by much breeding may fail to communicate successfully. Unlike the standard form most wild canids exhibited (long tail, straight ears, and normal posture) many breed specific shapes have floppy ears, docked tails or curly tails, and various body postures (think of a Bulldog). Though unstudied, some speculate that these physiological distinctions might interfere with inter-canine communication. Females, whether in the home or as strays, tend to display more aggression towards each other than male-male or male-female confrontations. Fights occurred during times of increased arousal, in the presence of food, possessions, or owner, when the dogs are trapped in a limited about of space, over preferred resting areas, or in response to threatening posture (Mertens, 2004).

Male dogs that were intact (not neutered) were more likely to exhibit behavioral problems than neutered males, but the opposite was true for females. Separation anxiety was the only noted problem that was not significantly associated with reproductive status or gender. Overall, males were more likely than females to have conduct problems (Wright et al., 1987). A. L. Podberscek and J.A. Serpell (1997) noted the 1995 study of Jagoe and Serpell, which found that dogs obtained from breeders, friends or family, or born into the owners' households, had fewer behavioral issues than dogs acquired from shelters, pet shops, or directly taken from the street. Illness as a puppy related to increased aggression in later life, which might be caused by the owner's extra care of the dog making the dog used to being demanding.

A few studies found that some factors thought to cause misbehavior among dogs actually exhibited no significant correlation. There was a mixed review of the effectiveness of obedience training in solving behavioral issues (Podberscek & Serpell, 1997). Some researchers have found

that obedience training does help with some misbehavior like aggression, separation anxiety, and escaping, while actually aggravating others such as overexcitement (Jagoe & Serpell, 1996) It was thought that canines display dominance by winning in competitive games like tug-of-war, owning sleeping space, eating first, or being spoiled by owners giving them food from the table. In a study on aggressiveness and Cocker Spaniels, none of these factors appeared to relate to the dominance-based aggressiveness of the dog. (Podberscek & Serpell, 1997). In fact, other research indicated that dogs fed before their owners exhibited less aggression than those fed after their owners (Jagoe & Serpell, 1996). In the overall empirical literature on canine behavior, the correlations between the independent variables and dog behavior were mixed, with on study finding one effect, and another finding the opposite (O'Farrel, 1997; Podberscek & Serpell, 1997).

The Question of Owner Role in Misbehavior

There were a number of studies done on the relationship between owner behavior and the dog's subsequent behavior. Dogs were shown to be able to discriminate the attention level of their owners. The study instructed the owners to sit in front of the dogs with their eyes open or closed, sit with their back turned, or leave the room. The less attention the owners paid their dogs, the quicker the dogs ate the forbidden food placed in front of them (Schwab & Huber, 2006). In a study concerning the *guilty look* often ascribed to dogs by their owners, it was found that dogs only displayed this look when the owners scolded them, whether the dogs did or did not obey them (Horowitz, 2009). Dogs exhibited a secure-base relationship with their owners in a modified Ainsworth's Strange Situation Procedure, when they explored more in the presence of their owner than alone or with a stranger. The experiment on attachment used a child development procedure because dogs appeared to elicit parental behavior in owners similar to

that between infants and parents (Palmer & Custance, 2008). The behavior of dogs was found to weaken or strengthen the attachment with their owners, whether that behavior was unsatisfactory or ideal, respectively (Serpell, 1996). Even hormonal levels of humans were shown to affect dogs, such as a dog handler's decrease in testosterone level increasing the dog's cortisol level after losing an agility competition (Jones & Josephs, 2006).

The popular notion that the owners are the source of the dogs' misbehaviors was supported by anecdotes and how-to books, and clinicians involved in dog behavior took for granted that owner attitude affects his or her pet's behavior, but there was relatively little empirical evidence that points to a cause and effect relationship between the owners' actions and the dogs' behavior (O'Farrel, 1997; Podberscek & Serpell, 1997). Most of this view stemmed from anecdotes and the long held assumption that spoiling a dog would make it misbehave, perpetuated by dog trainers/behaviorists and breeders (who were then able to avoid blame for behavioral problems inborn within their breeds). However, there has been an increasing amount of data supporting a correlational relationship between some owner factors and their dogs' misbehaviors (Jagoe & Serpell, 1996). One was that owners who spent more time with their dogs experienced less destructive chewing, digging and restlessness than owners who spent very little time with their dogs (Kobelt et al., 2003). The reason for obtaining a dog, experience (Jagoe & Serpell, 1996), age of the owner (Podberscek & Serpell, 1997), and kind of attitude owners directed towards their dogs (O'Farrell, 1997) were also a few factors.

The most common reason for owning a dog was companionship. Exercise was the next reason, then protection. Last was breeding and showing. The only statistically significant relationship between acquiring a dog for companionship and dog behavior was "...lower prevalence of competitive aggression..." (Jagoe & Serpell, 1996, p. 35). Dogs obtained for

exercise, along with dogs bought for breeding or showing, expressed the least amount of aggression. Those obtained for protection exhibited the most territorial aggression. The proposed explanation for the low aggression in dogs for exercise, breeding, and showing was that owners were more active in directing the behavior of their dogs, and show dogs had to become tolerant of the invasive physical contact of the judge. It is nearly impossible to distinguish between the dogs' breed and human behavior in the correlation of aggression and the acquiring of dogs for protection. People were inclined to buy stereotypically aggressive dogs, but also might reinforce territorial aggression, or simply perceive their dogs as being more territorial (Podberscek & Serpell, 1997).

Within the same research, first time owners tended to have more dominance and fear related behavioral problems than experienced owners, and experienced more problems with over excitability in their dogs. First time owners viewed their dogs as being more disobedient than experienced ones. Experienced owners exhibited more problems with separation anxiety among their dogs than first time owners. Some researchers believed that separation anxiety originated from an inappropriate attachment between the dog and the owner (Podberscek & Serpell, 1997).

The kind of attitude an owner possessed regarding his or her dog may also affect the dog's behavior. Owners' attitudes could be complex or even irrational, such as animal abusers who seem attached to their dogs, or owners noting their dogs' aggressive behavior with fondness. V. O'Farrell (1997) proposed that owner attitudes originated from the psychoanalytical concept of objects relation theory or projection, since a number of clients had personal problems of their own. There did seem to be tentative evidence for a correlation between emotional or psychological difficulties in the owner and a higher rate of conduct issues in the dog. Anthropomorphism, perceiving and giving human qualities to a dog, was positively associated

with dominance based aggression. Owner anxiety seemed to be positively related to the dog's misbehavior and excitability, but not to fearfulness in the dog.

As noted above, small dogs tended to be more aggressive than large ones. The owners of small dogs were inclined to be older adults. In a report between owner behavior and dog size, owners of small dogs were less consistent in disciplining their dogs and did fewer activities with their dogs. Owners saw their small dogs as being more disobedient, aggressive, excitable, and fearful than owners with large dogs. Positive punishment exasperated the nervous and aggressive conduct in small dogs. Small dogs were given obedience lessons less often than larger ones. It was posited that small dog owners tended to *baby* their pets and not view their pets' behavior objectively (Arhant et al., 2010).

Punishment from owner to dog seemed to have made matters worse also for inter-dog conflicts. Positive punishment for the aggressor and positive reinforcement for the victim merely increased the tension between rivaling dogs in a home. Often the very presence of the owner was enough to trigger a fight (Mertens, 2004).

Many today believe that education is the key to diminishing behavior problems. To solve the trouble of owners' ignorance of how and why dogs misbehave, some have taken it upon themselves to provide educational services for the owner. Since intact males experience the most contrary behavior, education for owners usually included getting their male dogs spayed. Calming drugs like chlorpromazine and habituation were also commonly used methods for dealing with fearful or aggressive dogs. If these methods failed, euthanasia was suggested (Blackshaw, 1991).

Lately, there was a new kind of educator with altogether different methods of dealing with canine misbehavior. One of the most famous dog behavior therapists, Cesar Millan, made a

television career of educating owners about their dogs' behavior problems and what they could do to alleviate these problems. Cesar Millan wrote, "...my primary mission is simply to help you understand your dog's psychology better, I also have some practical advice to give you" (Millan & Peltier, 2006, p. 197). He believed that the best way to help dogs with behavior problems was to bring both the dogs and their owners into a balanced state of mind, where the owner must satisfy their own intellectual, emotional, spiritual, and instinctual needs before being able to handle their dogs' needs. According to Millan, a dog will not obey an unbalanced person, because being unbalanced is a state of weakness. Dogs have a pack mentality that called for a calm, assertive leader. If the human will not play that part, the dog will try to fulfill that role. Millan was so adamant about this, that he called pet dogs "our mirrors," where dogs reflect the imbalance found in their owners (Millan & Peltier, 2007, p. 22). Other advice included avoiding anthropomorphizing, and meeting the dogs' needs for (in order) exercise, discipline, and affection (Millan & Peltier, 2007). Other facilities have appeared in order to educate owners concerning their dogs' behavior and how to change it.

A study on the effectiveness of a particular small private veterinary practice that dealt only with behavior was conducted in Ohio. The study looked only at cases with dominance-aggression, and used surveys to see if the clients believed the behavior therapy and information worked. Rarely more than two or three sessions with dog and owner were required. Each interview followed a pattern of interview, diagnosis, treatment suggestions, and demonstrations. Treatment was mostly behavior modification and leadership on the part of the owner, followed by teaching the owner specific ignoring techniques and giving the dog obedience training. Out of the 34 clients surveyed, 56 percent reported that after the behavior therapy their dogs' behavior experienced "good improvement" (Cameron, 1997, p. 269). Most of the clients also responded

that the advice given was (38 percent) good or (59 percent) excellent (Cameron, 1997). From this research, it seemed that owners do benefit from dog behavior education.

The kind of education that owners need was debated. Some totally rejected the idea that domestic dog behavior was comparable to their wild cousins, claiming that only pure classical and instrumental conditioning should be utilized in extinguishing unwanted behavior and that pack mentality should be ignored (Van Kerkhove, 2004). On the other hand, some believed simple training with treats and clickers to be sufficient. Others hold that a mixture of instrumental conditioning and the employment of canine ethology was the right treatment (Mertens, 2004; Millan & Peltier, 2007). Another important issue, as noted by both Arhant et al. (2010) and Mertens (2004), was the low rate in owner consistency and compliance with treatments for their dogs' behaviors.

The research question for the current study on dog behavior was whether dog owners' knowledge or ignorance of the behavioral characteristics and needs of their dogs' particular breed correlate with the dogs' behavioral problems. To assess if education might be a factor in improving dog behavior, a survey (as seen in the appendix) looked at the behaviors of owners and their dogs. In reviewing the literature, owner ignorance could be displayed in not regularly walking their dogs, obtaining certain breeds not suited to them or their environments, or obtaining high energy dogs. Ignorant owners would not know about the needs of their breed (as expressed in their responses to these questions) and would possibly have behavior problems with their dogs. One survey question concerned whether behavioral education would be beneficial to see if there are was any interest in professional help.

Method

Participants

The 58 participants were a convenient sample of dog owners who visited the veterinary clinic. Since the participants were the ones taking the dogs to the clinic, they were more likely to be the primary caregivers of the dogs. Therefore, they were probably more familiar with their pets and the ones taking the brunt of any misbehavior. It was expected that most of the surveyed people would be rural or suburban, with few or no urban dwellers, because of the rural setting near the veterinarian clinic.

Instruments

The instrument utilized was a survey that consisted of 21 questions. Most (19) were closed-ended questions, while two were open ended. The open-ended inquires asked the number of dogs owned and their breeds or type of mixes (what breeds were in one dog). The first part of the survey assessed what kind of environment the owner lived in (apartment or house, size of apartment or house, urban or rural or suburban setting), and how many hours he/she worked. It also asked whether he/she prefers relaxing or energizing activities, and whether he/she prefers being outdoors or indoors. The other questions concerned the dog. If the owner owns more than one dog, he/she will be requested to choose one to answer the next set of questions.

These questions were about where and why the dog was obtained, where it was kept most of the time, and how much it was walked. Then the dog's behavior was examined in the last section of the survey. The final subject was whether or not the owner thought a canine behavior therapist would be beneficial concerning the owner's relationship with his/her dog. The survey was as short and concise as possible to avoid participant fatigue, and to avoid implying that the owner was guilty for any misbehavior on the dog's part.

Procedure

Permission was obtained to place the surveys in the lobby of a veterinary clinic in a rural Virginian community northeast of Richmond. The surveys were in a two-story paper tray, the top rack for completed surveys and the bottom rack for untouched surveys. It was placed on a shelf holding pet-oriented advertisements. A neon-orange colored poster was placed with the surveys. The writing on the poster asked dog owners to please take the time to answer a short survey, and that it was for a college student's project. The researcher collected the completed surveys and replaced them with unfilled surveys until 58 surveys were completed. This was accomplished during the summer, when dog owners would be bringing their pets in for vaccinations before boarding them while the owners went on vacation.

Results

Demographics

Out of the 58 surveys, six were removed because at least five items were turned in unmarked. The first part of the questionnaire concerned only the dog owner. No one stated that he or she lived in an apartment. Other responses included living on less than an acre of land (38.5%), between one to three acres (32.7%), and more than three acres of land (28.8%). Seventy-five percent of the participants marked that they lived in a rural environment, while 25% of the participants stated that they lived in a suburban environment. Participants stated that they were unemployed (9.6%), worked less than 35 hours a week (21.2%), worked between 35 to 45 hours a week (57.7%), and worked for over 45 hours (11.5%). Question four had an attrition of two. There was a slight majority (56%) who preferred relaxing activities over energizing activities. The fifth question had one missing response. A strong majority (74.5%) liked being outdoors the most over being indoors the most.

The next set of items looked at the dogs. Half of the respondents had only one dog. Others owned two dogs (32.7%), three dogs (11.5%), five dogs (1.9%), and twelve dogs (1.9%). Out of 119 dogs the participants listed, 27 were mixes, or mutts. The most popular breed was the Labrador Retriever (11 dogs) and mixed breeds with Labrador in them (seven dogs). The next most popular breed was the Beagle counting its mixes (three purebred and five mutts). The Pekinese came in third with five dogs. There was only one purebred German Shepherd, but five German Shepherd mixes. There were three purebred dogs for each of the following breeds: Rottweiler, Boston Terrier, Pug, Boxer, and Jack Russell Terrier. Of the seven categories of dog breeds, the Sporting Group was represented the most with 15 purebred dogs, and six mutts with a Sporting breed in them. The Toy Group came in second with 14 purebred dogs and three mutts with a Toy breed in them.

For the rest of the survey, the participants were asked to choose one dog, if they had multiple dogs, to use in order to answer the questions. The next three items were about where and why the owner obtained their dog, and where they kept his or her dog. In item eight, seven responses were missing. Responses included obtaining the dog from a professional breeder (33.3%), a pound or shelter (22.2%), a friend (15.6%), a non-professional breeder (13.3%), a pet store (4.4%), and *other* (11.1%). In item number nine, there was an attrition of nine. The highest chosen reason for procuring a dog was companionship (60.5%). The other reasons were for their appealing character (11.6%), for their appealing appearance (4.7%), an exercise or recreation partner (4.7%) and *other* (18.6%). The most popular place the dog was kept was inside the house (57.7%). Dogs were also kept inside and outside about equally (30.8%), mostly outside within a visible or invisible fenced in area (9.6%), or outside on a lead (1.9%).

Non-Significant Test Items

The following items concern the owners' perceptions of their dogs. Half of the participants stated that they knew the breed's characteristics and needs very well before they procured the animal (whether purebred or the breeds that made up a mixed dog). Respondents also stated that they knew some things about the breed (28.8%), knew a little about the breed (13.5%), knew almost nothing (7.7%). Concerning the present state, most noted that they know their dogs' breed very well (84.6%), while others stated that they know some things about the breed (9.6%), know a little about the breed (3.8%), and almost nothing about the owned breed (1.9%). There was an attrition of four respondents in the twentieth question. Half stated that their dogs' misbehaviors usually took the form of disobeying commands. Close behind was destructive misbehavior with twenty participants (41.7%). Three marked most of the above (6.3%), and one marked aggression (2.1%).

Data Analysis

Participants rated the possible benefit of a dog behavior therapist or professional behavior modification for them and their dogs as no benefit (39.2%), generally no benefit (29.4%), generally a benefit (29.5%), and very much benefit (3.9%). The participants reported their dogs' misbehavior as none (49%), rarely (37.3%), most of the time (7.8%), and all the time (5.9%). The data were analyzed using SPSS. Since the data were mostly ordinal, a nonparametric statistical analysis was performed. The Spearman rho correlations (two tailed) were performed to evaluate whether any of the ordinal test items on the survey were significantly related to each other. The analysis showed that there was a significant positive relationship between how beneficial a dog behavior therapist was considered and the frequency of misbehavior: $r_s(50)=.453, p=.001$.

Concerning the dogs' levels of energy, a high level of energy was shown in a majority (40.4%), followed by an average energy level (30.8%), a very high energy (23.1%), and a low level of energy (5.8%). There were an equal number of people who walked their dogs every day and a few times a week (30.8%). There also were an equal number of participants who walked their dogs a few times a month and rarely (15.4%). Four owners never walked their dogs (7.7%). There was a positive significant correlation between the described energy level and how often the dog was taken for a walk: $r_s(52)=.294, p=.034$.

Owners marked that their dogs enjoyed attention, but did not want it all the time (65.4%), that their dogs wanted constant attention (32.7%), and that their dogs merely sometimes wanted attention (1.9%). There was a significant positive relationship between how often the dog wanted attention and the frequency of the dog's misbehavior: $r_s(51)=.443, p=.001$.

Thirty-one participants stated that their dogs sometimes wanted to play, but not all the time (59.6%). Twenty owners mentioned that their dogs wanted to play all the time (39.2%), while one individual mentioned that the dog did not like to play (1.9%). There was a significant positive relationship between the dogs' playfulness and how much they wanted attention: $r_s(52)=.543, p<.001$.

The sixteenth question asked about how pleasing the experience was of walking their dogs. One response was missing. Though four people in the previous question indicated that they did not walk their dogs, only two restated that in this question (3.9%). About half (49%) marked that walking their dog was always a pleasant experience. Twenty respondents noted that it was usually a pleasant experience (39.2%), and three stated that it was usually not a pleasant experience. Only one confirmed that walking his or her dog was rarely pleasant (1.9%). In the analysis, those who chose that they did not walk their dogs were excluded because that response

is not ordinal like the rest of the responses. There was a significant negative relationship between the quality of walking the dogs and the possible benefit of a dog behavior therapist: $r_s(48)=-.326$, $p=.024$. The quality of walking the dogs also negatively correlated with the frequency of misbehavior: $r_s(48)=-.390$, $p=.006$.

There was a positive significant correlation between the dogs' energy level and how much they wanted attention: $r_s(52)=.556$, $p<.001$. Also, the Spearman rho showed a significant positive relationship for the dogs' energy level and their perceived playfulness: $r_s(52)=.575$, $p<.001$. The dogs' energy level correlated significantly with their frequency of misbehavior as well: $r_s(51)=.302$, $p=.031$.

Discussion

Problems with the Questionnaire

Limitations to the study include the small n and the lack of diversity. One veterinarian clinic had the survey. If more participants from more clinics had been reached, the data may have been reported differently. Also, the data gathered may not be applicable in an urban setting, or even outside the state of Virginia. Some of the items were missing responses, which might have affected the results. The small sample size makes it difficult to make generalized statements about Virginian dog owners in a rural environment.

In hindsight, it probably would have been better if the survey had asked which dog the owner chose to use to fill in the rest of the survey. Subsequently, the researcher could have looked for a possible pattern of which kind of dogs the owners tended to choose to fill in the survey with, or if certain kinds of dogs got a particular assessment. On the questionnaire itself, people sometimes chose two responses in one question, making their response impossible to include in the data. Perhaps it would have been better if participants were explicitly asked to only mark one response

per question. It is possible that more people chose to state that they generally did not or did not think that they would benefit from a behavior therapist because they were afraid of being solicited by actual behaviorists.

The biggest issue is the subjective nature of a questionnaire. These are owners' opinions about themselves and their dogs. They may lie to make themselves look good, even though it was stated that this was an anonymous survey. Furthermore, participants' honest perceptions may not truly fit reality. They could be ignorant of what constitutes normal dog behavior (such as writing off unhealthy behaviors as quirks), or their own love for their dogs may have blinded them from the truth (which could account for only one participant confirming that his or her dog does have aggressive issues).

Possible Reasons for Outcomes

There was no significant correlation ascertained by the analysis between the owners' perceived knowledge and the dogs' behavior. However, the perceived frequency of misbehavior did correlate with perceived usefulness of behavior therapy, and the perceived frequency of the dogs wanting attention and their energy level, and the quality of walking the dogs. It appeared that some owners experiencing behavior problems from their dogs may be interested in professional help if it were offered. It also seemed that owners who see their dogs as demanding attention may also perceive a higher level of misbehavior. Maybe owners equate their dogs' attention seeking behavior with misbehavior, such as jumping on people or licking people's faces. Or it could be that dogs that are more demanding are also more misbehaved. If dogs are willing to disrespect their owners' personal space for attention, they may also disrespect their owners by misbehaving. High energy level could be viewed as over excitability, which is listed as a common issue with dogs (Arhant et al., 2010; Kobelt et al., 2003; O'Farrell, 1997;

Podberscek & Serpell, 1997). Another possibility is that dogs with high energy might become easily bored. Destructive behavior was the second most common misbehavior in the survey. It seems that dogs that are more prone to misbehaving also provide a less than satisfying experience for the owners when walked. Perhaps the dogs also misbehave on the walks, making it unpleasant for the owners to walk them.

The other significant correlation was dog-walking frequency and the dogs' perceived energy level. It appears intuitive that owners would walk high energy dogs more than low energy dogs, probably to drain some of the dogs' energy. Or the owners chose high energy dogs for exercise. Even though exercise was a primary reason for obtaining dogs for only two participants, it might possibly be a secondary reason for others, though there is no way to know for sure. Nevertheless, extrapolating from these results onto the general population is difficult because of the narrowness of the population.

Nearly everyone highly rated their knowledge, and most dogs were also labeled as well behaved. The accuracy of the owners' perceived knowledge may not be as high as they believe. Owners might hold an inaccurate understanding of their dogs and do not realize it. Perhaps there is no relationship between how much owners know about their breeds and the dogs' subsequent behavior, and there is another aspect of the relationship that has not been studied, such as personality of the owner or the behavioral characteristics of individual dogs.

In contrast to the Australian survey (Kobelt et al., 2003), and other research (Hsu & Sun, 2010) aggression was not seen as a big issue, even though the dogs were in a rural environment. Most dogs were kept inside most of the time in this sample, while the Australian survey found that most dogs were kept outside. No relationship seemed to be attached to whether or not the dog was walked and the number of behavioral problems. There were many dogs labeled as high

energy or very high energy dogs, but the majority of the participants stated that they did not think their dogs regularly misbehaved.

Previous research that asserted that Sporting breeds, mixes, and little dogs were more aggressive (Arhant et al., 2010; Wright et al., 1987) was not supported by the study, because of the perceived low levels of misbehavior and that most misbehavior was either disobedience or destruction of property. However, the study was in agreement that companionship was the most prevalent reason for obtaining a dog (Jago & Serpell, 1996).

Further Research

Further research on dog and owner relationships should improve on these results. A much larger sample should question how owners' actual and perceived knowledge affected their dogs' behavior. For owners with purebred dogs, a test could be given to them based on their dogs' group characteristics after being asked their perceived level of knowledge about the group. The data could be analyzed to ascertain the amount of discrepancy. Then the same sample could be asked about how their dogs behave: the frequency of disobedience, and how disobedience manifests itself. Questions could be more precise than the ones given in this study. If at all possible, the dogs could be monitored to see if there is any discrepancy between perceived behavior and actual performance. The two studies on knowledge and behavior could then be combined in a data analysis to determine if they are somehow related.

Another research project could investigate what prompts people to seek trainers or behavior therapists. Perhaps owners could be questioned whether they know that behavior therapy exists. More information is needed on the availability of professional behaviorists. Future studies could analyze the correlation between dogs wanting attention and their misbehavior. Also, the narrowness of this study should be expanded to a more diverse population to include more

environments than just a rural one. It could be that rural environments have better behaved dogs than non-rural.

Conclusion

This study was done on owner characteristics/perceptions and dog behavior. After much published research, the relationship between dog and master is still clouded. Based on this study, most rural owners have a positive rapport with their canines. More research should be done on how owner perception can affect dog behavior. Though this study did not find a significant correlation between misbehavior and perceived owner knowledge, it creates the question of information plays any role in the dogs' behavior. Perhaps the answer lies in some untapped facet of the relationship between the owners and dogs. The purpose of the study was not only to increase the body of related literature, but to move one step forward towards fostering a better understanding of human-canine relationships.

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Appendix

Survey Utilized in the Study

Owner-Canine Relationship Questionnaire

This is a survey concerning you and your dog. No names or other forms of identification are necessary nor is identifying information required. Participation is entirely voluntary.

For each statement mark the answer that is the most true about you and your dog.

1. Where do you live?

- a. In an apartment with less than 500 square feet.
- b. In an apartment with more than 500 square feet.
- c. In a house with less than an acre of land.
- d. In a house with one to three acres of land.
- e. In a house with more than three acres of land.

2. How would you describe the environment in which you live?

- a. Urban/city environment
- b. Rural/country environment
- c. Suburban/Residential environment

3. Are you employed? If so, how many hours do you work?

- a. Do not work.
- b. Less than 35 hours.
- c. Between 35 to 45 hours a week.
- d. More than 45 hours a week.

4. What type of activities do you prefer, in general?

- a. I enjoy mostly energizing activities.
- b. I enjoying mostly relaxing activities.

5. Where do you like to spend most of your time?

- a. I like being indoors the most.
- b. I like being outdoors the most.

6. How many dogs do you own? _____

7. What breed of dog(s) do you own? (if mixed breed, specify what kind of mix.)

8. If you own more than one dog, choose one of your dogs to answer the next questions.

Describe where you found your dog.

- a. Pound/shelter
- b. Professional Breeder
- c. Non-professional Breeder
- d. Self bred
- e. From a friend
- f. Pet store
- g. Other

9. How would you describe the primary reason for obtaining your dog?

- a. I obtained my dog for his/her appealing appearance.
- b. I obtained my dog for his/her appealing character.
- c. I obtained my dog for protection.
- d. I obtained my dog for companionship.
- e. I obtained my dog for an exercise/recreation partner.
- f. I obtained my dog for showing.
- g. I obtained my dog for breeding.
- h. Other

10. Where do you keep your dog on a regular basis?

- a. Outside on a lead.
- b. Outside in an invisible or visible fenced in area.
- c. Inside the house.
- d. Both inside and outside the house (whether on a lead or a fenced in area) about equally.

11. How would you rate your knowledge of the needs and behavioral characteristics of the breed that you own before obtaining the dog?
 - a. I knew the breed's general needs and character very well.
 - b. I knew some things about the breed's general needs and character.
 - c. I knew a little about the breed's general needs and character.
 - d. I knew almost nothing about the breed's general needs and character.

12. How would you rate your knowledge of the needs and behavioral characteristics of the breed that you own at present?
 - a. I know very well the breed's general needs and character.
 - b. I know some things about the breed's general needs and character.
 - c. I know a little about the breed's general needs and character.
 - d. I know almost nothing about the breed's general needs and character.

13. How would you describe the match between you and your dog?
 - a. We are a perfect match.
 - b. We are a near perfect match.
 - c. We generally are a good match.
 - d. We generally are not a good match.
 - e. We are not a good match.

14. How would you describe your dog's energy level?
 - a. My dog has a very high level of energy.
 - b. My dog has a high level of energy.
 - c. My dog has an average level of energy.
 - d. My dog has a low level of energy.

15. How often do you take your dog for a walk?
 - a. I walk my dog every day.
 - b. I walk my dog a few times a week.

- c. I walk my dog a few times a month.
 - d. I rarely walk my dog.
 - e. I never walk my dog.
16. How would you describe the experience of walking your dog?
- a. I never walk my dog.
 - b. It is always a pleasant experience to walk my dog.
 - c. It is usually a pleasant experience to walk my dog.
 - d. It usually is not a pleasant experience to walk my dog.
 - e. It is rarely a pleasant experience to walk my dog.
17. How would you describe your dog's playfulness?
- a. My dog wants to play all the time.
 - b. My dog likes to play sometimes.
 - c. My dog does not like to play.
18. How often does your dog want attention?
- a. My dog wants attention constantly.
 - b. My dog enjoys attention, but he/she does not want it constantly.
 - c. My dog only sometimes wants attention.
 - d. My dog does not ever want attention.
19. How often does your dog misbehave?
- a. My dog misbehaves all the time.
 - b. My dog misbehaves most of the time.
 - c. My dog usually does not misbehave.
 - d. My dog rarely misbehaves.
20. How would you characterize your dog's misbehavior?
- a. My dog's misbehavior is usually aggressive.

- b. My dog's misbehavior is usually destructive (examples: chews on household items, messes on the floor).
- c. My dog's misbehavior is usually disobeying commands.
- d. My dog's misbehavior is usually most of the above.

21. How beneficial would you consider a dog behavior therapist or professional behavioral modification for you and your dog.

- a. I think I would benefit very much from a behavior therapist.
- b. I think I would generally benefit from a behavior therapist.
- c. I think I would generally not benefit from a behavior therapist.
- d. I think I would not benefit at all from a behavior therapist