The Influence of an Animal on Social Interactions of Nursing Home Residents in a Group Setting

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Key Words: bonding, human–pet • long term care

This study was conducted to determine the effect of the presence and absence of a dog on the frequency and types of social interactions among nursing home residents during a socialization group. Point sampling was used to evaluate the behaviors of 36 male nursing home residents at a Veterans Administration Medical Center under two conditions, Dog Present and Dog Absent. A significant difference in verbal interactions among residents occurred with the dog present, \( F(1, 69) = 4.92, p < .05 \). These findings are consistent with existing literature, thus providing further evidence of the value of Animal Assisted Therapy programs as an effective medium for increasing socialization among residents in long-term care facilities. Because an increase in social interactions can improve the social climate of an institution and occupational therapists frequently incorporate group process into their treatment, the therapeutic use of animals can become a valuable adjunct to reaching treatment goals.

Some of the negative effects of institutionalization are being alleviated by the incorporation of Animal Assisted Therapy (AAT) programs in long-term care facilities. Persons residing in long-term care facilities frequently feel isolated and rejected by society. Many residents share traits of "loneliness, depression, hopelessness, boredom, and low self-esteem" (McQuillen, 1985, p. 73) due to loss of a sense of purpose and an absence of goal-directed activities in their daily lives.

The relationships between companion animals and the ill and elderly have been shown to have positive effects on their physical and mental health and social interactions with others. Studies have suggested that benefits of AAT include lowered blood pressure levels (Jenkins, 1986), increased sensory stimulation through petting, improved sense of purpose, companionship (McQuillen, 1985), improved self-esteem, and increased social interactions among staff and other residents (Winkler, Fairnie, Genecich, & Long, 1989). In particular, increased social interactions were valuable in improving the social climate of the institution and providing an enriched environment that was more conducive to therapy. Most of the existing research on AAT has been conducted by veterinarians, psychologists, and Humane Society staff. Because human–companion animal programs have been observed to facilitate a sense of purpose, occupational therapists might incorporate them when appropriate to facilitate therapy. To gain further acceptance, research was needed to examine the value of AAT as a therapeutic medium for occupational therapists in long-term care settings.

Literature Review

The elderly compose the fastest growing population in this society. It is projected that in the year 2020, 30% of the U.S. population will be 65 years of age and older (Lewis, 1990). The majority live in the community; however, the number of elderly residing in long-term care facilities is becoming larger because of the increase in life expectancy. A decline in health is often the primary cause for moving to an institution. Entering an institution can have a negative effect on a person's sense of well-being. This deterioration in physical or mental health or both added to leaving one's home, personal belongings, family, and pets has contributed to a "patient feeling disoriented, isolated, angry or depressed" (San Francisco Society for the Prevention of the Cruelty of Animals [SF/SPCA], 1986, p. 1). These persons are prime candidates for deprivation in the areas of socialization and sensory stimulation (McQuillen, 1985).

Because the elderly often withdraw from social activities and place more importance on the nonhuman environment, they have great potential for gaining from the companionship that animals have to offer. According to Bustad, "animals provide a boundless measure of acceptance, adoration, attention, forgiveness, and uncondi-

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tional love” (1980, p. 118). Beck and Katcher noted that “most patients who are depressed and withdrawn, helpless and hopeless have been hurt by words. Animals do not use words, and patients can safely approach them when they cannot approach people” (1983, p. 159). In addition, the animals gave these persons a sense of being needed at a time when they felt their usefulness was reduced.

Research has shown that the presence of animals can produce positive influences on the physical and mental health of people. A study by Jenkins revealed that “pet owners in their homes showed lower blood pressures while petting their dogs than while reading alone” (1986, p. 22). Katcher (1985), a leader in pet therapy research, also documented the effect of the presence of animals on blood pressure levels. He found that subjects had increased blood pressure when talking to another person, but decreased blood pressure when talking to and petting a dog.

A primary concern regarding the mental health of the elderly is the prevalence of depression in approximately 50% of the elderly in the United States (Davis, 1990). According to Brickel (1984), animals are valuable adjuncts in the treatment of depression. Brickel reported that participants who were given access to a pet during treatment sessions demonstrated significant reductions in depression when compared with a treatment group that did not have a pet available.

To reduce the detrimental effects of institutionalization, treatment programs sometimes focus their efforts on improving and maintaining a resident’s emotional and spiritual well-being by using innovative treatment modalities that foster a sense of purpose (Shaheen, 1987). Animals in therapeutic settings have been shown to assist in accomplishing this goal (Shaheen, 1987). The use of animals as a therapeutic adjunct in a geriatric hospital was explored by Brickel, who interviewed nursing staff about their observations of the effects that two mascot cats had on patients over a period of 2 years. It was shown that the cats “were effective in increasing patient responsiveness, giving patients a pleasurable experience, enhancing the treatment milieu, and helping keep patients in touch with reality” (1979, p. 372).

A number of studies analyzed the use of animals as catalysts for social interactions. Searles (1960) suggested that animals provide practice experiences in relating to a nonhuman environment that can carry over to human interactions. This outcome was desirable because increased social interactions help improve the social climate of an institution and provide a more enriching environment conducive to therapy. Robb, Boyd, and Pristash (1980) investigated the effects of specific objects in fostering social interactions. A wine bottle, a plant, and a caged puppy were presented in sequence to elderly residents of a long-term care facility. Results indicated that the caged puppy elicited more responses in the social behaviors of verbalizes, smiles, looks towards the object, opens eyes, and leans towards the stimulus. These results suggest that bringing a puppy to a group would increase social behaviors because of the lively characteristics of an animal versus an inanimate object. Mugford and M’Corminsky (1975) found an increase in social activities and goal-directed activities when parakeets were introduced to elderly residents living alone in an urban neighborhood in Yorkshire, England. The residents trained the birds, participated in their care, and bought toys for them. The work of Corson & Corson (1981) indicated that animals served as catalysts for social interactions among residents and staff in a nursing home, which led to improvements in the social atmosphere of the facility. Furthermore, their work suggested that resident animals improved self-worth, independence, and responsibility, and assisted in fostering communication with others. Animals frequently became a link for stimulating conversation that encouraged people to talk about their “pasts and their passions” (SP/SPCA, 1987, p. 2).

According to Levinson (1972), animals can contribute to psychotherapy by fostering rapport between therapists and patients during initial and later sessions of treatment. His observations indicated that the introduction of pets as an opener to conversation reduced anxiety in the patients as they focused on the topic of the pet. This established the initial rapport needed as a basis for initiating discussion more relevant to the goals of therapy. Once a patient-therapist relationship had been established, animals were introduced to aid in eliciting responses from patients who were reluctant to communicate. The tactile reassurance provided through petting an animal frequently elicited expressions of deeper emotions (Levinson, 1972).

To gain further acceptance of AAT programs as a medium for treatment, two studies have been conducted to document their use as a valuable component to other therapies. McQuillen (1985) outlined the benefits of a pet therapy program on the long-term unit at Providence Hospital in Moose Jaw, Saskatchewan. The program began as a pilot but was incorporated into the regular occupational therapy program because it was helpful in alleviating isolation and sensory deprivation and in giving a sense of purpose by providing residents with an opportunity to care for and nurture the animals. A study conducted by Levin and White over a 3-year period at San Francisco General Hospital Occupational Therapy Department reported beneficial changes in socialization, reality orientation, communication, anxiety levels, attention span, concentration, and engagement during AAT visits (Rowell, 1990).

Many of the studies of AAT that illustrated beneficial or therapeutic effects of animals on people have been based on case descriptions (Brickel, 1979; McQuillen, 1985) or anecdotal reports derived from staff surveys (Brickel, 1981). To provide more systematic research, a
quasi-experimental study, with a counterbalanced design, was undertaken to determine the effects of the presence and absence of a dog on the frequency and types of social interactions of a nursing home population.

Method

Subjects
A convenience sample of persons residing in the nursing home care unit at a Veterans Administration Medical Center (VAMC) was selected for this study. This long-term care facility was chosen because several animals were kept on the premises and Humane Society volunteers conducted monthly pet therapy visits to the facility. Therefore, the residents were accustomed to the presence of an animal and observations occurred under more natural circumstances than at a facility with no prior exposure to animals. In contrast to studies such as the one by Robb et al. (1980) that exposed subjects to an unfamiliar situation, this procedure helped control for any change in social behaviors that might have been due to the unfamiliar presence of an animal.

To be selected, subjects had to be current residents at the facility and had to attend one or more of the group therapy sessions. The focus of the sessions was a general discussion group with one of the goals being improved social interactions. The group met weekly and was led by a social worker who had a broad knowledge of the study procedures but was blind to its purpose. This arrangement controlled for any possible bias in the leadership of the group that might have occurred during the two conditions of the group therapy sessions. The sample consisted of 36 residents. Nine residents attended each of the four therapy sessions with some of the residents attending more than one session.

Instrumentation

Point sampling was used to record the number of observed social and nonsocial behaviors under the two conditions of each group therapy session: Dog Present and Dog Absent. Point sampling, a behavior observation technique, consists of recording predetermined observable behaviors on a chart during specified time intervals (Korn, Rawson, Schneck, & Schober, 1976). The behaviors for analysis were nonattentive behavior, attentive listening, nonattentive listening, verbal interaction with another person, nonverbal interaction with another person, verbal interaction with the animal, and nonverbal interaction with the animal. Operational definitions for the observed behaviors were defined as follows:

Nonattentive behavior. The subject was observed sleeping or initiating other solitary activities, such as reading a magazine or leaving the group to engage in another activity in a separate part of the room.

Attentive Listening. The subject was observed to have eyes open and maintain eye contact with the group leader or other residents addressing the total group.

Nonattentive Listening. The subject was observed to have eyes open, but not to make eye contact with the group leader or other residents.

Verbal interaction with another person. The subject was observed initiating or responding in a verbal manner with another person.

Nonverbal interaction with another person. The subject was observed touching, gesturing, smiling, or nodding to another person.

Verbal interaction with the animal. The subject was observed verbalizing or making sounds directed to the animal.

Nonverbal interaction with the animal. The subject was observed touching, reaching, or gesturing toward the animal.

Observed behaviors were recorded with tally marks in the appropriate cell on the recording sheet. Tally marks were counted for each observation period and converted to percentages that reflected the amount of time residents engaged in particular behaviors.

Procedures

A pilot study of the behaviors of 12 occupational therapy students at the University of Puget Sound was conducted. Videotapes were analyzed by the researcher and another person trained in point sampling, to identify procedural problems and establish interrater reliability. When the researcher achieved at least a .90 interrater reliability on the data collection instrument, data collection began. Interrater reliability was established at .92 with a range of .83 to 1.00 in 10 trials on the data collection instrument for the pilot study.

The subjects were observed during group therapy session on Thursday afternoons from 1:30–2:00 p.m. for 4 weeks. Each session began with the researcher sitting a distance away from the activity with a clear view of all subjects. Before recording began, a letter was assigned to each subject starting with the letter "A" and moving in a clockwise direction around the room. If a subject left the room or joined the session late, recordings were not made on that person. Observation periods were during the first 15 min and the second 15 min of the session and lasted 10 min each. Four observation sessions occurred: Sessions 1 and 4 included the dog during the first half of the session, and Sessions 2 and 3 included the dog during the second half of the session. The researcher systematically scanned the group during a 40-sec time interval and recorded each subject's observed behavior when the researcher looked at that particular subject. Recordings were made for every subject during each of the 40-sec intervals within each 10-min observation period. The group was scanned 15 times to obtain 15 data points for each resident during a 10-min observation period. A data
point consisted of a tally mark on the behavior checklist. For the entire sample (N = 36), this yielded 540 data points for the Dog-Present condition and 540 for the Dog-Absent condition.

The order effect of the presence of the dog was counterbalanced with the presentation of the dog in the first half of Sessions 1 and 4, and in the second half of Sessions 2 and 3. In Sessions 2 and 3 (i.e., Dog Absent, Dog Present), recording started 2 min after the group leader had begun the session, to allow the group members time to warm up, and continued for 10 min. Fifteen minutes after the start of a session, a volunteer brought the dog into the room and joined the group. The investigator explained to the group members that the dog was being trained for use in nursing homes and needed exposure to group settings. This event was not unusual as staff members and Humane Society volunteers often brought animals to this facility. A 2-min time period lapsed before the researcher began recording for the second observation period to control for excess activity that may have occurred immediately after the arrival of the animal.

During Sessions 1 and 4 (i.e., Dog Present, Dog Absent), the dog was present from the start of each session for 15 min. The volunteer removed the dog from the room after 15 min. After the dog was removed, a 2-min lapse occurred and then recording began for the second observation period and lasted for 10 min.

Results

Data from all sessions were combined after a covariate analysis indicated no significant difference between the sessions. Tally marks were counted and converted to percentages that indicated the proportion of time that the subject engaged in particular behaviors with and without a dog present (see Table 1).

The three most frequently observed behaviors listed by percentage in rank order were the same for both Dog-Present and Dog-Absent conditions. They were (a) attentive listening, (b) nonattentive listening, and (c) verbal-person interactions. However, twice the number of verbal-person and nonverbal-person interactions occurred under the Dog-Present condition.

Ten percent of the behaviors that subjects engaged in during the sessions with the dog were verbal interactions with another person as compared with 5% during sessions without the dog. A one-way analysis of variance (ANOVA) was used to determine whether a significant difference existed between the number of social interactions that occurred with a dog present and with no dog present. A significant difference was found between the Dog-Present and Dog-Absent conditions with respect to the verbal-person interactions, $F(1, 69) = 4.92, p < .05$ (see Table 2).

No significant differences were found with respect to the following variables: nonattentive behavior, attentive listening, nonattentive listening, and nonverbal-person interactions. Verbal-animal and nonverbal-animal interactions were specific to the Dog-Present condition, and were compared with zero when analyzing the data. A significant difference was found between nonverbal-animal interactions and zero, but this was not considered to be relevant because this variable was specific to the Dog-Present condition.

Discussion

This study was conducted to determine the effect of the presence and absence of a dog on the frequency and types of social interactions of a nursing home population during group therapy sessions. Results indicated that verbal interactions between subjects increased significantly with the presence of the dog. During one session, the presence of the dog stimulated conversation about pets. This topic elicited personal stories about the pets they had owned, which continued after the dog had left the group. These results and observations suggest that the presence of the dog provided a comfortable environment that was conducive to the therapeutic goal of facilitating social interactions within the group. DeCarlo and Mann (1985) found a significantly higher level of interpersonal communication skills during an activity group compared

<p>| Table 1 Frequency of Observed Behaviors Under Dog-Present and Dog-Absent Conditions |
|---------------------------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Behavior Category</th>
<th>Dog-Present</th>
<th>Dog-Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonattentive behavior</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Attentive listening</td>
<td>184</td>
<td>194</td>
</tr>
<tr>
<td>Nonattentive listening</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>Verbal-person</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Nonverbal-person</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Total observations</td>
<td>540</td>
<td>540</td>
</tr>
</tbody>
</table>

Note: Nonverbal-animal interactions were specific to the Dog-Present condition and were compared to zero when analyzing the data.

<p>| Table 2 One-Way ANOVA Comparing Differences Between Observed Behaviors Under Dog-Present and Dog-Absent Conditions |
|---------------------------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>$F$ Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonattentive behavior</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Attentive listening</td>
<td>2.52</td>
<td>0.13</td>
</tr>
<tr>
<td>Nonattentive listening</td>
<td>0.08</td>
<td>0.77</td>
</tr>
<tr>
<td>Verbal-person</td>
<td>4.92</td>
<td>0.03*</td>
</tr>
<tr>
<td>Nonverbal-person</td>
<td>2.58</td>
<td>0.11</td>
</tr>
<tr>
<td>Verbal-animal</td>
<td>2.03</td>
<td>0.15</td>
</tr>
<tr>
<td>Nonverbal-animal</td>
<td>4.72</td>
<td>0.03*</td>
</tr>
</tbody>
</table>

Note: *Significant at the $p < .05$ level
with a verbal interaction group. However, for those who are not activity-oriented, the presentation of a dog at the beginning of a verbal interaction group might serve as a transition into an activity group in which learning occurred in a comfortable environment to make the activity more meaningful to members. A treatment session with the introduction of the animal before the activity might stimulate conversation among group members about that particular animal or pets they had owned, which might facilitate interactions for optimal group participation. For confused or disoriented members, the animal might be used to encourage appropriate comments and to increase cognitive awareness to proper and gentle handling of the animal under close supervision by the group leader.

When the dog was present, some of the subjects interacted verbally and nonverbally with the dog by petting and talking to it. No aversive reactions to the dog were observed, possibly because of the careful selection of an even-tempered and well-trained dog, a golden retriever with an outgoing personality. A larger breed was purposefully chosen so that the dog would be accessible to all residents, including those who could not bend down to pet a smaller dog. The dog was unleashed to allow the residents and the dog to interact with one another.

The findings of lack of significant differences for nonattentive behavior, attentive listening, nonattentive listening, and nonverbal–person interactions indicated that the dog’s presence did not detract from the verbal and nonverbal interactions or take attention away from listening to another resident or the group leader. Instead, the dog appeared to facilitate communication because a significant increase in verbal interactions occurred. Unlike the study by DeCarlo and Mann (1985), which indicated that interpersonal communication skills increased more in activity groups than in verbal interaction groups, this study found that the presence of a dog stimulated interpersonal communication skills among older adults during a verbal interaction group. The presence of the dog helped to install a comfortable environment that was conducive to therapy, and results indicated that this effect continued after the dog left.

In this case, AAT has been proven to be a valuable adjunct to another therapy. However, this study was not without limitations. Attendance varied during the four sessions due to appointments with physicians, medication schedules, arrival of visitors, illness, and discharge. Several residents had to leave the group on three occasions and could not be counted in the data for that session. This fluctuating attendance could have altered the social atmosphere of the group.

Another limitation was the male-only subject pool typical of a VAMC. All of the subjects were high-functioning elderly men with the ability to communicate verbally. These results may not generalize to the typical nursing home population, which tends to be predominantly female. Considering the optimal resident–animal match, women might not have responded to a large dog in the same manner. Further studies are necessary to document the effects of type and size of animals on populations that vary in age, gender, disability, and type of facility before AAT programs can be promoted as an effective medium for increasing socialization.

Conclusion

This study has shown that the presence of a dog positively influenced the goals of a group therapy session by increasing social interactions among residents in a nursing home. Because an increase in social interactions can improve the social climate of an institution and occupational therapists frequently incorporate group process into their treatment, animals might serve as an ideal adjunct to therapy. Further research and advocacy in this area can ensure that the aged population will derive the potential benefits of human–animal relationships.

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