The Effect of the Presence of a Pet Animal on the Socialization Behavior of Withdrawn Hospitalized Persons with a Psychiatric Diagnosis

by

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Chapter I

In recent years increased attention has been given to the special benefits that animals provide to the medically ill, the emotionally disturbed, the elderly, the physically impaired and the normal healthy person. The effect of the presence of animal companionship has been associated with various psychological, social and physical improvements.

Boris Levinson (1962, 1964, 1972) described his use of dogs in establishing working relationships with emotionally disturbed children. Corson & Corson (1978) and Corson, Corson, Gwynne & Arnold (1977) have reported on the use of pet-facilitated therapy (PFT), using dogs and some cats, as resocialization ego-strengthening catalysts in human interactions with both psychiatric and geriatric patients. In a survey of medically ill, depressed outpatients, McCulloch (1981) found that the presence of pets in the home was perceived by the patients as an important addition to cope with both their illness and depression. Mugford and M'Comisky(1975), in a study of elderly persons who were given either a begonia or a budgerigar, found that the birds were a "social lubricant" in facilitating interactions between their owners and others. The one year survival rate of patients after

discharge from a coronary care unit was greater in those patients with companion animals than those without (Friedmann, Katcher, Lynch & Thomas, 1980). Descriptive accounts by nurses (Carmack, 1984; Frank, 1984; Haggard, 1985; Preshlock, 1985) support the use of animals as a nursing intervention for those who are withdrawn, nonresponsive, or brain damaged. Florence Nightingale (1980)in her Notes on Nursing wrote:

> A small pet animal is often an excellent companion for the sick, for long chronic cases especially. A pet bird in a cage is sometimes the only pleasure of an invalid confined for years to the same room. If he can feed and clean the animal himself, he ought always to be encouraged to do so (p. 85).

The benefit of pet ownership cited most frequently is companionship, particularly for persons who experience alienation from society. By providing friendly interaction and physical closeness, pets can satisfy one's needs for affiliation (Del Monaco, 1985). It has been suggested that animals "provide a practice ground for experiences in relatedness which are carried over into human relationships" (Brickel, 1979, p. 368) and thereby indirectly contribute to the improvement of self-esteem. In addition, pets can fulfill the needs for affection and

nurturance. No human being can offer the complete acceptance, love and loyalty without judgment that a companion pet can offer. According to Frank, (1984, p.30), "the pet, in a sense, becomes a mirror in which a person sees himself wanted and loved not for what he should be or might be or might have been but for what he is".

Problem Statement

People are, by nature, social beings with a need for interaction with others. Social withdrawal appears to be a common problem among some psychiatric patients as well as in persons who have experienced a stressful condition. Withdrawal, or the pattern of escape from relatedness to other human beings by using distancing maneuvers (Haber, Hoskins, Leach & Sideleau, 1987), results in social isolation. This avoidance of interpersonal contact may lead to a disruption or the absence of social bonds which in itself is very stressful and may contribute to the development of psychiatric disorders (Rook, 1984).

Many psychiatric patients, particularly those diagnosed with schizophrenia or depression, display withdrawal and social isolation which ultimately interfere with effective coping. The motivation to engage in any constructive activity is diminished. As a result, one's sense of inadequacy is reinforced which frequently leads

to further isolation (Manderino and Bzdek, 1986). A major challenge, or problem, for nurses working with withdrawn, socially isolated patients is how to establish an interpersonal relationship, facilitate communication and social participation without mutual withdrawal (Tudor, 1970). One mechanism that may address this problem is the provision of animal companionship for such patients. By decreasing this isolative behavior, the patient is more able to make use of the available therapeutic resources to improve communication skills which will aid in maintaining relationships after hospital discharge (Yalom, 1985). Hence, the purpose of this study is to investigate the socializing effects of pets on hospitalized patients demonstrating socially withdrawn behavior.

Chapter II

Literature Review

A growing body of literature suggests that interaction between humans and companion animals results in unique outcomes. Nearly all the research on the use of pets with patients, however, has been anecdotal and descriptive, consisting of case studies and reports about programs. There have been relatively few hypothesis testing research studies, particularly with the psychiatric population. This review of literature will consist of the research examining the use of animals with children, the elderly, the medically ill and the psychiatrically impaired.

Pet-Facilitated Psychotherapy with Children

The best known case studies of PFT were reported by psychologist Boris Levinson (1962, 1964, 1965, 1969). As a pioneer in PFT, he did not use rigid experimental protocols, but described his use of pets (including his own dog, Jingles) in therapy with children. On one occasion, Levinson (1962) serendipitously discovered the effect of his dog on an extemely withdrawn child who had been unsuccessfully treated by other therapists. Jingles was in Levinson's office when the parents and their son arrived early for their appointment. The dog ran to the child who responded by petting the dog and cuddling up to it. Although the parents wanted to separate them,

Levinson signaled to the parents to allow the interaction to continue. The young boy expressed a desire to return to play with Jingles. After several sessions in which the boy played only with the dog, he slowly included Levinson in the play. A working relationship was established after which the boy eventually recovered.

Thereafter, Levinson used Jingles selectively with his patients. Four phases of PFT were outlined by Levinson (1964). First, the child ignores the therapist and plays with the pet. Next, the child assigns a role to the pet in his fantasy activity, allowing the therapist to function in an auxiliary capacity. In the third phase, the pet is assigned a role secondary to the therapist. Finally, the child no longer requires the pet to continue in the therapeutic exchange and interacts primarily with the therapist.

Levinson (1969) noted it was easier for a child to relate to a pet, such as a dog, than to him as a therapist. He believed that a pet could be a confidant and an emotional support for a child and provide a reality situation in which the child could experience mutual sharing of affection, physical touch, and tenderness while allowing for the projection of the child's feelings. Because Levinson was simply describing phenomena without attempting to define them, he used no systematic

tabulation or quantification of results.

Pet-Facilitated Therapy with the Elderly

In a study to determine if pets had an effect on social attitudes and mental and physical health of the elderly, Mugford and M'Comisky (1975) placed either begonias or budgerigars (an Australian parakeet) in the homes of isolated, urban pensioners (75 to 81 years) who lived alone. Half of the subjects in each group (n=12) had a television set and half did not. This was true for the control group (n=6) who received no birds or plants. All the subjects (n=30) were interviewed using a 22 item investigator developed attitude questionnaire administered by a social worker before and five months after the study. Questions on the first part of the interview focused on interpersonal relationships, e.g., "Do you like having visitors?" The second half of the interview questions dealt with somatic concerns such as, "Are your nerves on 'edge' sometimes?" Responses were rated on a four-point scale ranging from "highly unfavorable attitude or condition" to "highly favorable attitude or condition".

Although eleven subjects were lost due to death, illness and moving, the results appeared promising in that the pet subjects had become attached to their birds, took full responsibility for them, and had improved responses

to the questionnaire as compared to the plant owners. However, more subjects who were bird owners than plant owners were available at the conclusion of the study. The responses were not influenced by the presence or absence of a television. Due to the insufficient number of subjects, the results were not statistically significant. A standard psychiatric assessment tool to evaluate differences in psychological status between the groups could possibly result in more valid findings.

Corson and Corson (1978) investigated the effects of pet dogs on elderly residents of a nursing home who had varying degrees of physical and mental disabilities. A questionnaire, based on a ten point scale, concerning the subjects' physical and emotional well-being, personal hygiene and appearance, social interactions with others, and changes in use of medications was constructed and incorporated into the nurses' notes. Ratings were done weekly on each subject by the nurses. Videotaped recordings of resident-pet-staff interactions provided additional data to evaluate social interactions. The Corsons concluded that the pets were beneficial in relieving the residents' loneliness, hopelessness, and social withdrawal by acting as social catalysts. They also observed that the pets stimulated physical activity in the residents such as walking and running. The overall

morale of the nursing home was said to be improved. Moreover, the residents demonstrated more responsible, self-reliant behaviors and fewer immature, self-neglecting ones. No mention was made as to how the videotapes were rated and evaluated nor were any standard assessment instruments used. In addition, the absence of a control group weakened the design of this study.

In a pilot study to investigate the usefulness of a pet in the treatment of clinically depressed elders in a hospital based nursing home, Brickel (1984) randomly assigned fifteen male subjects to one of three groups with five subjects in each. Group 1, with an age range of 58 to 81 (mean age of 63), was a conventional treatment group in which the patients were encouraged to discuss any problems significant to them. The treatment approach was eclectic and dealt with problems of a psychodynamic nature as well as issues that surfaced from within the setting. Occasionally, family members were included in the group sessions. When possible, patients were instructed in simple skills to obtain positive responses from others.

The second group ranged in age from 59 to 67, (mean age of 63), was identical with Group 1 with the exception of the presence of a pet dog accompanied by the therapist. Patients were permitted to hold, pet, or talk to the dog. Following each group, participants were

requested to 'watch' the dog for fifteen minutes while the therapist observed inconspicuously from a distance. Two behavioral observations were made at fixed times for 30 second intervals. The first occurred ten minutes after the patient had responsibility for watching the dog. The second observation was the same day and was 10 to 15 minutes after lunch while all the patients were still in the dayroom.

Group 3 was a no treatment control group which did not meet with the therapist except informally. The patients' ages ranged from 62 to 83 (mean age was 69). Another psychologist was assigned to handle their individual problems as they arose. Only Group 2 members had contact with the dog.

All subjects completed the Zung Depression Scale prior to the study and four weeks after the groups were initiated. A preliminary one-way analysis of variance (ANOVA) demonstrated no significant difference in depression scores between the groups prior to treatment, $F(3,17)=1.75$, $p.>.05$. The results indicated that the participants of both treatment groups demonstrated a significant reduction of depression. However, the group exposed to the pet displayed a greater change, $t(4)=5.16$, $p<.01$, than the conventional treatment group, $t(4)=4.44$, $p<.02$. The control group did not demonstrate any

significant reduction in depression, $t(4)=.14$, ns. With pet and without pet behavioral observations indicated that the frequency of social interaction was doubled when the pet was present suggesting that the pet served as a catalyst to socialization. Although the results appear promising, the number of subjects is too small to be representative of the target population. The difference on depression scores was significant for a one-tailed test only. In addition, an objective rating scale, such as the Hamilton Rating Scale of Depression, could possibly result in more valid findings.

Pet Therapy with the Medically Ill

McCulloch (1981) administered a 53 statement true/false questionnaire to 31 outpatients who were both medically ill and depressed. The questionnaire contained items to determine the nature and degree of depression, perceived sources of support, level of incapacity due to the medical problems, pet-owning history and experiences and the perceived influence of pets on their daily lives and illnesses. To avoid bias, there were an equal number of statements pertaining to the positive and negative effects of pets. All subjects were required to have a pet in the home at some time during their medical illness or depression. The pets included cats, dogs, birds, hamsters and other rodents.

The subjects had a wide variety of illnesses such as cardiovascular disease, cerebrovascular disease, traumatic injuries, endocrine disorders, gastrointestinal disorders, and other miscellaneous diseases. Many of the subjects had multiple diagnoses, and there was great variation in the severity and duration of their disabilities.

Although 15 of the 31 subjects reported having the primary bond with the pet, both groups (those with the primary bond with the pet and those with other family members having the primary bond with the pet) reported that pets were a significant factor in their lives by reducing isolation and loneliness and by providing affection and the opportunity for joy, laughter and companionship. The responses indicated that most of the subjects (n=25) considered the family, resumption of work duties, and a close personal relationship, such as a spouse, as their prime source of support. Responses from 26 subjects indicated they viewed their pets as an important source of support also. However, the subjects were not asked to rank the order of importance of the various sources of support. It was not determined if pets were more or less important than friends, television, or hobbies.

The medical illnessess affected the subjects in a variety of ways. Over 50% reported they were unable to

work which caused them to be financially dependent on others, and the majority were less active physically and lost interest in activities. Two-thirds of the sample spent most of their time apart from others. The majority of patients indicated the pets stimulated them to be more physically active and distracted them from their problems. McCulloch concluded that the presence of pets was perceived as a significant factor in coping with illness and depression. In addition, he believed the findings confirmed the psychological benefits of pet ownership cited in the study by Mugford and M'Comisky (1975).

McCulloch (1981) also described a case study of a 56 year old medically retired man referred to him for evaluation of depression. This married man had two failed renal transplants, a myocardial infarction, and was on renal dialysis, all within three years. Although on antidepressants, this client became increasingly despondent, irritable, anhedonic, withdrawn and alienated from his family.

After a review of his pet owning experiences was made, it was suggested he consider acquiring another dog. His family agreed, and the client proceeded to search for 'just the right dog' like he once owned. In the two weeks that followed, his interest level increased as did his

activity level and mood. After obtaining the dog he was less angry, more involved with his family, less preoccupied with his illness, and physically active in training his dog. The client suffered and survived a second infarct but acknowledged he felt needed again and continued to be absorbed with his dog.

A pilot study was done by Muschel (1984) to determine if contact with animals reduced the anxiety and despair of terminally ill cancer patients, and if particular personality characteristics enabled the patients to benefit from an animal relationship so as to produce a sense of well-being. Fifteen patients in a nursing care facility participated in the ten week study which consisted of animal visitations.

In addition to behavioral observations, an eight item, researcher designed questionnaire was administered before and after the study. The questions were nondirective in an attempt to elicit any anxiety and despair (e.g., "How do you feel about being here?" ; "How do you spend your time here?", and "Is there anyone you feel close to?"). The last two questions pertaining to animals were asked only at the end of the study to assess the emotional impact of the animals on the patients. Five cards of the Thematic Apperception Test (T.A.T.) were administered prior to and after the study to elicit the patients'

wishes, fears, and conflicts. During the final T.A.T. test, the subjects were requested to hold an animal. Pictures of people with animals were also used to obtain a sense of each patient's ability to use animal contact to work through isssues.

The findings from the questionnaire revealed the predominant defense employed by the patients was denial with the exception of one individual who had accepted the finality of the condition. Other responses exhibited evidence of physical and emotional isolation and loneliness.

Prior to the animal visits, the T.A.T. revealed that fourteen of the individuals were in a state of reactive depression with varying degrees of anxiety and powerlessness. Despair was expressed by seven and one contemplated suicide.

In response to the pictures of people with animals, the patients reacted with pleasure and projected their feelings to both the animals and people. Some projections suggested a strong need for nurturing contact with others.

Four to six volunteers accompanied the cats, kittens, dogs, and puppies to the nursing home. During the animal visits, the patients stroked, held, watched, talked and sang to, and played with the animals. According to

Muschel, the patients responded with empathy and warmth to the animals which appeared to make the patients feel more in control and less passive. The animals' presence did not increase the socialization among the patients themselves or anyone else present. The interactions were strictly with the animals. Muschel suggested that the patients' severe physical and psychological weaknesses influenced their desire not to be involved in taxing interactions with other people and that the animals provided a soothing, relaxing and nurturing activity the patients could accept and tolerate. When not involved with the animal visitations, the patients were observed to be involved in solitary activities as reading, watching television, or lying in bed. Group activities were infrequent.

The answers to the last interview questions pertaining to pets reflected a decrease in negative emotional states and were supported by the post study T.A.T. findings. Twelve individuals responded positively to the animals' presence stating they reduced their loneliness, fears, despair and isolation. For example, one individual stated: "when I pet an animal, he feels better and I feel better", while another responded by saying: "If I couldn't get out of bed, I'd like my little dog right there with me; then no matter what happened, I'd have my little

friend" (Muschel, p. 456). In addition, all twelve individuals expressed the desire to have the animals remain at the home permanently to relieve their isolation and to provide comfort.

The final T.A.T., while holding an animal, revealed lighter moods and themes of peace. Past relationships were not mentioned. The responses indicated some movement from a reactive depression to a stage of acceptance.

Three of the fifteen patients did not respond positively to the animals. The patient who accepted the finality of the disease loved the animals but recognized the inevitable separation and did not want to experience any further attachments. The remaining two patients had difficulty relating to both people and animals and remained indifferent and isolated from the animal visitations.

Muschel concluded that the animals did reduce the negative emotional state and increased the comfort and adaptation of these dying individuals. It was suggested that animals may help people in ways that other humans cannot. However, several design factors such as a small non random sample and lack of a control group weakened the study. The observed changes may have been due to competing explanations.

Pet Therapy with Psychiatric Patients

Corson, Corson, Gwynne & Arnold (1975, 1977) used dogs and some cats from their experimental animal ward in a pilot study to assess the efficacy of PFT within a hospital setting. Fifty treatment refractory psychiatric patients who were described as withdrawn, nearly mute, highly dependent and helpless were selected for the study. Five patients were studied in depth and eight were videotaped.

PFT was not successful in three of the subjects since they refused a pet, but the remaining 47 demonstrated some improvement. As the patients began to assume increased responsibility for the pets, they became less dependent and more self-confident. The findings showed encouraging results with dramatic improvements in five of the case studies. Quantitiative data based on videorecorded interviews showed increases in verbalizations and decreases in latencies. In addition, the animals served as catalysts for social interactions with staff and other patients.

Although the results appeared impressive, the only indicators of improvement were changes in latency and length of verbal responses. In addition, the investigators did not clarify how the videotapes were analyzed. The subjects also continued with their other

prescribed treatment (medications and groups) during the study. Lack of randomization and a control group further weakened the study. The observed improvements may have been due to other variables.

In a study classified as a twelve week demonstration project, Doyle (1975) placed a rabbit on a fifteen bed psychiatric unit of chronically ill, adult males. Six patients were included in the study and grouped as regressed and less regressed. A questionnaire to rate "self-concept", "responsibility potential", and "attitude toward and need for others" was administered two weeks before and at the conclusion of the study. Staff completed questionnaires on each patient twice weekly in addition to supplying anecdotal accounts of interactions between patients and the rabbit and between patients about the rabbit.

The findings showed that the three regressed (schizophrenic, non-communicative and apathetic) patients exhibited increased awareness of the environment and increased communication as contact with the animal increased. The three less regressed (not diagnosed schizophrenic) patients also exhibited improved communication skills. Doyle's conclusions that the presence of an animal on an inpatient psychiatric unit has value was based upon the observations by staff and

anecdotal accounts of rabbit related interactions. No mention was made of the reliability or the validity of the questionnaire. Lack of a control group and reliable and valid measures as well as a small sample size weakened this study.

Thompson, Kennedy & Igou (1983) randomly selected a sample of 20 patients from a chronic inpatient psychiatric unit consisting of 60 patients between 40 and 70 years of age. Nearly 75 per cent were diagnosed as schizophrenic while the remainder had severe organic brain disease. Length of stay was not mentioned.

All the patients in the study were rated on the Physical and Mental Impairment-of-Function Evaluation (PAMIE), the Mini-Mental State Questionnaire (MSQ), and the Hamilton Rating Scale for Depression prior to and one week after the study by the same raters. The ten subjects assigned to the experimental group were exposed to hour long semi-structured group sessions three times each week for six weeks. The groups consisted of a variety of interactions with animals, with a different animal being used each week. The ten control subjects continued with their usual therapies and activities.

Since very little depression was rated in the sample, the data obtained from the Hamilton was not analyzed. Analysis of covariance was used to analyze the pre and

posttest scores from the MSQ and the PAMIE. A statisically significant difference, $F(1,11)=4.46$, $p<.05$, between the control and experimental subjects with an "intermediate" level of impairment on the overall PAMIE scores was reported, indicating improvement in the experimental group. However, when the experimental and control groups were analyzed as a whole, there were no significant differences on any of the measures.

Although more methodologically sound than other studies, Thompson et al. (1983) reported that "the absence of an active control condition weakens the scientific credibility of this research" (p.430). They suggested a replication study with more subjects, a longer treatment time, and more time for the subjects to interact with the pets.

In a study to determine the relative therapeutic effect of a dog on chronic psychiatric inpatients as compared to a human therapist, Del Monaco (1985) attempted to remedy some of the methodological weaknesses of previous PFT studies. The hypothesis, that an animal would be a greater benefit in facilitating social interactions and other positive behaviors than a human companion in chronic psychiatric patients, was tested by evaluating patient behaviors with several measures.

All subjects in both the experimental and the

comparison groups were assessed with the Psychotic Inpatient Profile (PIP) before and immediately after the study period. Twenty independent judges rated behavioral observations of solitary activities, interactions with others, and interactions with a pet dog one week prior to the study and six times during the study. In addition, data from the patients' charts (blood pressure, pulse, and ward points earned) were reviewed at the completion of the study. Ward morale was evaluated before and after the study by using the Ward Atmosphere Scale (WAS).

A medium sized mixed breed neutered female dog was placed in residence with the experimental group which consisted of 15 females, ranging in age from 29 to 54. All the subjects received psychiatric medications. Although the researcher assumed full responsibility for the care of the dog, it was anticipated that the patients would undertake these activities at some point in the study.

The comparison group, from another but comparable ward, was visited by a volunteer ward therapist 10 hours per week (two hours per day, five days per week) on a regular basis during the entire study. This group consisted of 15 females ranging in age from 22 to 53. Fourteen of the subjects received psychiatric and/or anti-convulsant medications. The therapist was available

to interact with the patients as they desired (e.g., to talk and to play games).

T tests were used to test for significance of differences between pretest and posttest scores for the PIP, WAS, and chart data for both groups. No statistically significant differences were found. Data of behavioral observations were analyzed by time repeated measures of analysis of variance of each category of behavior for both groups. Overall, the data on the various categories of behavior did not support the hypothesis. However, it was noted that positive behaviors in each category increased on the experimental ward when staff members were relatively accepting of the study, and negative behaviors increased when staff members were opposing the study and the dog's presence.

Although the dog's presence did not demonstrate any statistically significant impact on the experimental subjects' social interaction and positive behaviors, the patients responded to other events related to the research and were sensitive to staff reactions to the research. Initially, staff members raised no objections to the study or the dog. However, once the project was begun, staff members' opposition became apparent and presented continuous difficulty throughout the study to the point that the project needed to be terminated at three months

instead of the planned four months because the dog exhibited symptoms of stress. Del Monaco concluded that the subjects' lack of interest in the dog was attributed to staff members' overt and covert undermining of the project.

While this research was more methodologically sound, it could be improved by the addition of a nontreatment control group. The comparison of a live-in dog with a visiting human therapist needs to be considered. A pet visitation may be more appropriate. The researcher acknowledged that matching the subjects on diagnosis and length of hospital stay would allow for the possibility of more valid findings. Finally, although the researcher prepared the staff for the project, it would be appropriate to assess staff members' receptivity and resistance level to research and researchers in general prior to the actual study of this type.

Beck, Seraydarian and Hunter (1986) hypothesized that the presence of animals in the group therapy environment of psychiatric inpatients would be less threatening and would be demonstrated by increased patient attendance and participation as compared to a group therapy environment without animals. Subjects living on the same unit were randomly assigned to either the treatment or nontreatment group. There were six males and two females in the

treatment group and six males and three females in the control group. There were no significant differences in terms of age or length of hospital stay. Diagnoses were schizophrenia, affective disorder and one deferred diagnosis.

Both group rooms were identical with the exception of the presence of a cage of four finches. Groups were held daily, Monday through Friday, for thirty minutes for ten weeks. Although the group leaders were from different disciplines during the course of the study, both groups were exposed to the same therapist and activities each day.

All participants were assessed by the same raters two weeks before and two weeks after the study with the Brief Psychiatric Rating Scale (BPRS) and the Nurses' Observation Scale for Inpatient Evaluation (NOSIE). During the groups, an independent observer recorded each participant's attendance and spontaneous verbal contribution as a measure of therapeutic effectiveness.

The results demonstrated that attendance in the bird group ($M = 75.9\%$, $SD = 16.4$) was significantly greater ($z = 2.42$, $p<.008$) as compared to the nonbird group ($M = 67\%$, $SD = 12.4$). Verbal contributions also were significantly more frequent ($F = 4.38$, $p<.05$) for the treatment group ($M = 3.38$ per person per session, $SD = 4.36$) as compared to

the control group (M = 2.55, SD = 3.21). Analysis of variance was used to analyze the NOSIE and the BPRS. No significant differences were found in the NOSIE subscale or total scores. No significant difference was found on the total score of the BPRS. However, the post BPRS hostility subscale revealed a significant difference (bird group M = 2.86, SD = 0.69, control group M = 3.78, SD = 1.20; $F = 7.97$, $p<.05$) between the groups. The researchers concluded that the presence of animals appeared to facilitate the group therapy process. In addition, it was inferred that the reduced hostility scores reflected the treatment group's perception of the environment as less hostile because of the animals' presence.

No mention was made of how different group therapists may have affected attendance or participation, nor was there reference to other simultaneous treatment which may have affected hostility scores. This study was additionally limited by the small sample size, and the fact that four of the treatment group subjects were discharged before the project's completion.

In a retrospective analysis of attendance over a two year period of Occupational Therapy (OT) groups, Holcomb & Meacham (in press) examined the effectiveness of a pet group to attract withdrawn psychiatric inpatients as

compared to nine other OT groups. Withdrawn was operationalized as attendance at three or less OT group sessions. Group effectiveness was defined as the percentage of all the patients from a unit that attended the group, i.e., the ability of the group to attract the patients.

The pet group, as all other groups in the facility, was not mandatory. It was open for all inpatients and was held on a monthly basis for one hour. Pets, such as cats, dogs and rabbits, were available for the patients to hold and stroke. There was no expectation for patients to interact with the therapist.

The pet group attracted significantly more withdrawn patients, regardless of diagnosis, than the other groups ($t(191)=10.87$, $p<.01$). The mean group effectiveness was 44% for the withdrawn population and 47% for the isolated schizophrenics. In addition, the popularity of the pet group was found to be relatively equal among the patients regardless of the diagnosis with an effectiveness mean ranging from 50% to 56%. However, the pet group was more popular among the non-withdrawn population. Overall, the pet group was significantly more successful, with a mean effectiveness of 52% ($t(44)=11.6$, $p<.01$) than the next most successful OT group. An additional observation made was that it was not uncommon for the patients to talk with

each other and to the staff while interacting with the animals. The researchers concluded that the pet group was the most effective of ten OT groups in attracting psychiatric inpatients, regardless of diagnosis or withdrawn condition, to voluntarily attend the activity consequently providing greater opportunity for social interaction for withdrawn patients.

The fact that this study was retrospective and data was obtained through archival records weakened the study's design. The authors listed several mitigating factors which may have affected attendance in the groups. Probably most important would be inaccurate documentation of attendance. Moreover, results from a single retrospective investigation are rarely convincing (Polit & Hungler, 1987) and often require further research.

Summary

In summary, the literature suggests that animals may have beneficial effects in terms of increasing social interaction and physical activity, improving attitudes and decreasing loneliness and depression on various populations, particularly for those individuals who are withdrawn and isolated for various reasons.

Although the methods in the aforementioned studies were fairly well described, standardized measurement instruments were infrequently used and reliability and

validity were rarely mentioned. Case studies would be difficult, if not impossible, to reproduce and to generalize. The generalization of the results of the other studies is compromised by the research designs and the samples' characteristics. Further research is needed which would strengthen the design by using a control group and a comparison group, if possible, as well as measurement of the dependent variables using valid and reliable instruments.

Conceptual Framework

A theoretical framework for investigating the effects of pets on withdrawn behavior of psychiatric patients is essentially non-existent. When theory has been mentioned in the literature for pet-facilitated therapy in any circumstance, the authors usually have alluded to the innate need of humans to associate with animals which was proposed by Levinson (1969). The major concepts that guides this study are elements of attachment and social support theories, and an explanation of avoidance behavior using learning theory.

Attachment Theory

The concept of attachment can be defined several ways. It can refer to a feeling state such as affection or love or to the tendency of humans to make a connection or bond with other people, inanimate objects, or other

living things. Attachment can also be used to refer to and describe a variety of behaviors.

According to Bowlby (1980), "attachment behaviour is conceived as a class of behaviour distinct from feeding behaviour and sexual behaviour and of at least an equal significance in human life" (p. 39). Bowlby also defines the goal of attachment behavior, which is active throughout life, to be the maintainence of proximity to the attachment figure for the purpose of security and protection. Ainsworth (1964) defines attachment behavior as "behavior through which a discriminating, differential, affectional relationship is established with a person or object, and which tends to evoke a response from the object, and thus initiates a chain of interaction which serves to consolidate the affectional relationship" (p. 51).

Although attachment behavior is particularly evident in early childhood, it continues throughout the lifespan. However, with the passage of time, the precise attachment behaviors and objects of attachment may be different at various developmental periods. According to Lerner & Ryff (1978), considering a lifespan perspective involving developmental changes as they occur throughout an individual's life, attachment can be viewed as an interactional concept resulting in a broadening of social

"bonds" to include groups, ideas, and things in addition to people and an opportunity for feedback.

Human-Animal Bond

Human relationships with animals date back to prehistoric days. Recent evidence of fossil discoveries in China points to a possible association between prehistoric humans and wolflike animals before domestication (Messent & Serpell, 1981). Actual domestication of animals, i.e., the care, feeding and breeding of a species by humans, is estimated to have begun at the end of the last glacial period about 10,000 to 12,000 years ago (Young, 1985)

Domestication probably evolved gradually and naturally as interactions between humans and animals occurred. In the shared environment, natural contacts and relationships between man and animals were nearly certain to occur. The earliest fossil records, dated about 12,000 years ago, indicate that the dog was probably the first domesticated animal. Cats' domestication dates to approximately 2600 B. C. (Young, 1985).

Messent and Serpell (1981) suggested that animals were domesticated for specific reasons: goats and sheep for food; dogs for guarding or warning; wild dogs and wolves for hunting; and, cats for control of rodents and refuse.

Although these utilitarian motives may have contributed to the human-animal bond, early humans' practice of adopting young animals, such as the wolf cub, for companionship probably initiated this bond. According to Levinson (1969), "psychologically, this was the beginning of a symbiotic relationship between pets and human beings in which man supplied the material needs of the pet while the pet satisfied the psychological needs of his master" (p. xvi).

The two most commonly recognized species of companion animals are dogs and cats. The characteristics of these animals that have contributed to their popularity include: their capacity to rapidly form social attachments with people; their ability to communicate nonverbally employing eye contact, facial expressions, and changes in body position which owners believe they understand; their tendency to engage in noncompetitive play; their intelligence without the potentially unpredictable and destructive behavior of primates; their ability to be house-trained; their periods of activity which fit the awake periods of humans, and their anthropomorphic qualities (Messent & Serpell, 1981).

Humans and animals have been bonding a relationship for many reasons for thousands of years. But during the course of history, the utilitarian aspects and attitudes

toward the human-animal bond have decreased while the companionship aspects and benefits have surfaced and become more significant. According to Rynearson (1978), "the bond between human and pet depends on their commonality as animals and their mutual need for attachment" (p.550).

Attachment to Pet Animals

The need for attachment is present in animals and humans, and both engage in attachment behaviors. Attachment behavior has been investigated in various animal species (Harlow & Harlow, 1965; Cairns, 1966; Rosenblum & Kaufman, 1968). According to Voith (1985), "many of the behavior patterns between people and their pets are very similar to those that occur between a person and child" (p.292). Feelings of being loved and needed are engendered by pets. They provide humans with warmth, softness, and a tactile contact with another living thing. They are very much like children who rely on humans for care. If it is in our nature to become attached to children, and if animals exhibit similar child-like behaviors and characteristics, it is understandable that humans respond by becoming attached to pets. In the case of the psychiatrically ill person who often feels insecure, frightened, and rejected, "perhaps the emotional attachment to a pet is strengthened because

the only attachment mechanisms operating are between the person and the pet" (Voith, 1985, p. 293).

Weinraub, Brooks and Lewis (1977) have suggested social networks as an alternative to the concept of attachment based on the premise that humans are social beings and part of a large social network. They proposed that one's social network consists of social objects, functions and situations. The authors noted that many people consider animals as social objects with human attributes. This suggests that animals and people are significant attachment objects for each other.

Social Support Theory

The literature on social support is characterized by a diversity of definitions. However, there is definitional agreement for certain points. Most experts agree that social support components involve: a) the communication of positive affect; b) social integration; c) instrumental behavior; and d) reciprocity (Dimond & Jones, 1983). There is also consensus that all persons require social support throughout the lifespan, and that support contributes to one's well-being and ability to cope with stress (Dimond & Jones, 1983; Gottleib, 1983; Tilden & Weinert, 1987). According to Gottleib (1983), individuals who are socially isolated or whose social support is minimal (e.g., the elderly, the chronically ill, and the

mentally ill) are at increased risk for poor health and increased stress compared to those who are socially integrated and who have available support.

In the case of the chronically mentally ill, data indicate that this group has fewer supportive relationships available to them and that less available support is characteristic of persons exhibiting severe psychopathology such as withdrawal and isolative behavior (Leavy, 1983). In addition, psychotic individuals possess a negative network orientation which is the belief set that it is "inadvisable, impossible, useless, or potentially dangerous to draw on network resources" (Tolsdorf, 1976, p.413).

Pets as Social Support

Pets, or companion animals, may be a form of social support for the mentally ill withdrawn individual with respect to three of the components cited above with the exception of instrumental behavior. In the communication of positive affect, animals can provide a boundless measure of acceptance, love, attention, forgiveness, and unqualified approval independent of a person's performance, appearance, or social success. This feedback to the individual encourages self esteem and provides affirmation of one's behavior or attributes (Dimond & Jones, 1983).

Social integration develops since the company of a pet animal influences and increases socialization with others including neighbors, veterinary staff, and strangers. Messent (1985) suggests that pets facilitate social interaction in various ways. For instance, as social lubricants and icebreakers, pets may trigger interest and responses from others which provide safe topics for conversation and a basis for communicating common experiences. In addition, the presence of a pet allows others to make certain deductions about the pet's owner, making the owner more socially acceptable.

The reciprocal nature of the person-pet relationship is demonstrated by the expression of positive affect by both principals and by the person's willingness and desire to care and provide for the pet's needs. Much has been written about the human-animal bond (Voith, 1981; Messent & Serpell, 1981; Fox, 1981; Bustad & Hines, 1984; Davis & Juhasz, 1984; Davis, 1985; Netting, Wilson & New, 1987). The reciprocal interactions between people undoubtedly play a major role in attachment or bonding.

The introduction of pet animals into the immediate environment of psychiatric patients as a source of social support with respect to the three components cited above has been demonstrated in several of the aforementioned studies. The use of animals with this population and

other patients is an adjunctive form of therapy and support and not a replacement for other approaches. According to McCulloch (1981), pets are intended to be complementary agents to assist and enhance the other legitimate forms of treatment. It is speculated that the environment and the therapist are perceived as less threatening in the presence of pets.

Considering the needs, fears, and defenses of the withdrawn psychiatric population, the use of pets, which are non-threatening, comforting and sensitive, would facilitate elements of social support. Carl Rogers' (1961, 1967) major contribution to therapy was his identification of empathy, genuiness, unconditional positive regard and nondirectiveness as being essential ingredients for a helping relationship. In many respects, a pet animal exhibits these qualities. Pets could function as mediators of communication with those psychiatric patients who are withdrawn, dependent, depressed, suspicious, lonely, isolated, passive, and with low self-esteem.

Explanation of Avoidance

From a social-learning perspective, a person learns different ways of coping with environmental stimuli (Bandura, 1969). Stimuli perceived as pleasant or non-threatening are positively reinforced with the result

of approach behavior. Threatening or aversive stimuli are negatively reinforced resulting in avoidance behavior. In addition, a learned response can be extinguished with non-reinforcement of the behavior.

Withdrawal and isolative behavior can be viewed as avoidant behavior. The extent to which withdrawal occurs depends on the degree of pain and anxiety experienced in association with relatedness. The individual will choose social isolation rather than risk the pain of relatedness again. This avoidant behavior perpetuates itself by preventing exposure to the threatening stimulus.

According to Bandura (1969), avoidance behavior can be extinguished by repeated exposure to the aversive stimulus under conditions to ensure that neither the avoidant behavior or the expected harmful consequences occur. Absence of the anticipated adverse consequences affords a potent source of reinforcement for competing responses (Bandura, 1969).

Pets and Avoidance

Brickel (1982) suggested that pet animals have a generic ability to reduce anxiety and provide emotional support through the competing-response theory of extinction by means of attention shifts. By diverting attention away from anxiety producing stimuli (i.e., interaction with others), pet animals permit exposure to

the stimuli instead of avoidance behaviors such as withdrawal. As distracting stimuli, pet animals may function in a complex manner to fulfill the attachment and social support needs of the withdrawn psychiatric patient. In so doing, the withdrawn individual may experience decreased anxiety during interaction with consequent development of alternative response patterns of decreased withdrawal and social fear and increased socialization. This is consistent with Levinson's (1964) four phases of PFT.

This theoretical framework of the therapeutic effect of pet-facilitated therapy with the withdrawn mentally ill is based on the interaction of elements of attachment, social support and learning theories. Satisfying experiences between the withdrawn person and a pet may result in an emotional bonding, or attachment, between them. The presence of a pet allows the individual to develop a personal relationship with another living creature permitting an exchange of social support such as communication of positive affect and reciprocal interactions. With a pet animal in attendance as a distractor to threatening stimuli, the withdrawn person may experience a reduction in anxiety and an increase in interactions with humans. It is at this point that the therapist can encourage alternative responses to

withdrawal.

Purpose of Research

The purpose of this study is to examine the effectiveness of an animal-facilitated group in decreasing social fear and socially withdrawn (seclusive) behavior in a group of psychiatrically hospitalized withdrawn persons. The primary task in the treatment of psychiatric patients is the establishment of a therapeutic alliance in which both the patient and therapist work toward a mutually agreed upon goal. The use of group therapy in hospitalized patients provides the opportunity to decrease the pain of isolation, rejection, hopelessness, helplessness, and demoralization. In addition to the "therapeutic factors" of universality, altruism, instillation of hope, and group cohesion described by Yalom (1985), group therapy may provide a corrective experience for the beginning of significant engagement with others for those psychiatric patients lacking in meaningful interpersonal relationships.

Statement of Research Questions

The questions addressed in this study are:

1. Does participation in an animal-facilitated group decrease social fear and socially withdrawn behavior of psychiatrically hospitalized persons more than participation in a group without animal-facilitation?

H1: There will be a decrease in social fear among participants of an animal-facilitated group compared to participants of a non-animal-facilitated group as reflected by subjects' responses to the Social Fear Scale (SFS).

H2: There will be a decrease in socially withdrawn behavior of participants in an animal-facilitated group compared to participants of a non-animal-facilitated group as measured by the Psychotic Inpatient Profile (PIP).

2. Is participation in an animal-facilitated group perceived as more friendly and less threatening than participation in a non-animal-facilitated group?

H3: Participation in an animal-facilitated group is perceived as more friendly and less threatening than participation in a non-animal-facilitated group as reflected by responses to a post group questionnaire.

Definition of Terms

Psychiatrically hospitalized persons: Those persons who are hospitalized in a state psychiatric hospital and whose diagnoses may be any of the major mental disorders as described in the Diagnostic and Statistical Manual of Mental Disorders, revised third edition (DSM-111-R), excluding personality disorders as a primary diagnosis.

Socially withdrawn behavior: An avoidance or withdrawal of social contact with others through physical,

verbal, and emotional distancing maneuvers to avoid relatedness; e.g., active or passive removal of self from others and activities; lack of spontaneous conversation; emotional unresponsiveness and a retreat to inner thoughts.

Social fear: An intense fear of social interaction and the discomfort experienced in social situations.

Animal-facilitated group: A group composed of ten patient participants and two group leaders with a dog in attendance which meets at a regularly scheduled time for the purpose of socialization and support.

Non-animal-facilitated group A group that consists of ten patient participants and two group leaders which meets at a regularly scheduled time for the purpose of socialization and support.

Participation: Attendance and attempted involvement in at least two-thirds (8) of the assigned group sessions.

Chapter III

Methods

Design

This study was designed to test the effectiveness of an animal-facilitated group as an intervention strategy to decrease social withdrawal in persons with a psychiatric diagnosis. A quasi-experimental nonequivalent group pretest-posttest design was used. The experimental group (n=7) was an animal-facilitated group while the comparison group (n=7) was a non-animal-facilitated group, as defined earlier. Random assignment of individual subjects to either group was not possible because of ward therapy schedules resulting in a convenience sample rather than a matched sample. The independent variable was the presence of an animal in a group setting. The dependent variables were socially withdrawn (seclusive) behavior and social fear.

Sample and Setting

Subjects were enlisted from four different forensic units in an urban state psychiatric hospital in Oregon. The first nine patients from each of four comparable wards who agreed to participate were the subjects. Currently, the hospital population consists of persons admitted involuntarily through the criminal commitment process. Criminal behavior ranges from assault to murder.

Diagnoses include schizophrenia, affective disorder, and organic brain syndrome, many in conjunction with an underlying personality disorder.

The criteria for inclusion in this study were (a) willingness to participate in the study and to read and answer specified questions, (b) socially withdrawn behavior, and (c) ability to tolerate 45 minute group sessions. Exclusion criteria included (a) allergy to animal hair and dander, (b) fear of dogs, (c) presence of medically compromising conditions as AIDS, infection or hepatitis, (d) behavior which would be harmful to an animal, and (e) diagnosis of personality disorder as a primary diagnosis.

Instruments

Psychotic Inpatient Profile. The Psychotic Inpatient Profile (PIP), developed by Maurice Lorr and Norris Vestre (1968), was used to measure the dependent variable of socially withdrawn or seclusive behavior. The PIP, which is an expansion and revision of the Psychotic Reaction Profile (PRP)(Lorr, O'Connor & Stafford, 1960), is a behavior inventory measuring twelve dimensions of observable psychotic behavior. These dimensions are: Excitement, Hostile Belligerence, Paranoid Projection, Anxious Depression, Retardation, Seclusiveness, Care Needed, Psychotic Disorganization, Grandiosity, Perceptual

Distortion, Depressive Mood, and Disorientation. The following is a description of the twelve syndromes and is taken from the PIP manual (Lorr and Vestre, 1968, p. 1).

Excitement (EXC): This syndrome represents a tendency to be noisy, overtalkative, high in mood, and aggressively overactive.

Hostile Belligerence (HOS): Hostile and obscene language, belligerence, and a tendency towards combativeness define this syndrome.

Paranoid Projection (PAR): This syndrome is characterized by suspicion, resistiveness, complaints concerning care and treatment, and ready annoyance to imagined slights.

Anxious Depression (ANX): An anxious, bewildered depression is defined in this pattern. Depressive mood is a correlated pattern.

Retardation (RTD): Movement, speech, and response are slowed sometimes to the point of apathy and stupor in this syndrome.

Seclusiveness (SEC): This dimension measures degree of interpersonal interaction. High scores represent seclusiveness or withdrawal from contact.

Care Needed (CAR): The pattern is evidenced by an inability or unwillingness to care for oneself. Low scores may be regarded as a measure of competence.

Psychotic Disorganization (PSY): This syndrome is defined by motor disturbances (bizarre posture and movements) and indicators of conceptual disorganization. The pattern is probably central to schizophrenic withdrawal.

Grandiosity (GRN): A delusional grandiosity is briefly characterized in this syndrome.

Perceptual Distortion (PCP): Hallucinatory experiences usually associated with paranoid tendencies are represented in this syndrome.

Depressive Mood (DPR): This syndrome is characterized by self-reports of dejection, hopelessness, and failure.

Disorientation (DIS): This is a functional disorientation due perhaps to self-preoccupation with inner fantasies, conflicts, or hallucinatory experiences.

The first eight dimensions are rated based on ward personnel's (nurses and aides) observation of behavior after a period of three days whereas the ratings of the last four dimensions are based on brief interactions with the patient. The ratings are to reflect the behavior during those three days only and are to be completed immediately after the rating period.

The inventory consists of 74 statements describing

manifest behavior and 22 self-report items (see Appendix A). The 74 statements are rated on a four-point scale of frequency. The 22 self-report items are rated true or not true. Low scores on most scales imply a mild degree of disturbance while high scores indicate a severe degree of disturbance except for the Care Needed scale. Although seclusive behavior was the only scale hypothesized to change in this study, the participants were rated on all the dimensions to determine if the presence of a dog would affect other selected scales.

According to the PIP manual (Lorr & Vestre, 1968), there is support for factorial validity based on four factor analyses on large independent samples of psychiatric inpatients which yielded the same twelve factors. In addition, eight of the dimensions were found to be comparable to dimensions isolated in interview data on the same cases. Lorr & Vestre (1968) cite data, bearing on the validity of the PRP, which lends support to the validity of the PIP since 41% of the PIP items were taken from the PRP.

In a validation study of the PIP by Vestre & Zimmerman (1970), PIP ratings were obtained on groups of newly admitted patients (n=52) and those ready for discharge (n=54) as well as locked ward patients (n=71) and open ward patients (n=87). The results demonstrated that the

PIP differentiated the groups in each comparison at the .01 level. Univariate tests indicated that eleven of the twelve dimension scores discriminated between the open and closed ward groups (p=.05) and nine of the dimensions discriminated between the admission and discharge groups (p=.05). The results were seen as supporting validity of the PIP.

Inter-rater reliability levels were calculated for one sample of 57 cases in a state hospital during the PIP development (Lorr & Vestre, 1968). The levels ranged from r = .74 for Perceptual Distortion to r = .99 for Grandiosity, with a median for all correlations of r = .865.

Social Fear Scale. The Social Fear Scale (SFS) is a 36 item self-report instrument (see Appendix B) developed by Raulin and Wee (1984) to measure the particular kind of social fear which is considered distinctive of schizotypic persons who may have a predisposition to schizophrenia. Characteristics such as social inadequacy, a dearth of interpersonal relationships and interpersonal discomfort are assessed in this scale. The respondents are asked to circle true or false for each item as it applies to them. High scores indicate a greater degree of social fear.

Three separate samples of college students (499 females and 411 males) were utilized in the scale

development. After revision, the best 36 items were selected from a pool of 120 items. The final version has an internal consistency reliability of .85 for men and .88 for women (Raulin & Wee, 1984). Test-retest reliability has not been reported.

Concurrent validation was obtained through the use of interview studies and four other schizotypy scales measuring physical anhedonia, perceptual aberration, intense ambivalence and somatic symptoms. According to the scale developers, the differences between high, medium and low scorers on the SFS were significant for social fear and sociability based on interview data. In addition, consistent and substantial correlations were found between the SFS and the other scales except the physical anhedonia scale (Raulin & Wee, 1984). Ultimate validation of the SFS will require demonstration of this instrument's ability to identify those individuals who show an increased risk for developing schizophrenia through longitudinal studies.

The patients on the units utilized for the study tended to have psychotic disorders, thereby making the use of the PIP and the SFS appropriate.

Methods of Procedure

Following approval for conducting this study in the proposed setting by the nursing research committee, the human research review committee of the Oregon Health Sciences University, and the hospital research review committee (see Appendix C), the investigator met with the nursing staff of the four designated units to explain the research proposal and to request their assistance in identifying patients who met the criteria for inclusion and to complete the PIP. A second meeting was held with the same staff to obtain the names of the identified patients and to train the staff in administration of the PIP. According to the PIP manual (1968), a short training session for the raters is recommended. After a discussion of the types of behaviors to be observed, staff members independently completed the PIP on patients they knew in common. The level of agreement among the raters was not determined statistically since a single patient was not known to all raters.

The four designated units were randomly assigned to be the comparison group or the treatment group by the use of a coin toss. The patients who met the criteria were brought together for a group interview and were then asked by the investigator to participate in a study on socialization of mentally ill persons. During the same

group interview, the patients were asked to provide their written informed consent. Of the twenty patients identified as meeting the criteria from the two units designated as the experimental group, nine agreed to participate and signed the consent form. Likewise, twenty patients from the two units designated as the comparison group were identified as meeting the criteria but only eight agreed to participate. They were asked to attend all of the group sessions which would meet twice weekly for 45 minutes for six weeks. Each group met in the same setting on the same day, with the control group preceding the experimental group. Arrangements were made for the nursing staff members to escort the patients to and from the group room. Both groups were structured in the same way (see Appendix D), according to Yalom's (1983) recommended guidelines for withdrawn psychiatric inpatients, to promote socialization.

The SFS was administered by the investigator to all participants within two weeks prior to the beginning of the groups and immediately following the last group session. Demographic data and medical record data was collected by the investigator at the same time as the SFS pretest (see Appendix E). Ward nursing staff completed the PIP at the beginning of the groups and at the conclusion of the study. The post group questionnaire

(see Appendix F) was administered by the investigator at the conclusion of the study.

The investigator's personal pet dog, Maggie, was the animal used. Maggie is a spayed female, weighing about 60 pounds, and is a German shorthair-Viszla mixed breed. The dog was examined by a licensed veterinarian to assure it was in good health, had proper immunizations and was not a carrier of any animal transmitted diseases. In addition, the dog was clean, free of fleas, and housebroken. The temperament of the dog was assessed by the investigator and the veterinarian for gentleness, sociability, playfulness, and unlikelihood of inflicting injury through bites or unruly behavior. The investigator assumed responsibility for the animal.

Protection of Human Subjects

Before participating in the study, the subjects were asked by the investigator to read and sign the consent form (see Appendix G). The consent form was read to the participants who had reading problems. The subjects were informed that the purpose of the investigation was to evaluate whether groups have a positive effect on the well-being of persons with a mental disorder. To have informed the subjects that the study would focus on the effects of the presence of an animal on their socialization could have resulted in a distortion of their

behavior and responses to the questionnaires. They were informed that the information would remain strictly confidential and that their names would not appear on the questionnaires. The investigator also informed the subjects that participation was voluntary and that they could refuse to participate or withdraw at any time if they so chose without affecting their treatment. Maintainence of confidentiality was assured by the use of code numbers for each subject and by keeping the data in a locked file.

Data Analysis

Descriptive statistics were used to describe the subjects' characteristics. Within the experimental and the comparison groups, dependent *t* tests were used to test the significance of differences between pretest and posttest scores on both the PIP and the SFS. Independent *t* tests were used to test the significance of differences between groups on the PIP and the SFS pretest and posttest scores. A one way analysis of variance (ANOVA) was used in analyzing pretest and posttest scores for the SFS and the selected PIP scales for both groups. Point bi-serial correlations were computed to test the relationship between having a pet in the group and the PIP scores and between having a pet in the group and the SFS scores. An alpha level of .05 was chosen. A descriptive analysis of

the group process of both groups with respect to similarities and differences was done.

Chapter IV

Results

The results of the data analysis are presented in this chapter. First, a description of the sample's characteristics are presented followed by a report of the data analysis for each research question. Finally, a descriptive analysis of the group process of each group is presented.

Sample Characteristics

Experimental group

Of the nine individuals, all males, who initially agreed to participate, two were eliminated. One patient presented a substantial elopement risk and at staff's request was excluded. Likewise, the second patient became too psychotic and was considered to be an assaultive risk by staff and was therefore excluded. Five of the patients were housed on one unit designated as the experimental unit while two resided on the second experimental unit. The seven subjects ranged in age from 29 to 47 years with a mean age of 36.6 years. Six of the subjects were Caucasian and one was Black. All of the subjects had a diagnosis of schizophrenia. Five were paranoid type, one was chronic undifferentiated type and one was schizoaffective type. Their mean length of stay in the

hospital was 26.7 months ranging from 2 to 58 months. The mean number of previous hospitalizations was 5.8 ranging from zero to 18. All of the subjects received antipsychotic medications, while three also received antidepressants and one also received lithium. Only two subjects attended all 12 group sessions. The remaining four subjects attended 11, 10, 9 and 4 group sessions. All but one of the subjects had previous animal contact through either personal or family pet ownership. The remaining subject had animal contact through friends' pets and farm animals.

Comparison Group

Eight individuals initially consented to participate in the study. However, one was excluded because after attending two groups he refused to continue to participate in spite of the investigator's repeated attempts to encourage him to attend. Five subjects were from one unit designated as a comparison unit and two from the second comparison unit. All subjects were male ranging in age from 31 to 51 years with a mean age of 38.3 years. Four of the seven were Caucasian. Of the remaining three, one was Hispanic, one was Black and one was Asian. All subjects were diagnosed as schizophrenic. Two were paranoid type, two were chronic undifferentiated, and three were schizoaffective type. The mean duration of

this current hospitalization was 24.8 months, ranging from 7 to 52 months. The mean number of previous hospitalizations for the group was 7 with a range of 0 to 23. Only one patient was not receiving any medications. All of the remaining received antipsychotic medications. In addition, five received lithium and one received an antidepressant. Table 1 presents the demographic characteristics for both the experimental and the comparison groups.

Four subjects attended all 12 group sessions, while the remaining three attended 11, 8, and 5 groups. One subject, who was not receiving medications, was transferred between units during the course of the study since his behavior was becoming unmanageable. A second subject was discharged prior to the last group session. Since this was the comparison group, animal contact was not ascertained.

Findings for Research Question 1

Does participation in an animal facilitated-group decrease social fear and socially withdrawn behavior of psychiatrically hospitalized persons more than participation in a group without animal-facilitation?

Hypothesis 1 states there will be a decrease in social fear among participants of an animal-facilitated group compared to participants of a non-animal-facilitated

Table 1

Demographic Characteristics of the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups

	Group	
Characteristics	Experimental[a]	Comparison[b]
Age		
Range	29 - 47 yrs.	31 - 51 yrs.
Mean	36.6 yrs.	38.3 yrs.
Sex		
Male	7 (100%)	7 (100%)
Female	0 (0%)	0 (0%)
Race		
Caucasian	6 (86%)	4 (58%)
Black	1 (14%)	1 (14%)
Hispanic	0 (0%)	1 (14%)
Asian	0 (0%)	1 (14%)
Diagnosis		
Schizophrenia		
Paranoid	5 (72%)	2 (29%)
Chronic Undifferentiated	1 (14%)	2 (29%)
Schizoaffective Disorder	1 (14%)	3 (42%)
Length of Stay		
Range	2-58 mo.	7-52 mo.
Mean	26.7 mo.	24.8 mo.
Previous Hospitalizations		
Range	0-18	0-23
Mean	5.8	7.0
Medications		
Antipsychotics	7 (100%)	7 (100%)
Antidepressants	3 (42%)	1 (14%)
Lithium	1 (14%)	5 (72%)
None	0 (0%)	1 (14%)

[a] $n = 7$ [b] $n = 7$

group as reflected by subjects' responses to the SFS. An analysis of variance was performed to test for interaction between the groups and time. The ANOVA test for interaction revealed no significant difference (F =0.188, p = .67) in the change of scores over time between the experimental and the comparison groups. In addition, the results of the analysis of variance of the SFS scores (F =3.221, p = .10) indicated no significant difference between the experimental group and the comparison group. Table 2 presents the results of the ANOVA of the SFS and the PIP selected subscales for both groups.

The SFS pretest scores of the experimental and comparison groups were compared using the independent t test. A difference between groups was found, but the difference was not statistically significant, t = -1.41 (p = .19). Similarly, no statistical difference was found between the groups on the SFS posttest scores, but a trend in the direction opposite of that predicted by hypothesis 1 was noted, t = -1.87 (p = .10). The mean pretest and posttest SFS scores for both groups are presented in Table 3. Figure 1 graphically reflects the differences within and between groups for the pretest and posttest SFS scores.

Paired t tests were used to determine the change of scores for subjects within both groups. There was no significant difference between pretest and posttest SFS

Table 2

Anova of Social Fear Scale (SFS) and Psychotic Inpatient Profile (PIP) Selected Subscales for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups for Interaction Between the Groups and Time[a]

Scale	SS	F	P
Social Fear Scale			
Between	350.8800	3.221	0.1002
Within	15.3846	0.481	0.5021
Interaction	6.0082	0.188	0.6729
PIP			
Seclusiveness			
Between	155.5714	3.253	0.0965
Within	36.5714	5.078	0.0438
Interaction	7.0000	0.972	0.3435
Retardation			
Between	670.3214	4.773	0.0495
Within	350.0357	8.100	0.0148
Interaction	0.8929	0.021	0.8880
Anxious Depression			
Between	302.2857	4.783	0.0493
Within	63.0000	1.986	0.1841
Interaction	14.2857	0.450	0.5148
Depressive Mood			
Between	54.3214	0.300	0.5940
Within	160.3214	6.009	0.0306
Interaction	60.0357	2.250	0.1594

[a] df = 1

Table 3

Social Fear Scale: Mean Pretest and Posttest Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups

	Experimental [a]	Comparison [b]	Independent t-test
Pretest			
Mean	14.571	8.167	t = -1.41
SD	9.641	6.676	p = 0.187
Posttest			
Mean	17.000	8.667	t = -1.87
SD	10.050	5.715	p = 0.092
Paired t-test	t = 0.633	t = 0.296	
	p = 0.5494	p = 0.7785	

[a] n = 7 [b] n = 6

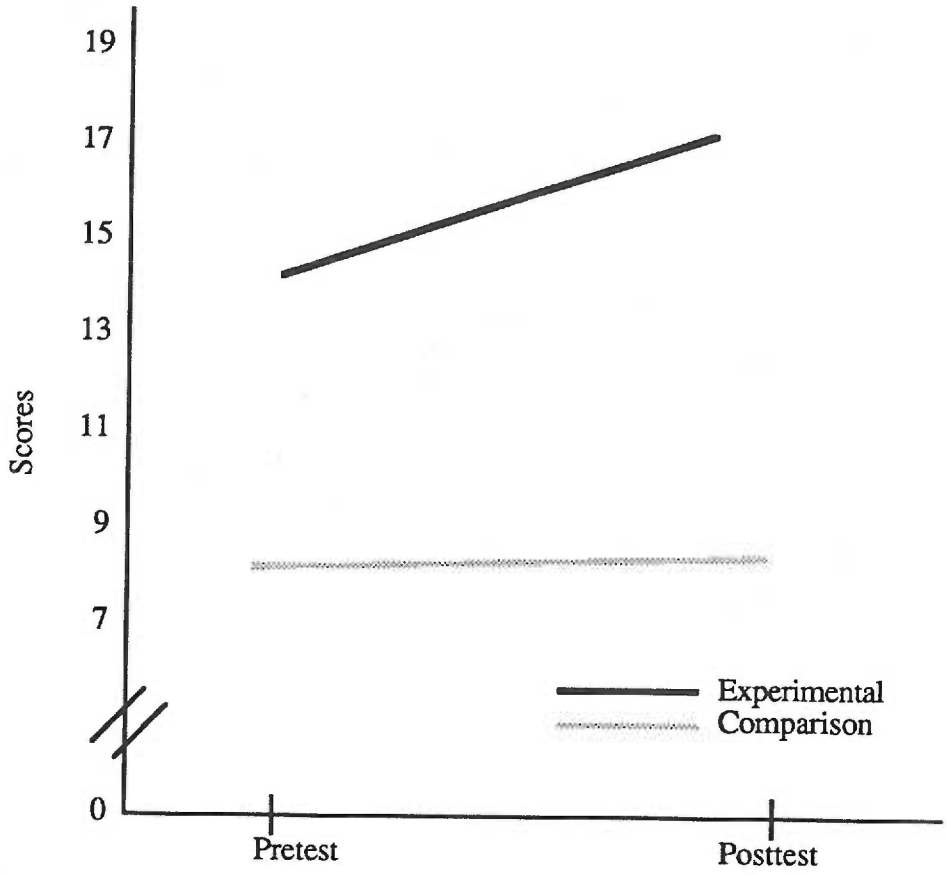

Figure 1. Comparison between the Mean Pretest and Posttest Social Fear Scale (SFS) Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups.

scores for either group. For the experimental group, t = 0.633 (p = .55). For the comparison group, t = 0.296 (p = .78) (see Table 3). Therefore hypothesis 1 was not supported by this analysis.

Point bi-serial correlation was computed to test the relationship between having a pet in the group and the SFS posttest scores. There was a moderate but statistically nonsignificant positive correlation (r = .4752, p = .0504) between the two variables. Although not statistically significant, this trend is in the direction opposite of that predicted by hypothesis 1.

Hypothesis 2 states there will be a decrease in socially withdrawn behavior of participants in an animal-facilitated group compared to participants of a non-animal-facilitated group as measured by the PIP. Although the participants were rated on all dimensions, only the seclusiveness scale was hypothesized to change in this study. Mean pretest and posttest scores of the retardation, anxious depression, and depressive mood scales were also compared. Table 4 presents the mean pretest and posttest standard scores for the selected subscales of the PIP and the paired t test results for both groups.

An analysis of variance was performed to test for interaction between the groups and time. The ANOVA for

Table 4.

Psychotic Inpatient Profile: Pretest and Posttest Selected Subscale Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups

	Experimental (Pet-Facilitated)[a] Group					Comparison (Non-Pet-Facilitated)[b] Group				
Subscale	Pretest $\bar{x}$	SD	Posttest $\bar{x}$	SD	paired *t* test	Pretest $\bar{x}$	SD	Posttest $\bar{x}$	SD	paired *t* test
Retardation	63.714	9.725	57.000	11.662	-2.585 *	54.286	9.050	46.857	7.403	-1.754
Seclusiveness	49.857	4.562	48.571	6.949	-0.732	46.143	3.288	42.857	5.490	-3.231 *
Depressive Mood	59.143	11.495	57.286	7.365	-0.734	59.286	3.524	51.571	6.828	-2.594 *
Anxious Depression	54.286	9.878	52.714	5.469	-0.406	49.143	6.793	44.714	4.030	-2.501 *

[a] $n = 7$ [b] $n = 7$ * $p < .05$

interaction indicated no significant difference (F = 0.972, p =.34) in the change of scores over time between the experimental and the comparison groups for the Seclusiveness subscale (see Table 2). Paired t tests were used to test for the significance of difference between pretest and posttest scores for each group. For the patients in the experimental group, the difference between pretest and posttest scores on Seclusiveness was not significant (t = -0.732, p = .49). Therefore, the hypothesis was not supported. However, for the comparison group, there was a significant difference (t = -3.231, p = .02) for Seclusiveness. Figure 2 graphically reflects the difference between the groups for the pretest and posttest on the PIP Seclusiveness subscale.

There was a significant decrease (t = -2.585, p = .04) in the Retardation subscale in the experimental group. Figure 3 graphically presents the difference between each group for the pretest and posttest scores for the Retardation subscale.

For the comparison group, there was a significant decrease in Depressive Mood (t = -2.594, p = .04) and a significant decrease in Anxious Depression (t = -2.501, p = .05). Figures 4 and 5 graphically reflect the pretest and posttest scores for both groups for the Anxious Depression and Depressive Mood subscales.

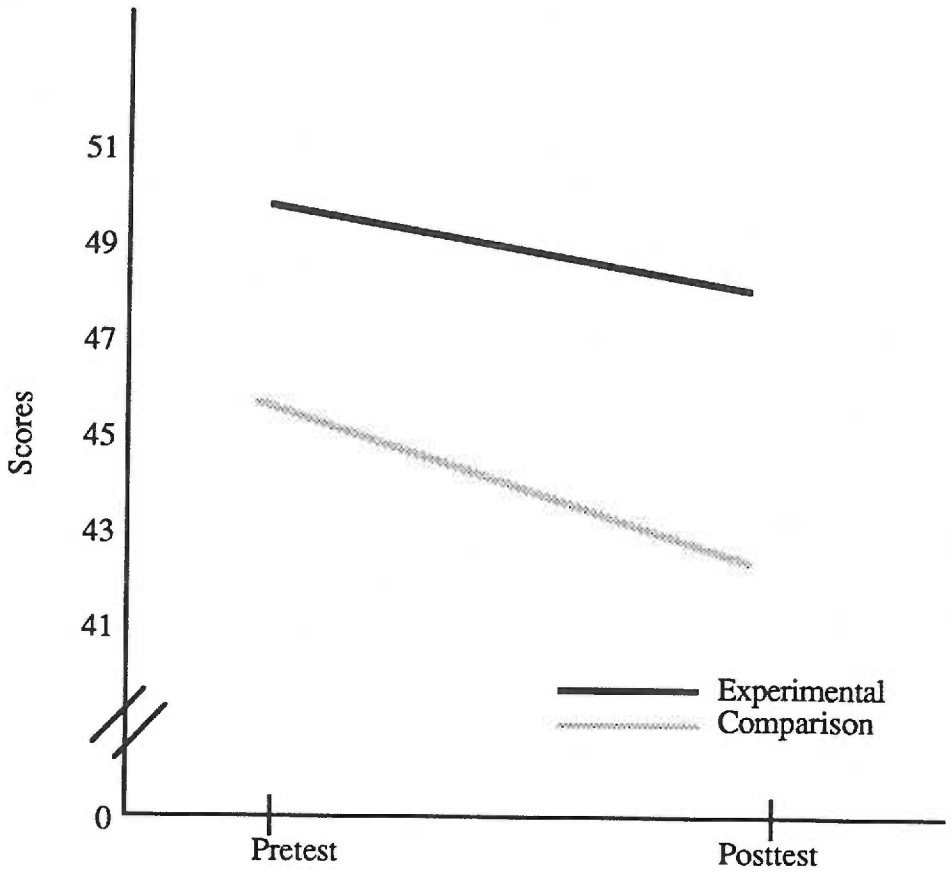

Figure 2. Comparison between the Mean Pretest and Posttest Psychotic Inpatient Profile (PIP) Seclusiveness Subscale Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups.

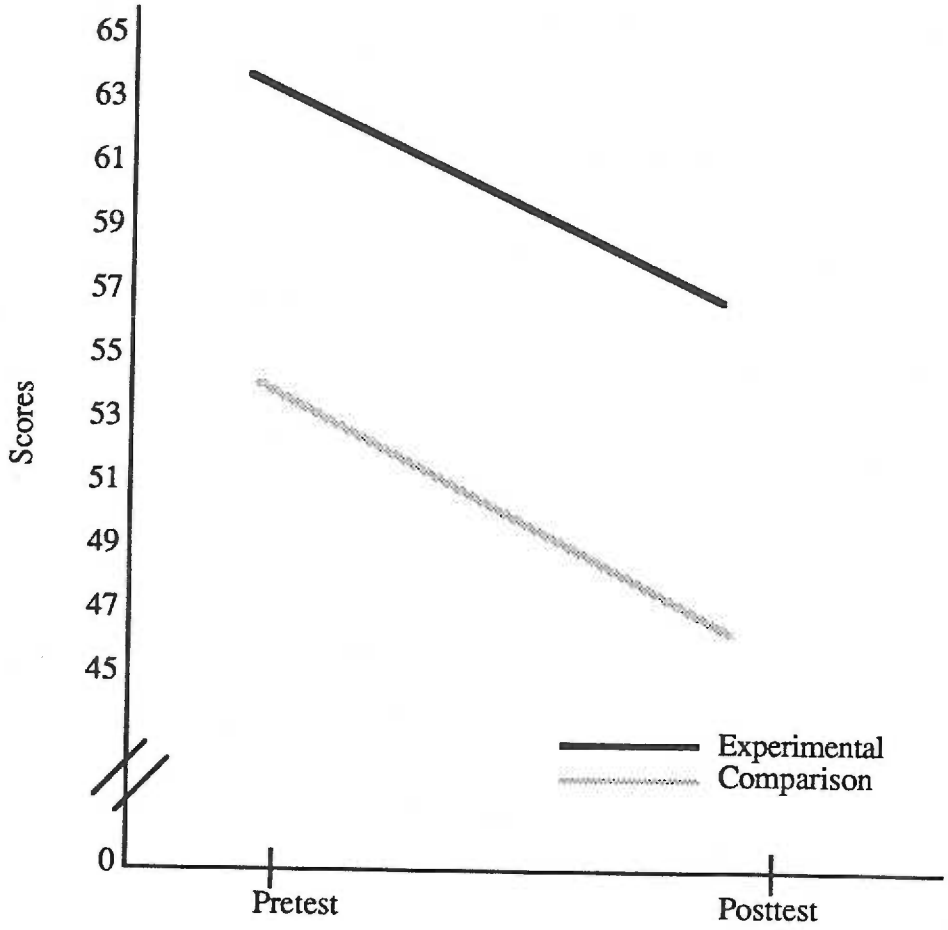

Figure 3. Comparison between the Mean Pretest and Posttest Psychotic Inpatient Profile (PIP) Retardation Subscale Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups.

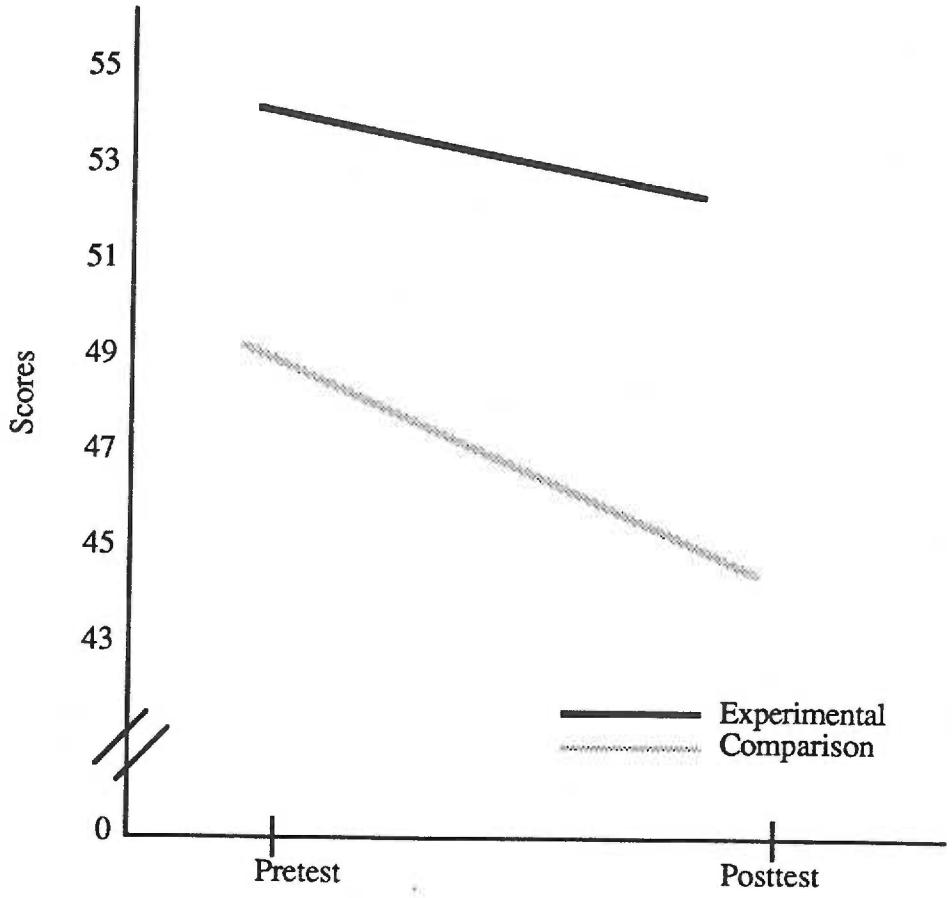

Figure 4. Comparison between the Mean Pretest and Posttest Psychotic Inpatient Profile (PIP) Anxious Depression Subscale Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups.

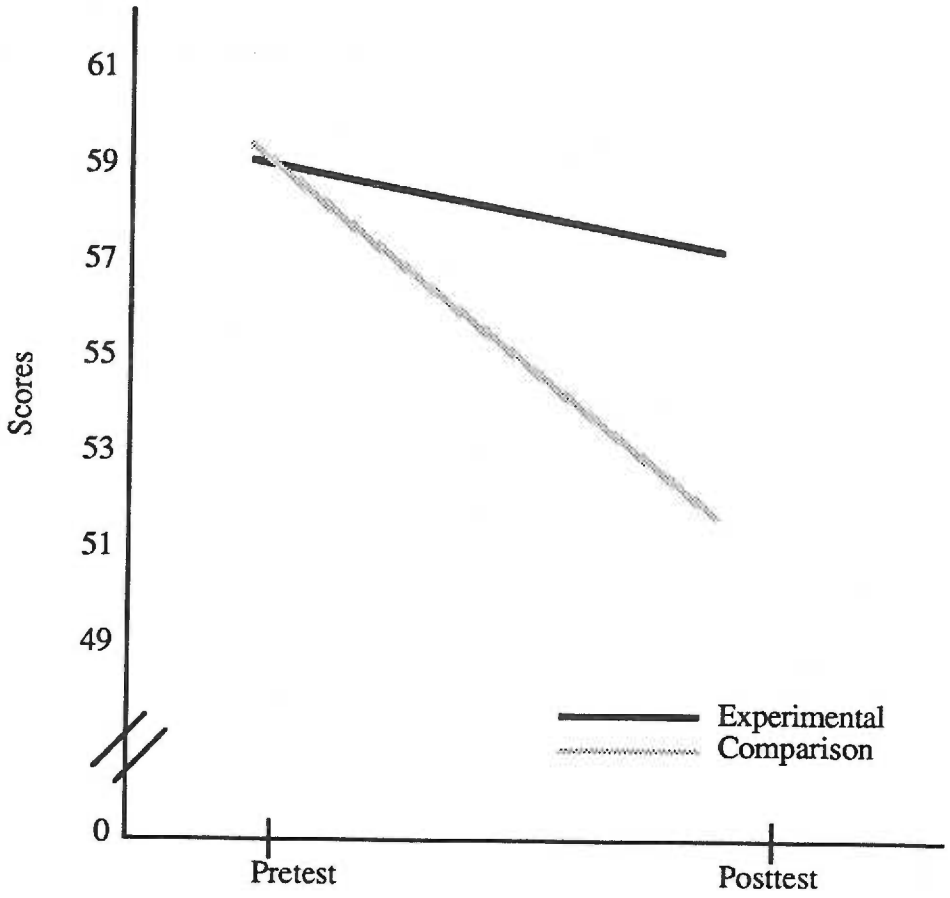

Figure 5. Comparison between the Mean Pretest and Posttest Psychotic Inpatient Profile (PIP) Depressive Mood Subscale Scores for the Experimental (Pet-Facilitated) and Comparison (Non-Pet-Facilitated) Groups.

The independent samples t test was used to test for the significance of difference between the experimental and comparison groups prior to and after the study. No significant differences were found in the PIP selected subscales between the groups prior to the study period.

Similarly, the ANOVA results indicated no significant difference between the groups prior to the study for the Seclusiveness (F=3.253, p= .09) and Depressive Mood subscales (F=0.300, p = .59). However, the ANOVA results showed a statistically significant difference between the groups prior to the study on the Anxious Depression (F =4.783, p= .05) and Retardation subscales (F=4.773, p= .05), (see Table 2).

A modest positive nonstatistically significant correlation (r = .3863, p = .09) was found between having a pet in the group and the posttest scores on seclusiveness. A high positive statistically significant correlation (r = .6869, p = .005) was attained between having a pet in the group and the Anxious Depression scale posttest scores. Likewise, a moderate positive statistically significant correlation (r = .5617, p = .02) was computed between Depressive Mood posttest scores and having a pet in the group. A moderate positive nonstatistically significant correlation (r=.4636, p= .06) was found between the Retardation subscale posttest scores

and having a pet in the group. All these associations were in a direction opposite of that predicted by the hypothesis.

Findings for Research Question 2

Is participation in an animal-facilitated group perceived as more friendly and less threatening than participation in a non-animal-facilitated group?

Hypothesis 3 states participation in an animal-facilitated group is perceived as more friendly and less threatening than participation in a non-animal-facilitated group as reflected by responses to a post group questionnaire. For the experimental group, 71% of the subjects rated the group as very friendly while 29% rated the group as slightly friendly. For the comparison group, 50% of the participants rated the group as extremely friendly and 50% rated the group as very friendly. No subjects from either group perceived the groups as threatening. Table 5 presents the findings of the self-rating questionnaire. The data does not support the hypothesis.

Table 5

Results of Post Group Questionnaire for the Experimental (Pet-Facilitated)[a] and Comparison (Non-Pet-Facilitated)[b] Groups

	Group	
Rating	Experimental (Pet-Facilitated)	Comparison (Non-Pet-Faciliated)
Extremely Friendly	0 (0%)	3 (50%)
Very Friendly	5 (71%)	3 (50%)
Slightly Friendly	2 (29%)	0 (0%)
Neither Friendly or Scary	0 (0%)	0 (0%)
Slightly Scary	0 (0%)	0 (0%)
Very Scary	0 (0%)	0 (0%)
Extremely Scary	0 (0%)	0 (0%)

[a] $n = 7$ [b] $n = 6$

Descriptive Analysis of the Group Process

Before each group began, a pre-group meeting was held with the co-therapist of each group to outline and explain the warm-up exercise and the structured activity. The only specific instruction for the co-therapist was to participate as a group member. At the conclusion of each session and after the patients left the group room, a post-group meeting was held with the co-therapist to discuss any significant observations or thoughts about the session.

After a brief orientation and staff introduction (see Appendix C) at the beginning of each group, the patients were asked to introduce themselves or each other. The introductions were occasionally coupled with the warm-up activity. For example, by way of introductions, before tossing a beach ball to another person, each participant introduced himself, or the individual would introduce the person to whom he would toss the ball; or, after introducing himself to the other group members, each person would tell his high and low points for the day and state a goal for the day. The following are some examples of the warm-up activity instructions: do an exercise of your own choice; say something positive to the person on your left; tell how the person on your left is feeling and why; and, face away from the group and make a change in

your appearance, then face the group and identify the changes the other members have made.

Group Attendance

Prior to each group session for both groups, the investigator telephoned each ward to remind the staff of the group sessions. All the subjects from both the experimental and the comparison groups attended the first group session. Thereafter, the group attendance for the experimental group ranged from four to seven members and from four to eight members for the comparison group. In addition, the experimental group participants had fewer members present for 50% of the group sessions while comparison group participants had fewer members present for 17% of the time. Although each unit was contacted by phone before each group session, it was necessary for the investigator to arouse and gather together the experimental group subjects on four separate occasions. It is unclear how responsive the ward staff members were to the investigator's request to gather and escort the patients to the group room.

Experimental Group Participation

During the experimental group sessions, the dog, Maggie, was initially kept on a lead held by the investigator and permitted to move about the group circle at will. As the groups progressed, the members took turns

holding the lead, or allowed Maggie to move about freely without holding the lead. At the end of the group sessions, members were given the option to feed treats to the dog. All members participated in this activity and appeared to enjoy the close contact demonstrated by their smiling, petting Maggie, and their gradual departure from the group room.

All the experimental subjects were less verbal throughout the twelve sessions compared to the subjects in the comparison group. It was necessary to encourage verbal participation by either directly calling on a member, or to request one member to call on another member. Every member verbally participated at least once during each group meeting. Members' nonverbal participation was demonstrated by head nodding, appropriate smiling and laughing, and visually tracking the conversation. For example, during one session, one member said nothing until the very end of group when he stated he didn't speak because of embarassment, but stated he listened to everything.

During another group, the co-therapist noted that one member who was 'very delusional' the previous weekend was coherent and appropriate during the group. In addition, his response to the dog was not only to hug and pet it, but also to talk to it in a proper manner. Another

member, whose usual ward behavior consisted of TV watching with minimal interaction with peers, according to the co-therapist, responded by doing the warm-up exercises, speaking in the group, and petting Maggie as much as possible. The co-therapist described the behavior as "this is the most I've ever seen him do". Interestingly, this particular member's only exposure to a pet was through a friend's pet.

During subsequent group sessions, similar observations were made. One subject who was reluctant to attend group, shared with the co-therapist prior to the sixth group that he was looking forward to group. The same individual consistently wore a knit hat to the group even though the temperature was very hot. He came to the sixth group without his hat and smiled when group members noticed the change. This was the same person who shared feelings of embarrassment earlier and who was unable to identify any personal strengths. All experimental group subjects were more responsive and showed more affect during lively activities such as physical exercise, the ball toss, collage making, and the appearance change. In addition, there were no overt demonstrations of psychotic or inappropriate behavior during the group meetings.

As the dog wandered about the group, it nudged members with its nose or simply sat and looked up at them.

Members responded by smiling and petting the dog. Both therapists observed that the more withdrawn individuals occasionally responded more to the dog than to the other group members. Only one member was observed to be slightly rough with the dog by pulling it toward him. The same person attempted to have the dog do tricks. As a result another member refused to attend remaining groups because he perceived this behavior as being abusive to the dog.

Maggie was used as a focus for facilitating discussion during several groups. For example, members discussed qualities they look for in a friend by identifying the dog's characteristics they perceived as friendly or unfriendly and compared those with human qualities. They also discussed ways of caring for a pet and related this to nurturing a friendship. During a group which dealt with identifying others' feelings, Maggie became excited when another dog outside began to bark. Maggie's expression of excitement was utilized to facilitate that discussion. Lastly, during the final group, all subjects in attendance acknowledged they enjoyed the dog's presence and felt comfortable with the dog in the group. They said goodbye to Maggie and inquired if the investigator would bring the dog to visit again.

Comparison Group Participation

The comparison group members appeared to be more alert and to have more energy and more affect than the experimental group members. This observation was affirmed by the co-therapist of the experimental group who substituted for the comparison group co-therapist at the final group session. However, the comparison group was similar to the experimental group in their apparent difficulty in discussing feelings. Unlike the experimental group, the comparison group members were more responsive and verbal throughout the group sessions, many times initiating discussion. For example, the tenth group session was totally devoted to the members' discussion of anger which was initiated by two subjects who had unresolved differences with each other. Members also were able to share thoughts about other subjects' behavior. For example, as one member's behavior escalated to the point where transfer to another unit was necessary, the other members gave appropriate feedback to him. Likewise, when subjects attended group after an absence, the other members commented about the absence and the effect it had on the group. One subject shared very personal information about his life and problems without prompting. Several members acknowledged they hoped to benefit from the group as well as help the investigator

with the project. All members expressed curiosity about the experimental group and most expressed a desire to see the dog. Finally, during the final group session, all group members expressed the wish that the groups could continue because they not only enjoyed the groups but also because they derived some benefit from them.

Chapter V

Discussion

The purpose of this study was to examine the effectiveness of an animal-facilitated group versus a non-animal-facilitated group in decreasing social fear and socially withdrawn (seclusive) behavior in a group of psychiatrically hospitalized withdrawn persons. This chapter discusses the findings and influences affecting the study's outcome. A discussion of the findings for each research question is presented followed by a discussion of the limitations of the study. Finally, the implications for nursing practice and the recommendations for further study are presented.

Discussion of Research Question 1

This question and the related hypotheses were concerned with the decrease of social fear and socially withdrawn behavior in participants of an animal-facilitated group compared with the non-animal-facilitated group participants. The results of the statistical analyses did not support the hypotheses that social fear and socially withdrawn behavior would be decreased in an animal-facilitated group. Although all subjects selected were identified as the most withdrawn and seclusive and no significant difference was found in the PIP Seclusiveness subscale between the groups,

objectively, the two groups presented as different as described earlier with respect to affect, alertness, and responsiveness. This finding may be explained by the fact that, although the subjects were the most withdrawn patients from their units as compared to the other patients on the same units, the patients from the units designated as experimental units and comparison units may have been different initially in terms of acuity, degree of withdrawal, and level of functioning. As such, it would be expected that there would be a reduced ability to develop emotional bonding, or attachment. Moreover, it is possible that placing such impaired individuals in a group therapy setting increases stress and social fear to the point that the effects of the presence of a pet is unable to be measured by the instruments used. Figures 1 through 5 demonstrate the margin of difference between the groups. An additional factor which may have influenced the findings was the inability to determine the inter-rater reliability for the PIP.

Interestingly, the posttest scores of the Retardation subscale, reflective of slowed movement, speech, and response sometimes to the point of apathy, was significantly decreased in the experimental group. This would suggest that in very seclusive patients, a decrease in retardation may be the initial indicator of

improvement, rather than a change in interpersonal interaction or social fear, and that the presence of a pet animal may influence such changes in very withdrawn individuals by allowing them to gradually develop a relationship with another living creature (such as a dog) permitting an exchange of social support through communication of positive affect and reciprocal interactions. This would also suggest that a decrease in social fear and seclusiveness would not be reflected until the impaired retardation reached a certain critical level.

The findings related to the question of social fear may also have been affected by the measurement tool (SFS). Although it was the investigator's assumption that the majority of participants responded frankly to the self-administered questionnaire, the accuracy and validity of the responses in such impaired individuals are open to question. For example, one comparison group subject acknowledged he answered all the questions with the same response. One experimental group subject's responses to the pretest did not fit with his initial presentation; moreover, the same subject was only able to complete the SFS posttest with the investigator's assistance by reading each question. Furthermore, it was observed during group sessions requiring reading and writing skills, that

several subjects from both groups had noticeable difficulty with the tasks. This may be explained by the fact that the cognitive ability of such impaired individuals as these chronically mentally ill subjects is also impaired and may have affectd the subjects' ability to understand and respond to the SFS questionnaire. In addition, the participants may have responded in a socially desirable or expected manner.

Schizophrenia encompasses a broad range of symptoms within several subtypes. Considering the fact that the study sample was at the extreme end of the disorder, the SFS may not be sufficiently sensitive enough to measure social fear in such an impaired schizophrenic sample. Finally, no studies were available which examined the validity of the SFS for measuring social fear in a schizophrenic population. Nevertheless, the SFS is a useful tool in measuring social fear in the schizophrenic since social fear is a characteristic of premorbid schizophrenia.

The significant decrease found in the comparison group on the PIP posttest scores for Seclusiveness, Anxious Depression, and Depressive Mood may be as a result of participation in a nonthreatening and supportive group. This suggests that this type of experience may be of therapeutic value with or without the presence of a pet.

Nonetheless, the comparison group members' curiosity and desire to meet the dog alludes to the value of using a pet as an adjunct to therapy.

Discussion of Research Question 2

Research Question 2 and its related hypothsis were concerned with the perception of the friendliness versus the threatening nature of the animal-facilitated group participants as compared to the non-animal-facilitated group participants. The finding that the comparison group perceived the group experience as more friendly than the experimental group may be a function of the individual subjects as opposed to whether a pet was or was not present. As mentioned previously, the degree of impairment of the experimental group subjects as observed by the investigator and the comparison group co-therapist was greater than the comparison group subjects with respect to withdrawal, alertness, affect, level of functioning, and responsiveness. In addition, there were fewer paranoid schizophrenic patients in the comparison group (n=2) than in the experimental group (n=5) and more schizoaffective patients in the comparison group (n=3) than in the experimental group (n=1). This finding would be consistent with the clinical picture of paranoid schizophrenia and schizoaffective disorder. The essential feature of paranoid schizophrenia consists of systematized

delusions usually with a persecutory theme as well as unfocused anxiety, anger, suspiciousness, contentiousness, guardedness, and an artificialy formal or reserved style of interpersonal interaction (Kaplan & Sadock, 1985, p. 694). The schizoaffective patient can present with any characteristic symptom of both schizophrenia and affective disorder. The clinical picture exhibited may be either a major depressive or manic episode coexisting with the symptoms of schizophrenia (Kaplan & Sadock, 1985, p. 757).

Neither group perceived the group experience as threatening or unfriendly. This may be explained by the fact that the groups were structured to be supportive rather than confrontive and that participants in both groups received positive feedback for their participation. Additionally, the freedom to move about the group room and the provision of coffee during each group may have influenced this finding. The finding that none of the subjects perceived the groups as unfriendly or threatening may also be explained by socially desirable response set bias.

Limitations of the Study

The internal validity of this study may have been influenced by several factors. First, although the designated patient units were considered comparable and randomly assigned to be the comparison or treatment group,

the individual participants were not randomly assigned which may account for the difference between the groups.

In addition, the threats of history and mortality to the internal validity may have influenced the results. The decrease in depressive mood and anxious depression in both groups and the decrease in retardation in the experimental group may have resulted from participation in the treatment program rather than participation in the study groups, or a combination of both. For example, one subject from the comparison group was moved from one unit to another during the course of the study period, and an experimental group subject's medication regime was changed. Subject attrition by discharge probably had little bearing on the results; however, participant attendance may have influenced the results. The experimental group had fewer subjects in attendance for half the group sessions compared to the comparison group which had fewer participants in attendance for only two of the twelve sessions.

Finally, the instruments used may have limited the internal validity of this study. Although a short training session and practice rating was provided for the raters of the PIP, interrater reliability could not be determined since all the raters did not know one subject in common. The subjects may have responded to the self

rating questionnaire in a manner to reflect the expectation of the investigator. Lastly, it is possible that the participants responded to the SFS in a socially desirable manner.

The external validity of this study was limited by the small sample size and the short duration of the group sessions. The problem of obtaining and sustaining a larger sample, also found in other studies, may be a reflection of the nature of the disorder. Consequently, generalization to a larger population of socially withdrawn psychiatrically hospitalized persons should only be made with caution.

Conclusions

The statistical analysis did not support the hypotheses that social fear and withdrawal would be decreased in an animal-facilitated group versus a non-animal-facilitated group. However, the investigator and the co-therapist of the experimental group observed changes in the subjects in terms of verbal participation, affect, and level of comfort. Likewise, the hypothesis that the experimental group would perceive the group as less threatening and more friendly than the comparison group was not supported. Nevertheless, the participants' self-reported satisfaction with both the group and the presence of the dog suggests utilizing an animal in a

group setting with psychiatrically withdrawn, hospitalized patients may be beneficial.

Implications for Nursing Practice. Although the number of withdrawn patients currently is substantially less due to the use of psychotropic medications, the problem of withdrawal or seclusiveness continues to exist. For therapy to be effective, the pattern of this behavior must be interrupted. The objective results of this study suggest that the use of a dog as an adjunct to other nursing and treatment approaches should be pursued. It can be expected that not all withdrawn patients will respond to the presence of a dog or other animals because of personal reasons. However, those patients who do respond may be expected to demonstrate increased verbal and non-verbal communication, decreased apathy, and an increased energy level.

Recommendations for Further Study

If further research of this type is conducted, the following are recommendations to improve the current study:

a) doing a power analysis to determine sample size
b) increasing the number of group sessions and the total duration of the study
c) matching the subjects on diagnosis and pre-test scores
d) using videotaped sessions to provide qualitative

data

e) using different animals

f) finding or developing an instrument that would be more effective in reflecting nuances and gradations of change with a population that is so impaired.

It would also be beneficial to evaluate staff members' receptivity to a study of this kind to determine the extent of their willingness to participate. It would also be useful to obtain follow-up data at prescribed time intervals to determine whether there were any long range effects of the treatment.

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Appendix A

Psychotic Inpatient Profile

Psychotic Inpatient Profile

by

Maurice Lorr, Ph.D.
The Catholic University of America

Norris D. Vestre, Ph.D.
University of Minnesota

Published by

WPS WESTERN PSYCHOLOGICAL SERVICES
Publishers and Distributors
12031 Wilshire Boulevard
Los Angeles, California 90025

Patient's Name		Age	Sex: M F
Highest Grade Completed	Occupation		
Diagnosis			
Hospital	Ward	Type of Ward	
Rater	Position of Rater	Date of Rating	

INSTRUCTIONS:

FIRST: Read all the statements in this form so you will know what behaviors to observe.

SECOND: Carefully observe and talk to the patient several times during the next three days. Also try to find out how the patient feels about himself and others. Direct questions will be needed to determine answers to the orientation statements.

THIRD: Read the directions and rate what you have observed during the past three days.

W-105A

3 4 5 6 7 8 9

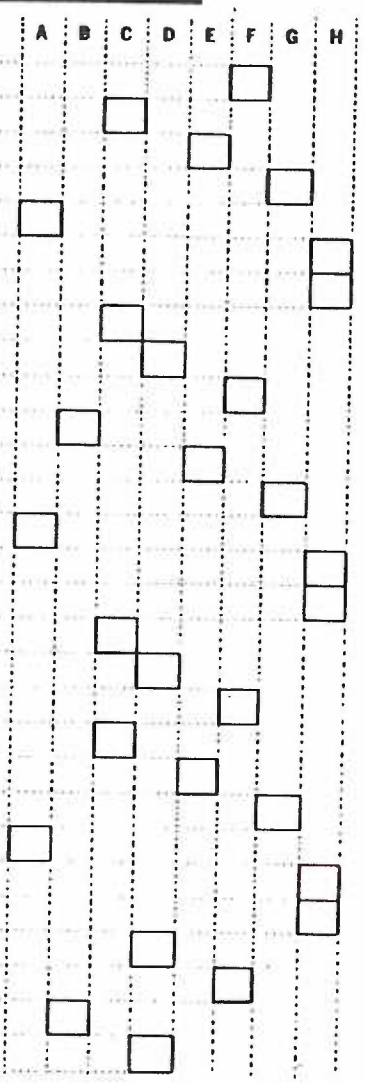
INSTRUCTIONS:

Read each statement carefully. Consider HOW OFTEN the patient being rated behaved in the manner described during the past three days. Record your judgment by writing the NUMBER of your answer in the box to the right of the statement. If your answer is:

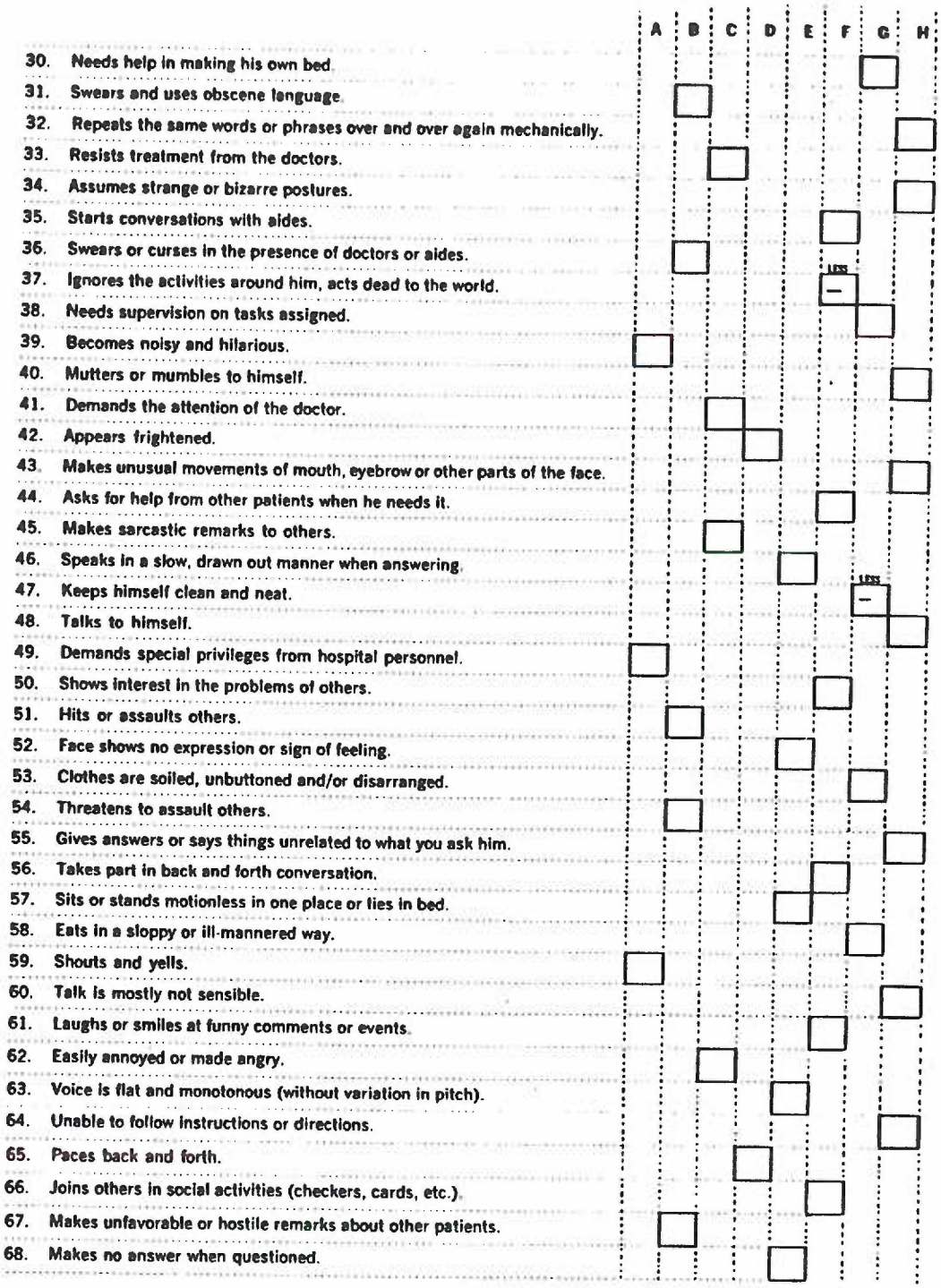
Not at all, write a "0" in the box to the right.
Occasionally, write a "1" in the box to the right.
Fairly often, write a "2" in the box to the right.
Nearly always, write a "3" in the box to the right.

Be sure you rate every statement. If you are not certain, record the answer which is MOSTLY TRUE for the patient being rated. Rate only the behavior observed during the PAST THREE DAYS.

Not At All – 0 Occasionally – 1 Fairly Often – 2 Nearly Always – 3



1. Mixes with other patients.
2. Resists suggestions and requests from aides.
3. Moves quite slowly.
4. Needs help in dressing.
5. Talks in a loud voice.
6. It is difficult to understand what he is saying.
7. Giggles in a silly way without good reason.
8. Complains about the food and care he receives.
9. Shows real sadness in his face and posture.
10. Shows pleasure in recreation.
11. Loses temper when dealing with other patients.
12. Whispers when he speaks.
13. Needs help to take a shower.
14. Tries to attract attention to himself; shows off.
15. Makes up new or unusual words.
16. Smiles to himself without any sensible reason.
17. Acts as though the hospital is persecuting him.
18. Looks worried and nervous.
19. Is good company.
20. Refuses to help out on the ward.
21. Acts as if moving required special effort.
22. Needs help in going to the bathroom.
23. Jokes, talks or laughs excitedly; Seems "high."
24. Drifts off the subject when he talks.
25. Makes strange movements that do not make sense.
26. Weeps and/or wrings his hands.
27. Tries to be friendly with other patients.
28. Upsets patients by the way he talks to them.
29. Looks tired and "all worn out."


A
B
C
D
E
F
G
H
30. Needs help in making his own bed.
31. Swears and uses obscene language.
32. Repeats the same words or phrases over and over again mechanically.
33. Resists treatment from the doctors.
34. Assumes strange or bizarre postures.
35. Starts conversations with aides.
36. Swears or curses in the presence of doctors or aides.
37. Ignores the activities around him, acts dead to the world.
38. Needs supervision on tasks assigned.
39. Becomes noisy and hilarious.
40. Mutters or mumbles to himself.
41. Demands the attention of the doctor.
42. Appears frightened.
43. Makes unusual movements of mouth, eyebrow or other parts of the face.
44. Asks for help from other patients when he needs it.
45. Makes sarcastic remarks to others.
46. Speaks in a slow, drawn out manner when answering.
47. Keeps himself clean and neat.
48. Talks to himself.
49. Demands special privileges from hospital personnel.
50. Shows interest in the problems of others.
51. Hits or assaults others.
52. Face shows no expression or sign of feeling.
53. Clothes are soiled, unbuttoned and/or disarranged.
54. Threatens to assault others.
55. Gives answers or says things unrelated to what you ask him.
56. Takes part in back and forth conversation.
57. Sits or stands motionless in one place or lies in bed.
58. Eats in a sloppy or ill-mannered way.
59. Shouts and yells.
60. Talk is mostly not sensible.
61. Laughs or smiles at funny comments or events.
62. Easily annoyed or made angry.
63. Voice is flat and monotonous (without variation in pitch).
64. Unable to follow instructions or directions.
65. Paces back and forth.
66. Joins others in social activities (checkers, cards, etc.).
67. Makes unfavorable or hostile remarks about other patients.
68. Makes no answer when questioned.

		A	B	C	D	E	F	G	H
69.	Talks a lot once started.						☐		
70.	Friendly with at least one patient.						☐		
71.	Becomes angry when questioned.			☐					
72.	Frightens other patients.		☐						
73.	Acts superior to other patients (conceited and boastful).	☐							
74.	Wears a puzzled, bewildered expression as if figuring out a problem.				☐				
	SUMS	☐	☐	☐	☐	☐	☐	☐	☐
		A	B	C	D	E	F	G	H

After TALKING to the patient, decide if the following statements are mostly TRUE or mostly NOT TRUE. Record your judgement by writing the NUMBER of your answer in the box to the right of the statement. If your answer is:

True, write a "3" in the box to the right.
Not true, write a "0" in the box to the right.

True = 3 Not True = 0

		I	J	K
75.	Says people or machines make him do or say things.		☐	
76.	Claims he has a divine mission.	☐		
77.	Says voices say "bad" things about him.		☐	
78.	Says he wants to die, or wishes he were dead.			☐
79.	Says voices threaten punishment or torture.		☐	
80.	Feels he has let people down (family, wife, children, friends).			☐
81.	Makes exaggerated claims of special knowledge or power.	☐		
82.	Says he is a failure and a disappointment to himself and others.			☐
83.	Believes he is a well known present day, or historical personality (The President, Virgin Mary).	☐		
84.	Says he has lost interest in things (people, social activities, hobbies).			☐
85.	Says he is too important to work, or follow rules.	☐		
86.	Says he feels tired and lacks energy to do anything.			☐
87.	Reports that he hears sounds (music, singing, whispers, buzzing), others don't hear.		☐	
88.	Reports he cannot concentrate or remember things.			☐
89.	Reports that voices order or command him to do things.		☐	
90.	Says voices praise him or say "good" things about him.		☐	
91.	Feels hopeless and despairing, beyond help.			☐
	SUMS	☐	☐	☐
		I	J	K

NOTE: Weights here are 3 for Not True and 0 for True.

True = 0 Not True = 3

		L
92.	Knows roughly the time of day (morning, afternoon or evening).	☐
93.	Knows hospital location (state or nearest city).	☐
94.	Knows day of the week (within one day).	☐
95.	Knows his own age.	☐
96.	Knows the calendar year.	☐
	SUM	☐
		L

Appendix B

Social Fear Scale

Circle either T for true or F for false for each item as it applies to you.

T F 1. I like staying in bed so that I won't have to see anyone.
T F 2. I enjoy being a loner.
T F 3. I usually prefer being with friends to being by myself.
T F 4. Upon entering a crowded room, I often feel a strong urge to leave immediately.
T F 5. Honest people will admit that socializing is a burden.
T F 6. I find I can't relax unless I am alone.
T F 7. I feel more comfortable being around animals than being around people.
T F 8. I think I would enjoy a job that involved working with a lot of different people.
T F 9. I like to go for days on end without seeing anyone.
T F 10. I stay away from other people whenever possible.
T F 11. All my favorite pastimes are things I do by myself.
T F 12. I often tell people that I am not feeling well just to get out of doing things with them.
T F 13. The only time I feel really comfortable is when I'm off by myself.
T F 14. Being around other people makes me nervous.
T F 15. I would rather eat alone than with other people.
T F 16. I prefer traveling with friends to traveling alone.
T F 17. I really prefer going to movies alone.
T F 18. I almost always enjoy being with people.
T F 19. It is rare for me to prefer sitting home alone to going out with a group of friends.
T F 20. I often dream of being out in the wilderness with only animals as friends.
T F 21. While talking with people I am often overwhelmed with a desire to be alone.
T F 22. Pets are generally safer to be with than people.
T F 23. I usually find that being with people is very wearing.
T F 24. I often feel like leaving parties without saying goodbye.
T F 25. Even when I am in a good mood, I prefer being alone to being with people.
T F 26. Often I can't wait until the day is over so I can be by myself.
T F 27. I wish people would just leave me alone.
T F 28. I feel most secure when I am by myself.
T F 29. When seated in a crowded place I have often felt the urge to get up suddenly and leave.
T F 30. I often need to be totally alone for a couple of days.
T F 31. I feel most comfortable when I am with people.
T F 32. I like spending my spare time with other people.
T F 33. Whenever I make plans to be with people I always regret it later.

T F 34. The strain of being around people is so unbearable that I have to get away.
T F 35. I would consider myself a loner.
T F 36. I wish that I could be alone most of the time.

Appendix C

Communication from Hospital

NEIL GOLDSCHMIDT
GOVERNOR

Department of Human Resources
MENTAL HEALTH DIVISION
Oregon State Hospital
2600 CENTER STREET N.E., SALEM, OREGON 97310 PHONE 378-2348

April 6, 1989

Barbara P. Olchowy, RN, BSN
5208 NW 234th St.
Ridgefield, WA

Dear Ms. Olchowy:

I am sorry this has taken so long to get to you but given our review process, the Medical Staff was unable to place this on their agenda until recently. I am happy to say, however, that the Medical Staff, Superintendent, and Research Review Committee all approved your research proposal with the revised consent form and flow sheet included. You may contact Kathy DeJong, R.N., and/or Vernon E. Eggiman, R.N., to get started on your project as soon as possible.

We ask that you promptly report any changes in your reported activities or any unanticipated problems involving subjects to Dr. Reed. A copy of the signed inform consent forms should be kept by you as well as one placed in the medical file. We expect you to be familiar with the rights given to patients in the hospital and should you need a copy of this, please contact me. The Research Review Committee is obligated to periodically review your activity and you should be contacted by Dr. Reed concerning this at a later date. Please inform Dr. Reed when you are ready to start your project at the hospital. We would also request a copy of your results once your project is completed.

In the event this information requires additional clarification, please contact me at 378-2374. Thank you.

Sincerely,

Norman Reed, PhD

Norman Reed, Ph.D., Chair
Research Review Committee

NR:dbo

Appendix D

Group Structure Outline

Group Structure Outline

Each group session will utilize the following basic plan for both the experimental and comparison groups:

1. Orientation and introductions...2 to 5 minutes
2. Warm-up exercises.....5 to 10 minutes
3. Structured exercises.....20 to 30 minutes
4. Session review.....5 to 10 minutes

A typical orientation to each group meeting follows:

Good afternoon: I am Barbara and this is my co-therapist (name of therapist). This is the special research support group which you all agreed to attend. We will meet every Tuesday and Thursday at (time given) for 45 minutes in this same room. We urge each of you to come because we think this group is valuable. The group's goals are to provide you with the chance to get to know each other better, express yourself more, and participate in some planned activities. Some ground rules first: please, no smoking during the groups; I'd appreciate no violence or name calling; and, try to stay the entire 45 minutes. If it's difficult to stay in your seats, it's okay to walk around the room. Try not to be distracting when you get your coffee. There should be plenty to have two or three cups each. We will start each group with a warm-up exercise and, after a few minutes of that, we'll have another activity which I will describe to you. At

the end of group, we'll take a few minutes to review what we did in this meeting today.

The structured exercises for each group are as follows:

Group 1: Introductions where everyone in the group selects a partner whom they don't know well and talk with each other for 5 to 10 minutes. After the group reconvenes, each person introduces the partner to the group and tells about the other person.

Group 2: Each group member identifies a question(s) they would like to ask in getting to know another person. After the questions are listed on a blackboard, each member has a chance to answer all the questions.

Group 3: This exercise requires that each person list the five things they like most and the five things they dislike most on opposite sides of a piece of paper. This information is then read by a different person and is the basis for discussion.

Group 4: A strength list exercise in which each member writes his name on a sheet of paper along with two of his perceived strengths. The papers are passed around the group circle so that other members can add one strength as they perceive it in that particular member. All members share what is written on their own lists and discuss their reactions.

Group 5: The group members choose a theme and then construct a collage using magazine pictures which represent each member's perception of the theme. After a discussion of the pictures chosen, the collage is displayed.

Group 6: Each member selects a card from a stack, reads it aloud, and answers the question as quickly as possible, then passes the stack of cards to the next member.

Group 7: Each group member lists on paper qualities they look for in a friend. Then they share their lists and narrow down the qualities to the 5 to 7 most meaningful. The group then discusses things they can do for a friend.

Group 8: After the group is shown pictures of facial expressions, they discuss the expressions and attempt to identify the underlying feelings and select a caption for each face. If time permits, each member mimes one of the previously identified feelings for the group to guess.

Group 9: Each member responds to the following sentence completions: a) An important change that I've seen someone in the group make is...; b) A change that I've made since coming to the hospital is...; c) A change I would like to make in myself but do not think I can

make is...; and, d) The reason it is hard for me to change is....

Group 10: Repeat group 6 but members are not required to answer as quickly possible. Other members may comment or ask additional questions.

Group 11: Each member responds to the following sentence completions: a) Two things I do here or at home that are not helpful for my mental health are...; b) Two things I can do here or at home to stay mentally healthy are...; c) How I can help myself here in the hospital is...; and, d) How we can help each other in the hospital is.... Members will be reminded that next session will be the last.

Group 12: This session will be for members to discuss any termination issues including what the members liked most and least about the group.

The above structure outline will be used as a guide to provide structure and to facilitate the group process. However, to accommodate to changing needs of the immediate clinical situation, flexibility of the structure will be exercised to alter the direction, depth and pace of each session.

Appendix E

Demographic/Medical Record Data

Demographic and Medical Record Data

Birthdate:

Race: Sex:

Admission date:

Number of previous hospitalizations:

Diagnosis(es):

Current medications:

The following questions are for the treatment group only.

Previous contact with animals:

_____No

_____Yes

_____Previous pet owner

_____Family pet

_____Farm animals

_____Other

Allergies to animals____Yes

_____ No

Fear of Animals (specify animal)_____Yes

_____No

Dislike of animals (specify animal)_____Yes

_____No

Appendix F

Self Rating Questionnaire

Please circle your answer to the following questions. Based on your feelings, how were these group sessions for you?

1. extremely friendly
2. very friendly
3. slightly friendly
4. neither friendly nor scary
5. slightly scary
6. very scary
7. extremely scary

Appendix G

Consent Form

Oregon Health Sciences University

Consent Form

Study: The Effect of Different Kinds of Groups on the Well-being of Persons Hospitalized for a Mental Disorder, conducted by Barbara P. Olchowy, RN, BSN, under the supervision of Mary Catherine King, RN, Psy.D.

I understand that this research project will study the effect of different kinds of groups on the well-being of persons hospitalized for a mental disorder. The groups, which will be supportive, will be an opportunity to get to know the other group members better, express myself more, and participate in various group activities.

If I elect to be in this study, I agree to attend all group sessions. The groups will be held twice a week for six weeks for a total of 12 sessions. Each group will be 45 minutes long. I also agree to answer the questionnaires which will be given to me at the beginning and end of the study. I understand there may or may not be a pet dog present during the group.

I understand that I may benefit from these group experiences, but the main intent is to help future patients through the knowledge learned from this study. I understand that any information collected from me or my medical record will remain totally confidential and that

my name will not be on any of the questionnaires or any written reports about the results of this study. If I have questions about the study, I understand that I can speak with Barbara P. Olchowy or Mary C. King about them (1-503-279-7827).

I understand that my participation is voluntary. I may refuse to participate and I may withdraw from the study at any time without it affecting my treatment. Participation or nonparticipation will not affect current or future treatment or discharge at this hospital.

"It is not the policy of the U. S. Department of Health and Human Services or any agency funding the research project in which I am participating to compensate or provide medical treatment for human subjects in the event the research results in physical injury. The Oregon Health Sciences University, as an agency of the state, is covered by the State Liability Fund. If you suffer any injuries from the research project, compensation would be available to you only if you establish that the injury occured through the fault of the University, its officers or employees. If you have further questions, please call Dr. Michael Baird at (503) 279-8014".

I have read and understand this consent form and agree to be a participant in this study.

Date: Signature:

Witness:

AN ABSTRACT OF THE THESIS OF

BARBARA P. OLCHOWY

FOR THE MASTER OF NURSING

Date of Receiving this Degree: June 8, 1990

Title: The Effect of the Presence of a Pet Animal on the Socialization Behavior of Withdrawn Hospitalized Persons with a Psychiatric Diagnosis

Approved:

The purpose of this study was to examine the effectiveness of an animal-facilitated group as an intervention strategy in decreasing social fear and socially withdrawn behavior in a group of psychiatrically hospitalized withdrawn persons. This was a quasi-experimental nonequivalent group pretest-posttest design employing non-random assignment of consent subjects to either the experimental or comparison group. The animal used was the investigator's pet dog. The sample consisted of 14 males, ranging in age from 29 to 51 and diagnosed as schizophrenic or schizoaffective and was selected from four comparable forensic units in an Oregon state psychiatric hospital.

The dependent variables of social fear and socially

withdrawn behavior were measured by the Social Fear Scale and the Psychotic Inpatient Profile, respectively. The data were analyzed using descriptive statistics, dependent and independent *t* tests, point biserial correlations and ANOVA.

The results did not support the hypothesis that social fear would be decreased by having an animal in the group. Likewise, the results did not support the hypothesis that seclusiveness would be decreased by participation in an animal-facilitated group. However, there was a significant decrease in the Retardation scale for the experimental group and moderate correlations between having a pet in the group and the Anxious Depression and Depressive Mood subscale posttest scores. No subjects from either group perceived the groups as threatening. However, the comparison group viewed the groups as more friendly than the experimental group. All experimental group subjects acknowledged enjoying the dog's presence and feeling comfortable with the dog in the group.