

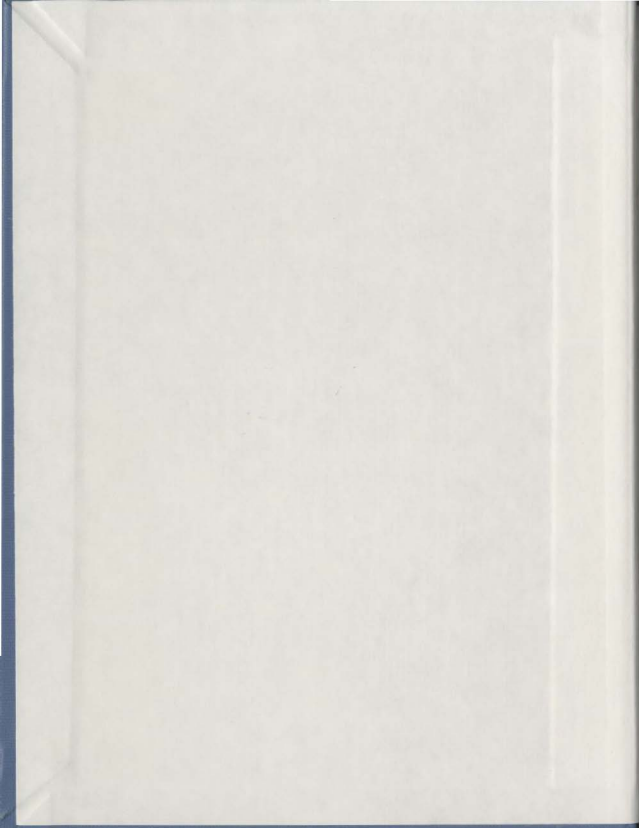
EFFECT OF THERAPEUTIC MILIEU  
ON SELF-CARE BEHAVIORS OF  
NURSING HOME RESIDENTS

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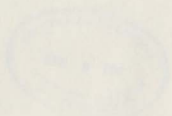
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C07029







EFFECT OF THERAPEUTIC MILIEU ON SELF-CARE  
BEHAVIORS OF NURSING HOME RESIDENTS

BY

© Charles E. Blair, B.Sc.N.

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## Abstract

Evidence points to dependency in clients in health care institutions such as nursing homes and psychiatric hospitals. This study investigated the effects of three nursing care approaches [(a) combination of mutual goal setting, prompting, and reinforcement (b) mutual goal setting only (c) normal routine care] on selected morning self-care behaviors of nursing home residents. Subjects were four male and 11 female residents who depended on staff for 100% assistance with self-care tasks. Mean age and length of institutionalization for males were 79.2 years and 10.5 months respectively; for females 84.3 years and 16.5 months respectively. An experimental double blind design was used. Also, each subject served as his/her own control. Subjects and nurses were divided into three groups each. Nurses were assigned to subjects in a corresponding group. The study was divided into a 6 week *attainment of skills* period and a 16 week *follow-up* period. The dependent variables in the study were subjects' independent performance of selected self-care tasks and nurses' and subjects' satisfaction with care given and received respectively. Results showed that subjects in the *mutual goal setting, prompting, and reinforcement* group scored significantly higher on goal attainment and satisfaction, as measured by Goal Attainment Scaling and Patient Satisfaction Questionnaire respectively, than subjects in the other two groups.

Nurses in the *mutual goal setting, prompting, reinforcement* group scored significantly higher on satisfaction, as measured by Nurse Satisfaction Questionnaire, than those in the other two groups. The .05 level of significance was used in interpreting all statistical tests. The overall conclusion of the study was that the combination of mutual goal setting, prompting, and reinforcement was significantly more effective in motivating subjects towards self-care with resultant increase in satisfaction. Details of the study are reported. Interpretation of the findings and implications of the research, for nursing practice with nursing home residents and psychiatric patients, and for clinical nursing research in general, are discussed. Suggestions for future pertinent research are made.

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## CHAPTER 1

### INTRODUCTION

#### Introduction

Among the behaviors necessary for the successful maintenance of one's life on a daily basis are behaviors such as bathing, hair care, tooth brushing, dressing, eating, and toileting. These behaviors are typically learned at an early age and their maintenance throughout life is a necessity if one is to remain a healthy, purposeful, and acceptable member of society. The process whereby persons indulge in these behaviors on their own behalf in health promotion and illness prevention is referred to as self-care (Levin, Katz, & Holst, 1979; Orérr, 1980). The self-care concept recognizes and emphasizes the inherent human attribute of individual domain over one's actions (Kinlein, 1977). In the health care situation, self-care is an approach derived from patients' perceived needs regardless of whether such needs and preferences conform to professional perceptions of patients' needs (Levin, 1978). Clearly, self-care is as relevant to independent living as it is to health; as relevant to the young as it is to the elderly, and no more relevant to persons in the community than it is to those in health-care institutions.

An example of the relevance of self-care to nursing is found in the care of elderly patients (Chang, 1980). Health is a crucial issue to the elderly and failing health brings with it both the fear and the fact of being institutionalized, often in a nursing home, and dependent on others. Dependency affects elderly people's

self-concept and satisfaction with life even more so than pain or social isolation (New, Ruscio, Priest, Petristi, & George, 1968). Therefore, a crucial goal in the rehabilitation of the elderly in need of nursing care is to promote self-sufficiency and independence (Kuriansky, Gurland, Fleiss, & Cowan, 1976).

### **The Problem**

Frequently, elderly persons who have not been completely dependent in community living become so after only a few months in an extended care facility (Baltes and Zerbe, 1976a). Often this is because the helping activities bestowed on residents in such facilities lessen their own abilities for self-care, both by reducing the opportunity to practice the skills that are necessary for self-care and, more insidiously, by conveying the message that they are incapable of independent self-care. Also, negative staff response to residents' independent self-care behaviors decrease the likelihood of those behaviors reoccurring.

Several investigators have reported on the unhealthy care-giver-resident relationship in nursing homes. After doing an in-depth study of life in six nursing homes, Storlie (1982) reported that residents were often restrained in beds or in chairs to prevent them from walking because they may have fallen, in the institution, once in the past. Residents were discouraged from making their own beds and from dusting or sweeping the floors of their rooms only because they were too slow to complete those tasks within a specific inflexible time period. Because efficiency dictated, care staff did the work. Storlie reported, also, that residents

were not allowed to bathe themselves unless staff were available to supervise the procedure.

Turner (1967) reported that nursing home staff rather than allow or help residents to walk within the institution, transported them by wheelchair because that form of transportation was more expeditious for the staff. Riley and Edwards (1978) reported that instead of teaching and maintaining self-independence as far and as long as possible, nursing home personnel took over for the residents. They noted, for example, that many, whose self-feeding skills had deteriorated but who were capable of being retrained to feed themselves, were fed by the direct-care staff, because their supervisors had instructed them to do so. Baltes and Zerbe (1978a) noted that during mealtimes, staff members began to feed residents as soon as meal trays were served, without giving the residents time or opportunity to feed themselves.

The existing relationship between dependency in the elderly and behavior contingencies of the nursing home staff have been addressed by Lester and Baltes (1978) and Mukilic (1971). These investigators reported that in nursing homes, residents initially exhibit higher frequency of independent self-care behaviors than dependent self-care behaviors. But, while those residents who exhibit dependent self-care behaviors are readily rewarded with the staff's undivided attention and support, those who exhibit independent self-care behaviors are usually ignored. This unfortunate system of positively reinforcing dependency instead of reinforcing independency, inadvertently results in the predominance of dependent

behaviors over independent behaviors. Residents, in order to get the staff's attention, resort to dependency.

### The Need for Change

From the above mentioned studies, it is obvious that the present social environment in nursing homes does very little to foster independence in residents. MacDonald and Butler (1974) suggested that the situation be altered to promote activity and independence. A method widely acclaimed by nursing to be effective in this regard is the self-care approach to patient care. The self-care approach with its emphasis on patients as active participants and decision makers, requires that nurses assist patients in arriving at informed decisions and in developing behaviors to improve health (Orem, 1980).

Facilitating active participation and decision making in health care institutions calls for the establishment of what Wilmar (1958) refers to as a *therapeutic milieu*, a concept originating in psychiatric mental health. Wilmar's definition, adopted in this study, is that the *therapeutic milieu* is a social environment that gives each resident a sense of being part of a meaningful relationship with care givers; an environment that actively encourages progression and independence and not regression and dependency; an environment that is rehabilitative rather than damaging. Since nurses are the prime care givers in nursing homes (Baltes & Lascomb, 1975; Hardy, Capuano, & Worsam, 1982) and are responsible for the physical and mental health care of residents throughout each 24 hours, they are

in a good position to be primary change agents in this regard by applying nursing procedures involving nurse-resident mutual goal setting in self-care planning, prompting, and reinforcement.

### **Mutual Goal Setting**

Mutual goal setting in patient care has been recommended by Marriner (1978) and Horsley, Crane, Haller, and Reynolds (1982). Mutual goal setting is a process whereby nurses and clients establish a partnership in health care. Nurses assist clients to identify their own immediate and longer range health goals and develop written health goal planning statements, outlining how the goals are to be accomplished. There are several advantages to using this strategy:

1. From an ethical standpoint, such a collaborative approach allows clients to have a voice in issues regarding their own health.
2. Helping clients to assume greater responsibility for their own health ultimately would result in more effective goal achievement and greater client satisfaction with health care.
3. The setting of positive goals can help staff break away from a dependent-supportive orientation towards clients. It can help them to relate more positively towards clients and find time to work on developing strengths that are appropriate to therapeutic care.

4. Goal plans help ensure that staff are rewarded for what they accomplish with clients instead, as is often the case, of being accountable only for the time spent on the job, reports written, neatness of work area, and so forth.

5. Clear communication among staff and between clients and staff is the fifth advantage. By using behavioral language and by spelling out staff responsibilities, new staff can easily understand what is to be done with clients and clients can more easily understand their role in treatment.

6. Goal plans help to utilize lower echelon personnel in working with clients. Because the goal plans are so specific, untrained persons can easily understand their responsibilities; even volunteers may be more comfortable when their roles are spelled out clearly. When vague abstract language is eliminated, front-line personnel feel more comfortable participating in care planning and they appreciate receiving recognition for what they accomplish with residents instead of being noticed only when things go badly. In view of the growing concern about cost of health-care, one of the most important contributions of goal setting may be in contributing to greater utilization of non-professional personnel and volunteers.

7. Goal setting is helpful in developing interdisciplinary planning. Because the language is concrete and specific, persons from different disciplines can avoid communication problems due to differences in language and jargon. Furthermore, goal setting focuses attention on the clients rather than on discipline or departmental interests and boundaries.



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The nursing process requires that goal planning be followed by implementation and evaluation. Evaluation generally refers to continuous, outcome, or follow-up appraisal of the intervention designed to attain the set goal.

### **Goal Attainment Scaling**

One method which is becoming increasingly popular for evaluating pre-established goals in order to assess the overall effectiveness of an intervention is that originated by Kiresuk and Sherman (1968) and known as Goal Attainment Scaling (GAS). With GAS, observable characteristics that reflect the goals of treatment are selected prior to the intervention. The observable characteristics become a means by which to evaluate the intervention. Levels of attainment are identified via a series of graded scales of equal appearing intervals. These scales range from *much worse than expected* outcome (-2) to *much better than expected* outcome (+2), with the *expected* outcome (0) corresponding to the client's realistic expectation of what outcome will accrue at a selected time interval during the intervention or at the termination of the intervention. Preintervention status, which by definition is less than the expected postintervention outcome, is noted and treatment proceeds. At the agreed upon time during the intervention or after termination, the client's status is evaluated by determining the actual level attained on the observable characteristics.

In using GAS, evaluation becomes linked to planning, thereby strengthening the scientific basis of nursing practice by developing empirical methods, as advo-

cated by Wattley and Muller (1983).

### **Significance of the Study**

As a profession, nursing must respond to the health needs of clients and society. Dependency in clients in health care institutions create significant individual and societal problems. The present method of delivery of nursing care is believed to play a prominent role in the creation of this problem. This study will make a substantial contribution not only to the rehabilitation of nursing home residents but also to the improvement of nursing care in general.

### **Problem Statement**

How can self-care behaviors of the elderly in nursing homes be promoted or maintained?

### **Research Question**

Do nursing home residents who are involved in mutual goal setting in nursing care planning and whose goal directed behaviors are prompted and reinforced by nurses, exhibit higher level self-care behaviors than residents who are not involved in mutual goal setting or whose behaviors are not prompted or appropriately reinforced?

### **Purpose of the Study**

The purpose of the study was to determine what effect resident participation in mutual goal setting in the nursing care plan plus positive staff response has on selected self-care behaviors of nursing home residents.

### **Definition of Terms**

*Self-care behaviors:* Selected morning care behaviors (shaving, dressing, bathing, combing hair, toothbrushing, walking) which subjects perform, on their own behalf, to facilitate healthy living.

*Therapeutic milieu:* The social environment in which subjects and nurses form a partnership in care, in which subjects have a say in the quantity and quality of care they receive from nursing staff, and in which the emphasis is on staff motivating subjects to care for themselves as much as they possibly can, rather than staff providing complete care for them.

*Mutual goal setting:* Nurses assisting subjects to identify their own health care goals, as related to the selected behaviors, and to develop goal planning statements outlining how the goals are to be achieved.

*Goal attainment scaling:* Nurses and subjects collaborate to define and specify in writing a set of self-care goals, each with an assigned weight in numerical form that indicates the relative importance of each goal to the subject, and each with predicted attainment, at a specified time, identified via a series of

graded scales of equal appearing intervals ranging from (-2) *much worse than expected outcome* to (+2) *much better than expected outcome*, with (0) indicating *expected outcome*.

**Prompting:** Nursing staff reminding or assisting subjects to perform a targeted behavior.

**Reinforcement:** Nursing staff directing any positive event towards a subject, following the subject's goal related behavior, such that it causes that behavior to reoccur more frequently than it did before the event was introduced.

**Shaping:** Nursing staff reinforcing successive small steps of a subject's goal related behavior until the goal was reached.

### **Theoretical Framework**

The theories of self-care and operant conditioning together form the theoretical base of this study.

### **The theory of self-care**

One of the most well established models of self-care was articulated by Orem (1980). Many nurses currently use this model as a base for their practice. The self-care model argues that the goal of nursing is to meet for the individual those self-care needs he is unable to meet for himself and to work with the patient to regain his ability to care for himself. The model emphasizes evaluating the

patient's functioning with him and to provide nursing care only for that which he cannot do for himself. The model provides the nurse with a way of assessing and planning for the patient that supports the patient's own control over his daily living. It deals with the day-to-day activities around which nurses and patients interact and thus enables the nurse to encourage the patient to take responsibility for his functioning. It offers the nurse and the patient prescribed behaviors on which to base evaluation of nursing intervention and patient responses. Goals of care that focus on the patient's ability to care for himself allow both the nurse and the patient to experience accomplishment. Continual evaluation with the patient about what he is and can be expected to do for himself keeps the patient active in his own care and decreases the chance that his life will be totally controlled by staff. Most importantly, the patient retains his right to self-care and is expected and encouraged to control all areas of his daily living. The model argues that the basic approach to care is teaching, the goal being to reestablish with the patient his self-care behaviors or to assist the patient to learn self-care behaviors.

### **The theory of operant reinforcement**

Behavior is explained as being largely under the control of the environment which either depresses or increases behavior by the presence or absence of positive reinforcement (Baltes & Barton, 1977; Hoyer, 1973). One of the first psychological models arguing for an explicit analysis of environmental conditions and their relation to behavior was the operant model put forward by the behaviorist school of thought (Skinner, 1953; 1966; & 1971). This has been adopted by nurses

(Loomis & Horsley, 1974; Marks, Philpot, & Hallman, 1980). The operant model's basic paradigm reflects a dynamic functional interrelationship between behavioral and environmental events. This paradigm extends to all voluntary behaviors. If changes in environmental conditions produce changes in behaviors of individuals, these behaviors can be called operants and as such, follow the general operant learning principles of acquisition, maintenance, and extinction.

Voluntary behaviors or operants are acquired, maintained, and/or extinguished via their unique association with environmental events which can be classified as consequences and antecedents. Environmental consequences affecting behaviors are classified as positive or aversive. Specifically, environmental consequences that lead to acquisition, maintenance and/or increased probability of behaviors are (a) presence of positive reinforcement (b) presence of negative reinforcement (c) absence of punishment following the emittance of behaviors. Environmental consequences that lead to decreased probability or extinction of behavior are (a) absence of positive reinforcement (b) absence of negative reinforcement (c) presence of punishment upon exhibition of behavior. Environmental antecedents affect the probability of future behaviors by setting the occasion for behaviors to occur or not occur once they have been associated with the behaviors and their consequences. Environmental antecedents may include both external and internal events. For example, a steep staircase or a hallway without railings are external antecedents that hamper walking in most elderly persons. Internal antecedents such as anticipation of pain or social disapproval or the

experience of prejudice or bias, may likewise set the occasion for behaviors not to occur and thus decline. Prompts, for example, a reminder or an offer of assistance, are examples of external environmental antecedents that may set the occasion for behaviors to occur.

Advantages of the operant approach to health care settings have been discussed by Baltes (1976). Theoretical advantages include an emphasis on a dynamic reciprocal interaction between client and environment and the assumption that most behaviors -- including sick and healthy behaviors -- are learned behaviors. This approach is in contrast to that of the traditional medical model which interprets abnormalities in behaviors as being the symptom of some underlying cause which, more often than not, cannot be identified in physical terms. Methodological advantages are given by the very fact that a functional analysis between environmental and behavioral events is at the core of operant research. Consequently, the data have a high degree of exploratory power which is enhanced by the use of experimental designs. In addition, the dependent variables are measured as frequencies and/or rate -- a measure which is of wide scope and does not create statistical problems. The practical application of the operant model, called behavior modification, provides systematic ways of changing environments to support desired and extinguish undesired behaviors. Also, operant skills and techniques can be taught to professionals at all levels and to the client himself.

## CHAPTER 2

### LITERATURE REVIEW

#### Mutual Goal Setting

The efficacy of mutual goal setting with regard to goal attainment scaling has been attested to by several investigators. La Ferriere and Calsyn (1978) assigned 65 clients who were receiving short term therapy at an outpatient unit of a mental health center to experimental and control groups. In the first two sessions of therapy, the experimental clients and their therapists mutually agreed upon goals formulated by means of goal attainment scaling. Control clients did not engage in the goal setting process. The result of the study, for which 32 clients provided data, offered strong evidence that experimental clients had a more positive therapy outcome than the control clients.

With the help of nurses in six collaborating Veteran Administration (VA) facilities located within close proximity of one another, Hefferin (1979) used a quasi-experimental study to compare health goal achievement among 579 veteran patients under two circumstances: one in which nurses identified what they felt were appropriate health goals for the patients and the other in which the patients and nurses together developed written statements of the patients' own health goals. The study sample comprised hospitalized patients from both medical-surgical and psychiatric units, as well as outpatients. Although the patients had



varying single and multiple illness conditions and health states, there was little difference in the distribution of these variables between the experimental groups, that is, the groups involved in goal setting with the nurses, and the control group, that is, the group for whom the nurses set goals. The dependent variables in the study were the health status change of patients as measured by a modified version of Goal Attainment Scaling, patients' satisfaction with care received, and nurses' satisfaction with care given. Comparison of the mean goal attainment scores for the groups at the end of the study revealed that change was greater for the experimental groups than for the control group. In terms of patient and nurse satisfaction, the experimental groups achieved higher satisfaction scores than the control groups.

Maher (1981), in an exploratory study, compared two levels of goal-setting involvement of *conduct problem* adolescents with public school counselors to whom they had been referred for behavior counseling. Sixteen pupils were randomly assigned to a counselor with each counselor randomly assigned to one of two goal-setting levels. In Level 1, each pupil participated with each counselor in identifying a specific problem area in which counseling was focused, helped set a behavioral goal to which a behavioral counseling program was addressed, and helped develop a goal attainment scale for that goal. In the Level 2 condition, the counselor was involved in the goal setting process without direct pupil participation although pupils were informed that the goals were set for them. The investigator noted that in terms of degree of goal attainment, the mean attain-

ment score for pupils involved in the goal setting condition was greater than that of pupils not involved in the goal setting condition.

### **Learning Theory: Prompting and Reinforcement**

Several intervention research studies concerned with modifying problem behaviors of patients through the use of behavior modification techniques have been reported in the literature. In a four months study, Carpenter and Simon (1960) investigated the effect of habit training, social approval, and material rewards on the incidence of incontinence. Subjects were 94 elderly mentally ill patients, with no organic dysfunctions, who were assigned by ward nurses to four groups with the restraint that all groups had an equal proportion of habitual incontinent patients. The control group received the usual hospital care. The three experimental groups were given habit training which consisted of regular visits to the toilet every two hours from waking to bedtime. The first experimental group received no additional planned incentive. All patients in the second experimental group received verbal approval with successful toileting and disapproval with unsuccessful toileting. Patients in the third experimental group were permitted to wear a clean suit of personal clothes as long as they were continent. Incontinence resulted in a change to *green fatigues* for the remainder of the day.

For a week before the subjects were assigned to groups, they were all observed and rated on incontinence. After this period of observation, rating and grouping, the experimental groups were assigned to specific wards with dormitory

and dining space. Each experimental group participated in activities as a group. The control group was not specifically encouraged to engage in activities as a group. As the experimental group improved, experiences such as occupational therapy, walks, bus trips off the hospital grounds, and attendance at movies and items such as radios and television sets were provided them. Incontinence was measured three times a week at random. The result of the study showed (a) an increase in the incontinence level of the control group (b) greater decline in incontinence occurred in the materially rewarded group. This decline began in the first month and was maintained for the four months of the study. (c) the socially rewarded group demonstrated no significant change at the end of the first month but a significant change was noted for each of the other three months (d) the habit training only group showed a significant decrease in incontinence after three months but did not maintain the change during the fourth month.

Grosiki (1968) reported a study to test the effectiveness of behavior modification techniques to modify incontinent behavior of psychogeriatric patients. Subjects were 18 male patients who were frequently incontinent of urine four or more times in 24 hours, whose incontinence developed after admission to the hospital, and who were able to follow simple directions. Patients with urinary or cerebral pathology were not excluded from the study. Subjects were assigned to an experimental or control group. Baseline data about subjects' incontinent behavior was obtained. Data about subjects' likes and dislikes were obtained by interviewing each subject.

For three months following collection of baseline data, each subject was checked hourly each day from nine o'clock in the morning to nine o'clock in the evening by an observer. If the subject was dry, the observer spent three minutes interacting with the subject. If the subject was wet, the observer did not interact with the subject but simply reported his findings to the nursing assistant. Other health care personnel interacted briefly with subjects throughout the day to instruct them on daily living activities. Between 10.00 p.m. and 8.00 a.m. interaction with care personnel was limited but subjects were still checked hourly for incontinence. Two and one half months after termination of social reinforcement, reinforcement with material reinforcers was begun. Each subject in the experimental group was told, one day before material reinforcers became available, that each time he used the toilet without being reminded by staff, he would receive two tokens. When the subject used the toilet after being reminded by staff, he would receive one token. Subjects who were incontinent were to be charged two tokens when their clothes were changed. The investigator reported that incontinence did not decrease significantly for subjects in the experimental group although it did decline significantly for subjects in the control group. The investigator explained that the findings may have been due to: (a) resistance among administration and nursing personnel to the investigation, thus, limiting the sampling and conduction processes of the study (b) the excessive number of changes that subjects in the experimental group had to cope with compared to very few changes forced on control subjects (c) the inclusion of subjects without regard for possible organic cause of incontinence. Many of those with organic problems may

have gone to the experimental group.

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In a study by MacDonald and Butler (1974), a 92 year old male resident and an 85 year old female resident of a nursing home, neither of whom had physical or psychological impairment which would prevent walking or make it undesirable, but who were transported by wheelchair by staff for several months, were chosen for an ABAB designed study to produce walking behavior. In this experimental design, the non-treatment or baseline phase is often abbreviated *A* and the treatment phase *B*. The design is also called the reversal-replication design because it includes a reversal to baseline condition followed by a replication of the treatment phase (Martin & Pear, 1978). Both the facility's nursing personnel and the subjects' families had been irregularly imploring the subjects to walk for some time but without success. During the baseline condition, in which the subjects were exposed to the customary treatment of the regular nursing home staff, the experimenter offered the subjects wheelchairs and did not help them to stand and walk. During the contingency condition, the investigator prompted (instructed and helped him/her to stand) the subjects to walk and immediately praised them when they stood and began walking. The result of the study was that during the first and second baseline conditions, neither subjects walked. During the first contingency condition, the male subject walked on 10 consecutive days for a mean distance of 40.0 feet per day; the female subject walked a mean distance of 36.9 feet per day for 12 days. During the second contingency condition, the male subject walked a mean distance of 37.5 feet per day for 15 days; the female subject

36.0 feet per day for 9 days.

Baltes and Zerbe (1978a) reported a study to reestablish self-feeding behavior in a 67 year old nursing home resident. The subject had been in the home for 25 months when the study began. Self-feeding was defined as picking up a spoon or fork, filling it with food, bringing it to the mouth, and eating it. The subject showed no physical impairment which would prohibit self-feeding but for five months she had exhibited no self-feeding skills. During that five month period, she was fed by the nursing staff in the common dining room. A single subject ABAB research design was used in the study. During Baseline 1, the investigator observed and recorded the subject's and staff members' behaviors during meal times for all meals over a one-week period. During Treatment Phase 1, prompting, shaping, and immediate reinforcement were utilized to stimulate self-feeding behavior. Tangible reinforcers such as fruit juice, music, and flowers were used. If the subject exhibited undesired behaviors such as dumping food, eating with her fingers, or refusal to pick up or hold eating utensils, the reinforcers were removed immediately and the investigator turned her back on the subject until the undesired behavior stopped and the subject started eating properly. During the Baseline 2 phase, Baseline 1 conditions were established after self-feeding behaviors had been established and exhibited by the subject constantly during treatment sessions. Unfortunately, before Treatment Phase 2 was established, the client died of natural causes. Until then, however, result of the study showed that Baseline 1 recordings indicated a near zero frequency for self-feeding (range

0-3) over five sessions. During Treatment Phase 1, self-feeding behavior increased in the range 4-25 over eleven sessions. Baseline 2 recording indicated a range 1 to 15 over five sessions.

Baltes and Zerbe (1976b) reported a study involving a 79 year old male nursing home resident who was a stroke victim and did not exhibit any self-maintenance skills. He was normally fed by the nursing home staff in the central dining room. He was intentionally selected for the study, whose aim was to motivate him to feed himself, although his eating behavior was probably correlated with both his physical condition as well as, or in addition to, environmental conditions. He was oriented in time and location and interested in social interaction. A single subject ABAB research strategy was used. The dependent variable, self-feeding, was defined as picking up a spoon or fork, filling it with food, bringing it to the mouth, and eating it. During the first baseline phase of the study, in which the subject was exposed to procedure customarily employed by the regular nursing staff, the subject exhibited low frequency of self-feeding behavior (range 0-6) over five observational sessions. During the treatment phases, prompting, shaping, and immediate tangible and social reinforcement were used to stimulate the subject to self-feed. During the first treatment phase, self-feeding increased considerably (range 11-28) over seven observational sessions. During the second baseline phase, there was a general drop in the subject's self-feeding behavior (range 0-13) over six observational sessions. With the reintroduction of the treatment in the second treatment phase, a rapid increase in self-feeding was observ-

able though performance did not go up to the level of the first treatment phase. The range for this phase was 5-15 over six sessions.

Rinke, Williams, Lloyd, and Smith-Scott (1978) used prompting and reinforcement to reinstate self-bathing in six nursing home residents who were currently receiving assistance during bathing but who were judged physically capable of relearning to bathe themselves. A multi-baseline design across five bathing behavior categories: undressing, soaping, rinsing, drying, and dressing was used by the investigators. During baseline, the staff were instructed to use the normal procedure when bathing subjects. In all cases there were large increases in frequency of responses in the targeted behavior categories during treatment; those responses remaining in baseline did not change.

Blair (1985) employed praise and a token economy to reduce the number of prompts (help and reminder) a 39 year old dependent psychiatric inpatient needed to perform his morning self-care tasks. For more than ten years before his admission, he was dependent on his mother and sister to perform his self-care tasks. On his admission, the staff straightway took over where relatives left off because the subject claimed that he did not know how to perform those tasks. At the beginning of the study, the subject needed to be prompted 100% of the time to wash his mouth, wash his face, shave and bathe himself. During the study period, he was taught, step by step, how to perform those tasks. Four weeks into the study, with appropriate use of reinforcers, the subject needed 28% prompting to wash his mouth, 10% to wash his face, 42% to shave, 75% to bathe himself.



Unfortunately, during that week, he was prematurely transferred, by the medical staff, to another ward where the program was not continued. However, follow-up of the patient eight weeks after being on the new ward revealed that even without a formal program, he needed no more than 30% prompting each week to indulge in the behaviors targeted during the program.

### Orem's Self-care Theory

A research study on the application of Orem's theory of self-care as a framework for nursing intervention with elderly clients has been reported by Harper (1984). In this six week study, 60 black, elderly, hypertensive women were randomly assigned to one of two treatment groups: an experimental group which was exposed to a medication self-care program and a control group which was exposed to a program to teach subjects about hypertension. All of the subjects were attending an inner-city primary care clinic and each had a diagnosis of essential hypertension which was documented in the medical records. Each was self-administering one or more antihypertensive drug and had problems with medication administration. None had health conditions which would prevent her from learning. The investigator hypothesized that subjects in the medication self-care program, when compared to those in the teaching program would (a) score higher on knowledge of medication (b) have higher scores on health locus of control (c) score higher on self-care behavior ratings (d) have fewer medication errors and (e) have lower levels of systolic and diastolic blood pressure levels.

The study was conducted in the subjects' homes. Subjects in the experimental group were exposed to four sessions of the medication self-care program which covered the purpose, side-effects, dosage, schedule, safety factors for medication administration, and responsibility for and control over medication self-care behaviors. Subjects in the control group were exposed to four sessions of the teaching program where hypertension, its pathology and risk factors were taught. Shortly before treatment commenced, pretreatment scores of subjects' knowledge of medication, health locus of control, and medication self-care behaviors were recorded. Post treatment scores were recorded four days after the treatment began and again four weeks later. Systolic and diastolic blood pressure levels were measured and recorded seven times throughout the study. Results of the study showed that the experimental program initially improved knowledge of medication, perceived control over health, and self-care behaviors. However, these advantages over the control group did not persist into the second post-treatment measures. Initially blood pressure levels for subjects in the experimental group were higher than those of subjects in the control group. This situation was reversed by the end of the study. The investigator concluded that self-care programs are potentially able to equip clients with knowledge and behaviors appropriate for enhancing healthy living.

The above studies, each of which employ separately, either behavior modification or mutual goal setting or Orem's self-care theory as framework, offer support that the presence of each of the conditions that constitute the *therapeu-*

*tic milieu* -- meaningful client-therapist relationship and social conditions that stimulate independent behaviors in clients -- does increase the therapeutic effectiveness of treatment. Both Orem's self-care theory and the learning theory focus on encouraging the client to take an active part in the acquisition of self-care skills. Some of the studies outlined in the literature review utilized negative reinforcement as part of treatment. However, positive reinforcement seems a more humane and ethically appropriate approach to be considered for this study involving the elderly.

### The Present Study

It was assumed, therefore, that optimum therapeutic effectiveness, which is the concern of nursing, would result when the three techniques were employed simultaneously as a *therapeutic milieu*, an approach not taken previously. This study addressed this approach by employing three groups of subjects, each under a different condition. In addition, each subject in each group served as his/her own control. Group 1 subjects participated with nurses in mutual goal setting for the nursing care plan. Staff prompted, shaped, and reinforced goal related behaviors of those subjects. Subjects in Group 2 participated with nurses in only mutual goal setting for the nursing care plan. Staff did not prompt, shape, nor reinforce goal related behaviors of these subjects. Group 3 subjects were not involved in the care planning process and had no input into how care goals were to be achieved. They were exposed to the normal routine of nursing care.

### Hypotheses

(1) Subjects in Group 1 will, when compared to subjects in Group 2, score higher on mean goal attainment scores.

(2) Subjects in Group 2 will, when compared to subjects in Group 3, score higher on mean goal attainment scores.

(3) Subjects in Group 1 will, when compared to subjects in Group 3, score higher on mean goal attainment scores.

(4) Subjects in Group 1 will be more satisfied with care received than subjects in Group 2.

(5) Subjects in Group 2 will be more satisfied with care received than subjects in Group 3.

(6) Subjects in Group 1 will be more satisfied with care received than subjects in Group 3.

(7) Nurses in Group 1 will, when compared to nurses in Group 2, be more satisfied with care given.

(8) Nurses in Group 2 will, when compared to nurses in Group 3, be more satisfied with care given.

(9) Nurses in Group 1 will, when compared to nurses in Group 3, be more satisfied with care given.

## CHAPTER 3

### METHOD

#### The Setting

The study was conducted at the Masonic Park Nursing Home located in the town of Mount Pearl which borders on the city of St. John's, Newfoundland. The home which is privately owned and which was first opened to residents on May 31, 1982 is, together with six nursing homes in St. John's, under the jurisdiction of the department of Social Services of the province of Newfoundland. Compared to the nursing homes in St. John's whose resident populations range from 68 to 249, Masonic Park is a small nursing home with a population of 42 residents. The permanent nursing staff consists of 10 registered nurses and 13 registered nursing assistants. The temporary nursing staff consists of two registered nurses and seven registered nursing assistants. The work schedule consists of a shift rotation of days (08.00-20.00 hours) and nights (20.00- 08.00 hours).

The Department of Social Services uses a Level System to classify nursing home residents. Residents are classified as being in need of either Level 1, 2, or 3 nursing care. The numbers 1, 2, and 3 correspond to the number of hours of individual attention nursing personnel are obliged to give each resident within a 24 hour period. Most of the nursing homes in St. John's are staffed to offer multi-leveled nursing care. The Masonic Park nursing home and one nursing home in

St. John's are staffed to offer only Level 3 nursing care. Level 3 nursing care is that which is required by a person who is confined to bed or can be moved from bed to chair with assistance. All patient care is carried out under continuing medical supervision and all nursing care is carried out by around-the-clock supervision by a registered nurse. The care for this level resident includes skilled assistance with activities of daily living, such as dressing, washing, grooming, and bathing; a program to assist in retraining or improving the individual's functional ability; daily nursing procedures such as surgical dressings, catheter care and so forth; and a fulfillment of social needs.

### Subjects

Fifteen residents of the home volunteered to serve as subjects for the study; four were males and 11 were females. Ages of the male subjects ranged from 56 years to 94 years with the mean age being 79.2 years. Ages of the female subjects ranged from 71 years to 94 years with the mean age being 84.3 years. The male subjects had been in the home for periods ranging from 7 months to 19 months with an average stay of 10.5 months. The female subjects had been in the home for periods ranging from 2 months to 30 months with an average stay of 16.5 months. Subjects were residents who (a) were coherent and could comprehend and discuss their nursing care and their health goals (b) were not carrying out independently at least two of their self-care behaviors (c) had no physical impairment which was so severe as to make carrying out or learning to carry out independently those self-care behaviors impossible.

## Instruments

### Goal Attainment Follow-up Guide

The key factor in goal attainment scaling is the construction of the Goal Attainment Follow-up Guide (see Appendix A) to direct the evaluation. The Goal Attainment Follow-up Guide (Garwick, 1972) is a form that allows the determination of numerical values for therapy pertaining to a problem area confronting the person or group who is the subject of goal setting. The vertical columns of the Goal Attainment Follow-up Guide represent major areas of concern and are called *scales*. A major problem described as a *scale heading* is placed at the head of a scale. Each problem area is weighed with numerical weights to indicate its importance relative to other scales. The higher the weight, the more important the scale is. Each scale has five levels of attainment ranging from least favorable (-2) to most favorable (+2) with (0) being the expected. At a pre-specified time after the Goal Attainment Follow-up Guide is constructed, each scale is scored by placing a tick (✓) at the attainment level which is closest to the client's behavior and/or situation at the time. A goal attainment score can be calculated for each client from the Follow-up Guide using one of two methods: a computational formula or a set of tables. Extensive study has supported the validity of the Goal Attainment Scaling method. Reliability levels were estimated to be in the range .81 to .83 (Kiresuk & Sherman, 1977).

### Patient Satisfaction Questionnaire

Designed by Hefferin, Aspinall, Brown, Chaney, Inzer, Roper, and Von Ruden (1975), this questionnaire (see Appendix B) poses a series of 10 questions about how satisfied patients feel with the goal setting experience. Patients could respond on a five point scale ranging from *not at all satisfied* to *always satisfied*. By assigning points to each response option, the data can be quantified and a total score obtained for each patient by adding points across all responses. Repeated tests by the designers have supported the validity of the instrument. Reliability levels ranged from .51 to .87 (Hefferin, 1979).

### Nurse Satisfaction Questionnaire

Designed by Hefferin, Aspinall, Brown, Chaney, Inzer, Roper, and Von Ruden (1975), this questionnaire (see Appendix C) poses a series of 12 questions about how satisfied nurses feel with the goal setting experience. The nurses' satisfaction scores are calculated in a fashion similar to the patients' satisfaction scores. Repeated tests by the designers have supported the validity of the instrument. Reliability levels ranged from .51 to .87 (Hefferin, 1979).

### Procedure

#### Selection of subjects

The nature of the study was explained to the 20 residents who met the criteria for subjects as specified above. All of those residents were asked to



volunteer for the study and 15 did. Each of these residents was asked to sign a consent form (see Appendix D).

### **Assignment to groups**

Each third of a total of 15 pieces of paper was marked with either of the numbers one, two, or three. The marked pieces of paper were placed in a receptacle and mixed. Each subject was asked to retrieve one piece. Subjects who retrieved the number *one* were placed in Group 1, those who retrieved *two* were placed in Group 2, and those who retrieved *three* were placed in Group 3. Table 1 provides data regarding sex, age, and length of stay in the institution for subjects in each group.

Each permanent registered nurse and nursing assistant was randomly assigned to a group corresponding to one of the three subject groups.

### **Personnel development**

Two weeks before the study began, a special staff development program was organized in the nursing home to prepare the nursing personnel for the study. A series of sessions was held by the investigator during a one week period. Each session was held for one hour each work day. Those sessions were reheld during the second week for staff members who were not able to attend during the first week. The timetable for the series of sessions was posted in the institution one week in advance.

During the one-week period, the nursing care plan and goal setting (Katz, 1980) and the technique of goal attainment scaling and nursing care planning (similar to hierarchy construction in behavior therapy techniques [Wolpe, 1973]) were reviewed. The registered nurses were directed in the process of constructing a Goal Attainment Follow-up Guide and in the method of calculating the goal attainment score (Garwick, 1972).

The permanent registered nurses were required to attend each of the above mentioned sessions at least once; all other staff members were encouraged to attend whenever possible. Members of the three groups attended these sessions together since this arrangement, from a nursing management point of view, allowed the least amount of disruption in the work environment for the shortest period of time. In addition to attending sessions on the above mentioned topics, registered nurses and nursing assistants, in Group 1 only, attended at least one session in which concepts and methods of humanistic behavior modification were discussed and the techniques prompting, shaping, and providing positive reinforcement were discussed and demonstrated.

### **Experimental strategy**

An experimental double blind design was used through the assistance of a fourth year, undergraduate social work student who was familiar with research methodology and to whom the nature of the study was explained. In addition to group comparisons, each subject in the study served as his/her own control. The

experimental strategy employed two phases: a *baseline phase* and an *experimental study phase*.

#### **the baseline phase**

The *baseline phase* of the study lasted for seven days immediately following the nursing staff's preparation. During the baseline period, the nursing staff observed and recorded those morning self-care tasks which each of the subjects was not performing, for himself/herself, but rather that the nursing staff had to initiate and complete. The tasks which the nursing staff had to initiate and complete on each of the seven days were selected for attention in the study. Each subject was deficient in three self-care tasks. It was found that 3 males and 8 females had to be washed by staff; 3 males and 4 females had to be dressed; 2 males had to be shaved; 4 males and 5 females had to have their hair combed by the staff; 2 males and 10 females had to have their tooth care done by staff; and 1 female needed to have assistance with walking. By employing the goal attainment follow-up guide (Appendix A) and mathematical formula (p. 35), a goal attainment score was calculated for each subject during this phase (see Table 4). Getting each subject to perform his/her self-care task independently became the focus of the study.

#### **the experimental study phase**

Immediately after the *baseline phase* was completed, the *experimental study phase* began. The *experimental study phase* was sub-divided into two distinct

phases: (a) an *acquisition of skills* phase (the period when the selected self-care behaviors were relearned) which ran for the first six weeks, and (b) a *follow-up* phase which ran for 16 weeks following the *acquisition of skills* phase and which determined whether the acquired skills were being maintained.

No changes were made in the regular method of providing nursing care in the institution. Except for the addition of the experimental conditions for subjects in Group 1 and Group 2, the nursing staff delivered nursing care to all residents the way they did normally. Staff were assigned to residents in the normal fashion. Every effort was made to have each subject in the study assigned to a staff member in the corresponding group; that is, a subject in Group 1 assigned to only a staff member in Group 1 and so forth. In the few instances where a staff member in specific group had not been available to work with a subject in the corresponding group, the staff member assigned to that resident carried out the care using the same approach as specified in the subject's nursing care plan. Registered nurses in each of the three groups prepared nursing care plans and Goal Attainment Follow-up Guides for each of the subjects in the corresponding group. Nurses in Group 1 worked with subjects in Group 1 to identify and set goals for the nursing care plan. Nurses and subjects agreed on methods to achieve the goals and agreed on dates for evaluation of the plan (which was every two weeks). Staff prompted these subjects to perform their self-care tasks by reminding them to do so, by helping them to initiate those tasks, and by providing them with or directing them to get materials necessary for them to perform the tasks.

Staff shaped the subjects' behaviors by saying words of encouragement to them each time the subjects performed successive approximations of a desired behavior. Staff immediately reinforced the completed desired behavior by smiling with the subjects, praising them, touching them affectionately, and indulging them in short conversation on topics of interest to the subjects.

Registered nurses in Group 2 worked with subjects in Group 2 to identify and set goals for the nursing care plan. These subjects were not allowed any input into how the goals were to be achieved. Nurses unilaterally decided on methods for achieving the goals. The techniques normally used in the institution to achieve goals in the care plan were employed with this group.

Subjects in Group 3 were not involved in the nursing care planning process. Nurses in Group 3 employed methods normally utilized in the institution for nursing care planning and for achieving goals in the nursing care plan.

An appraisal of each subject's goal progress was made at two-weekly intervals by a neutral person (the previously mentioned social work student) who did not know the subject's designed program. This process guarded against bias ratings with regard to outcome levels of achievement. Following each appraisal, an updated care plan and a new Goal Attainment Follow-up Guide were prepared for each subject. The goal attainment score for each subject's Follow-up Guide was calculated by using the formula (Horsley, Crane, Haller, & Reynolds, 1982):

$$50 + \frac{10 \sum w_i x_i}{\sqrt{7 w_i^2 + .3 (\sum w_i)^2}}$$

where,

$w$  refers to the scale weight,

$z$  refers to the outcome level;

scores for each group were calculated by summing the scores for each subject in the respective group. Groups were compared on mean goal attainment scores.

At the completion of the study, each subject was requested to complete a Patient Satisfaction Questionnaire. Each nursing staff who was involved in the study completed a Nurse Satisfaction Questionnaire.

Statistical significance of the effect of subjects' participation in the different conditions was determined by Analysis of Variance F-test; t-test was used to compare mean differences in goal attainment scores, and patient and nurse satisfaction scores. The .05 level of significance was used in interpreting all statistical tests.

## CHAPTER 4

## RESULTS

## Goal Attainment Scores

## Analysis of mean scores for the three groups

The test hypotheses 1, 2, and 3 were related to the *acquisition of skills* phase. Each of these hypotheses was supported by the study findings. As indicated in Table 2, the mean goal attainment score for subjects in Group 1 was significantly greater than that of subjects in Groups 2 and 3. The Group 2 score was significantly greater than that of Group 3. The significance level was set at .05.

## Comparison of baseline and acquisition of skills level

When the mean score for each group at the *acquisition of skills* level was compared with its original baseline score respectively, the scores showed an increment over baseline level. When the groups were compared with each other, Group 1 and Group 2 showed marked and moderate increases respectively; Group 3 showed only a minimal increase (see Figure 1).

### **Comparison of acquisition of skills level and follow-up**

For an indication of how each group performed in terms of maintenance of skills during the *follow-up* phase, each group was compared with itself by using the mean acquisition scores and the mean scores at each successive *follow-up* appraisal (see Figure 2). Figure 2 indicates that the mean score for Group 1 rose sharply from 48.1 for the *acquisition of skills* phase to 63.3 for the first *follow-up* appraisal. It peaked at 65.6 at the second appraisal then showed a slight downward trend at the last follow-up appraisal with a score of 61.6.

Group 2 showed a gradual but steady climb from 31.9 for the *acquisition of skills* phase to 41.9 at the end of the 16 weeks *follow-up* period. Those increases in Groups 1 and 2 were statistically significant at the .05 level.

Group 3 showed very little variation from the *acquisition of skills* phase to the last *follow-up* appraisal.

### **Effect of participation in the treatment conditions**

To determine statistical significance of the effect of participation in the different treatment conditions throughout the study, analysis of variance (ANOVA) between and within the three groups was carried out. The level of significance was set at .05. The results shown in Table 3 indicates that there was a statistically significant difference attributable to the three treatment conditions. This result supports the hypotheses 1, 2, and 3.



### Analysis of individual subject's level of performance with each subject as his/her own control

An analysis of each subject's goal attainment score was carried out using each subject as his/her own control. With reference to data presented in Table 4, each subject's score at baseline was compared to his/her score for the *acquisition of skills* phase and the end of the *follow-up* period.

Each subject in Group 1 (a, b, c, d, & e) showed significant increase over his/ her respective *baseline* score. Subject *e* did particularly well and scored much higher than other group members during both the *acquisition of skills* and *follow-up* phases. Subject *e*'s scores are outstanding when each subject's mean and individual scores are compared.

As with Group 1, the individual subjects in Group 2 (f, g, h, i, & j) showed scores significantly higher during the *acquisition of skills* and *follow-up* phases as compared to *baseline*. *Follow-up* scores showed some improvement over *acquisition* scores. Subjects *f* and *j*, however, did not do as well as the others during either of the phases. Subject *i*, on the other hand, scored consistently higher than all others in both phases, except on the sixth appraisal when subject *g* achieved the highest of all scores.

Almost all of the scores for each of the subjects in Group 3 (k, l, m, n, & o) hovered around *baseline* during both the *acquisition of skills* and *follow-up* phases. There was very little variation in each subject's score as compared to his/her

respective *baseline* score. Unlike other group members in Group 3, each of whom scored higher than *baseline* at least once during the study, subject *l*'s score remained at *baseline* throughout.

#### Comparison of individuals' scores with own group mean scores

Further analysis of each subject's score was done by comparing the individual subject's score with his/her own group mean score for each level of appraisal. These scores are presented in Table 5. As can be seen, group mean scores, at each appraisal phase, do not adequately reflect individual subject's true performances. In Group 1, for example, subject *a*'s score at the first appraisal is almost twice that of subject *b*'s and subject *d*'s. At appraisal 2 and 3, subject *b* scored much lower than the rest of his group while subject *e* scored much higher. These situations are not reflected in the respective group means.

The same trend can be seen in Group 2 and Group 3. In Group 2, it is particularly noticeable when subject *f*'s scores are examined. For four successive appraisals, subject *f*'s score remained at *baseline*, yet, the group mean scores indicate moderate increases.

#### Satisfaction Scores

##### Subject satisfaction scores

Hypotheses 4, 5, & 6 related to subjects' satisfaction with care received. It

was hypothesized that the mean satisfaction score for subjects in Group 1 would be higher than that of subjects in Group 2 and Group 3, while that of Group 2 would be higher than that of Group 3. The satisfaction analysis was done in light of the above mentioned hypotheses. The results of the analysis confirm these hypotheses at the statistical significant level of .05. (see Table 6).

#### **Nurse satisfaction scores**

Data related to nurse satisfaction with care given supported hypotheses 7, 8, and 9 as set out. The data are presented in Table 7. Significance level was set at .05.

## CHAPTER 5

### DISCUSSION

#### Goal Attainment Scores

##### Goal attainment scores reflecting behaviors

Since goal attainment scores reflect subjects' independent performances of the targeted self-care behaviors, the three hypotheses tested (1, 2, & 3) confirm that subjects exposed to the mutual goal setting condition performed more of their targeted self-care tasks independently as compared to subjects not involved in mutual goal setting. The strength and immediacy of the performances of subjects exposed to the mutual goal setting condition indicate a reinstatement of presumably well-learned behaviors which were simply lying dormant. Assuming all other conditions are being equal among the three groups, the differences in the subjects' behaviors seemed to be a function of the study condition to which the subjects were exposed. This result provides a clear demonstration of the functional relationship between residents' independent self-care behaviors and the programmed environmental events. The fact that those subjects involved in mutual goal setting with staff did very well while those exposed to the normal routine care remained heavily dependent on staff confirms other study findings (Hefferin, 1979; La Ferriere & Calsyn, 1978; Maher, 1981) that mutual goal setting is effective in motivating clients towards behavioral goals as opposed to non-

mutual goal setting.

Comparing the *combination package* (mutual goal setting, prompting, reinforcement) approach as proposed by this study to the *mutual goal setting only* approach (Hefferin, 1979; La Ferriere & Calsyn, 1978; Maher, 1981), the result suggests that optimum therapeutic effectiveness would result when the three techniques are employed simultaneously as a *therapeutic milieu*. This approach has not been used before, however, Baltes and Zerbe (1976a) and Rinke, Williams, Lloyd, and Smith-Scott (1978) reported the effectiveness of the combination of prompting and reinforcement in motivating subjects towards self-care. The fact that prompting and reinforcement was combined with mutual goal setting in this study appears to have added a stronger dimension with regard to motivating subjects towards self-care as reflected in the goal attainment scores of Group 1 subjects.

#### Group versus individual goal attainment scores

Barlow and Hersen (1984) raised three concerns regarding group experiments. They suggest that in group experiments *the average response ... will not represent the performance of any individual in the group*. (p. 16). Because results from group studies do not reflect changes in individual patients, their findings are considered by the practicing clinician as not applicable.

In this study, for example, the fact that the mean scores (and thus the performances) of Group 1 and Group 2 subjects increased markedly and moderately

respectively in relation to mean baseline scores, while the mean scores of Group 3 subjects deviated very little from baseline (see Table 5, p. 60) gives the impression that subjects in each of the three groups performed equally well or badly. This impression can be deceptive. Therefore, the scores were considered and examined critically in order to clarify this issue, this examination supported Barlow and Hersen's concern regarding group experimental studies for clinical practice.

This study examined the three factors Barlow and Hersen addressed, namely, the performance of subjects as a group, the performance of each individual within each group, and the applicability of the results to the clinical setting. Consequently, Barlow and Hersen's suggestions that each subject be used as *his or her own control* (p. 59) and that data for each individual within each group be taken and kept for the purpose of clinical evaluation (pp. 64-65) was heeded. Despite the fact that the groups were heavily skewed for sex and age, the use of individual analysis ruled out any significant differences in performances associated with age and sex.

Analysis of data of each individual serving as his/her own control (see Tables 4 & 5, pp. 59,60) gives an indication of the course of each individual's performance during the study. Data for each subject in each group are readily observable from baseline to the final follow-up appraisal. In effect, this study is a series of single subject studies with each subject having his/her own *baseline, acquisition of skills, and follow-up scores*. Those subjects whose scores have been

outstanding are readily spotted. In Group 1, for example, subject *e* scored consistently higher than other subjects in that group, from the second appraisal of the *acquisition of skills* phase to the final appraisal of the *follow-up* phase. Subject *b* on the other hand, scored consistently lower than the rest of the subjects in this group, throughout the study, except on the fifth appraisal.

In Group 2, subject *f*'s score did not leave *baseline* on the first four appraisals and when it did, on appraisals five and six, it lagged behind the scores of the other subjects. Likewise, subject *j*'s performance was poor compared to the majority of other subjects in that group. And yet, within Group 1 and Group 2, poor performances and very good performances alike have been masked by the mean scores of the respective group which tend to indicate that each subject in each group had similar performances. Individualized data, as analyzed in Table 4 and Table 5 (pp. 59,60), give the clinician an indication of how each individual in the study actually performed in relation to other subjects in the study. For example, subjects, such as *f* and *j* in Group 2, whose performances deviated greatly in the negative from the group mean, in relation to the specific treatment, can be singled out for special attention in the clinical setting in the form of a modification or change in the treatment approach.

#### **Goal attainment and follow-up care**

In order to determine the effect of treatment, *follow-up* goal attainment scores of subjects were analyzed after 16 weeks *follow-up* (see Figure 2, p. 64).

The results indicate that Group 1 (a) and Group 2 (b) subjects experienced a falling off of goal attainment scores between appraisals 2 and 3 of the *follow-up* period. Although the score for Group 2 (b) subjects continued to climb relative to the mean score for the *acquisition of skills* period, that climb was less steep than it was between appraisals 1 and 2. The reduction in score for Group 1 (a) subjects between appraisals 2 and 3 was, however, more dramatic than it was for Group 2 (b) subjects, so much so that the score at appraisal 3 was lower than that at appraisal 1.

One reason for this falling off in scores for both groups was revealed through an informal interview of some staff members. The staff indicated that many had reverted back to assisting residents in the manner they did before the study began. Also in terms of operant perspectives, staff had deviated from the reinforcement schedule previously used during the study and were paying less attention to those subjects who evidently were able to carry out their self-care tasks independently. This deviation from the previous reinforcement pattern may have resulted in some extinction of the acquired self-care behaviors. This type of extinction can be demonstrated in an ABAB design whereby the withdrawal and reinstatement of treatment may demonstrate treatment effect (Martin & Pear, 1978). Since this study was not based on the ABAB design, this phenomenon could not be assessed. However, in order to maintain the acquired self-care behaviors, a mechanism for the maintenance of reinforcement pattern by the nursing staff, even after the research is ended, needs to be put in place.



## Satisfaction Scores

### Patient satisfaction scores

The fact that mean satisfaction scores for subjects in the group that was exposed to the *combination package* condition was higher than that for subjects in the other two groups (see Table 6, p. 61) suggests that nursing staff may have worked closest with subjects in the former group. In doing so, the staff may have tended to provide subjects in that group with more adequate health information, made them feel more involved in the health care planning process, assisted and encouraged them to improve their own self-care skills, and gave them a sense of being valued. Achievement and satisfaction tend to go hand in hand. The above results seem to demonstrate that individuals who attain high scores were more satisfied with their achievement in self-maintenance. This result seems to confirm the finding of Hefferin (1979).

### Nurse satisfaction scores

Staff who were involved in the *combination package* condition and who scored highest on satisfaction when compared with staff in the other two groups may have, through that approach, been provided with a new or renewed perspective on the broader patient care responsibilities and possible satisfactions inherent in the nurse role.

Considering both subject and nurse satisfaction responses, the results seem

to confirm Orem's (1980) assumption that goals of care that focus on the patient's ability to care for himself/herself, allow both the nurse and the patient to experience accomplishment and thus satisfaction.

## CHAPTER 8

## SUMMARY OF FINDINGS AND CONCLUSION

The focus of this study was to find out which of three nursing intervention approaches was most effective in getting nursing home residents to independently perform selected self-care behaviors. The results of the study show that the *combination package* of mutual goal setting, prompting, and reinforcement resulted in subjects performing the highest frequency of self-care behaviors. Previously, other investigators (Hefferin, 1979; La Ferriere & Calsyn, 1978; Maher, 1981) had reported the efficacy of mutual goal setting alone, with regard to goal attainment; Baltes & Zerbe, (1976a) and Rinke, Williams, Lloyd, and Smith-Scott, (1978) had found the combination of prompting and reinforcement to be effective in motivating subjects to perform targeted self-care behaviors. However, no other investigator before had tested the efficacy of the *combination package* used in this study, with regard to motivating subjects to perform self-care behaviors.

The results of this study suggest, not only the utility of the *combination package* approach in motivating self-care behaviors, but also that residents and staff alike are more satisfied with care received and given respectively when this approach, as opposed to the other two approaches, is utilized. It might be pertinent to conclude that the *therapeutic milieu*, as defined in this study, has been established. The challenge is for the nursing staff to maintain that milieu.

### Limitations

The criteria for subjects and the voluntary nature of participation in the study resulted in a small sample size. The small number of subjects does not permit generalization to the total elderly population in nursing homes or in general. However, because of the small sample size, analysis of data using each individual as his/her own control (single subject design) was more feasible.

### Practical Considerations

This study is an example of applied clinical nursing research, the purpose of which is to test the effectiveness of strategies in the development of meaningful clinical or socially relevant behavior change in subjects. It was important, therefore, that the results of this study be not only statistically significant but also clinically significant. Often, statistical significance does not necessarily translate into clinical significance but rather may underestimate or overestimate clinical significance. Statistical significance overestimates clinical significance when a treatment is quite effective with a few members of the experimental group while the remaining members do not improve or deteriorate somewhat in relation to baseline. (Barlow & Hersen, 1984). Statistically then, the experimental group does not differ from the control group whose members are relatively unchanged. With reference to individual and group data presented on the three groups in this study, it is evident that the results of this study are clinically as well as statistically significant, results that may be interesting to nursing clinicians and researchers alike.

With regard to practical considerations, the goal of reestablishing residents' self-care behaviors was achieved. As a nursing strategy, establishing the *therapeutic milieu* seems economically and administratively feasible. In its inception, the strategy does demand extra time and effort on the part of the staff who have to make allowances for the fact that residents may take longer to perform the tasks themselves. In the long run, however, the time spent by staff on physical care of residents will, no doubt, be reduced thereby making more time available for social interaction with residents. By having residents reestablish their self-care skills, residents will once again be able to take an active part in their own care, the result of which may be improved morale.

The *combination package* approach can be utilized by all nurses in clinical practice but especially those in geriatric, psychogeriatric, and psychiatric fields. By spending less time on the physical care of clients, these nurses will have more time available to provide emotional support and therapy which is of vital importance to clients in these areas of health care (Kuriansky, Gurland, Fleiss, & Cowan, 1976).

The clear demonstration of the efficacy of this positive approach to nursing care is encouraging when consideration is given to the fact that nursing, although a practice discipline, has very few intervention strategies for use by practitioners. But apart from providing evidence of the efficacy of an intervention strategy, this investigation also provides evidence of a simple and effective system of quantitatively measuring the outcome of nursing intervention, badly needed for the

evaluation of nursing effectiveness (Wattley & Muller, 1983). The study also provides an effective method of monitoring the performance of each client, thus ensuring that each is given necessary and appropriate assistance by care staff.

### **Implications for The Nursing Care of Elderly and Psychiatric Clients**

Admission to a nursing home or psychiatric hospital is a trauma for many persons but especially the elderly who tend to think of institutionalization as the end of the road of independence and the beginning of a life of dependency on others. Dependency affects elderly people's self concept and satisfaction with life even more so than pain or social isolation (New, Ruscio, Priest, Petristi, & George, 1968). Consequently, the importance of early, active rehabilitation of nursing home residents and psychiatric patients, with the aim to promote and maintain independence and self-care (Orem, 1980) cannot be over emphasized.

The findings of this study should increase the awareness in nursing staff that it is their behavior, verbal and otherwise, that greatly influence dependent and independent self-care behaviors in clients in health care institutions such as nursing homes and psychiatric hospitals. A conscious and active stance should therefore be taken by nursing staff to foster a nursing environment which emphasizes (a) the strengths of each client, (b) the conscious reinforcement of independent behaviors, and (c) the need to continually offer reinforcement in order to prevent extinction of preceding behaviors.

The study findings provide nursing staff in the nursing home and psychiatric hospital with a new method of helping their clients optimize their functioning, thereby, enhancing their abilities to accomplish and maintain independent self-care behaviors: an approach that leads to increased satisfaction with care, and hence increased self-esteem. Moreover, the findings point to the need for the staff to consistently prompt and reinforce clients' independent self-care behaviors. Such an approach should be part of the routine nursing care if extinction of acquired self-care behaviors are to be prevented.

This study was carried out at Masonic Park Nursing Home, a facility housing residents designated as being in need of Level 3 care as defined by the Department of Social Services of the Province of Newfoundland. Of all the nursing homes in St. John's and Mount Pearl, Newfoundland, only two (Masonic Park and one other) are staffed to exclusively offer Level 3 care. By selecting this institution for study as one of the Level 3 assigned facilities, the results appear to have demonstrated that Level 3 residents may be able to perform at a higher level than has been assumed by classification personnel. This may mean that factors such as physical and psychological variables should be taken into consideration when clients in need of nursing home placement are being assessed.

#### **Implications for Nursing Research**

This study not only examined a new modality for self-care promotion but also examined two research approaches which seem to be highly recommendable,

to clinical research nurses. The study shows the importance of group and single case experimental designs as research strategies to be utilized by nursing professionals, especially clinicians.

### **Recommendations for Nursing Practice**

1. An active rehabilitation program, for residents of nursing homes and psychiatric hospitals, with emphasis on self-care, should be introduced.

2. The *combination package* approach to nursing care of institutionalized clients should be actively promoted.

3. An ongoing in-service education program for the nursing staff, with emphasis on nursing care planning, mutual goal setting, prompting and reinforcement, and evaluation of care given, should be available.

4. Concurrently, nursing management should develop a mechanism for promoting responsibility and accountability in nurses to facilitate maintenance of the *therapeutic milieu*.

### **Recommendations for Nursing Research**

1. Replication experiments should be done with a larger population, possibly involving two or more nursing homes, such that findings could be generalized.



2. If feasible, research using ABAB strategy should be further undertaken to demonstrate the effectiveness of nursing intervention using the *combination package* (mutual goal setting, prompting, and reinforcement).

Table 1

Sex, Age, and Length of Stay in the Institution for Subjects in Each Group

Sex	Subject Group			
	I	II	III	Total
Male	3	1	0	4
Female	2	4	5	11
Age (Years)				
Mean	75.4	88.0	85.4	82.9
Range	56-91	79-94	79-90	56-94
Length of stay in the institution (months)				
Mean	11.2	18.6	15.0	14.9
Range	4-19	9-29	2-30	2-30

Table 2

Mean Goal Attainment Scores for Groups 1, 2, & 3

	Group 1	Group 2	Group 3
n	3	3	3
$\bar{y}$	48.1	31.9	24.9
s	12.3	4.5	1.46

	$H_a: \bar{y}_1 > \bar{y}_2$	$H_a: \bar{y}_2 > \bar{y}_3$	$H_a: \bar{y}_1 > \bar{y}_3$
df	4	4	4
t	2.1372	2.5925	3.2357
p	.05	.05	.05

Table 3

Analysis of Variance on Mean Scores for Groups 1, 2, and 3.

Source of variation	df	Sum of squares	Mean squares	F
Among Groups	3 - 1(2)	2994.34	1497.17	26.52
Within Groups	18 - 3(15)	816.95	56.46	
Total	17	3811.29		

Table 4  
 Individual Goal Attainment Scores at Baseline, "Acquisition of Skills"  
 and "Follow-up" Phases

Phase	Appraisal f	Individual Scores														
		Group 1					Group 2					Group 3				
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
Baseline		23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
Acquisition of skills	1	50.0	27.8	32.2	27.8	32.2	23.3	23.3	23.3	38.2	26.0	23.3	23.3	23.3	23.3	23.3
	2	54.4	36.7	45.6	54.4	76.7	23.3	30.0	41.0	47.1	26.0	28.0	23.3	30.0	23.3	23.3
	3	61.1	36.7	56.7	52.2	76.7	23.3	34.4	38.9	50.0	30.0	30.0	23.3	25.6	23.3	28.0
Follow-up		$\bar{y}$	55.2	33.7	44.8	44.8	61.9	23.3	29.2	34.4	45.1	27.3	27.1	23.3	26.3	23.3
	1		70.0	54.4	58.9	58.9	74.4	23.3	41.1	43.3	44.1	26.0	25.6	23.3	25.6	25.6
	2		70.0	58.9	58.9	63.3	76.7	30.0	45.6	43.3	52.9	30.0	23.3	23.3	28.0	23.3
	3		58.9	47.8	50.0	74.4	76.7	30.0	52.2	43.3	50.0	34.0	23.3	23.3	23.3	25.6
		$\bar{y}$	66.3	53.7	55.9	65.5	75.9	27.8	46.3	43.3	49.0	30.0	24.1	23.3	25.6	24.1

Table 5

Comparison of Individual Goal Attainment Scores with the Group's  
Mean Goal Attainment Scores.

Group	Phase	Appraisal #	Mean Group Score	Individual Scores				
				a	b	c	d	e
1	Baseline		23.3	23.3	23.3	23.3	23.3	23.3
	Acquisition of skills	1	34.0	50.0	27.8	32.2	27.8	32.2
		2	53.6	54.4	36.7	45.6	54.4	76.7
		3	56.7	61.1	36.7	56.7	52.2	76.7
	Follow-up	4	63.3	70.0	54.4	58.9	58.9	74.4
		5	65.6	70.0	54.4	58.9	63.3	76.7
		6	61.6	58.9	47.8	50.0	74.4	76.7
2	Baseline		23.3	f	g	h	i	j
	Acquisition of skills	1	26.8	23.3	23.3	23.3	38.2	26.0
		2	33.5	23.3	30.0	41.0	47.1	26.0
		3	35.3	23.3	34.4	38.9	50.0	30.0
	Follow-up	4	35.6	23.3	41.1	43.3	44.1	26.0
		5	40.4	30.0	45.6	43.3	52.9	30.0
		6	41.9	30.0	52.2	43.3	50.0	34.0
3	Baseline		23.3	k	l	m	n	o
	Acquisition of skills	1	23.3	23.3	23.3	23.3	23.3	23.3
		2	25.6	28.0	23.3	30.0	23.3	23.3
		3	26.0	30.0	23.3	25.6	23.3	28.0
	Follow-up	4	25.1	25.6	23.3	25.6	25.6	25.6
		5	24.2	23.3	23.3	28.0	23.3	23.3
		6	23.8	23.3	23.3	23.3	23.3	25.6

Table 6

Comparison of Mean Satisfaction Scores for Subjects in Groups 1, 2, & 3.

	Group 1	Group 2	Group 3
n	5	5	5
$\bar{y}$	38.0	25.6	16.6
s	3.3	3.2	2.9
	$H_a: \bar{y}_1 > \bar{y}_2$	$H_a: \bar{y}_2 > \bar{y}_3$	$H_a: \bar{y}_1 > \bar{y}_3$
df	8	8	8
t	6.05	4.7	10.97
p	.05	.05	.05

Table 7

Comparison of Mean Satisfaction Scores for Nurses in Groups 1, 2, & 3.

	Group 1	Group 2	Group 3
n	7	7	7
$\bar{y}$	44.9	31.6	25.29
s	9.4	5.8	4.39
	$H_a: \bar{y}_1 > \bar{y}_2$	$H_a: \bar{y}_2 > \bar{y}_3$	$H_a: \bar{y}_1 > \bar{y}_3$
df	12	12	12
t	3.17	2.27	4.8
p	.05	.05	.05



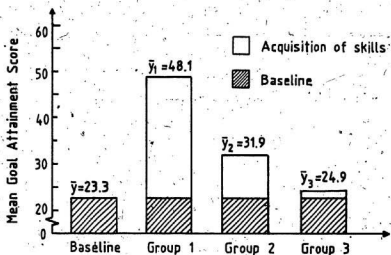


Figure 1. Mean Goal Attainment Scores for the Three Subject Groups at Baseline and "Acquisition of Skills" Phases.

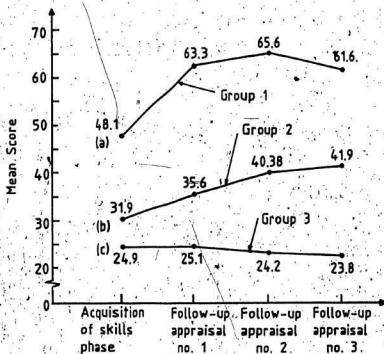


Figure 2. Mean Scores for Groups 1, 2, and 3, for the "Acquisition of Skills" Phase and Throughout the 16 Weeks "Follow-up" Phase.

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GOAL ATTAINMENT FOLLOW-UP GUIDE					
Scale	W.L. =	Scale	W.L. =	Scale	W.L. =
Goal setting Date					
Goal setting Data					
Levels of Predicted Attainment					
Much less than the expected level of outcome					
Somewhat less than the expected level of outcome					
Expected level of outcome					
Somewhat more than the expected level of outcome					
Much more than the expected level of outcome					

## APPENDIX B

Patient Identification _____	Group Identification _____				
How satisfied do you now feel about the following:	1 Not at all	2 A Little	3 Occa- sionally	4 Most Often	5 Always
1. The general information you have been given about your own overall health condition?					
2. The ways you have been shown for assessing your own current health problems and needs?					
3. Your being encouraged by health care staff to identify your own health care goals?					
4. The information you have been given about the purposes of nursing care activities?					
5. The ways you have been shown to evaluate the degree of your own health progress?					
6. The quality of health care teaching you have received from the nursing staff?					
7. The encouragement you have received to have a "say" or "voice" in the health care services being provided?					
8. The explanations you have been given about the responsibilities you have in your own health care?					
9. The ways in which the nursing staff treat you as an individual person with special health problems and needs?					
10. The ways you have been shown to identify and to plan for coping with your own health problems and needs in the future?					
Total					

## APPENDIX C

Group Identification _____	With, or for, how many patients did you set goals? _____				
In thinking about your work experience with this group of patients, how satisfied have you been with your opportunities to accomplish the following:	1 Not at all	2 A Little	3 Occa- sionally	4 Most Often	5 Always
1. To assess the current total health status of your patients? (Includes their psychosocial as well as physiological needs.)					
2. To identify what health problems your patients feel are personally most important to them?					
3. To identify for and/or with your patients those personal health goals most reasonable and realistic for their life-styles?					
4. To plan nursing approaches (interventions) that are specific to your patients' particular health needs and goals?					
5. To communicate your patients' health needs and goals and your planned nursing interventions to the other nursing staff in your unit?					
6. To communicate your patients' health needs and goals and your planned nursing interventions to nursing staff in other units, including clinics?					
7. To communicate your patients' health needs and goals and your planned nursing interventions to other members of the health team?					
8. To carry out or implement the nursing approaches (interventions) that you have planned for your patients?					
9. To design and carry out health teaching activities that are personalized and meaningful to each of your patients?					
Total C/F next page					

Group Identification _____	With, or for, how many patients did you set goals?				
In thinking about your work experience with this group of patients, how satisfied have you been with your opportunities to accomplish the following:	1 Not at all	2 A Little	3 Occasionally	4 Most Often	5 Always
10. To obtain feedback on the longer-range effectiveness of your health teaching activities on your patients' health behaviors?					
11. To plan for specific aspects of continuity of care following your patients' discharge from your unit to other areas, including clinics?					
12. To assess or evaluate your patients' actual degrees of progress towards their identified health goals?					
Total from page 1					
Total					

## APPENDIX D

Informed ConsentMeans of Obtaining Informed Consent

The investigator will explain verbally, the nature of this study to the resident and then go through the following written explanation with the resident allowing him/her time to think about it before he/she decides whether or not to participate.

Text

You are being invited to participate in a study at the Masonic Park Nursing Home on different approaches in nursing care procedures. The purpose of this study is to find out the effect of various degrees of patient involvement in nursing care planning. To achieve an objective evaluation of the different approaches, you will be assigned to one of three groups of residents. You should understand and be assured that whichever group you join will not, in any way, affect the normal nursing care you will receive in the nursing home.

The study will continue for a period of five months. At the end of the study, you will be asked to complete a questionnaire dealing with your satisfaction with the nursing approach in which you participated. It will take about 10 minutes for you to complete the questionnaire.

The potential benefit of the study for you and other residents is the improvement in residents' self-care behaviors. It will also

evaluate the nursing care given to residents. You will know of and learn from your progress while the study goes on.

You are assured that all data and consent of it will be kept strictly confidential with your records in the nursing home without ever identifying your name in the report of this study.

You should understand that you are free to withdraw from the study at any time before it begins or during the course of it, after notifying the investigator in charge of the study. You should understand that such a decision on your part will not influence your present and future medical and nursing care. To contact the investigator about withdrawing or any other matter concerning the study, ask any staff member to ask the investigator to visit you as soon as possible.

I hereby consent to participate in this study the nature of which has been explained to me.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Witness \_\_\_\_\_ Date \_\_\_\_\_

