REHABILITATION PATIENTS: HEALTH LOCUS OF CONTROL AND ACTIVITIES OF DAILY LIVING

A THESIS

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#### CHAPTER 1

### INTRODUCTION

Patients participate at rehabilitation centers for many different reasons. Some patients are influenced by their beliefs that the rehabilitation services will improve their health. Some patients attend the rehabilitation center because their families have influenced them to attend. Without knowledge of patients' beliefs and reasons why they are at the center, the professionals find some difficulty and frustration in assisting the patients to reach a high-level of wellness.

This study will examine the health locus of control as it affects the patient's progress in a rehabilitation program. The locus of control is used in predicting health-related behavior. Patients are considered to be internal if they are, in fact, controlling their life without being influenced by significant others. Other patients are considered external when significant others control the patient's life.

Day care centers are increasing in number as are the rising costs of health care. Day care centers provide two types of programs: maintenance programs and

rehabilitation programs. The maintenance program provides patients with a light breakfast and a hot lunch. Activities such as cards, bingo, watching television, and socializing with other patients are included in the maintenance program.

The rehabilitation program consists of a therapy regimen as prescribed by a physician. Staff in the rehabilitation program are comprised of geriatric nurse practitioners, other registered nurses, physical therapists, medical social workers, and occupational therapists. The purpose of the rehabilitation program is to assist the patient's return to maximal level of function or ability. The types of patients most likely to be encountered are stroke patients, cardiac patients, and neuromuscular disease patients. The aim of this study was to provide information about patients' health locus of control and its relationship to patients' progress in therapy in a rehabilitation program at a day care center.

# Problem of Study

The problem for study was to determine the relationship between the health locus of control of rehabilitation patients and the progress of patients' activities of daily living in a rehabilitation program at a day care center.

#### Statement of Purposes

The purposes of this study were to:

1. Identify the health locus of control of selected rehabilitation patients through their pretest and posttest scores on the Multidimensional Health Locus of Control Scale.

2. Identify the progress of rehabilitation patients through their pretest and posttest scores on the Activities of Daily Living Checklist.

3. Compare the results of the scores from the pretest and posttest of the Multidimensional Health Locus of Control Scale of rehabilitation patients with Activities of Daily Living Checklist of rehabilitation patients.

### Justification of Problem

Rotter, Chance, and Phares (1972) have recorded that people who are well adjusted felt that reinforcements are contingent on their own behavior (internal) while those who are not well adjusted felt that reinforcements are determined by fate, chance, or powerful others are known as externals. Skybut (1968) described the internal or external control as a major personality variable in social interacting, smoking, achieving, and resisting suggestions. Warhime and Founds (1971) observed that the relationship

between the internality and adjustment was stronger for females than males.

Smith (1970) admitted that the locus of control would become more internal and a decrease in internalexternal score would occur when measuring clinical progress. Dua (1970) showed that experimental subjects treated by action program procedures improved more significantly than experimental subjects treated by reeducation program procedures. This extended the notion that treatment through action program procedures induces a significantly greater change in measures of externality than treatment through reeducation procedures. Gillis and Jessor (1970) wrote that an improved therapy group was significantly higher in internal control than a no-therapy group on the posttest.

Rotter (1975) believed that the concept of the locus of control is being investigated more because of the social problems which are fostered by the increasing growth of population, continuous feeling of powerlessness, and the increasing complexity of our society. The concept of internal versus external control of reinforcement was developed out of Rotter's (1975) social learning theory. Wallston, Maides, and Wallston (1976) pointed out that by increasing an individual's experience in a given situation

specific expectancies will be developed. These expectancies indicate a greater role in determining one's future behavior in that situation than more generalized expectancies (Wallston, Maides, & Wallston, 1976). Wallston, Wallston, Kaplan, and Maides (1976) surmised that research may benefit by using more specific expectancy measures when predicting behavior in specific situations.

Cowles (cited in Wallston & Wallston, 1978) revealed that persons who were internally controlled were more successful in reducing smoking at the end of the 15-week program and most importantly demonstrated better maintenance of behavior change at follow-up 3 months later. Wallston and Wallston (1978) combined the social learning theory and Fishbein's behavioral intentions theory in a study of the behavioral intentions of undergraduates to lose weight over a period of several weeks. Consistent with Wallston and Wallston's (1978) expectations, the personal attitude of Fishbein's Model almost totally predicted the behavioral intentions of internals who highly valued health and/or physical appearance.

Lowery and DuCette (1976) found that when working with chronic patients, the lives of those patients were dependent on their participation in a prescribed treatment regimen. Of importance to nurses is the understanding of

the patient's behavior. The internal patient will differ from the external patient by actively engaging in cognitive activity while the external patient will allow himself to be influenced by others (Lowery & DuCette, 1976). Therefore, nursing needs to explore the patient's health locus of control in relation to his treatment regimen. A study of this nature would bring forth information that ultimately will assist nurses' understanding of their patients' behaviors. With such understanding, nurses will be better able to select appropriate nursing interventions and help their patients achieve a high level of wellness.

#### Theoretical Framework

The theoretical framework for this study was based on Rotter's social learning theory. This theory attempts to integrate the stimulus response (reinforcement) theories and the cognitive (field) theories (Rotter, 1975).

Rotter et al. (1972) lists four classes of variables in the social learning theory: behaviors, expectancies, reinforcements, and psychological situations. Behavior is defined as the "potentiality" of any behavior taking place in any particular circumstances as considered in relation to any single reinforcement or set of reinforcements. Expectancy is defined as the probability that a

specific reinforcement will occur as a performance of a particular behavior in a particular situation or situations. Expectancy is independent of the value or importance of the reinforcement. Reinforcement value is the degree of the individual's choice for that reinforcement to occur if the possibilities of occurrence of all alternatives are equal. Lastly, the psychological situation described by Rotter et al. (1972) focuses on individuals responding selectively to internal and external stimuli simultaneously.

The social learning theory divides reinforcements into internal and external. Internal reinforcement is formulated by Rotter et al. (1972) as being an individual's experience or perception of an event which has occurred and holds some value for the individual. The value may be either positive or negative. External reinforcement is stated as being events or outcomes which influence the group of culture to which the individual belongs.

Rotter et al. (1972) stress several points when discussing the nature of needs. First, learned behavior is goal directed. Second, the social learning theory emphasizes that the early goals in individuals occur as a result of satisfactions and frustrations controlled by others. Third, behavior is acquired by observation and

imitation. And fourth, an individual's behaviors, needs, and goals are not separate but exist as an entity.

Postulates as stated by Rotter et al. (1972) are: (a) personality is the study of the individual and his environment, (b) personality constructs are independent of the other sciences with no hierarchy, (c) personality constructs do not describe all behavior of an organism but do describe a particular level of complexity, (d) an individual's interactions within his environment influence his behavior and personality, (e) behavior is goal directed because of the effect of reinforcements, and (f) the individual's anticipation or expectancy affects the occurrence of a behavior in addition to the nature and importance of goals and reinforcements of an individual.

## Assumptions

For the purpose of this study, the following assumptions were identified:

1. Human behavior is learned and modifiable.

2. Personality has stability and interdependence. Personality becomes more stable as the individual becomes more experienced. New experiences and interpretations of reality are selected by an individual based on previous experiences and conceptualizations. Increased generality

and stability of behavior result from selectivity (Rotter et al., 1972).

 Human behavior is motivated (Rotter et al., 1972).

4. Expectations of an individual are goal directed (Rotter et al., 1972).

### Hypothesis

The null hypothesis tested was:

There is no relationship between the health locus of control of rehabilitation patients and the progress of those patients' activities of daily living in a rehabilitation program at a day care center.

### Definition of Terms

For the purposes of this study, the following terms were defined:

1. Health locus of control--internal and external expectancies used in predicting behavior.

(a) internal expectancy--belief that the individual has control over himself.

(b) external expectancy--belief that chance or powerful others control the individual.

2. Rehabilitation patients--persons with health problems requiring physical therapy or nursing to return to their maximum level of health.

3. Progress--an increase in number of activities of daily living performed by the patient and improvement in ability to perform activities of daily living.

4. Day care center--agency which provides daily professional supervision of patients needing therapy.

### Limitations

The following variables were not controlled in this study:

1. Sex, religion, or cultural background.

2. Past experiences and seriousness of physical incapacities.

#### Delimitations

The following variables were controlled in this study:

1. The subjects will be rehabilitation patients attending a day care center.

2. The subjects will be 18 years of age or older.

3. One health care agency will be used.

### CHAPTER 2

### REVIEW OF LITERATURE

This study focused on the health locus of control and its influence of the activities of daily living of rehabilitation patients. In doing the review of literature, three major areas involving the health locus of control were examined: (a) common physical health problems, (b) substance abuse problems, and (c) common mental health problems.

#### Common Physical Health Problems

As early as 1962, Seeman and Evans (cited in Strickland, 1978) reported that even with intelligence controlled as a variable, hospitalized patients with tuberculosis who were internal knew more about their disease than the externals. Wallston, Wallston, Kaplan, and Maides (1976) and Wallston, Maides, and Wallston (1976) noted that those who value their health highly will be more apt to collect information about disease and health maintenance, especially when alerted to a hazard such as hypertension. Strickland (1978) suggested that individuals with internal rather than external expectancies will probably improve their health

habits, especially when instructed that new changes may improve physical functioning. According to Lowery and DuCette (1976), an internal diabetic will respond to see information about his disease.

Internals are superior to externals in responding to biofeedback paradigms as revealed in results of several studies. Johnson and Meyer (1974) and Goesling, May, Lavond, Barnes, and Carreira (1974) studied the biofeedback pattern of the EEG alpha waves and discovered that internals are better able to increase and maintain EEG responding and lower galvanic skin responses through biofeedback than externals. Berggren, Ohman, and Fredrikson (1977) predicted that externals should show a slower habituation of the electrodermal orienting response than internals. As was expected the external subjects took significantly more trials to reach a criterion of habituation than internal subjects. Ray (1974) and Gatchel (1975) disclosed that internals are more proficient at increasing heart rate while externals are more proficient at decreasing heart rate.

Naditch (1974) hypothesized that the combination of high discontent and a perceived external locus of control would be related to hypertension. People characterized by high discontent and external locus of control had the

highest rate of hypertension (Naditch, 1974). The fact that internal individuals are significantly more likely to report themselves content with their life situations than externals was disclosed by Naditch, Gargan, and Michael (1975). Sonstroem and Walker (1973) studied the relationship of attitudes and locus of control to exercise and physical fitness. According to Sonstroem and Walker (1973) internal college males held more positive attitudes toward physical exercise and cardiovascular fitness than externals. Those same internal male students were likely to participate in voluntary exercise.

Lowery, Jacobsen, and Keane (1975) reported presurgical external patients having more anxiety than matched internals. Those internal patients having abdominal surgery requested more analgesics than external patients according to Johnson, Leventhal, and Dabbs (1971). Strickland (1978) revealed that Cromwell, Butterfield, and Curry studied 229 coronary patients by manipulating nursing care and participation in various activities. Undesirable physical characteristics such as elevated fever and higher sedimentation rate were linked with externality. The internal coronary patients were more cooperative in response to therapeutic treatment and were discharged earlier than external patients (Strickland, 1978).

In a study of inoculation against influenza, Dabbs and Kirscht (1971) reported that college students who were assessed as internals on eight motivational variables were more likely than externals to have been inoculated, although internals on eight expectancy variables were not likely to have taken the injection. A large-scale study with high school students done by A. F. Williams (cited in Strickland, 1978) found that internal students reported greater use of seat belts when riding in an automobile than externals. These same students also identified themselves as more likely to participate in preventive dental care.

Some studies suggest that females who are internal are more likely than external females to practice birth control effectively. Segal and Ducette (1973) discovered that pregnant high school females from the middle class were more external than control subjects while pregnant Black lower class high school females were more internal. Darrow (cited in Strickland, 1978) revealed that men assessed as internal were less likely to be infected with gonorrhea. The above statement could not be generalized to the women although internal women were more likely to return for follow-up treatment with the reappearance of symptoms than were external females. Olbrish's (cited in

Strickland, 1978) study suggested that a complex relationship between externality and naive beliefs about gonorrhea existed. The external subjects demonstrated a casual and helpless attitude regarding the contraction of venereal diseases (Strickland, 1978).

Strickland (1978) cited that the handicapped person's beliefs about locus of control depend on the reactions to the disorder and the struggle to recover. The chronically handicapped individuals were found by Strickland (1978) to be more external than their control counterparts. Therefore, persons who hold strong locus of control expectancies, whether internal or external, will have multiple responses in an attempt to maintain control over their physical states. Finlayson and Rourke (1978) have suggested that internals are more likely to take action with regard to their difficulties or disabilities. In their study of a group of hemiplegics, the subjects were found to be more motivated. MacDonald and Hall (1971) discovered that externally controlled subjects rated physical disabilities as more debilitating than did the internally In contrast to externals, MacDonald and Hall controlled. (1971) observed that internals rated emotional disorders as being more debilitating to physical disabilities.

Strickland (1978) found that many smoking studies were done linking individuals with not smoking or being able to stop smoking. Donaher (1977) investigated the efficacy of combining rapid smoking aversion and training in self-control skills for maintaining nonsmoking. Donaher's (1977) study indicated a reduced effectiveness when treating married couples and the minimal benefits from gradual versus abrupt treatment termination. James, Woodruff, and Werner (1965) conducted a study observing the effects of internal and external control upon changes in smoking behavior. Their results indicated that both male and female smokers are significantly more externally controlled than are nonsmokers. James et al. (1965) disclosed that smokers who were convinced by the evidence in the report of the Surgeon General had lower external control scores than those who were not convinced, and among males who stopped smoking following the report were more internally oriented than those who continued smoking.

Tobias and MacDonald (1977) evaluated the relationship between internal locus of control and weight loss. The results affirmed the hypothesis of Tobias and MacDonald (1977) that an internal locus of control produce a weight loss. Shallow (1975) predicted that an internal orientation measured by Rotter's Internal-External Scale would be

associated with successful self-modification of diverse behaviors. The results confirmed Shallow's (1975) hypothesis that most successful subjects were significantly more internal than least successful subjects.

Strickland (1978) investigated subjects' relationship between the locus of control and cues. The internals differentiated acutely between cues and stopped responding to irrelevant cues quickly. Strickland (1978) recorded internals as being more vigilant with a greater attention span and focusing on task-relevant cues. Therefore, internals are more motivated to succeed and are generally superior in performance than externals. Hersch and Scheibe (1967) observed that internals are more homogenous than are high-scoring subjects.

Eggland (1973) studied the locus of control and children with cerebral palsy. Cerebral palsy represents a handicapping condition. Eggland's (1973) research showed that children with cerebral palsy appeared to be more externally controlled than the handicapped children. The scores became more internal with increasing age.

Wolk and Kurtz (1975) examined the positive adjustment and involvement during aging and expectancy for internal control. The results have shown that the elderly manifested an exceptionally internal level of locus of

control relative to most contemporary, younger groups. Wolk and Kurtz (1975) submitted that external females displayed the lowest level of adjustment with a trend in the interaction between sex and degree of internal control. Felton and Kahana (1974) examined the relationship between locus of control and adjustment among the institutionalized aged. In five of six significant relationships, externally rather than internally perceived control was found to relate to good adjustment.

The following common physical health problems discussed focusing on the health locus of control were: tuberculosis, diabetes, hypertension, exercise and fitness, surgery, preventive health measures, smoking, weight reduction, aging, cerebral palsy, and chronic illnesses. The literature presented suggested that patients who valued their health will change their habits to prevent illness. The internal patients were outstanding in improving their health status in addition to being more cooperative and having a shorter hospital stay.

#### Substance Abuse Problems

Calicchia (1974) studied heroin addicts in a rehabilitative center and found that heroin addicts held more internal locus of control beliefs than nonaddicts. The

methadone addicts held significantly more internal locus of control beliefs than the abstinence addicts. In addition, Berzins and Ross (1973) observed the locus of control among opiate addicts. The results as stated by Berzins and Ross (1973) showed that each addict group exceeded the control group in internality while within the addicts, a group of Black females was significantly less internally controlled than each of the other addict groups.

Donavan and O'Leary (cited in Strickland, 1978) proposed that internal alcoholics experience more control over their stress than do external alcoholics. Schofield (1978) discovered that male and female alcoholics tend to be rather internally oriented compared with the general population. Walker, Nast, Chaney, and O'Leary (1979) and Pryer and Distefano (1977) supported in their research the notion that an increased ability to take responsibility for one's actions (internality) is related to the successful rehabilitation of the alcoholic.

Naditch (1975) examined the locus of control and the drinking behavior in a sample of men in army basic training. A clear pattern of increased externality with increased drinking was declared by Naditch (1975) and Butts and Chotlos (1973). Caster and Parsons (1977) believed that alcoholics who benefited less from treatment

also had higher scores than those who benefited more. А significant relationship between depression and powerful others control was observed by Caster and Parsons (1977). Oziel, Obitz, and Keyson (1972) disclosed that alcoholics perceived themselves in control of their behavior in general and of their drinking behavior in particular. The external alcoholics were described by O'Leary, Donavan, and Hague (1974) as perceiving lack of control over life events, aloof, depressed, anxious, generally dissatisfied, and tend to magnify the evils of the world while internal alcoholics were found to be calm, dependable, self-confident, socially outgoing, and intrapersonally warm. Nowicki and Hopper (1974) assessed the locus of control orientation within an alcoholic population and related this orientation to the degree of cognitive dysfunction.

Females in Nowicki and Hopper's (1974) study had significantly more external scores and the external orientation was related to a greater evidence of psychomotor impairment in females. Conversely, Goss and Morosko (1970) claimed that their alcoholic sample scored in the internal control direction. Goss and Morosko (1970) suggested that the alcoholics did understand the uncertainty between their behavior and what for them is a preferred source of reinforcement--alcohol.

The relationship between substance abuse problems and the health locus of control has been discussed. The substance abuse problems examined were: drug addiction and alcoholism. Walker et al. (1979) and Pryer and Distefano (1977) supported Rotter's social learning theory in their research finding that internal alcoholic patients were successfully rehabilitated. In contrast, Caster and Parsons (1977) discovered that alcoholics benefited less from treatment and had higher health locus of control scores.

#### Common Mental Health Problems

Butterfield (1964) studied the locus of control and frustration reactions of college students. As the locus of control became more external, Butterfield (1964) found that frustration reactions became less constructive. Felton and Biggs (1972) surmised that even academic underachievers became more internal when structured group activities and counseling have been initiated. In an observation by Strickland (1978), internals were perceptually alert and attentive in a performance task situation and gathered and processed information effectively for problem solving.

Hjelle (1971), Vuchinich and Bass (1974), and Shriberg (1974) reviewed the social desirability scale and locus of control. Shriberg (1974) discovered that Midwestern children were more internally oriented than Southern children. Hjelle (1971) admitted that internal Catholic students scored slightly higher than did external Catholic students. Vuchinich and Bass (1974) reflected that the internally oriented person is more immune to and sometimes even actively resists pressure exerted by the external social agents. Strickland (1978) stated that internals were expected to enter therapy at a less disturbed level and were expected to respond positively and attempt change. Dua (1970) pointed out that individuals in therapy or self-improvement groups become more internal as the therapy continues. Eitzen (1974) pointed out that after using behavior modification techniques, juvenile delinquent boys were significantly more internal than those from the pretest phase. The notion that internals prefer more client control than do externals is affirmed by Strickland (1978). Killman, Laval, and Wanless (1978) indicated in their studies that external subjects reported a more difficult time in adjusting to life events than internal subjects.

Felton (1973) claimed that mental health workers were more internal as a function of a process-oriented training program. Lynch, Ogg, and Christensen (1975) investigated the efficacy of a life planning workshop in facilitating development of an internal locus of control for undergraduate students seeking assistance with vocational planning and decision making. The participants showed a significantly greater degree of internality. Deysach, Ross, and Hiers (1977) revealed that internally controlled individuals were judged more effective by peers and employers. Powell and Vega (1972) substantiated that internality is related to teacher effectiveness. Diamond and Shapiro (1973) indicated that subjects exposed to professionally led encounter groups developed a more internal orientation. Members exposed to experienced leaders showed greater trust and a positive self-concept change was disclosed by Diamond and Shapiro (1973).

Lewis, Dawes, and Cheney (1974) suggested that only individuals who are initially relatively external in their beliefs disconfirmed and subsequently changed by their experiences in a sensitivity training group. Kilpatrick, Dubin, and Marcotte (1974) discovered in their study of medical students that the externals were significantly higher than internals in depression-dejection,

anger-hostility, fatigue-inertia, and confusion-bewilderment. Medical students with an internal locus of control exhibited less mood disturbance than their external locus of control counterparts. This was additionally shown by Kilpatrick et al. (1974).

Schiavo (1973) studied female college students' reactions to a chemical laboratory accident story. The internals felt they were less like the person who caused the accident than did the externals as revealed by Schiavo (1973) and Sosis (1974). The internals had disclosed that the negative outcome within the accident story detracted from the person's attitude or competence. Sosis (1974) generated that the data pointed to the occurrence of projection of the subjects' own respective internality and externality onto the defendent.

Cole, Rodriguez, and Cole (1978) contended that Mexican University students were more internally oriented than students from four other nations. The locus of control scores for Chicanos were similar to those obtained from Anglo students. Only male Chicano students not college-bound pointed toward a more external locus of control as disclosed by Cole et al. (1978).

Research done by Harrow and Ferrante (1969) using schizophrenic patients and manic patients showed that

they were more external than the nonschizophrenic patients. The schizophrenic patients showed a strong trend toward increased externality while the depressive group showed a trend toward increased internality as observed by Harrow and Ferrante (1969) and Duke and Mullens (1973). Duke and Mullens (1973) contended that schizophrenics were more external than nonschizophrenics and preferred greater distances from human stimuli. Cromwell, Rosenthal, Shakow, and Zahn (1961) pointed out that schizophrenics do better in and prefer external controlled conditions since they generally knew themselves as out of control.

Contrary to Harrow and Ferrante (1969), O'Leary, Donovan, Cysewski, and Cheney (1977) demonstrated in their study that there is a significant relationship between an external locus of control and depression. Prociuk, Breen, and Lussier (1976) showed that hopelessness was related significantly to perceived external control and to depression. Calhoun, Cheney, and Dawes (1974) studied the relationship of depression to locus of control and to the perceived causes of depression in a nonpsychiatric population. The findings of their study contended that possible sex differences in the relationship between mood and locus of control and between mood and the perceived causes of depression existed. Calhoun et al. (1974) suggested that

adolescent females hold themselves more responsible than males for unsatisfactory personal situations.

Hiroto (1974) studied the locus of control and learned helplessness. Externals were characterized by Hiroto (1974) as being more helpless than the skill-set subjects. Cohen, Rothbart, and Phillips (1976) examined the effects of learned helplessness on tasks used to assess the after effects of stress. Externals, as revealed by Cohen et al. (1976), spent more time than internals on the soluble problem-solving task.

Watson (1967) and Finch and Nelson (1974) investigated the relationship between the locus of control and anxiety. Watson (1967) revealed that the more external is one's appraised locus of control, the more anxiety one will report. Finch and Nelson (1974) cautioned that a feeling of lack of control over the environment and the outcome of one's actions are associated with anxiety. The severely emotionally impaired group was found by Smith, Pryer, and Distefano (1971) to be significantly higher in external control than was the mildly impaired group.

DuCette and Wolk (1972) surmised that the locus of control is directly related to extreme risk taking, low persistence, and atypical shifts in level of aspiration.

A slight indication that the locus of control is related to extreme levels of confidence was admitted by DuCette and Wolk (1972). Williams and Nickels (1969) confirmed that externally oriented subjects scored higher on the suicide potentiality scales than internally oriented subjects. The scores on the accident proneness scale correlated positively with scores on both the externality and suicide potentiality scales as formulated by Williams and Nickels (1969).

Wolk (1976) argued that the degree of specific constraint of control and adjustive behaviors and attitudes. Levenson (1975) used the multidimensional locus of control on prison inmates. Lefcourt and Ludwig (cited in Levenson, 1975) stated that inmates would score higher in external control that noninmates. Levenson's (1973) study suggested that prisoners do not lose their feelings of personal control but develop realistic expectancies that others exert influence over them. Other findings indicated that neurotics were significantly less likely to believe in control by powerful others and change forces than schizophrenics. Levenson's (1973) research generated and affirmed the idea that internal scores of patients were significantly higher one month after hospitalization.

The relationship between common mental health problems and the health locus of control was explored. The following common mental health problems were reviewed: anxiety, schizophrenia, learned helplessness, depression, suicide, prison inmate mental problems, and medical student stresses. The literature presented contended that internal individuals have an easier time adjusting to changes in life.

#### Summary

A review of the literature has been presented that is concerned with the health locus of control and its influence with common physical health problems, substance abuse problems, and common mental health problems. The health locus of control and its relationships with birth control, handicapped people, students, prison inmates, smokers, weight losers, children, aging, drugs and alcohol addicts, and schizophrenics were explored.

### CHAPTER III

### PROCEDURE FOR COLLECTION AND TREATMENT

### OF DATA

The study was conducted to investigate the health locus of control of rehabilitation patients and the progress of patients' activities of daily living in a rehabilitation program at a day care center. Two instruments were used: the Multidimensional Health Locus of Control by Wallston and Wallston (1978) and the Activities of Daily Living Checklist by Katz, Ford, Moskowitz, Jackson, and Jaffe (1963) A pretest and posttest of each instrument was administered to a group of rehabilitation patients. The Wilcoxon Matched Paired Signed-Rank Test and the Spearman Rank Correlation Coefficient Test were used to analyze the data.

### Setting

A non-profit adult day care center situated in a city of approximately 1,000,000 people was used. The rehabilitation patients were from various social classes, ethnic backgrounds, and age groups. The day care center was staffed with physical therapists, occupational therapists, registered nurses, and medical social workers.

#### Population and Sample

The population for this study included all patients who were currently attending the rehabilitation program at a day care center which has a population of approximately 100 patients. The sample consisted of approximately 30 patients who consented to participate in the study and met the following criteria:

1. The subjects were male and female patients 18 years of age or older.

2. The subjects were rehabilitation patients.

3. The subjects visited the day care center for 14 days to be evaluated by occupational therapists, physical therapists, and a registered nurse before being approached by the researcher. At the end of the 14 days, goals were established by the multidisciplinary team and client.

### Protection of Human Subjects

Permission to conduct this study was obtained from the Texas Woman's University Human Subjects Review Committee (Appendix A). Permission from the day care center to utilize its facility for the study was also obtained (Appendix B).

To insure protection of human subjects, written permission was obtained from each subject prior to inclusion in the sample (Appendix C). The sample included only those subjects willing to participate in the study. In order to insure anonymity, numbers were used instead of personal identification. All subjects were informed of the purpose and methodology of the study.

#### Instruments

One instrument used was the Multidimensional Health Locus of Control Scale by Wallston and Wallston (1978). The Multidimensional Health Locus of Control Scale (Appendix D) is a questionnaire designed to determine the way in which different people view certain important healthrelated issues. For each health-related issue the subjects indicate whether they 1--strongly disagree, 2-moderately disagree, 3--slightly disagree, 4--slightly agree, 5--moderately agree, and 6--strongly agree. Testretest reliability was established by Wallston and Wallston (1978) and the correlation coefficients were: internal---.644; chance--.634; and powerful others--.764. Wallston and Wallston (1978) established validity by using a multitrait-multimethod approach. Items 1, 6, 8, 12, 13, and 17 on the instrument relate to internal beliefs. Items 2, 4, 9, 11, 15, and 16 relate to chance Items 3, 5, 7, 10, 14, and 18 relate to powerful beliefs. other beliefs.

The other instrument used was the Activities of Daily Living Checklist by Katz et al. (1963). The checklist permits ranking of individuals according to adequacy of performance (Katz et al., 1963). Adequacy of performance of each function was graded as 1--dependent, 2--partially independent, and 3--totally independent. Six functions were measured: bathing, dressing, toileting, transferring, feeding, and control of urine and The evaluation form was altered by the researcher bowels. so the subjects were able to answer the questions themselves by checking the most appropriate description of the activity that best applies. The reliability in the Katz et al. (1963) study was established by two observers making simultaneous observations and recording data independently. The information collected by the two observers was then compared and differences between the two observers occurred only 1 in 20.

### Data Collection

The study was conducted for a period of time sufficient to obtain 30 subjects. Each subject was approached by the researcher. Informed consent was obtained before any data collection was begun. Directions for using the instruments were explained by the researcher and the

subjects were asked to respond to the Multidimensional Health Locus of Control Scale on the basis of their own experiences. For each health-related issue the subjects indicated whether they strongly disagreed, moderately disagreed, slightly disagreed, slightly agreed, moderately agreed, and strongly agreed. The subjects also indicated whether their activities of daily living were performed independently, partially independently, or dependently. The subjects were approached at the day care center 30 days after the pretest by the researcher and were administered the posttest.

#### Treatment of Data

Interval data were obtained from the group of subjects. Statistical significance was determined by using the Wilcoxon Matched Paired Signed-Rank Test (Polit & Hungler, 1978). Each patient had a pretest and a posttest score. Since a special group was being studied, the scores from the Multidimensional Health Locus of Control Scale might not be normally distributed. The Wilcoxon Matched Paired Signed-Rank Test allowed for comparison of non-normal paired observations and is useful in pretestposttest situations. The 0.05 level was used. The analysis of the Wilcoxon Matched Paired Signed-Rank Tests determines

whether the subjects have changed their health locus of control and activities of daily living 1 month after the pretests are given. A one sample  $\underline{t}$ -test was done to test improvement in activities of daily living.

The Spearman Rank Correlation Coefficient Test was used to determine the relationship between the health locus of control and the activities of daily living of rehabilitation patients. The average of the health locus of control scores and the progress in the activities of daily living was determined by the difference between the posttest and the pretest scores.

#### CHAPTER IV

### ANALYSIS OF DATA

A descriptive correlational study was conducted to determine if there were relationships between and among the activities of daily living and the health locus of control scale. This chapter reports the analysis of data gathered by use of the Multidimensional Health Locus of Control Scale and the Activities of Daily Living Checklist. Twenty-nine rehabilitation patients participated as subjects in the study.

### Description of Sample

The sample consisted of 29 rehabilitation patients currently participating in a rehabilitation program at a day care center. These rehabilitation patients were between 18 and 82 years of age. Seventeen of the rehabilitation patients were Black and 12 were Caucasian. Eight of the rehabilitation patients had a diagnosis of stroke while the others had a diagnosis of hypertension, rheumatoid arthritis, cerebral palsy, and multiple sclerosis. The length of time spent at the rehabilitation center was from 1 month to 4 years. Twenty-one patients had been participating in the rehabilitation program for under 1 year.

### Findings

#### Hypothesis

The hypothesis was:

There is no relationship between the health locus of control of rehabilitation patients and the progress of those patients' activities of daily living in a rehabilitation program at a day care center. The hypothesis was treated by utilizing the Wilcoxon Matched Paired Signed-Rank Test to determine whether the subjects had changed their health locus of control and activities of daily living 1 month after the pretests were given. The Spearman Rank Correlation Coefficient Test was done to analyze the relationship between the health locus of control and the activities of daily living of rehabilitation patients. The null hypothesis of no significance was accepted. The indication for these sample subjects is that there is no significant difference between the activities of daily living and the health locus of control.

The one sample  $\underline{t}$ -test was done to test improvement in activities of daily living. An overall improvement was noted in the activities of daily living. Five rehabilitation patients maintained their internal beliefs while four rehabilitation patients maintained their chance beliefs, and nine rehabilitation patients maintained their beliefs in powerful others. One rehabilitation patient held equal internal and chance beliefs. Four rehabilitation patients changed their chance beliefs to internal while three patients changed their powerful others beliefs to chance beliefs. One rehabilitation patient changed from the chance belief to powerful others belief as another rehabilitation patient changed from internal to chance beliefs.

## Summary of the Findings

The following summarizes the findings of the study: 1. No relationship was found between the activities of daily living and chance beliefs.

2. No relationship was observed between the activities of daily living and powerful others.

3. No relationship was evidenced between the activities of daily living and internal beliefs.

4. There was improvement in the activities of daily living of rehabilitation patients as a result of therapy.

#### CHAPTER V

#### SUMMARY

This was a descriptive correlational research study. The problem of study was to determine the relationship between the health locus of control of rehabilitation patients and the progress of patients' activities of daily living in a rehabilitation program at a day care center. The theoretical framework for this study was based on Rotter's social learning theory. The null hypothesis tested was: There is no relationship between the health locus of control of rehabilitation patients and the progress of those patients' activities of daily living in a rehabilitation program at a day care center.

The sample was composed of 29 Black and Caucasian consenting rehabilitation patients presently participating in a rehabilitation program at a day care center. The Multidimensional Health Locus of Control Scale by Wallston and Wallston (1978) and the Activities of Daily Living Checklist by Katz et al. (1963) were used.

### Discussion of Findings

The findings of the study were that no relationship was found between: (a) the activities of daily living

and chance beliefs; (b) the activities of daily living and powerful others' beliefs; and (c) the activities of daily living and internal beliefs. There was, however, improvement in the activities of daily living of rehabilitation patients as a result of therapy.

#### Conclusions and Implications

The conclusions for this study are as follows:

1. In support of the literature by Strickland (1978), the rehabilitation patients sampled were externally controlled. The rehabilitation patients were, according to Rotter's social learning theory (1972) influenced by events and outcomes, in addition to their group and culture.

2. By participating in the rehabilitation program at a day care center, improvement in the activities of daily living was evidenced. This supports the social learning theory since it has been established that human behavior is learned. Therefore, by attending the rehabilitation center the patients learned new activities in addition to improving their present activities.

3. Since many of the participants were middle-aged or older, it is possible that changes in health locus of control behavior will not be as readily apparent in the older participants than in the younger participants.

The older participants held strong views when discussing the health beliefs in comparison to the other age groups in the study. It appeared that the older ages were a separate group within the study.

### Recommendations for Further Study

The recommendations for this study are:

1. The study should be replicated with a larger sample.

2. Periodic studies should be done to examine the ongoing changes of the rehabilitation patient in terms of internality and/or externality while attending the day care center.

3. Limit the ages of the sample from 18 to 65 years of age or use those who are 65 years of age or older in a separate study.

## APPENDIX A

TEXAS WOMAN'S UNIVERSITY

Human Research Committee

 Name of Investigator:
 Debra Ann Garrett
 Center:
 Dallas

 Address:
 5454 Amesbury #312
 Date:
 12/13/79

Dallas, Texas 75206

Dear Ms. Garrett:

Your study entitled Rehabilitation Patients: Health Locus of Control and Activities of Daily Living

has been reviewed by a committee of the Human Research Review Committee and it appears to meet our requirements in regard to protection of the individual's rights.

Please be reminded that both the University and the Department of Health, Education and Welfare regulations require that written consents must be obtained from all human subjects in your studies. These forms must be kept on file by you.

Furthermore, should your project change, another review by the Committee is required, according to DHEW regulations.

Sincerely,

Estelle J. Kurt

Chairman, Human Research Review Committee

at\_\_\_\_Dallas

APPENDIX B

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TEXAS WOMAN'S UNIVERSITY COLLEGE OF NURSING DENTON, TEXAS 76204

DALLAS INWOOD CENTER 1810 INWOOD ROAD DALLAS, TEXAS 75235 DALLAS PRESBYTERIAN CENTER 8194 WALNUT HILL LANE DALLAS, TEXAS 75231 HOUSTON CENTER 1130 M.D. ANDERSON BLVD. HOUSTON, TEXAS 77025

#### AGENCY PERMISSION FOR CONDUCTING STUDY\*

THE Visiting Nurse Association

GRANTS TO Debra Ann Garrett a student enrolled in a program of mursing leading to a Master's Degree at Texas Woman's University, the privilege of its facilities in order to study the following problem.

Health locus of control and activities of daily living of rehabilitation patients

The conditions mutually agreed upon are as follows:

- 1. The agency (may) (may not) be identified in the final report.
- 2. The names of consultative or administrative personnel in the agency (may) (may not) be identified in the final report.
- 3. The agency (wants) (does not want) a conference with the student when the report is completed.
- 4. The agency is (willing) (unwilling) to allow the completed report to be circulated through interlibrary loan.

5. Other

Date:January 15, 1980	Mary Sy Dullisain y:
Dura Ann Harrey	Kelen a Buch
Signature of Student	Signature of Faculty Advisor

\* Fill out and sign three copies to be distributed as follows: Original - Student; First copy - agency; Second copy - TWU College of Nursing.

GP:GEN 13 07026074 cd APPENDIX C

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#### Consent Form

### TEXAS WOMAN'S UNIVERSITY HUMAN RESEARCH REVIEW COMMITTEE

(Form A--Written presentation to subject)

Consent to Act as a Subject for Research and Investigation:

(The following information is to be read to or read by the subject):

1. I hereby authorize Debra Ann Garrett (Name of person(s) who will perform procedure(s) or investigation(s)

to perform the following procedure(s) or investigation(s): (Describe in detail)

This is a study of rehabilitation patients and activities of daily living. In order to obtain more information about rehabilitation patients and activities of daily living, you will be asked to complete one scale and one checklist. The scale will provide information about your personal beliefs regarding your health behaviors. There are no right or wrong answers. You will be asked to respond according to your actual beliefs and not according to how you feel you should believe.

The checklist will provide information about the activities of daily living you are able to perform. Prior to taking the checklist you will be asked to complete a data sheet requesting the following information: age, sex, ethnic background, and health problem.

You will be asked to follow directions written on the scale and checklist. You will be allowed as much time as you need to complete each one.

Your name will in no way be connected to the scale and checklist; anonymity will be maintained.

Please be advised that there is no such medical treatment or compensation for physical injuries incurred as the result of participating in this research. 3 a) It will take a period of time to read and complete 1. each test and frustration and tiring may occur.

The procedure or investigation listed in Paragraph 1

(Name)

- Although measures have been taken to control data 2. an improper release of data may occur.
- b) Knowledge of a personal contribution to research in activities of daily living of rehabilitation patients may occur.
- 4. An offer to answer all of my questions regarding the study has been made. If alternative procedures are more advantageous to me, they have been explained. Ι understand that I may terminate my participation in the study at any time.

Subject's Signature

Date

(If the subject is a minor, or otherwise unable to sign, complete the following):

Subject is a minor (age ), or is unable to signbecause:

Signatures (one required)

Father

2.

Mother

Date

Date

Guardian

Date

APPENDIX D

### MULTIDIMENSIONAL HEALTH LOCUS OF CONTROL SCALE

This is a questionnaire designed to determine the way in which different people view certain important healthrelated issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1.	If I get sick, it is my own behavior which determines how soon I get well again.	1	2	3	4	5	6
2.	No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
3.	Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
4.	Most things that affect my health happen to me by accident.	1	2	3	4	5	6
5.	Whenever I don't feel well, I should consult a medically trained professional.	1	2	3	4	5	6
6.	I am in control of my health.	1	2	3	4	5	6
7.	My family has a lot to do with by becoming sick or staying healthy.	1	2	3	4	5	6
8.	When I get sick I am to blame.	1	2	3	4	5	6
9.	Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
10.	Health professionals control my health.	1	2	3	4	5	6
11.	My good health is largely a matter of good fortune.	1	2	3	4	5	6
12.	The main thing which affects my health is what I myself do.	1	2	3	4	5	6

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
13.	If I take care of my- self, I can avoid illness.	1	2	3	4	5	6
14.	When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	б
15.	No matter what I do, I'm likely to get sick.	1	2	3	4	5	6
16.	If it's meant to be, I will stay healthy.	1	2	3	4	5	6
17.	If I take the right actions, I can stay healthy.	1	2	3	4	5	6
18.	Regarding my health, I can only do what my doctor tells me to do.	1	2	3	4	5	6

### MULTIDIMENSIONAL HEALTH LOCUS OF CONTROL SCALE

This is a questionnaire designed to determine the way in which different people view certain important healthrelated issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle <u>only one</u> number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

Strongly	Moderately	Slightly	Slightly	Moderately	Strongly
Disagree	Disagree	Disagree	Agree	Agree	Agree
1	2	3	4	5	

 If I become sick, I have the power to make myself well again.

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
2.	Often I feel that no matter what I do, if I am to get sick, I will get sick.	1	2	3	4	5	6
3.	If I see an excellent doctor regularly, I am less likely to have health problems.	1	2	3	4	5	6
4.	It seems that my health is greatly influenced by accidental happen- ings.	1	2	3	4	5	6
5.	I can only maintain my health by consulting health professionals.	1	2	3	4	5	6
6.	I am directly responsible for my health.	1	2	3	4	5	6
7.	Other people play a big part in whether I stay healthy or become sick.	1	2	3	4	5	6
8.	Whatever goes wrong with my health is my own fault.	1	2	3	4	5	6
9.	When I am sick I just have to let nature run its course.	1	2	3	4	5	6

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
10.	Health professionals keep me healthy.	1	2	3	4	5	6
11.	When I stay healthy, I'm just plain lucky.	1	2	3	4	5	6
12.	My physical well-being depends on how well I take care of myself.	1	2	3	4	5	6
13.	When I feel ill, I know it is because I have not been taking care of my- self properly.	1	2	3	4	5	6
14.	The type of care I re- ceive from other people is what is responsible for how well I recover from an illness.	1	2	3	4	5	6
15.	Even when I take care of myself, it's easy to get sick.	1	2	3	4	5	6
16.	When I become ill, it's a matter of fate.	1	2	3	4	5	6
17.	I can pretty much stay healthy by taking good care of myself.	1	2	3	4	5	6
18.	Following doctor's orders to the letter is the best way for me to stay healthy.	1	2	3	4	5	6

## SCORING INSTRUCTIONS HLC

The score on each subscale is the sum of the values circled for each item in that subscale.

Internal Items:	1,	6,	8,	12,	13,	17
Chance Items:	2,	4,	9,	11,	15,	16
Powerful Other Items:	3,	5,	7,	10,	14,	18

# ACTIVITIES OF DAILY LIVING CHECKLIST

Code Number	Date
Age	Sex
Ethnic Background	
Health Problem	
For each area of functioning listed bel description that best applies to you.	ow, check the
Bathing - either sponge bath, tub bath,	or shower.
I do not need help when gett the tub or shower.	ing in or out of
I need some help in bathing my body (such as back or leg	only one part of ).
I need help in bathing more my body.	than one part of
Dressing - getting clothes from closets ing underclothes, outer garments, (including braces if worn).	and drawersinclud- and using fasteners
I can get my clothes and dre	ss without help.
I can get my clothes and get help except for help in tyin	dressed without g shoes.
I receive help in getting cl dressed, or I stay partly or	othes or in getting completely undressed.
Toileting - going to the "toilet room" elimination, cleaning self after e arranging clothes.	for bowel and urine limination, and

I can go to the "toilet room," clean myself, and arrange my clothes without help. (May use cane, walker, or wheelchair, and may manage bedpan or commode).
I receive some help in going to "toilet room" or in cleaning myself or in arranging my clothes after elimination.
I do not go to "toilet room" for elimination.
Transfer
I can move in and out of bed as well as in and out of the chair without help (may use cane or walker).
I can move in and out of bed or chair with help.
I do not get in or out of bed.

Control of Urine and Bowels

 I can control urination and bowel movement completely by myself.
 I have occasional "accidents."
 I need help to keep my urine and/or bowel con- trol; I use a catheter or have trouble holding my urine.

Feeding

I can feed myself without help.

I can feed myself except for getting help in cutting meat or buttering bread.

I receive help in feeding myself or am fed by tubes.

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