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## The Effect of Mutual Goal Setting on the Self-Efficacy to Manage Heart Failure in Adults

Melanie Ranta  
*Grand Valley State University*

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**THE EFFECT OF MUTUAL GOAL SETTING  
ON THE SELF-EFFICACY TO MANAGE  
HEART FAILURE  
IN ADULTS**

**By Melanie Ranta, B.S.N., R.N.**

**A THESIS**

**Submitted to  
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**Thesis Committee Members:**

**Kay Setter-Kline, Ph.D., R.N.**

**Linda Scott, Ph.D., R.N.**

**Mary Bower Russa, Ph.D.**

## **ABSTRACT**

### **THE EFFECT OF MUTUAL GOAL SETTING ON THE SELF-EFFICACY TO MANAGE HEART FAILURE IN ADULTS**

**By**

**Melanie Ranta, B.S.N., R.N.**

**This study is a secondary analysis of data that examined the effect of mutual goal setting on self-efficacy to manage disease in general. The conceptual frameworks utilized were King's theory of goal attainment and Bandura's theory of self-efficacy. The sample consisted of clients who had been admitted to two home care agencies with a primary diagnosis of congestive heart failure. After being randomly were assigned to either the intervention group or a control group, the subjects were visited in their homes over a course of several weeks. Data were collected at baseline and at 3-months using Lorig, et al. (1996) self-efficacy assessment tool. The hypothesis was that there is a difference in the mean self-efficacy scores between the mutual goal setting group and the control group as measured at 3-month data collection. Although no significant difference was found, this study enhances the knowledge of goal setting and self-efficacy. Implications for further research and practice are discussed.**

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## CHAPTER ONE

### INTRODUCTION

People who are admitted to the hospital with a primary diagnosis of congestive heart failure (CHF) had a length of stay of 7.1 days in 1994, compared to a length of stay of 10.4 days in 1980 (CDC, 1999). Clients are discharged from the hospital with medical regimens that they often do not understand, with dietary restrictions that may be foreign to them, and with complications that they may not be certain how to handle. Their lives, as they knew them, have been profoundly altered. Activities that used to be comfortable for them, even walking up a flight of steps, may now be a challenge. If the person took comfort in smoking cigars or cigarettes, this may now be forbidden. Patient education standards are currently being challenged by shorter hospital lengths of stay and the fact that individuals are currently hospitalized only when severely ill (Wehby & Brenner, 1999).

The number of hospitalizations for CHF has increased more than threefold during the past 15 years. CHF accounts for more than \$20 billion in health care resources each year, and 70% of that is for hospitalization alone (Happ, Naylor, & Roe-Prior, 1997). The National Heart, Lung, and Blood Institute estimates that 4.8 million Americans have CHF. Quaal (1992) states that since the patient's entire organ system and psychosocial well being are affected by CHF, interventions must extend beyond the physiologic scope.

Happ et al. state that patients with CHF and their families need major, long term life-style adjustments to successfully manage heart failure.

According to Happ, Naylor, and Roe-Prior (1997), the major goals of treatment for older people living with heart failure are to increase their control over their health condition, improve their health status, and decrease the costly use of health care services. However, the Resource Utilization Among Congestive Heart Failure Patients (REACH) study (1999) states that overall, 59% of patients died or were readmitted within 6 months after hospitalization for CHF. Clearly, there is need for improvement in the current management of CHF.

Kegel (1995) states that in today's health care environment, the role of the advanced practice nurse (APN) is to provide excellent care and optimize use of health care resources. Health promoting behaviors, health maintenance, prevention and early intervention are central to advanced practice nursing principles. Early intervention of the symptoms of heart failure can prevent rehospitalization of the client and delay further loss of functional capacity.

Imogene King (1981) states that the domain of nursing includes promotion of health, maintenance and restoration of health, care of the sick and injured, and care of the dying. Nursing research has studied methods to assist clients with CHF to maintain and restore health through education (Hagenhoff, Feutz, Conn, Sagehorn, & Moranville-Hunziker, 1994; Wehby & Brenner, 1999), through intensive follow-up of hospital discharged clients (Schwabauer, 1996), and through case management of clients with CHF.

Studies (Hagenhoff, Feutz, Conn, Sagehorn, & Moranville-Hunziker, 1994; Lough, 1996; Wehby & Brenner, 1999) identify areas where learning needs exist but the importance of the learning needs is perceived differently between nurses and clients. Hagenhoff et al. state that clients' perceptions of what they need to learn are important determinants of learning outcomes. Steptoe, Doherty, Rink, and Kerry (1999) found no substantial changes in cardiovascular risk factors with health promotion advice and lifestyle counseling which involved little self-direction. Wehby and Brenner state that the adult's perception of what is important should be the foundation for the educational plan. Patient centered education can focus on health promotion or disease prevention, and can be based on mutual goal setting between the nurse and the client.

Numerous nursing investigators have studied congestive heart failure in relation to improving post hospital outcomes (Barrelaa & Monica, 1998; Schwabauer, 1996; Stanley, 1997). Schwabauer studied nurse run clinics and teaching needs of CHF patients. Multiple studies have investigated mutual goal setting (MGS) (Blair, 1995; Blair, Lewis, Vieweg, & Tucker, 1996; Hutchison & Quartaro, 1995; Mate-Kole, Danquah, Twum, & Danquah, 1999) or self-efficacy. However, there are no studies investigating MGS as a method to enhance self-efficacy. There is extensive evidence in the literature that enhancement of self-efficacy is linked to the patient's ability to perform health-promoting behaviors (Bandura, 1997; Borsody, Courtney, Taylor, & Jairath, 1999; Gortner & Jenkins, 1990). there are none investigating MGS as a method to enhance self-efficacy. Self-efficacy has been shown to be a powerful predictor of health behavior (Bandura, 1997).

If a positive effect between MGS and self-efficacy were found, this would give nursing an additional tool to assist adults with CHF in the restoration of health. Self-efficacy beliefs determine the goals people set for themselves, how much effort they expend, how long they persevere, and how resilient they are in the face of failures and setbacks (Bandura, 1986). Motivation to carry out the necessary lifestyle changes required by the diagnosis of CHF may be enhanced as clients set their own goals for learning and change.

### Problem Statement

The purpose of this study was to describe the effect of mutual goal setting, done on a weekly basis for eight weeks, on self-efficacy scores. Mutual goal setting as an intervention was incorporated as described by King (1986). Carey (1989) describes mutual goal setting as allowing clients to have the ultimate responsibility for managing their own lives. The nurse has relinquished attempts to control outcomes, and the clients are ultimately responsible for their own well being. Self-efficacy was assessed prior to the mutual goal setting sessions and again 3 months after the initial data collection. The focus of the self-efficacy tool is on the ability of the clients to manage their congestive heart failure in general with a series of five questions, rated by the patient on a 1-10 scale. The hypothesis is that there is a difference in the mean self-efficacy scores between the mutual goal setting group and the control group as measured at 3-month data collection.

## CHAPTER TWO

### CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

The theoretical framework for this research study was based on Imogene King's theory of goal attainment (1981). The focus of the literature review concerns mutual goal setting and the concept of self-efficacy, specifically as mutual goal setting and self-efficacy apply to the client with chronic illness.

#### Conceptual Frameworks

Goal setting. Imogene King (1981) states that the overall goals of nurses have been to promote health, prevent disease, and care for the ill, injured, or dying. King's theory of goal attainment (1981) evolved from the open systems framework, which includes personal systems, social systems, and interpersonal systems. The theory of goal attainment suggests that when a client and nurse have congruent perceptions, they are able to achieve a level of communication through which goals may be set. This level of transaction will promote goal attainment.

The major elements of the goal attainment theory focus on the interpersonal system. In the interpersonal system, two people, usually previously unknown to each other, come together in the health care context to help and to be helped in order to maintain a state of health that permits functioning in roles (King, 1981). King's theory describes the nature of the nurse-client interactions that lead to achievement of goals. Tritsch (1998) states that the overall assumption of King's framework is that the focus of nursing is human beings interacting with their environments leading to a state of health

**for individuals. King states this as an ability to function in social roles (King, 1992).**

**When nurses interact purposefully with clients to mutually establish goals, and to explore and agree on the means to achieve these goals, the result is goal attainment.**

**The concepts central to the theory of goal attainment include interaction, perception, communication, transaction, role, and stress (King, 1981). Interaction is demonstrated as the nurse comes together with the client and observes, assesses or provides feedback and verification to the client. The interaction is between two or more persons in each other's presence. Interaction reveals how each participant thinks and feels about (perceives) the other.**

**Perception is the manner in which the nurse and the client view their reality. It is an awareness of persons, objects, and events (King, 1981). The client's perceptions may be based on past medical history, coping mechanisms to deal with illness prior to this episode, or illness prognosis. The nurse's perceptions may be based on prior experiences with congestive heart failure patients, educational background, and level of nursing experience. Self-efficacy as a study variable is drawn from the clients' perception of their ability to manage CHF in general.**

**Communication is the process of transmitting information between the nurse and the client. The nurse and the congestive heart failure client may communicate on a nonverbal level, with body language or eye contact, or on a verbal level. Communication establishes a mutuality between caregivers and recipients of care (King, 1981). Hanna (1995) states that behavioral change occurs through influential communication.**

**Transaction is the process of the nurse and the client coming together for the purpose of goal setting and discussion of the means to achieve the goals. King (1981)**

defines transaction as the observable behavior of human beings interacting with their environment. When nurses and clients make transactions in nursing situations, they communicate in order to exchange their values relative to the situation. King states that the roles, values, expectations, and perceptions of each person contribute to the success of the transaction. In describing the concept of values in the mutual goal setting process, Carey (1989) states “my role is to help ... be clear about their own values regarding performance, and then I try to function within that framework as a resource, support, facilitator, and guide” (p. 9).

Role can be described as the set of expected behaviors from the nurse and the congestive heart failure client. If the client and the nurse have different expectations from each other, role conflict or role confusion can occur. Tritsch (1998) describes role as those rules of expected behavior. The client’s perception of his role in the nurse-client relationship must be clarified before moving forward to goal identification (interaction).

King (1981) defines stress as a dynamic state whereby a human being interacts with the environment to maintain balance for growth, development, and performance. One stressor for the congestive heart failure client is the amount of information presented which may not coincide with the information they are seeking. This stressor may interfere with the client’s health.

As the nurse and the congestive heart failure client share information, mutual planning occurs to meet goals. Tritsch (1998) states that this is the core of King’s theory, in which the nurse and client each perceives the other and the situation; through communication they set goals, explore means, and agree on means to achieve goals. King (1994) suggests that measurement of goal attainment (outcomes) determines

effectiveness of nursing care, and that effective nursing care in health enhances quality of life.

King (1981) states several assumptions about the nurse-client interactions. They include:

1. Perceptions of nurse and of client influence the interaction process.
2. Goals, needs, and values of nurse and client influence the interaction process.
3. Individuals have a right to knowledge about themselves.
4. Individuals have a right to participate in decisions that influence their life, their health, and community services.
5. Health professionals have a responsibility to share information that helps individuals make informed decisions about their health care.
6. Individuals have a right to accept or to reject health care.

Self-efficacy. Bandura (1997) states that people's beliefs that they can motivate themselves and regulate their own behavior plays a crucial role in whether they even consider changing detrimental health habits or pursuing rehabilitative activities. Self-efficacy is the belief in one's capabilities to organize and execute the sources of action required to manage prospective situations (Bandura, 1986). Expectations of personal self-efficacy are based on four sources of information: performance accomplishments, vicarious experiences, verbal persuasion, and physiologic state.

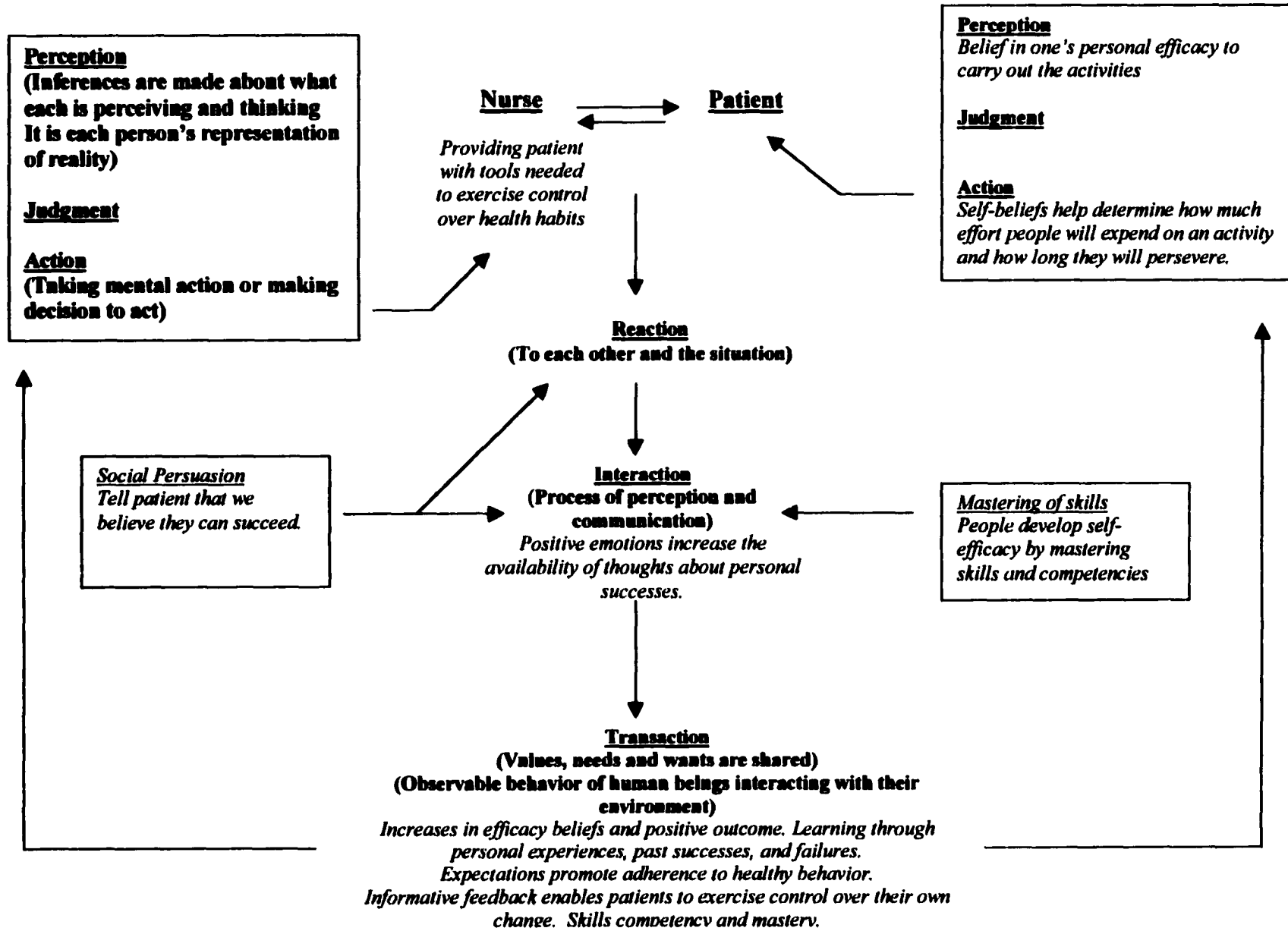
Borsody, Courtney, Taylor, and Jairath (1999) outlined the use of self-efficacy to increase physical activity in adults with CHF. Borsody et al. encouraged treatment goals to be established prior to the client's participation in a physical activity program; goals which are set mutually with the client based on the nurse's and the client's perception of



**the client's ability. Borsody et al. correlate Bandura's (1986) four major factors influencing efficacy expectations to the CHF client.**

- 1. Performance accomplishments (most influential): learning through personal experience, past successes and failures. The CHF client will perform physical activities in a supportive environment. Performance accomplishments are directly related to King's (1981) concepts of perception.**
- 2. Vicarious experience: learning through observation. As the client observes others in a similar situation, modeling takes place, from which the client will clarify his own role in his health maintenance. The nurse can provide anticipatory guidance and share how others perform.**
- 3. Verbal persuasion: working in small groups where goals are mutually set, problems solved, support and encouragement provided. According to King's (1981) theory of goal attainment, interaction would occur as feedback and verification is provided to the client. The nurse is assisting with encouragement and support.**
- 4. Physiologic state: the judgment of physical state and the ability to perform the goal. The nurse is providing a realistic assessment of a person's abilities. The nurse and the client communicate with each other, forming feedback, perhaps altering perception leading to transaction.**

**Figure 1 conjoins the theories of goal setting and of self-efficacy. The client's self-efficacy to manage heart failure in general will affect each of the stages of goal setting, influencing the goals that the client chooses and the effort that is expended to reach those goals.**



**Figure 1.** Model of the relationship between mutual goal setting and self-efficacy. The self-efficacy concepts are in italics, and the mutual goal setting concepts are in bold print.

In summary, the theoretical constructs of King's (1981) theory of goal attainment give direction to this mutual goal setting intervention with congestive heart failure patients. In the assessment phase of the nurse – client interaction, the nurse perceives the patient according to the presenting subjective and objective data (Husband, 1988). The nurse makes judgments based upon these perceptions and interacts with the clients to ensure that they perceive the same strengths and problems. Husband states that if there is consensus at this phase, with bargaining, negotiation, and the exchange of information, then mutual goal setting can proceed. Transaction continues as the nurse and the client examine resources and intervention strategies. The congestive heart failure client cannot be a passive recipient of nursing interventions, participation is required. The nurse and the client must interact and share perceptions to ensure that goals have been attained. According to Husband, if they have not, reassessment should occur and the process will begin again.

This framework is especially suited to the congestive heart failure client as this is a chronic illness, which requires the patient to assume responsibility for the daily management of a recommended medical regimen. As collaboration is required with mutual goal setting, this participation may lead to increased commitment to the therapeutic regimen (Husband, 1988).

### Literature Review

Multiple studies have been conducted to explore the concept of self-efficacy and the intervention of mutual goal setting, although none were found to provide support for the use of mutual goal setting to enhance self-efficacy in the congestive heart failure

client. Therefore, two literature reviews were conducted: one focusing on mutual goal setting as an intervention, and one on the concept of self-efficacy as it influences clients' confidence to carry out therapeutic regimens.

Mutual goal setting. Carey (1989) described the use of mutual goal setting in families. Carey proposed that clients have the ultimate responsibility for managing their own lives. Carey suggests that mutual goal setting is effective because people tend to resist being told what to do, and are more likely to work toward goals that they choose rather than support goals directed by others. People who make decisions tend to be accountable for them, and when the goals are their own, they also feel invested in achieving those goals and therefore work to achieve them. Carey suggests that throughout the process, the nurse provide compassionate emotional support by letting the family know that their values are accepted and respected.

Compassionate emotional support is a component lacking in studies done by Blair (1995); Blair, Lewis, Vieweg, and Tucker (1996); and Mate-Kole, Danquah, Twum, and Danquah (1999). Blair (1995) studied mutual goal setting to reduce physical dependency in nursing home residents. Blair (1995) defines mutual goal setting as a modification of the nursing home environment in which "nurses and clients collaboratively identify clients' health goals, develop written statements outlining how to accomplish the goals, and at intervals, determine the degree of goal attainment." Blair studied 89 nursing home residents, which were randomized from 3 nursing homes into three research conditions. Condition 1 (n= 37) utilized a combination of mutual goal setting and behavior modification, Condition 2 (n=16) utilized mutual goal setting only, and Condition 3

(n=26) utilized routine nursing care. The mean residency period was 2 years, and the groups did not differ significantly in age ( $p=.058$ ) or in length of stay ( $p=.942$ ).

The Goal Attainment Follow-Up Guide is a component of the Goal Attainment Scale described by Kiresuk and Sherman (1968). A targeted task is written at the head of a column, and beneath this are 5 attainment levels, ranging from 'much less than expected' (-2) to 'much more than expected' (+2). 'Expected level of outcome' is assigned (0). A relative weight is assigned to each scale to reflect its importance relative to the other tasks. Kiresuk and Sherman devised a formula to compute a standardized score with a mean of 50 and a standard deviation of 10.

In Condition 1 and Condition 2, the staff met with each subject and mutually developed and evaluated the subject's nursing care plan. Behavioral modification in Condition 1 included reminding the residents to perform their activities of daily living (ADLs), providing assistance when necessary, or performing the tasks if the subjects did not. In Condition 2, strategies were less clearly outlined in the subjects' care plans and staff interpreted the directions as they saw fit. Verbal interactions between staff and subjects were kept at a minimum, and the subjects' attempts to achieve their goals were not acknowledged. Not surprisingly, the frequency of self-care behaviors performed by residents in that group decreased over time. In Condition 1, from baseline to 8-week follow-up, goal attainment mean was 46.2 (SD 9.9). For Condition 2, goal attainment mean was 34.1 (SD 4.6), with Condition 1 scoring significantly higher than Condition 2, ( $p<.05$ ) using a Tukey's post hoc comparisons.

Blair (1995) acknowledges the lack of management participation as a limitation of this study. The staff insisted that the pressure of time was a major factor in their decision

to revert back to the old caregiving style. Goal setting by the staff was not encouraged, and there was not standardization as to the method of interpreting the goals that were documented. These limitations were not addressed in a followup study by Blair et al. (1996).

Blair et al. (1996) studied residents of a single privately owned nursing home to compare the effectiveness of three nursing interventions to promote self-care in elderly nursing home residents. Condition 1 was designated as the behavior management group, Condition 2 as the mutual goal setting group, and Condition 3 as the routine nursing care group. There were fifteen residents that were included in this study, and all residents completed the study. The age of the four males and 11 females ranged from 64 to 96 years. Their residency period ranged from 2 months to 2.5 years.

In Blair et al.'s (1996) study, residents in Condition 1 were expected to show greater increase in self-care behaviors than those in Conditions 2 and 3. The analysis revealed a significant overall difference ( $F(2,12)=8.22, P<0.006$ ). Tukey's post hoc comparisons indicated that statistically significant differences existed between the scores for subjects in Condition 1 ( $M=23.08$ ) and those in Conditions 2 ( $M=8.56$ ) and 3 ( $M=1.68$ ). However, the limitations of Blair's 1995 study carried through to this study. Staff infrequently encouraged or positively reinforced subjects' attempts at, or successful performance of, self-care activities. In a setting where interactions with the caregiving staff may be the resident's main interaction, mutual goal setting without reinforcement or support may be missing a vital component. The small number of subjects was a major limiting factor in this study. This study, as does Blair (1995), points to the need for

further nursing research looking at the effect of positive reinforcement on goal achievement.

Strecher et al. (1995) state that effective goal-based interventions does not end with the setting of the goal, but that a strong factor in goal setting is the importance of feedback. Strecher et al. suggested that feedback about one's personal performance had a strong influence on subsequent cognition and behavior. Providing feedback that a person was progressing enhanced self-efficacy, efficient analytic thinking, goal setting, and satisfaction with performance and actual performance.

Galano (1977) investigated treatment programs at a community health clinic. The subjects were 92 adult outpatients counseled by twelve trained therapists. Clients were randomly assigned to one of four treatment groups: Goal-Naïve group (n=25), Goal-Aware group (n=24), Goal-Setting group (n=20), and Goal-Planning group (n=23). In the Goal-Naïve group, the therapist wrote the goals and rated the goal attainment without client participation in the process. In the Goal-Aware group, the therapist wrote the goals and rated goal attainment, but the client viewed the finished goals. In the Goal-Setting group, the therapist and the client wrote the goals collaboratively, and the therapist rated goal attainment. In the Goal-Planning group, the client participated in goal setting and goal planning. The goal planning methodology required the client and therapist to structure the therapy process as a series of small steps, each with specific sub-goals and intervention strategies designed to lead toward the specified long-range goals. The critical variable in increasing goal attainment was found to be client participation in goal setting. Strecher et al. (1995) suggest that setting subgoals makes the rewards come sooner, and appear to enhance self-efficacy and satisfaction with performance.

The data collection compared the four groups in 1) goal attainment, 2) client satisfaction, 3) therapist satisfaction, and 4) the quality of the goals set. Galano (1977) found that 67.4% of clients using participative goal-setting procedures achieved an overall goal attainment score above the predicted expected level of outcome, compared to only 38.8% of the clients who were not involved in participative goal setting. A chi-square test showed that there were significant differences ( $X^2 = 13.59$ ,  $df = 4$ ,  $p < .01$ ) between the patterns of goal attainment by participative and non-participative clients. Galano suggests that clients who participate in goal setting may realize a greater number of treatment goals than the non-participative clients.

Hefferin (1979) examined health goal setting as a means to enhance clients' autonomy in the management of their progress toward health. Hefferin noted that empirical studies have focused on the clients' acquiescence or compliance with therapeutic regimens, rather than on their partnership in health care. Hefferin felt that as clients actively participate in the goal-setting processes, the striving toward these health goals might become more desirable and attainable for them.

Hefferin (1979) utilized a quasi-experimental research study to explore the effects of encouraging clients to develop goal planning statements with nurses on patient goal progress, and on patient and nurse satisfaction with care-related activities. Goal progress was measured by a modified version of the Goal Attainment Scale. The study sample included both hospitalized and ambulatory clients with varying single and multiple illness conditions. The variability of the illness conditions of the subjects was a limiting factor in the study. The experimental and control study sample was comprised of 572 clients from 14 care units.



Training sessions were provided to 42 nurses who wished to participate in the study. Clients were assigned alternatively to control or experimental status, with the initial assignment determined randomly. Clients in the experimental group were assisted to identify health goals, set target dates for achievement, and write statements on how to achieve the goals. In the control group, nurses identified what they felt were appropriate health goals for their patients. Client health goals were classified as either organic (related to management of an illness) or functional (related to adaptive or preventive activities).

Hefferin (1979) suggested that clients participating in the development of written health goal planning statements achieved higher mean total change scores and in fewer days than clients who did not develop such goal statements. Mean differences in the number of days for the two groups to achieve their respective health status changes were significant ( $p=.026$ ). Comparison of mean differences in the total goal attainment change score for the two groups revealed a difference at the .039 probability level.

Although the data cannot be generalized to all client populations, Hefferin (1979) suggests that the results indicate that goal setting is a relatively simple intervention where the nursing concern is placed on encouraging clients to identify their own health goals. Hefferin suggests that a written goal statement enhanced the degree of client progress toward the identified health goal.

Self-efficacy. Scherer and Schmieder (1996) studied the role of self-efficacy in adults with chronic obstructive pulmonary disease (COPD). The sample consisted of 29 self-selected subjects who participated in an outpatient pulmonary rehabilitation program. The average number of years these individuals were diagnosed with COPD was 10 years.

All of the subjects in this study had similar goals, which were to be able to participate in more activities and to experience a decrease in their baseline shortness of breath. The purpose of Scherer and Schmieder's study was to examine the effect of attendance at a pulmonary rehabilitation program on self-efficacy expectations of inpatients with COPD. The researchers hypothesized that confidence regarding one's ability to manage or avoid breathing difficulty would increase following attendance at this program.

The variables were studied for significant differences between preprogram and 1-month postprogram self-efficacy scores as measured on the COPD Self-Efficacy Scale (CSES). Following program attendance, 55% of the subjects felt confident that they could manage or avoid breathing difficulty, with 39% of the subjects reporting confidence prior to the program. There was a significant improvement between preprogram and 1-month postprogram total score on the CSES ( $F=13.27$ ,  $p=.001$ ). There was no control or comparison group in this study. The pulmonary program was specifically designed to address the constructs of performance accomplishment, vicarious experiences, verbal persuasion, and control of emotional or physical arousal.

Gortner and Jenkins (1990) studied self-efficacy and activity level following cardiac surgery. In their study, 149 postoperative cardiac patients between the ages of 30 and 75 years were invited to participate, and were randomly assigned to either a control group or an experimental group. Both groups were provided routine information on recovery. The experimental group also was followed by telephone on a weekly basis for 4 weeks to monitor recovery, reinforce risk-factor reduction, coach toward activity and provide reassurance to spouse as well as patient. After the initial four weeks, calls were made at 2-week intervals for an additional four weeks. Both experimental and control

patients were interviewed before surgery to obtain baseline efficacy assessments for four behaviors (walking, climbing, lifting and general activities) and self-reports of activity.

These variables were assessed at baseline, 4 weeks, 12 weeks and at 24 weeks.

Univariate statistics (t-tests) were used to describe differences in the groups at each testing period to provide a group profile. Multiple regression was used to compare the disease and demographic variables, treatment status, self-efficacy, and mood state to the treatment outcome of self-reported activity. Pearson product moment correlations were computed to determine the relationship of self-efficacy expectations to self-reported activity at each testing period. Correlations were significant for self-efficacy for walking with self-reported walking activity at baseline ( $r=0.61$ ) and at 4 weeks ( $r=0.89$ ), 12 weeks ( $r=0.86$ ) and 24 weeks ( $r=0.85$ ) after surgery. Evaluation of self-efficacy expectations appeared to be related to vigor and fatigue mood state at various testing periods, although this was not determined and is an area for future research.

In Gortner and Jenkins (1990), the treatment status (being coached in recovery activities) and self-efficacy expectations were significant predictors of later activity. Between 8.6% and 18.2% of the variance in self-reported activity was explained by self-efficacy expectations. This reinforces Bandura's suggestion of enhancing efficacy by modeling and verbal persuasion. It was not known if the intervention was successful by virtue of its content, or continued contact with the same nurse coach, or both.

Clark and Dodge (1999) state that self-efficacy is a response to an attempt to achieve a goal. Clark devised a model of disease management that illustrates how self-efficacy enhances repetition of behavior. If one judges oneself capable of once again

carrying out a behavior that produced a goal, one feels confident, or efficacious. The greater the self-efficacy, the greater the likelihood that the behavior will be repeated. Clark and Dodge clarify that self-efficacy varies with tasks and behavior challenges. They state that self-efficacy can both result from a specific behavior and predict specific behavior. Clark and Dodge explored the role of self-efficacy in disease management in a sample of 570 women with heart disease.

Clark and Dodge (1999) drew their subjects from outpatient clinics and physician offices from six large hospitals in southeastern Michigan. The inclusion criteria included females 60 years of age or older, diagnosed with cardiac disease, treated by daily heart medication, seen by a physician at least every 6 to 12 months, residing within 1 hours' drive of the study site, and willing to participate in an educational program. Data collection telephone interviews were conducted at baseline and 4 and 12 months later.

Those agreeing to participate in the study were randomly assigned to a "usual care" plus program group or a "usual care" control group. The health education program intervention would be offered to the "usual care" control group if the program was shown to be beneficial.

The ability of self-efficacy to predict self-management behavior was examined using longitudinal data. Self-efficacy at baseline and demographic information were used to predict disease management behavior at 4 and 12 months follow-up using multiple regression analysis.

Clark and Dodge (1999) suggested that baseline self-efficacy consistently predicted subsequent disease management behavior. The effect was apparent at 4 months

for adherence, defined as following the medical regimen (parameter estimate .221, SE 0.7,  $p = .002$ ), following dietary recommendations (parameter estimate .345, SE .04,  $p = .0001$ ), exercising (parameter estimate .388, SE .06,  $p = .0001$ ), and practicing stress reduction (parameter estimate .161, SE .05,  $p = .001$ ).

Clark and Dodge's (1999) study suggest that self-efficacy may warrant particular attention as a starting point in interventions focused on exercise, stress management, diet and medicine use. Emphasis on building confidence specific to a given behavior as part of a clinician-patient communication or as an element of an educational program may increase the likelihood of subsequent behavior occurring.

### Summary

Multiple studies suggest that clients may be more committed to achieving goals that they have set in participation with others. Positive reinforcement of those goals by providing feedback to clients regarding their progress may enhance their satisfaction and stimulate self-efficacy and goal setting. Written collaborative goal statements may assist clients in identifying their own health goals. As depicted in Figure 1, social persuasion, or the nurses' affirmation to the client that they can succeed, and mastery by the clients of their progress enhance transaction between nurse and client.

Self-efficacy has emerged as a predictor of behavior, and the enhancement of self-efficacy may decrease clients' symptomatology and improve their quality of life. As clients feel more confident in their ability to perform health maintenance behaviors, they are more likely to repeat those behaviors and as clients observe other clients meet health challenges, they may learn to successfully manage their own situation. As health care providers interact with clients with encouragement and support, feedback and

verification may enhance clients' perception that they can successfully begin to manage their health concerns.

The literature does not specifically address mutual goal setting and its relationship to self-efficacy, although the concept is inferred in several studies (Clark & Dodge, 1999; Borsody, Courtney, Taylor, and Jairath, 1999). This study would directly address this relationship. The closeness of the concepts suggests that a relationship does exist, and if so, would give health care providers an additional intervention to utilize in appropriate client situations.

### **Research Question**

Does participation in mutual goal setting affect self-efficacy to manage the disease in general in adults with congestive heart failure?

### **Hypotheses**

There is a difference in the mean self-efficacy scores between the mutual goal setting group and the control group as measured on post-test scores at 3 months (Time 2).

### **Definition of Terms**

1. In this study, participation in mutual goal setting is meant to imply that the subject's values are explored and mutually determined health attainment goals are identified.
2. Self-efficacy to manage disease in general will be defined as the belief in the ability of the clients to motivate themselves and regulate their own behavior to change detrimental health habits or pursue rehabilitative activities.
3. Congestive heart failure will be defined for this study as those adults admitted to the home care agencies with an ICD-9 code of 428 (CHF).

## CHAPTER THREE

### METHODS

#### Design

This study is being conducted as a secondary analysis of a primary study conducted by Dr. Kay Setter-Kline, RN, Ph.D., Professor at Grand Valley State University, in conjunction with other professional colleagues. Dr. Setter-Kline's study was funded, in part, by the Midwest Affiliate of the American Heart Association.

According to Polit and Hungler (1995) secondary analysis involves the use of data gathered in a previous study to test new hypotheses or explore new relationships. Specific limitations to the use of secondary analysis include deficient or problematic data sets and outcome measurement that are not exactly what the researcher would have ideally designed.

The primary study from which the data used in this secondary analysis were obtained was designed to examine the effect of two nursing approaches on the home care outcomes for clients with heart failure. The study did meet the three properties described by Polit and Hungler (1995) which characterize a true experimental study. The study has an intervention, in this case, mutual goal setting between the researcher and the congestive heart failure (CHF) client. A control group received basic nursing care via a home care agency, with health maintenance information provided to equalize the nursing

time spent with clients of both groups. Finally, the subjects were randomized between the two groups by a randomization table.

According to Polit and Hungler (1995), the experiment is the most powerful method to test the hypothesis of cause and effect relationships between variables. The intervention of mutual goal setting was hypothesized to cause an effect in the self-efficacy of adults with congestive heart failure as one of the health care outcomes. The empirical relationship between the intervention of mutual goal setting and self-efficacy of adults with congestive heart failure has been discussed in the literature. Through the controls imposed by randomization, alternative explanations for any interpretation can often be ruled out or discredited (Polit & Hungler, 1995).

The primary study data were collected from a population of clients with congestive heart failure (CHF) admitted to two non-profit Michigan home care agencies. Clients with a primary diagnosis of CHF were utilized during the designated study period and were visited in their homes. The data for the secondary analysis were obtained from subjects who were randomly assigned to a control group or a mutual goal setting group. The control group received routine care by a home care agency, plus health promotion teaching. The intervention group received routine care by the home health agency, plus participated in mutual goal setting with a nursing approach provider. In this study, baseline self-efficacy scores and the ninety-day self-efficacy scores were used for data analysis from both the control group and the mutual goal setting intervention group.

Threats to validity in the primary study include mortality from client attrition in general, death of the client, or worsening of the congestive heart failure from age itself or



from disease progression. Randomization of the subjects equalized the threat of variance on illness among the subjects.

### **Sample**

Subjects were selected for the primary study from clients with CHF admitted to two home care agencies in Michigan. The convenience sample of subjects met the following criteria:

1. Heart failure listed as their primary diagnosis
2. Over the age of 18
3. Able to understand and speak the English language
4. Given informed consent to participate in this study.

The goal was to include 31 subjects in the control and 31 subjects in the intervention group, to achieve a power of 80%. Polit and Hungler (1995) define power as the ability of a research design to detect relationships among variables, or the probability of rejecting the null hypothesis. With a power equal to .80, there is a 20% risk of committing a Type II error.

### **Instruments**

Data used for this secondary analysis were collected prior to the institution of the control or mutual goal setting intervention and again 90 days after the initial data were collected. Although additional data were collected in the primary study, this secondary analysis examined only the 'self-efficacy to manage disease in general' data, a self-rated health status outcome measure. Lorig et al. (1996) developed the tool as part of the chronic disease self-management program conducted by Stanford University School of

**Medicine and the Kaiser Permanente Medical Care Program. Lorig et al. define the measure as:**

- 1. Confidence that one can manage the health condition on a regular basis,**
- 2. Judge when changes mean one should visit a doctor,**
- 3. Do tasks needed to manage the condition so as to reduce the need to see a doctor,**
- 4. Reduce emotional distress caused by condition, and**
- 5. Do things other than take medications to reduce the effect of illness on everyday life (p. 15).**

**The self-efficacy to manage disease in general instrument is a 5 item Likert scale. A copy of this instrument may be found in Appendix B. Each item on the scale contains ten possible points, yielding a score of 5 – 50. Lorig et al. (1996) established an internal-consistency reliability of .87, with a range of item-scale correlation of .58 to .79. Test-retest reliability coefficients ranged from .82 to .89. The measurement analyses reported were conducted on questionnaires from 1,130 individuals enrolled in either a self-management course or the comparison-control group. Lorig et al. recommends not scoring the scale if more than 25% of the items are missing. The self-efficacy study scale is found in Appendix A of Lorig et al.'s book "Outcome Measure for Health Education and other Health Care Interventions". The tools are considered to be in the public domain, and as such, may be used without further copyright permission.**

**Reliability coefficients for this secondary analysis were calculated on the 'self-efficacy to manage disease in general' scale. Five-item internal consistency was tested in this study at baseline and at 3 months with respective Cronbach alphas of .83 and .88**

obtained. Reliability coefficients of .70 or greater are considered sufficient to make group comparisons (Polit & Hungler, 1995).

### **Procedure**

This study was a secondary analysis; the procedure for the primary study was as follows. Charts were selected from a list of clients admitted to the home care agencies with an ICD-9 code of 428 (CHF). The home care agency care manager introduced the client to the study using a script (Appendix C). If the client was interested in participating in the study, a data collection nurse visited the client to explain the study, to obtain informed consent, and collect baseline data (Appendix D). The graduate nursing student completing the data collection notified Dr. Setter-Kline, who then randomly assigned the subject to one of the intervention groups. A random number table was used to guide the group assignment.

A nursing approach provider visited each subject once a week for a total of eight weeks. During that time, the control group received instruction regarding health maintenance and health promotion topics, such as fall prevention and food safety. The control intervention was designed to be completed in about a twenty minute time frame. The subjects in the mutual goal setting group collaborated with the nursing approach provider to mutually set goals, as described by Imogene King (1981). The subject led the discussion, with the nurse using assessment skills to identify problem areas with input from the subject. Identified areas for growth were validated with the subject. The mutual goal setting intervention could be completed in twenty to forty minutes per week.

The graduate nursing student collected data initially, and at 3, 6, 9, and 12 months using the data assessment tool. For this secondary analysis, only the initial data and the

3-month re-evaluation were examined. Data were coded under the subject's number, eliminating any name-to-data link. Potential risks to the subjects included fatigue or shortness of breath associated with the exertion of the intervention sessions, which do not require active movement of the subject. This was to be addressed by the nursing approach provider by assessment of the subjects' condition, with cessation of the activity if the subject stated that they were fatigued, or if the subject appeared fatigued to the nursing approach provider. The nursing approach providers were graduate students in the MSN program. There were no drugs or devices used on the subjects. The subjects were expected to benefit from the interventions by the education that they received.

## CHAPTER FOUR

### RESULTS

The purpose of this research was to determine if participation in mutual goal setting affected self-efficacy to manage the disease in general in adults with heart failure. Data were analyzed using the Statistical Package for the Social Studies (SPSS) version 9.0 for Windows. In this secondary analysis of the primary study, twenty-six subjects completed baseline data collection in the control group, and twenty-one subjects completed baseline data collection in the mutual goal setting group. Demographic data were characterized using descriptive statistics including frequency distributions and percentages, as well as means and standard deviations for age. Significance was set at  $p < .05$  for all tests. While ANCOVA statistically equates comparison groups, ANCOVA was not used because of the small sample size. T-test was used to compare the mutual goal setting and control groups, and Mann-Whitney test was used to compare self-efficacy item scores.

#### Sample Characteristics

Seventy subjects were initially enrolled in the group, with 36 from agency A and 34 in agency B. Demographic data were obtained prior to randomization, and were compared between the two agency sites. Subjects did not demonstrate significant variance regarding age or number of insurance providers by t-test for equality of means. One difference between the two groups was demonstrated in number of health care

providers seen, with agency A visiting between 1 to 2 providers and agency B visiting only one provider ( $t=4.87$ ;  $df=35$ ;  $p=.000$ ). There was no statistically significant difference between the groups for level of education, length of time the subject had carried the diagnosis of heart failure, or annual income in dollars. The data from two collection sites were analyzed for significant variances, and when none were found the agency groups were aggregated. The demographic data form used may be found in Appendix A.

In the combined groups, 57% ( $n=27$ ) were unmarried, 85% had a high school education ( $n=40$ ) and 48% had been diagnosed with heart failure for 3+ years ( $n=23$ ). The typical subject in the treatment group was unmarried, completed high school, had an income between \$10,000 and \$20,000 per year, and had been diagnosed with heart failure for less than a year. The typical subject in the control group completed high school, and had been diagnosed with heart failure for over 3 years. Equal numbers in the control group were married and unmarried, and had no preponderance in income. The ages of the mutual goal setting group ranged from 61 – 90, with a mean of 75.95 (SD 8.97). The ages of the control group ranged from 56 to 92, with a mean of 74.19 (SD 9.73). Table 1 summarizes the number of subjects in the MGS and control group, marital status, and highest level of education. Included in this table is the length of time each subject has carried the diagnosis of heart failure. T-test and chi square analysis determined that there were no statistically significant differences between the groups regarding demographic data. Table 2 itemizes the length of time the subjects have carried the diagnosis of heart failure.

**Table 1**

**Characteristics of Participants in Mutual Goal Setting Group and Control Group**

	<u>Mutual Goal Setting</u>		<u>Control</u>	
	(n=21)		(n=26)	
	freq	%	freq	%
<b>Married</b>	7	33.3	13	50
<b>Unmarried</b>	14	66.6	13	50
<b>Highest level of education</b>				
1-7 years	0	0	3	11.5
8-10 years	6	28.6	4	15.4
11-12 years	12	57.1	15	57.7
associates	2	9.5	3	11.5
bachelors	1	4.8	1	3.8
<b>Annual income in dollars</b>				
<10,000	4	19.0	8	30.8
10-20,000	12	57.1	8	30.8
20-30,000	3	14.3	8	30.8
30-40,000	2	9.5	2	7.7

**Table 2**

**Length of Time Diagnosed with Heart Failure**

---

	<u>Mutual Goal Setting</u>		<u>Control</u>	
	(n=21)		(n=26)	
	freq	%	freq	%
<1 year	11	52.4	8	30.8
1-2 years	0	0	5	19.2
3-5 years	3	14.3	4	15.4
>5 years	7	33.3	9	34.6

---



### Data Analysis of Research Question

At the time of this data analysis, 27 subjects had completed the 3-month data collection, with eleven in the mutual goal setting group and 16 in the control group. In order to answer the research question 'does MGS affect self-efficacy to manage disease in general' data analysis was completed. Table 3 is a frequency table describing the baseline 'self-efficacy to manage disease in general' scores for the mutual goal setting group and the control group. Table 4 examines the frequency of 'self-efficacy to manage disease in general' scores at the 3-month data collection. Group means were determined for both the control group and the MGS group at baseline and at 3 months (Table 5).

Mean self-efficacy scores at baseline appeared higher for the mutual goal setting group ( $M= 39.47$   $SD 10.62$ ) than for the control group ( $M=37.38$   $SD 8.40$ ). By t-test, however, this difference was not statistically significant. The data did not support the hypothesis that there is a difference in the mean self-efficacy scores between the mutual goal setting group and the control group as measured at 3-month data collection.

Mean self-efficacy score for the mutual goals setting group at 3 months was 42.36 ( $SD 8.41$ ) while the mean self-efficacy score for the control group at 3 months was 37.93 ( $SD 9.09$ ). A t-test was then performed between the two groups to evaluate if this was a statistically significant difference. The result of this t-test is summarized in Table 5. The t-test suggests that there is not a statistically significant difference between the two groups, although the mutual goal setting group does appear to have an increase over the control group. A paired t-test was examined to assess the change in the baseline to 3-month scores. Although an increase is noted for the mutual goal setting group,

**Table 3**

**Baseline Self-Efficacy Scores for the Mutual Goal Setting and Control Groups**

---

	<u>Mutual Goal Setting</u>		<u>Control</u>	
	(n=21)		(n=26)	
<u>Self-efficacy scores</u>	<u>freq</u>	<u>%</u>	<u>freq</u>	<u>%</u>
5-14	1	4.8	0	0
16-24	1	4.8	2	7.6
25-34	4	19.2	9	34.5
35-44	7	33.3	10	38.2
45-50	8	38.1	5	19.1

---

**Table 4**

**Three-Month Self-Efficacy Scores for the Mutual Goal Setting and Control Groups**

self-efficacy scores	<u>Mutual Goal Setting</u>		<u>Control</u>	
	(n=11)		(n=16)	
	freq	%	freq	%
5-14	0	0	0	0
15-24	1	4.8	1	3.8
25-34	1	4.8	4	15.2
35-44	3	14.3	7	26.7
45-50	6	28.6	4	15.2

**Table 5**

**Mutual Goal Setting Self-Efficacy Scores Compared to Control Self-Efficacy Scores**

Time	Mutual Goal Setting		Control		t	df	p
	m	SD	m	SD			
Baseline	39.47	10.62	37.38	8.40	-.75	45	.455
3 month	42.36	8.41	37.94	9.09	-1.28	25	.212

paired t-test statistics did not show a significant change ( $t=-.541$ ,  $df=10$ ,  $p=.600$ ).

Perhaps when the subjects have been followed for a longer length of time, or when more of the subject data is completed in the larger study this trend will show statistically significant differences.

Finally, components of the self-efficacy tool were individually examined with the Mann Whitney U to determine differences between the mutual goal setting and control groups at 3 months. One item, 'do things other than just taking medications to reduce illness effects' did suggest a statistically significant difference between the groups. The mutual goal setting mean rank was 16.09, while the control group mean rank was 12.56 ( $Z=2.13$ ;  $p=.03$ ). Table 6 outlines the Z scores of the five items in the 'self-efficacy to manage disease in general' scores. Although 'do things other than just taking medication to reduce illness effects' was the only item to show a significant change at the 3 month data collection, the item 'do all things to manage condition' is approaching a significant Z score and may demonstrate significance at a later data collection point.

Table 6

**Mean Rank between Groups on Individual Self-Efficacy Items**

---

<b>Individual self-efficacy item</b>	<b>Z score</b>	<b>p value</b>
Do all things to manage condition	-1.44	.149
Judge when changes in illness mean visit MD	-.243	.808
Do different tasks to manage and reduce MD visits	-.120	.904
Reduce emotional distress caused by illness	-.283	.777
Do things other than just taking medication	-2.133	.033

---

## CHAPTER FIVE

### DISCUSSION AND IMPLICATIONS

#### Findings in Relation to Conceptual Framework

According to King (1981), in the course of interactions between nurses and clients, information is shared and mutual goals are set. Variables that lead to transactions in the nurse-client relationship are identification of a problem through perception, judgment and the decision to take action. These come together as the nurse and client react to each other and the situation, and interact to identify transaction, or goal-directed behavior.

Bandura (1997) proposed that a person's belief that they can regulate their own behavior and motivate themselves plays a crucial role in whether they will consider changing lifestyle habits or pursue rehabilitative activities. According to Bandura, if clients are taught how to take greater initiative for their health through modeling of self-management skills, guided mastery practice, and informative feedback, self-efficacy can be promoted. Bandura cites goal setting as a function of self-regulation. In discussing self-efficacy, Scherer and Schmieder (1996) state that performance accomplishments can be fostered through encouragement of patient goal setting.

In this analysis, it was postulated that those clients that were involved in the mutual goal setting groups would show a significant increase in their self-efficacy to manage heart failure in general. Kiresuk and Sherman (1968) show that the level of goal

acceptance increases as participation increases. Bandura (1997) states that people get themselves to put forth the effort necessary to accomplish the goals that they have set for themselves, and that efficacy beliefs affect goal setting. Bandura believes that client set goals make an independent contribution to performance. Whelton (1999) states that King's (1991) theory of goal attainment specifically focuses on the capacity to choose purposeful actions based on one's knowledge, while Bandura's theory addresses the person's sense of being able to carry out those actions. The connection between mutual goal setting and self-efficacy was not demonstrated in this secondary analysis.

This lack of connection was surprising because, through mutual goal setting, the subjects set their own goals for education, lifestyle changes and self-monitoring of their condition. As the nursing approach provider visited them, the subject was empowered to choose the topics to be discussed and subjects to be covered in patient education.

Although the findings suggest that the mutual goal setting group appeared higher 3-month self-efficacy scores, these were not statistically significant. However, because the scores at 3 months were higher with the mutual goal setting group, it may be evident in later follow-up that the 'self-efficacy to manage disease in general' score may have a statistically significant increase.

Although this study did not find a relationship between the intervention of mutual goal setting and enhanced self-efficacy to manage heart failure in general, one aspect of self-efficacy was found to be significantly improved in the mutual goal setting group. Clients in the mutual goal setting group showed significantly higher item ranking than clients in the control group in 'do things other than just taking medications to reduce illness effects'. Through interactions with the nursing approach provider, feedback and

perceptions would have been shared concerning salt intake, exercise, daily weight monitoring, and the notification of the primary care provider of any changes. These actions of 'doing things other than just taking medication to control illness' is a core self-care strategy. Gortner and Jenkins (1990) cite individual instruction and patient education as a source of mastery, which Bandura (1986) states is the strongest mode of efficacy enhancement. Bennets et al. (2000) cite activities such as changing the level of physical activity as a common management strategy for adults with heart failure.

The finding that the intervention has no significant effect on self-efficacy to manage disease in general may be related to the fact that mutual goal setting and enhanced self-efficacy together lead to another outcome, such as lower rates of rehospitalization, but do not necessarily enhance each other in a measurable way. Goal attainment scaling has been a traditional outcome measure of mutual goal setting in the literature, but was not the focus of this secondary analysis.

#### Findings in Relation to Previous Research

The studies within the review of literature focused on mutual goal setting or self-efficacy. There were no studies cited utilizing the two frameworks used to guide this study. The findings of this secondary analysis considered these frameworks and sought to evaluate if mutual goal setting enhanced self-efficacy to manage heart failure in general in a population of adults. Although no significant difference was found between the groups in baseline or 3 month 'self-efficacy to manage disease in general' scores, this study suggests that mutual goal setting may enhance self-efficacy by giving the client information which enables the client to 'do things other than just take medication to reduce illness effects'.



Approaches used in studies (Blair, 1995; Blair et al. 1996) that did not show a significant increase in outcomes with mutual goal setting had provided goal setting without follow-up support from the caregivers, which was provided in this study.

Hefferin (1979) and Galano (1977) did demonstrate improved outcomes with mutual goal setting, but with a substantially larger subject population than this study. Hefferin and Galano also used the goal attainment scale as an outcome measurement.

### Implications for Nursing

Congestive heart failure (CHF) is a relevant problem in the United States, affecting 4.8 million people at an estimated cost of \$20 billion (Knox & Mischeke, 1999). Many of the leading causes of heart failure exacerbation may be prevented with education of the client in self-management, with mutual goal setting as a mechanism to discover what topics have significance to the client. Mutual goal setting is an intervention that nurses can utilize in a relatively short length of time and can be used in a wide variety of nursing situations. Goal attainment represents tangible outcomes, and outcomes indicate a measure of quality care, which is becoming increasingly important as nurses become independently accountable for their activities. The Patient Self-Determination Act, passed by Congress in 1991, specifies that patients must participate in decisions about their healthcare (King, 1999).

Studies (Clark & Dodge, 1999; Conn, 1998; Gortner & Jenkins, 1990; Scherer & Schmieder, 1996) have linked enhanced self-efficacy with improved client outcomes. Conn (1998) believes that a stronger emphasis on overcoming barriers and enhancing self-efficacy expectations could result in important health behavior changes. As advanced practice nurses become more active in the management of client interventions,

improving client outcomes and promoting health behavior changes become increasingly important to both the health of our clients and to the future of nursing.

This secondary analysis was an early look at a larger study currently in progress. Although this analysis did not suggest a significant effect on self-efficacy with mutual goal setting, it adds to the emerging literature on the role of self-efficacy in the management of heart failure. The significant finding suggests that by participating in goal setting, clients may feel an increased ability to 'do things other than take medication to control their heart failure'. Mutual goal setting could be utilized as a strategy in a heart failure self-management program to enhance this efficacy expectation.

A limitation in Blair (1995) and Blair et al. (1996) was that the intervention of mutual goal setting was not supported by the nursing home administration. The nurses in the study were not allowed additional time to follow up on the goal setting subjects and to reinforce the subjects desire to attain their goals. If subjects are facilitated by the nursing staff in achieving goals that they have set for themselves, this forms the basis of a concrete and measurable outcome that can be utilized in a quality assurance program within an institution. Institutions that are able to document positive outcomes from nursing interventions may encourage further independent practice by their nursing staff, thus enhancing innovative research.

Attempts to influence a person's behavior through education are not always successful. Mutual goal setting promotes an understanding of the influential factors affecting the individuals' decision-making, including their values, beliefs, and attitudes. Nurses can increase the individual's motivation and capabilities to change by involving the client in planning and goal setting, providing information that is understandable and

acceptable, and assisting the client in developing new skills for mastery. These principles are concepts central to the theory of self-efficacy. Although mutual goal setting did not enhance self-efficacy in all subsets in this analysis, further research may show a more pronounced effect with a larger subject population.

### Limitations

Borsody et al. (1999) state that increasing self-efficacy is not a state that develops quickly. They believe that it is unrealistic to expect the factors contributing to illness and disability to be modified easily. For this analysis, data were obtained at baseline and again at 3 months, and may not have allowed enough time for the subject's self-efficacy increase to be realized.

A clear limitation of this secondary analysis of data is the small sample size. To achieve a power of .80, as discussed in Chapter 3, there would have been 31 subjects in both the control and in the mutual goal setting groups. At the time of data analysis, this number was not available, so this study's power was lower and the probability of Type II error was higher.

The 'self-efficacy to manage disease in general' scale may not be an appropriate tool to measure the effectiveness of mutual goal setting on self-efficacy, although theoretically it should reflect goal setting. As this is a secondary analysis of a larger study that is utilizing multiple tools in data assessment, it will be interesting to note if another scale reflects mutual goal setting more accurately.

### Suggestions for Further Research

Barsody et al. (1999) cite performance accomplishments, such as learning through personal experience, past successes, and failures, as the most influential of the

major factors influencing the magnitude, strength, and generality of efficacy expectations. A further analysis of the data from the primary study could examine the groups by length of diagnosis, for example, less than 3 years and longer than 3 years. Those clients with less baseline impairment may have more belief in their ability to make changes and adaptations to manage their disease, while those clients who have lived with the diagnosis for a longer time may have less belief in themselves to improve their own situation. This concept could also be explored by grouping the subjects by ejection fraction, a concrete measurement of left ventricular function, to sort the groups by severity of their disease.

Knox and Mischeke (1999) state that optimal clinical management of heart failure requires monitoring weight changes and symptoms of congestion to prevent an exacerbation. The positive finding in this secondary analysis prompts another research question related to possible decreases in the rehospitalization rates in the mutual goal setting group related to the enhanced feeling of having the ability to do things other than take medication to reduce the effects of the illness.

Clark and Dodge (1999) found higher self-efficacy scores among those subjects in subsets of the demographic profile. They noted that males had higher baseline self-efficacy beliefs than females, college educated subject had higher baseline self-efficacy scores than high school graduates, married persons scored higher than non-married persons. It would be interesting in this study to evaluate if sociodemographic factors influenced self-efficacy beliefs at baseline and over time.

Duffy (1993) examined the relationship between locus of control and health promoting behaviors. This study suggested an additive relationship between an

individual's health locus of control and the regular practice of health promotion activities. Future research in the area of self-efficacy and goal setting may wish to include an examination of a subject's locus of control and examine its relationship to goal setting and self-efficacy.

In regard to the intervention of mutual goal setting, as the nursing approach providers listened to the client "tell his story", a qualitative study looking at the types of concerns the clients voiced and the types of information that the clients sought in those conversations would highlight perceived learning needs of heart failure clients and the concerns of this population.

Finally, more research is needed into the relationship between goal setting and enhanced self-efficacy. In theory, the two certainly would appear to be linked. Perhaps rather than mutual goal setting affecting self-efficacy, mutual goal setting and self-efficacy together affect another concept, such as goal attainment.

### Summary

The purpose of this study was to evaluate the effect of the application of mutual goal setting as an intervention had an effect on 'self-efficacy to manage heart failure in general' in an adult population. Through the use of King's (1981) theory of goal attainment and Bandura's (1997) theory of self-efficacy, the findings of this secondary analysis were discussed in relation to other research. Nursing practice implications were discussed. The study furthers nursing science by contributing to knowledge of the goal setting process, although further research will be needed to identify if concepts within goal setting enhance self-efficacy in adult clients with heart failure.

**Appendix A**  
**Demographic Data**

Appendix A

Demographic Data

(To be collected at time of initial interview)

1. Age \_\_\_\_\_
  
2. Marital Status  
 Never Married  
 Married  
 Divorced  
 Widow/ Widower
  
3. Employment Status  
 Employed (\_\_\_\_ hours per week)  
 Unemployed
  
4. Highest Level of Education  
 1<sup>st</sup> - 7<sup>th</sup> grade  
 8<sup>th</sup> - 10<sup>th</sup> grade  
 11<sup>th</sup> - 12<sup>th</sup> grade  
 Associate's Degree  
 Bachelor's Degree  
 Master's Degree  
 Doctoral Degree
  
5. Insurance Provider  
 Private Insurance (Name of Company) \_\_\_\_\_  
 HMO (Name of Group) \_\_\_\_\_  
 Medicare  
 Medicaid  
 Supplemental Insurance (Name of Company) \_\_\_\_\_  
 PPO (Preferred Provider Organization) \_\_\_\_\_  
 Other \_\_\_\_\_
  
6. Health Care Provider (Who treats your heart failure?)  
 Family Practice Physician  
 Cardiologist  
 Internist  
 Nurse Practitioner  
 Physician Assistant  
 Other \_\_\_\_\_
  
7. Annual Income in Dollars:  
 less than \$10,000  
 \$10,001 - \$20,000  
 \$20,001 - \$30,000

- \$30,001 - \$40,000
- \$40,001 - \$50,000
- over \$50,000

8. How long have you had heart failure

- less than 1 year
- 1 - 2 years
- 3 - 5 years
- more than 5 years

9. List current medical diagnoses.

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**Appendix B**

**Self-Efficacy to Manage Disease in General**

## Appendix B

### Self-Efficacy to Manage Disease in General

We would like to know **how confident** you are in doing certain activities. For each of the following questions, please circle the number that corresponds to your confidence that you can do the tasks regularly at the present time. Having an illness often means doing different tasks and activities to manage your condition. How confident are you that you can:

1. Do all the things necessary to manage your condition on a regular basis?

Not Confident										Totally Confident
1	2	3	4	5	6	7	8	9	10	

2. Judge when the changes in your illness mean you should visit a physician?

Not Confident										Totally Confident
1	2	3	4	5	6	7	8	9	10	

3. Do the different tasks and activities needed to manage your health condition so as to reduce your need to see a physician?

Not Confident										Totally Confident
1	2	3	4	5	6	7	8	9	10	

4. Reduce the emotional distress caused by your health condition so that it does not affect your everyday life?

Not Confident										Totally Confident
1	2	3	4	5	6	7	8	9	10	

5. Do things other than just taking medication to reduce how much your illness affects your everyday life?

Not Confident										Totally Confident
1	2	3	4	5	6	7	8	9	10	

**Appendix C**  
**Agency Script**

## **Agency Script**

**We are fortunate to have our home care agency included in a nursing study that has been funded by the American Heart Association . The study will be conducted by Dr. Kay Kline, Professor of Nursing at Grand Valley State University. The purpose of the study is to improve the lives of persons with heart failure.**

**We would like you to consider participating in the study, but know that you cannot make a decision about participation without knowing more about the study. Can we have a registered nurse who is a graduate student at Grand Valley State University contact you to tell you more about the study?**

**Appendix D**

**Script to Obtain Consent**

**Explanation of Study**

**Informed Consent**

## Script to Obtain Consent

My name is \_\_\_\_\_. I am a registered nurse. I am taking classes at Grand Valley State University to obtain a masters degree in nursing. I have been given permission by your home care agency to come here today with your home care nurse, to determine if you are willing to let me explain a nursing research study that is being conducted with people like yourself, who have been diagnoses with heart failure and are receiving home care.

After your nurse has finished providing your care today, may I stay a few minutes to explain the nursing research study we are doing?

(If verbal permission is granted, proceed with explanation of study and obtaining informed consent after the home care nurse has left.)

### Explanation of the Study

As nurses we are concerned with how people adjust to the medical diagnosis of heart failure. We want to find nursing approaches that will help you learn how to self-manage your heart failure. We believe that when you can self-manage your heart failure you will live a better life.

The study will consist of five (5) interviews of approximately 45 minutes duration, for the purpose of obtaining information about your heart failure. You will be given \$10 at the completion of each of these five (5) interviews as compensation for your time. The interviews will be spaced three months apart, starting this week. If you agree to participate, you will be placed in one of three groups.

Each group will receive a different approach to managing health. Each of the nursing approaches will be provided in addition to the regular care you receive from your home care nurse, at no extra cost. Each nursing approach will be provided to you in weekly 30-minute visits by another graduate nursing student who will call you to make an appointment to come to your home. If you participate in the study, I will give you the names of the students who are participating in this study so you will recognize the name of the student who calls you. There will be a total of eight (8) weekly visits. Each visit will provide you with information about managing your health. All visits will be scheduled at your convenience, similar to your current home care visits. You will not be given compensation for these eight (8) weekly visits.

Your participation in this study will in no way affect the regular care you receive from your home care nurse; and it may help you improve your self-management of heart failure symptoms. The results of this nursing study may help nurses determine better ways to help other people with heart failure to improve their lives.

Because this is a nursing research study, I will maintain the confidentiality of the information obtained during the interview. Your name will not be identified with any of the information I collect. When reporting the results of the study, only group results will be shared; no names of individuals will be published. The nurses providing your home care will not be told that you are participating in the study.

## Informed Consent

I \_\_\_\_\_ agree to participate in the nursing research study for persons with heart failure who are receiving home care. I understand that as a participant in this study:

- I will be interviewed five (5) times for approximately 45 minutes each time, once within this week and again at 3, 6, 9, and 12 months. I will be compensated \$10 at the completion of each interview.
- I will receive information about managing my health and that this information will be delivered by a registered nurse who is a graduate nursing student at Grand Valley State University.
- I will receive this information once a week over the next eight (8) weeks and that each visit will last approximately 30 minutes. I will not be compensated for receiving this information.
- I will be able to withdraw from the study at any time by notifying Dr. Kay Setter Kline, the Principle Investigator, at 616-895-3517, and that my withdrawal will in no way affect the care I receive from the home care nurse.
- I understand that participation or lack of participation will have no impact on my insurance coverage or rates.
- I will not be identified by name with any of the information obtained and that any sharing of information obtained in this study will be in the form of group summaries of all participants.
- There is no identified risk from participating in this study and I may benefit from receiving information about ways to manage my health.
- If in the process of gathering information, any symptoms are identified that might need attention, the nurse gathering the information will refer me to either the home health agency or my health care provider.
- I also give permission for review of my health records to verify my health care status.

If I have any questions about the research study I may contact the Primary Investigator, Dr. Kay Setter Kline at 616-895-3517, or the Chair of the Research Review Committee, Paul Huizenga at 616-895-2472.

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Date

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

The names of the students who are participating in this study are: \_\_\_\_, \_\_\_\_, and \_\_\_\_.

**Appendix E**

**Human Research Review Approval**





**GRAND VALLEY  
STATE UNIVERSITY**

| CAMPUS DRIVE • ALLENDALE, MICHIGAN 49401-9403 • 616/895-6611

June 12, 2000

Melanie Ranta  
3744 Iris Drive SW  
Grandville, MI 49418

Dear Melanie:

Your proposed project entitled **The Effect of Mutual Goal Setting on the Self-Efficacy to Manage Congestive Heart Failure in Adults** has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

  
Paul A. Huizenga, Chair  
Human Research Review Committee

## **List of References**

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