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## A Description of General Self-Efficacy and Specific Self-Efficacy for Health Promoting Practices in a Disabled Population

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A DESCRIPTION OF GENERAL SELF-EFFICACY AND SPECIFIC SELF-EFFICACY FOR  
HEALTH PROMOTING PRACTICES IN A DISABLED POPULATION

By

Elizabeth M. Carrington

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This study examined disabled persons' self-efficacy in relationship to performance of health promoting practices. A descriptive research design in which questionnaires were administered by interview was utilized. The sample consisted of forty-four disabled adult individuals attending a vocational rehabilitation school. The General Self-Efficacy Sub-Scale (Sherer, et al, 1982) and the Self-Rated Abilities for Health Practices Scale (Becker, Stuifbergen, Oh & Hall, 1993) were administered.

Major findings related to the three research questions were: (a) this sample's Self-Rated Abilities Scores was higher than previously recorded for a comparable disabled population, (b) multiple disabilities had little impact on self-efficacy scores, (c) a moderately strong, significant relationship between general and specific self-efficacy scores was replicated.

This thesis is dedicated to anyone who has had to cope with a disability. Having coped with a disability myself and through my brother, I believe perseverance and discipline enable one to gain mastery over a disability. Thank you to the students at M.C.T.I. for showing me many unique paths to accomplish this.

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## CHAPTER ONE

### INTRODUCTION

Health professionals have often ignored the long-term health and wellness needs of their disabled individuals. These professionals are quick to deal with illnesses but often fail to introduce this population to positive and responsible health behaviors. With the increased focus on health promotion evident in society, nurses are beginning to study this topic.

According to Dejong and Batavia(1991), emphasizing positive health promotion as an integral part of lifestyle management may be critical for the well-being of disabled individuals, particularly because they generally possess a narrower margin of health than those without disabilities. Encouraging healthy activities in this population should lead to an enhanced quality of life and prevent the occurrence of secondary disabilities(Marge, 1988). Enhanced life quality increases the potential for many positive effects on the general health of this population.

Philosophically, rehabilitation is the process of teaching disabled clients how to care for themselves. In ignoring health-promoting behaviors during the rehabilitation process, health professionals are, in effect, allowing disabled individuals to remain static and focused on their disabilities. This creates additional barriers for the disabled individuals and neither emphasizes their capabilities nor encourages them to reach optimum goals for overall health and well-being.

The objective of rehabilitation is to promote self-care and

greater independence. By incorporating health promotion into the rehabilitation process, the health care professional promotes an active, independent attitude toward health care in the disabled individual (Stuifbergen & Becker, 1994).

The nursing profession emphasizes that positive health management is an important and unique component of the profession's practice, because healthy lifestyle practices often predict a individual's overall long-term health status. By incorporating this construct into nursing practice, valuable insights could be gained, thereby increasing the nurse's ability to predict and influence health practices. The opportunity to positively influence health behavior both strengthens the profession's expertise and contributes to the individual's well-being.

The Health Promotion Model (HPM) was developed by Pender (1996) to describe health promotion activities in the general population. Pender's revised Health Promotion Model (1996) suggests that one of the most likely predictors of health promoting behaviors is self-efficacy. Reading Bandura's theories one could postulate that in the general population, the higher the level of self-efficacy a person possesses, the greater the chance that he will perform healthy behaviors (Bandura, 1986).

The examination of the level of health practices in the disabled population provides knowledge which is crucial in helping disabled people achieve their greatest possible level of wellness and independence. A review of literature found only two studies that applied the concept of self-efficacy to the disabled population (Becker & Schaller, 1995; Stuifbergen & Becker, 1994). The study reported here replicated portions of the Stuifbergen and Becker research.

#### Purpose

This investigation examined how adults with disabilities perceive their self-efficacy. The data from this study adds to the nursing

research base on how to measure general self-efficacy and specific self-efficacy related to health practices. Consistent measurement of self-efficacy eventually can provide nurses with insights on how to predict and guide individual's actions to obtain a greater level of health.

## CHAPTER TWO

### REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

#### Theoretical Framework

The theoretical framework for this study is provided by Pender's (1996) revised Health Promotion Model (RHPM). Pender's revised model accents the importance of perceived self-efficacy. Analysis of reported studies related to the RHPM examined in Health Promotion in Nursing Practice suggests that self-efficacy is a key behavior-specific variable in determining whether an individual will engage in a health-promoting lifestyle. Such an emphasis is appropriate for this study which examined self-efficacy as a key concept in relation to the disabled population.

The original Health Promotion Model (HPM) is an approach-oriented model that emphasizes the client taking an active role in shaping and maintaining health behaviors (see figure 1). The revised Health Promotion Model (figure 2) identifies clearer definition of variables which the original Health Promotion Model (figure 1), did not. The revised model focuses on 10 determinants of behavior rather than the previous 13 determinants, with all 10 determinants generating a direct influence or an indirect influence toward the final goal of the model, "Health Promoting Behaviors". Nursing research on the HPM has driven this refinement.

The revised Health Promotion Model has three major components: individual characteristics and experiences, behavior-specific cognitions and affect, and behavioral outcome. Three new variables appear in the RHPM which were not identified in the HPM: activity-related affect, commitment to plan of action, and immediate competing demands and

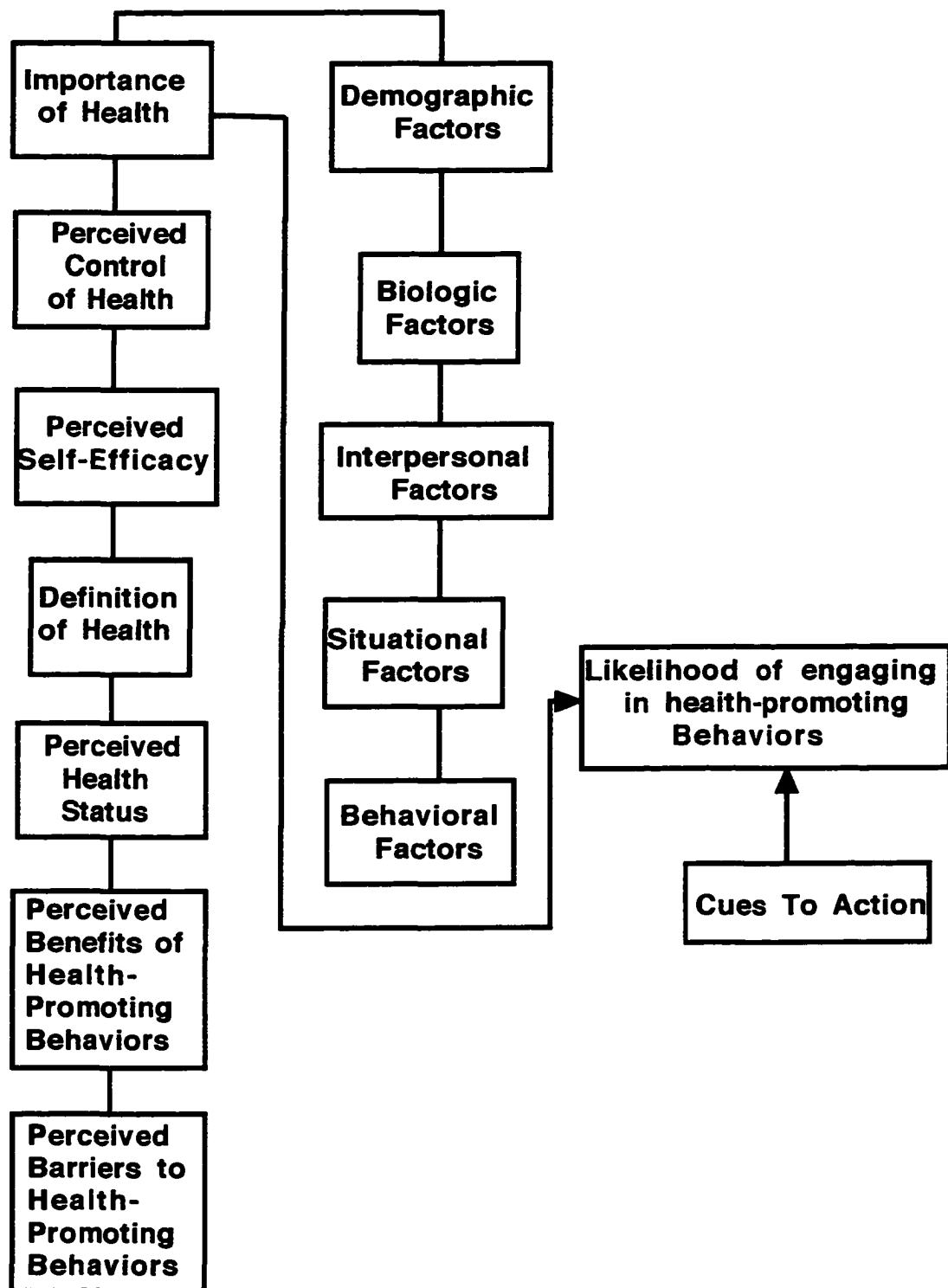


Figure 1. Health Promotion Model

Pender, N. (1996). Health Promotion in Nursing Practice (3rd. Ed.) Stamford, Connecticut, Application & Lange, p. 52.  
Reprinted with permission from Dr. Nola Pender.

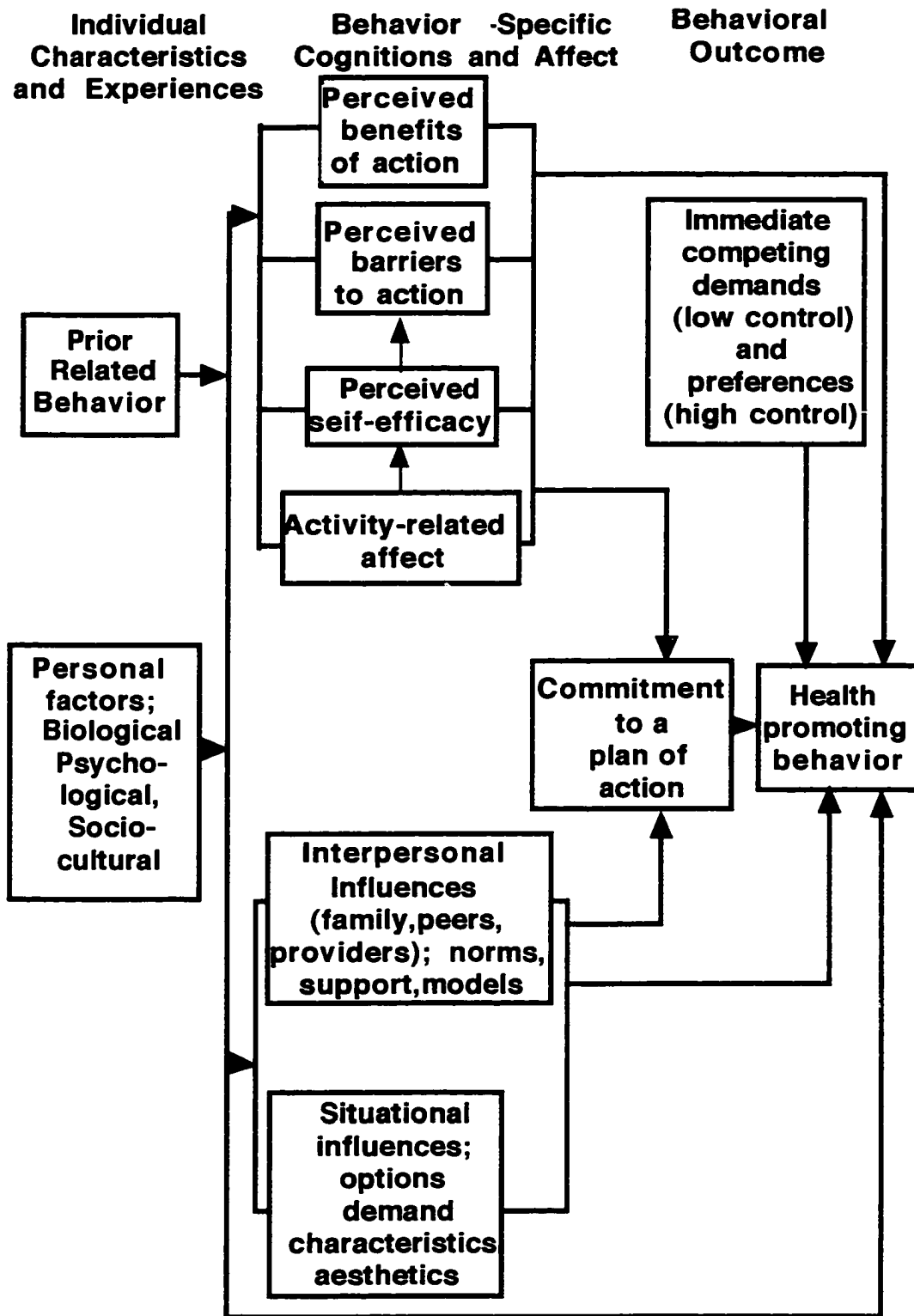


Figure 2. Revised Health Promotion Model

Pender, N. (1996). Health Promotion in Nursing Practice (3rd. Ed.) Stamford, Connecticut, Application & Lange, p. 67.  
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preferences. With these revisions Pender hopes to increase the nurse's ability to intervene with individuals in promoting health behaviors and to predict the outcomes of that intervention. Pender(1996) states that before the whole model can be tested, rigorous research must be conducted on instruments to measure behavior specific variables.

According to the HPM, health behaviors can be predicted and modified. If a nurse is able to assess the beliefs a person possesses about their ability to perform specific health behaviors, then the nurse can take the next step in the nursing process by implementing a plan to shape a healthy lifestyle by working on the individuals' belief systems. Measuring and predicting health promoting behaviors begin with an understanding of the components of the Health Promotion Model. Increased understanding of self-efficacy helps nurses understand one of the six behavior-specific cognitions in Pender's Revised Health Promotion Model.

In the study reported here, perceived self-efficacy, one of Pender's six behavior-specific cognitions variables was examined. Increased understanding of self-efficacy will led to continued refinement to health promotion theory. Pender suggests that increased delineation and specific measurements for the ten components of the Revised Health Promotion Model will give rise to comprehensive research on the whole model.

In the RHPM model under the domain of behavior-specific cognitions, Pender incorporates perceived self-efficacy and references Bandura's definition. Bandura(1986) defines self-efficacy as judgment of personal capability to organize and execute a particular course of action. Pender further describes self-efficacy through Bandura's theory as perceptions that develop through mastery experiences, vicarious learning, verbal persuasion and somatic responses to particular situations(Pender, 1996). In Pender's discussion of perceived self-efficacy, the term is defined as a judgment of one's abilities to

accomplish a certain level of performance. Other researchers concur with Pender's definition. For example, Kaplan, Sallis and Patterson (1993) define self-efficacy as belief in one's ability or competence to perform the behavior. Pender then elaborates that she believes self-efficacy has a direct causal effect on health promoting behavior. Pender theorizes that self-efficacy has an indirect affect on beliefs regarding barriers to a behavior and commitment or persistence in pursuing a plan of action.

Some explanation must be given to the end point or action outcome of the revised Health Promotion Model i.e. health-promoting behaviors. Pender (1996) defines health-promoting behaviors as those behaviors that enable the client to attain positive health outcomes. The revised Health Promotion Model hypothesizes that health-promoting behaviors be integrated into a healthy lifestyle that pervades all aspects of life and results in positive health experiences throughout the life span.

#### Review of the Literature

A review of the literature related to self-efficacy and the disabled population yielded only two studies. The literature search was then expanded to three key components: the Health Promotion Model, health-promoting behaviors, and self-efficacy. Each of the components was searched separately and in conjunction with the other terms. Searching with the three primary components as applied to the disabled population was abandoned because only two studies were produced. The literature search was expanded to add health-promoting lifestyles after examining Pender's third edition. Many resources were identified under a single or joint key component but had little information related to this study.

The Health Promotion Model has been tested in a variety of studies. Due to the complexity of this model, not all the cognitive-perceptual factors in Pender's model are examined in any one study. Nurse researchers often limit their inquiry to the following cognitive-

perceptual factors: importance of health, perceived control of health, definition of health, and perceived health status. In Pender's (1996) most recent work a table displays HPM variables which have been studied independently. Fifteen studies are cited in the table and not one of them studies all thirteen variables of the HPM. To add increased clarity as to how complex the HPM Model is one could examine the assessment tool, the Health-Promoting Life Style Profile (Walker, Sechrist and Pender, 1987). This is a very elaborate tool that attempts to assess and understand all the 13 variables related to the HPM.

Walker, Sechrist and Pender (1987) developed the Health-Promoting Life Style Profile (HPLP) to measure determinants of a health-promoting lifestyle. Johnson, Ratner, Bottorff, and Hayduk (1993) have criticized the HPLP and the Health Promotion Model because it combined states of being, such as self-actualization, and behaviors, such as exercise. Johnson et al. (1993) recommend that the Health Promotion Model be reconsidered with respect to all key factors that affect health-promoting lifestyles and their interrelationships. Pender has considered this advice in her revision of the Health Promotion Model. In the Revised Health Promotion Model self-efficacy has elevated importance and gives a basis to the need for increased study of the topic.

Literature on self-efficacy often examines the relationship of self-efficacy and additional variables in a very specific way. Several of the articles examine self-efficacy in relation to self-management in a specific disease state. For example, Dilorio, Faherty, and Manteuffel (1992) examined the effect of self-efficacy in self-management practices among epileptics and found that self-efficacy is a better predictor of adherence to a self-management regime than is social support. Although this finding is interesting, self-management is distinctly different from health promoting practices.

Self-efficacy has also been examined widely with relation to health protecting behaviors such as wearing condoms in a college population(Mahoney, Thombs, & Ford, 1995) or wearing hearing protection in a industrial setting(Lusk, Ronis, Kerr & Atwood, 1994). These studies provide insight into health protection behaviors rather than health promotion practices. The study presented here examines strictly health promotion practices.

Self-efficacy has also been researched in relation to specific health behaviors such as diet and exercise. Current research in this area focuses on the ways in which self-efficacy levels influence adherence to an exercise program(Armstrong, Sallis, Hovell & Hofstetter, 1993) and (Desmond, Conrad, Montgomery & Simon, 1993). Although exercise programs contribute to overall health and are one of a number of health practices, exercise explains only a part of an individual's overall health and well-being. The research of this study examines self-efficacy in a more global sense and considers self-efficacy as it related to four selected types of health promoting practices. The following is a review of research in specific populations related to a general sense of self-efficacy and self-efficacy related to specific health practices-key components of this study.

Blue Collar Workers. In her 1989 study, Weitzel examined several of Pender's cognitive-perceptual factors: perceived health control, importance of health, health status, and self-efficacy, to determine which combination best predicted health-promoting behaviors. Instruments measuring each of these cognitive-perceptual factors were correlated with the appropriate subscale on the Health-Promoting Lifestyle Profile. To measure self-efficacy Weitzel used the General Self-Efficacy subscale of the Self-Efficacy scale(Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982). In this study, the alpha coefficient of the subscale was .83. The sample consisted of 703

male and 30% female with ages ranging from 20 to 60; modal age was 30-39 years.

This study of 179 blue collar workers had several conclusions. Two powerful predictors of health promoting behavior emerged for these subjects. They were health status and self-efficacy. The highest correlations were found between self-efficacy and three health promotion indicators: self-actualization( $r=.42$ ,  $p<.001$ ), interpersonal support( $r=.34$ ,  $p<.001$ ) and total Health-Promoting Lifestyle Profile( $r=.33$ ,  $p<.001$ ). Similar correlations were observed between health status and two health promotion indicators: total HPLP( $r=.34$ ,  $p<.001$ ) and exercise( $r=.32$ ,  $p<.001$ ).

Hierarchical multiple regression procedures were used to determine whether psychological factors were predictors of health-promoting behaviors when gender, age, education, and household income were controlled. When the demographic variables were controlled, psychological variables significantly added to the predictability of the health-promotion lifestyle equation. Self-efficacy and health status were the most powerful explanatory psychological variables. Self-efficacy accounted for 16% of the variance in total HPLP and 10% of the variance in the self-actualization and interpersonal support subscales. Health status explained an additional 12% of the variance in exercise behaviors. To summarize the findings, individuals who perceived themselves to be in better health and who held a stronger belief in their own abilities to successfully perform behaviors, engaged in more health-promoting behaviors than their counterparts (Weitzel, 1989).

A limitation of this study was that not all variables in the health promotion model were examined. Weitzel explains that the numerous variables in the Health Promotion Theory make the model difficult to test and weaken any conclusions drawn. Another weakness was use of a convenience sample. Thus, findings of this study need to be supported by further research.

Both the study at hand and the Weitzel study consider the ways in which self-efficacy influences health promoting behaviors/practices; however, in Weitzel's study self-efficacy is merely identified as a potentially important predictor of health promoting behavior and is singled out for further study. This study builds on Weitzel's work by evaluating the sole power that self-efficacy plays on influencing health promoting practices.

Workplace Fitness Study. The next research study with implications for this study was aimed at predicting fitness in the workplace. Pender, Walker, Sechrist and Frank-Stromborg(1990) studied 589 full time white collar workers. As the employees enrolled in a health promotion program at work, the participants completed 11 survey instruments with a research assistant. After three months in the program, the Health-Promoting Lifestyle Profile was administered a second time.

The researchers equated self-efficacy with personal competence and used The Personal Competence Rating Scale(Wallston as cited in Pender, Walker, Sechrist, & Frank-Stromborg, 1990) as the measure of self-efficacy. This scale consisted of 8 items with a 6 point Likert-response format. The Personal Competence Rating Scale is designed to measure competence in handling change and flux, goal achievement and problem solving. Coefficient alphas for the scale in the Pender, et al. (1990) study were .78 and .80 when it was administered twice to examine the test retest reliability among 34 employees.

The study concluded that four specific cognitive-perceptual factors accounted for a 22% variance in the HPLP. These four factors were: wellness, health status, powerful others and chance. Self-efficacy added an additional 5% explanation to the regression equation. Modifying factors and behavioral factors accounted for an additional 3% in the equation. Modifying factors of importance were gender and age, while the important behavioral factor was exercise. The four cognitive-

perceptual variables, two modifying factors and one behavioral factor accounted for 31% variance in the health-promoting lifestyle. Each of the above variables contributed to the regression equation to yield a statistically significant ( $p < .05$ ) finding. The researchers concluded that a construct measuring wellness, health status, powerful others, chance, gender, age and exercise should be viewed as a configuration of Health-Promoting Model which would contribute to a health promoting lifestyle in the workplace.

The study also recommended the need for further research related to the influence of specific interpersonal, situational, and behavioral factors and cues to action on health-promoting practices. The study's use of convenience sample and self-report data were limitations.

Again in the analysis by multiple regression, self-efficacy was identified as being potentially significant in the prediction of behaviors and in need of further study. This research paper, then, takes up the challenge of examining the ways in which self-efficacy influences health promoting practices.

Disabled Population. In 1994, Stuifbergen and Becker researched health-promoting practices in a disabled population. In their work they asked: a) What combination of cognitive-perceptual factors and modifying factors best predicts reported health-promoting behaviors among adults with disabilities? b) How do adults with disabilities perceive their abilities to perform health-promoting behaviors? In this descriptive correlational study, 437 questionnaires were sent to persons with a variety of disabilities generated from a mailing list of the Coalition for Texans with Disabilities.

A sample size of 117 was obtained. The mean age of the respondents was 44.1 years of age with a range of 20-74 years. Fifty-four percent of the respondents were male and 88% were Anglo. A majority of the sample was employed (54%), with 46% employed full time and 8% employed part time. Eighty-three percent of the respondents had

some college education. A majority(54%) reported adequate financial resources to meet their needs. Twenty-two different disabling conditions were reported. When grouped into larger categories, 58% had neuromuscular impairments, 15% chronic conditions, 10% had neurocognitive disabilities, 8% were hearing impaired, and 5% were visually impaired. The majority(83%) reported only one disability.

Respondents used a 28 item Self-Rated Abilities scale to allow researchers to study how these adults with disabilities perceived their abilities to perform health practices. Mean scores on each item were ranked. The items with the lowest mean scores reflected behaviors which respondents perceived themselves least likely to perform.

The first research question was analyzed by hierarchical multiple regression to isolate which cognitive-perceptual factors and modifying factors predicted a health-promoting lifestyle. A total of 50% of the variance in health-promoting lifestyles was explained by three cognitive-perceptual factors and two modifying factors. In this sample, the three cognitive-perceptual factors: self-rated abilities ( $r^2=.38$ ), general self-efficacy ( $r^2=.06$ ), wellness definition of health ( $r^2=.02$ ) explained 46% of the variance in health-promoting lifestyle. Two modifying factors: mechanical assistance needed ( $r^2=.02$ ) and gender ( $r^2=.02$ ) explained only 4% of the variance. The researchers concluded that adults with disabilities were more likely to engage in health-promoting lifestyles if they had higher scores on specific and general self-efficacy scales, had a wellness-oriented definition of health, required less mechanical assistance with their daily activities, and were female. Once again, self-efficacy appears prominent in influencing health promoting behaviors.

Stuifbergen and Becker used the General Self-Efficacy Scale (Sherer, et al. 1982) and the Self-Rated Abilities Scale (Becker, Stuifbergen, Oh, & Hall, 1993) to measure self-efficacy. They analyzed the responses on these two tools and related their analysis to the

subscale scores of the Health Promoting Lifestyle Profile (HPLP). The researcher expected the Self-Rated Abilities Scale to be the best predictor of particular health-promoting behaviors and indeed this pattern was observed with one exception, the self-actualization subscale. Fisher's Z was used to test for significant differences between the HPLP correlations and the measures of specific and general self-efficacy. The correlations between measures of HPLP and specific self-efficacy were significantly ( $p < .05$ ) greater than those for general self-efficacy and the HPLP. A predicted significant correlation between general and specific efficacy was observed ( $r = .37$ ,  $p < .01$ ).

Several limitations exist in this study. The sample was taken from a mailing list of the Coalition for Texans with Disabilities, therefore limiting the sample to that particular geographic area. The mailing list also included able-bodied advocates and parents of children with disabilities, indicating that an unknown percentage of the sample may not have met subject criteria. A majority of the participants only reported one disability, though this is not the norm for disabled population. In addition a majority of the sample (83%) had some college background which is also unusual for disabled persons.

This study did, however, reproduce the significant correlation between general self-efficacy and specific self-efficacy related to health promoting practices. Future studies which replicate this correlation will reinforce the role it plays in influencing health practices. Studying the disabled population will continue to provide insights into a multi-dimensional unstudied group.

Cerebral Palsy Population. Becker and Schaller (1995) looked at the power of self-efficacy among persons with cerebral palsy. Their study was designed to explore perceptions of self-efficacy and health attitudes held by people with cerebral palsy who lived in a main stream community life. The first research question dealt with the relationships between general self-efficacy, specific health practices

and health status. The second research question examined how specific self-efficacy, general self-efficacy and health status were influenced by functional or background characteristics such as education or income. The third research question asked if self-efficacy and health status increased with living in the community. The final research question compared the self-efficacy scores of the health fair population, disabled population and the cerebral palsy population. To examine these questions, 120 questionnaires were sent to individuals on a mailing list from the local chapter of United Cerebral Palsy Association.

Only 28 adults with cerebral palsy returned questionnaires. The mean age was 34 years with a range of 18-49 years. The mean for time spent living in the community was 14 years. Sixty-four percent of the population was white and 82% of the population was male. Fifty four percent of the population had less than an high school education. Although 57% needed mechanical assistance and 60% needed personal assistance some of the time, a majority of the population worked part or full time.

Data from demographic variables and three instruments were used to answer the research questions. The research instruments included were: the Self-Rated Abilities Scale(Becker, et al. 1993), the Perceived Health Status Scale(Lawton, Moss, Fucomer, & Kleban, 1982) and Perceived General Self-Efficacy Scale(Sherer, et al. 1982).

Research questions one and four used descriptive statistics to compare scores of the three groups: health fair attendees(n=188), disabled population(n=117) and cerebral palsy population(n=28). The group of individuals with cerebral palsy group scored much lower on the Self-Rated Abilities Scale(Becker, et al. 1993) and General Self-Efficacy Scale(Sherer, et al. 1982); however, due to the group size(N=28) relative to the other two groups, conclusions could not be drawn.

Findings of interest reported for the group of individuals with Cerebral Palsy group (N=28) were as follows. Individuals requiring mechanical assistance rated themselves higher on all self-efficacy measures than individuals requiring personal assistance. Participants who perceived their income as adequate and who had higher levels of education scored higher on all self-efficacy scales. General self-efficacy scores that correlated with the Self-Rated Abilities (Becker et al. 1993) sub-scales were Nutrition ( $r=.68, p<.05$ ), Health Responsibility ( $r=.64, p<.05$ ), Exercise ( $r=.50, p<.05$ ) and Psychological Well Being ( $r=.46, p<.05$ ). No relationship was found between living in the community and attitudinal measures.

The major limitation of this study is the inadequacy of the sample size to consider conclusions on the data set. Other limitations include mailing list problems similar to those in the disabled population study. The statistics reported were unclear in the presentation table which limited the reader's ability to understand the study. However, Becker and Schaller's (1995) study shows that self-efficacy continues to be studied especially in relationship to how general and specific self efficacy influence health practices. Although no strong conclusion can be drawn due to sample size, factors still indicate the importance of researching these variables.

#### Summary and Implications for Study

The need for further study of the relationship between general self-efficacy and specific self-efficacy of health promoting practices is apparent. The literature reviewed indicates limited testing of these two concepts, but suggests the importance of self-efficacy as a predictor of health practices. Although general self-efficacy correlates well with specific self-efficacy, specific self-efficacy is a better predictor of health promoting practices. With further testing, the Self-Rated Abilities for Health Practices scale could become a valuable indicator for nurses as they attempt to predict health

practices of individuals. Being able to predict health practices will lead to increased effectiveness in promoting health, a desired outcome of multiple nursing interventions. In order to accomplish this, further testing of tools to measure specific self-efficacy and replication of studies related to this topic are important. The study reposed here replicates part of Stuifbergen and Becker's study(1994) conducted with regard to the disabled population. Specifically, it examines self-efficacy(general and specific) of disabled adults in training at a vocational institute. The institute's population represents a wide range of disabilities providing an excellent opportunity to test these concepts.

#### Research Questions

The following research questions were proposed to evaluate the relationship between general self-efficacy and specific self-efficacy for health practices:

1. How do adults with disabilities perceive their abilities to perform health practices?
2. What differences are there in the scores on the General Self-Efficacy Sub-Scale and the Self-Rated Abilities Scale for individuals who have single versus multiple disabilities?
3. What is the relationship between general sense of self-efficacy and perceived ability to perform health practices?

#### Theoretical Definition of Terms

The definition for general self-efficacy was based on the work of Pender(1996). For the purpose of this study, general self-efficacy is the judgment of one's abilities to accomplish a certain level of performance.

Specific self-efficacy was defined as an extrapolation of general self-efficacy. Specific self-efficacy is the judgment of capability to organize and execute specific health promoting practices. Health

promoting practices to be examined will be: exercise, nutrition, health practices, and psychological well-being.

In this study the term disability was defined according to Wright(1980). Disability is a long-term or chronic medical condition defined as a physiological, anatomical, mental, or emotional impairment resulting from disease, illness, inherited or congenital defect, trauma, or other insult to mind or body. If a disabled individual is diagnosed as having two or more of Wright's descriptors, he/she will be defined as possessing multiple disabilities.

## CHAPTER THREE

### METHODS

#### Research Design

This study utilized a descriptive correlational research design and questionnaires administered by interview to examine the relationship between a person's general sense of self-efficacy and their perceived ability to perform specific health practices. This sample was comprised of disabled adults who read at least at a fourth grade level. Data were collected by interview to eliminate the reading barrier.

A primary threat to external validity for this study was the Rosenthal effect (subjects may have responded with what they viewed as the correct response rather than their true assessment of self). During the interview process when the scales were read to the subject, the interviewer read an example to help subjects understand the scale and to reassure them that any response was acceptable. This process minimized the Rosenthal effect. An additional threat to external validity was the use of only one facility to collect data; this affected the researcher's ability to make generalizations based on the data and to extend those generalizations to the target population. Experimenter influence also was a possible threat to external validity for this study. A script was designed and used to decrease researcher biasing the responses during the interview process.

Threats to internal validity also existed for this study. Some subjects may not have understood the items. A script and standardized interviewing techniques attempted to control for this effect. Another potential threat could have been a historical event. Data were collected over a four week period to minimize the data collection period

and the possibility that an unusual historical event could differentially influence subjects.

### Setting

The research occurred at a vocational rehabilitation facility located in Michigan. This facility serves approximately 600 students ranging in age from 17 to 65 in an eleven month school year. The state of Michigan is the primary referral base for the student body, with an occasional referral from out of state. The school serve individuals with a wide variety of disabilities who enter at various levels in the rehabilitation process. A majority of the disabilities fall into one of six categories: learning disability, cognitive impairment, emotional impairment, substance abuser, chronic pain disability and physical disability. Ninety-five percent of the students reside on campus.

### Population and Sample

Disabled individuals were the target population for this study. The sample consisted of 44 individuals with disabilities. A systematic random sampling procedure was used to obtain the sample. A table of random numbers was used to select a beginning point on a phone list of current rehabilitation center clients. Then every fifth client became eligible if they met the criteria of being at least 18 years old and demonstrated a full scale IQ above 80. Sampling continued until an acceptable sample of 44 persons was obtained.

Eighty percent of the sample was male. Eighty-six percent of the sample was single; 7% was either divorced or married. The mean age was 29 years(range 18-59,SD=11.44) with a median age of 23 years(mode = 20 years). Sixty-eight percent of the sample had an income level of \$4,999.00 or below. Eighty-six percent of the sample had graduated from a high school or attained post-high school education. The ethnic background of the sample population was 80% Caucasian, 9% African American, 4% Native American and 4% Asian. All of the subjects had been

referred to the institute by the Michigan Jobs Commission/Michigan Rehabilitation services.

The subjects used government assistance in the following ways: 70% received assistance from Michigan Rehabilitation Services, 30% received State Disability Assistance, 18% received Supplemental Security Income, 4% received Supplemental Security Disability Income, 1% received Veterans State Disability Assistance and 1% received assistance from the Crippled Children's Fund. Governmental health insurance used by respondents included 21% Medicaid, 18% Medicaid Voucher, 5% Medicare and 2% Champus.

When participants were asked to list all of their disabilities, fifty-two percent of the sample listed more than one diagnosis. The disabilities breakdown for the total sample is as follows: learning disabled 52%, physical impairment 21%, chronic pain syndrome 21%, emotional impairment 18%, hearing impairment 18%, back impairment 14%, seizure disorder 11% and substance abuser 11% (see Table 1 for further breakdown of sample).

### Instruments

The General Self-Efficacy Sub-Scale (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982) and the Self-Rated Abilities Scale (Becker, Stuifbergen, Oh, & Hall, 1993) were used to collect data. The Self-Rated Abilities Scale measures perceived ability to engage in specific health practices while the General Self-Efficacy Sub-Scale measures overall self-efficacy. Testing of specific, as opposed to general self-efficacy, was done by comparing total scores on the Self-Rated Abilities Scale to total scores on the General Self-Efficacy Sub-Scale.

General Self-Efficacy Sub-Scale. The general self-efficacy sub-scale of the General Self-Efficacy Scale was selected to measure general self-efficacy. This tool originated as a measure of the concept of

self-efficacy as described by Bandura. Sherer and associates(1982) composed an instrument consisting of two sub-scales. One sub-scale

Table 1

Frequency of Disabilities

(N=44)

Disability	Frequency	Percent
Learning Disability	23	52.3
Physical Impairment	9	20.5
Chronic Pain Syndrome	9	20.5
Emotional Impairment	8	18.2
Hearing Impairment	8	18.2
Back Impairment	6	13.6
Seizure Disorder	5	11.4
Substance Abuser	5	11.4
Visual Impairment	3	6.8
Asthma	3	6.8
Diabetes	2	4.5
Attention Deficit Disorder	2	4.5
Arthritis	2	4.5
Speech Impairment	2	4.5
Brain Impairment	1	2.3

measures general self-efficacy; the other scale measures social self-efficacy. The social self-efficacy sub-scale measures efficacy expectancies in social situations(Sherer, et al., 1982). Because social self-efficacy had no bearing on this study, this sub-scale was not used.

The General Self-Efficacy Sub-Scale has 17 items. Each item is rated on a 5 point scale ranging from strongly disagree(1) to strongly agree(5). The range for a total score is 17 to 85. Validity and reliability for the general self-efficacy sub-scale was first demonstrated with 376 students in an introductory psychology

class(Sherer, et al. 1982). As a result of factor analysis, the subscale was reduced from 36 items to 17 items. The standardized alpha coefficient was .86 and reliability was calculated on this sample as  $\alpha = .84$ .

Construct validity was tested by correlating scores of the general self-efficacy subscale with several measures of personality characteristics. These measures included the Internal-External Control Scale(I-E) (Rotter, 1966); the Personal Control Sub-scale of the I-E Scale(Gurin, Gurin, Lao & Beattie, 1969); the Marlowe-Crowne Social Desirability Scale(Crowne & Marlowe, 1964); the Ego Strength Scale(Barron, 1953); the Interpersonal Competency Scale(Holland & Baird, 1968) and a Self-esteem Scale(Rosenberg, 1965). The predicted conceptual relationships between all of the scales listed and the General Self-Efficacy Sub-Scale(Sherer et al., 1982) were confirmed. The correlations were moderate in magnitude and in the appropriate direction; however, the correlations were not of sufficient magnitude to indicate that any of these scales measured precisely the characteristics of personal efficacy measured by the General Self-Efficacy Sub-Scale. Sherer, et al. (1982) stated that these scales measure concepts related to personal efficacy and are not considered synonymous with self-efficacy. The General Self-Efficacy Sub-Scale correlations coefficients were ( $r = -.29$ ,  $p < .0001$ ) with the Internal-External Scale; ( $r = -.35$ ,  $p < .0001$ ) with the Personal Control Scale; ( $r = .43$ ,  $p < .0001$ ) with the Social Desirability Scale; ( $r = .29$ ,  $p < .0001$ ) with the Ego Strength Scale; ( $r = .45$ ,  $p < .001$ ) with the Interpersonal Competency Scale and ( $r = .51$ ,  $p < .0001$ ) with the Self-Esteem Scale.

Sherer and associates(1982) then tested criterion validity. The sample group was composed of 150 recovering alcoholic inpatients at a veterans' facility. The purpose of this testing was to demonstrate that past successful experiences in vocational, educational and military settings would positively correlate with scores on the General Self-

Efficacy Sub-Scale. Sherer and his colleagues hypothesized that individuals with a history of success in important life areas like employment, education and military service should have higher self efficacy scores. Correlations were significant but weak. Correlation coefficients were as follows: employed( $r=.28$ ,  $p<.01$ ), educational level( $r=.27$ ,  $p<.01$ ) and military rank( $r=.22$ ,  $p<.01$ ). Thus the predictive validity of the tool in Sherer and associates(1982) study was weak.

Self-Rated Abilities for Health Practices Scale. The Self-Rated Abilities for Health Practices Scale(Becker et al., 1993) was originally used to measure specific self-efficacy. The scale is composed of 28 items arranged in a format allowing for responses scored 0 to 4. Zero represents not engaging in a given health practice at all, while four represents completely engaging in a given health practice. Four sub-scales exist in this tool: exercise, well-being, nutrition and health practices. The exercise sub-scale consists of nine questions producing a possible score of 0-36. The well-being sub-scale consists of eight questions producing a possible score of 0-32. The health practice sub-scale consists of seven questions producing a possible score of 0-28. The nutrition sub-scale consists of six questions producing a possible score of 0-24. The range for a total score is 0 to 120.

Reliability and validity for this instrument were initially tested in three samples: health fair attendees, undergraduates and adults with disabilities. For the health fair attendees, the alpha coefficient was .94 for the total instrument. Sub-scale alpha scores were as follows: exercise( $\alpha=.92$ ), nutrition( $\alpha=.81$ ), well-being( $\alpha=.90$ ) and health practices( $\alpha=.86$ ). Validity for this group was tested by comparing total and sub-scale scores to the General Self-Efficacy score. Correlation coefficients for total instrument scores were moderate and significant( $r=.43$ ,  $p<.01$ ). Sub-Scale correlation coefficients compared each sub-scale to the total score on the General Self-Efficacy Scale

Sub-Scale(Sherer et al., 1982). These were reported as follows; exercise( $r=.28$ ), nutrition( $r=.26$ ), well-being( $r=.43$ ) and health practices( $r=.44$ ). All correlations were significant( $p<.01$ ) for one-tailed tests.

The second group of individuals used to test this instrument were members of an undergraduate health class. One hundred and eleven students completed the Self-Rated Abilities for Health Practices Scale(Becker et al., 1993), the Health Promoting Lifestyles Profile Scale HPLP; Walker, Sechrist & Pender, 1987) and Barriers to Health Promoting Behaviors Among Persons with Disabilities Scale BHPB; Becker, Stuifbergen & Sands, 1991). Two week test-retest reliability scores for the Self-Rated Abilities Scale were determined. Correlation coefficients between the first and second test were: total( $r=.70$ ), nutrition( $r=.63$ ), well-being( $r=.63$ ), exercise( $r=.69$ ) and health practices( $r=.73$ ). Internal consistency was determined by calculation of Cronbach's alpha. The alpha coefficient for the total scale was .94. Alpha coefficients for the sub-scales were: nutrition( $\alpha=.81$ ), well-being( $\alpha=.86$ ), exercise( $\alpha=.89$ ) and health practice( $\alpha=.88$ ).

The HPLP and BHPB were used to test the validity of the Self-Rated Abilities scale. Validity testing on this second group used correlation coefficients to analyze the relationships among measures. The researchers hypothesized that the Health Promoting Lifestyle Profile would correlate positively with the Self-Rated Abilities Scale. This was the case( $r=.69$ ,  $p<.01$ ). Sub-scale analysis was also done, and all were positively correlated. A negative correlation was expected between the Self-Rated Abilities Scale and the Barriers to Health Promoting Behavior among Persons with Disabilities Scale. This negative correlation was, in fact, recorded( $r=-.55$ ,  $p<.01$ ).

Finally, the Self-Rated Abilities Scale(Becker et al., 1993) was administered to a group of adults with disabilities( $N=117$ ). Scores from this group were then compared to scores in the group of health fair

attendees to see if the scale could distinguish groups. Alpha coefficients measured on each item for the adult with disabilities group were: total( $\alpha=.91$ ), nutrition( $\alpha=.76$ ), well-being( $\alpha=.86$ ), exercise( $\alpha=.90$ ) and health practice ( $\alpha=.77$ ). The total mean score on the Self-Rated Abilities Scale for the disabled adults was 79.87, with a standard deviation of 17.03. The total scores on the Self-Rated Abilities Scale were significantly lower for the disabled comparison group than the health fair attendees( $t=2.40$ ,  $df=303$ ,  $p<.01$ ).

The internal consistencies of the Self-Rated Ability scale was calculated for the sample of the study reported here by examining the Alpha coefficient(.89). On one survey the well-being sub-scale had one question without a response. This missing data was replaced with the question's average to arrive at the above figure. This type of imputation is an acceptable practice in research, according to Polit and Hungler(1995). Sub-scale alpha coefficients obtained were .74 for exercise, .70 for nutrition, .70 for health practices, and .85 for well-being.

#### Procedure

Once a subject was identified by systematic random means, the researcher recruited him or her by visiting their classroom. This technique was used to lessen the individual's fear or anxiety. During the initial contact, the researcher offered a brief verbal/written explanation of the study(See Appendix I) and emphasized that the individual's participation was voluntary. Individuals were also informed that the study involved a 30 minute interview. If the individual agreed to participate at this point, an interview appointment was set to occur in the researcher's office. Appointment slips for and interview to occur were issued by the researcher at the initial contact. The study was conducted during the school day.

During the appointment, the researcher described the study fully,(see Appendix E) including in the explanation that to maintain

confidentiality no names would be attached to the data. The researcher then obtained written consent from the individual to participate in the study(see Appendix E). Upon consent, the instruments were read to the subject and his or her responses were recorded by the researcher on a copy of the instrument. Special accommodations were made for hearing impaired individuals. The hearing impaired interpreter was instructed to use signed English rather than American Sign Language(ASL) so the signs would closely match the questions as written. This eliminated misunderstanding of survey concepts in translation. Cue cards indicating response options were utilized by all individuals.

#### Human Subjects Approval

Approval for this study was received from the Grand Valley State University Human Research Review Committee. Within the vocational institute, no review board exists. The researcher received verbal permission to perform this study from the chief administrator.

## CHAPTER FOUR

### DATA ANALYSIS

At the conclusion of the data collection period, data from 44 interviews were analyzed through the use of SPSS. The means, standard deviations and range of scores were used to report demographic data. Descriptive statistics were calculated for total and sub-scale scores for the Self-Rated Abilities Scale(Becker et al. 1993). Following the initial analysis, the sample was categorized into subjects with single versus multiple disabilities. The mean scores on the Self-Rated Abilities Scale(Becker et al. 1993) and the General Self-Efficacy Sub-Scale(Sherer et al. 1982) were then compared across groups. Finally, total score correlations between the General Self-Efficacy Sub-Scale(Sherer et al. 1982) and the Self-Rated Abilities Scale(Becker et al. 1993) were examined.

#### Research Question One

The first question focused on how adults with disabilities perceived their ability to perform specific health practices. This research question tested the sample's specific self-efficacy as it related to engaging in the health behaviors in the areas of nutrition, exercise, health practices and psychological well-being. The Self-Rated Abilities Scale(Becker et al. 1993) total and sub-scale scores were first analyzed with descriptive statistics. The total scores on the Self-Rated Abilities Scale(Becker et al. 1993) ranged from 53-112(possible range of 0-112). The mean for all individuals(N=44) was 87.1(SD=15.7). The possible range for each sub-scale was 0-32. Table 2 indicates that the exercise and health practices sub-scales had the highest means(25 & 24 respectively), followed by well-being (M=19.4) and

nutrition(M=18.3). The mean scores represent participant beliefs that, they have increased ability to engage in exercise and general health practices.

Table 2

Total Scores and Sub-Scale Scores on the Self-Rated Abilities Scale  
(N=44)

Area	Range	Mean	Standard Deviation
Total Score	53-112	87.1	15.7
Sub-Scale Exercise	15-32	25.4	5.1
Sub-Scale Health Practices	12-28	24.0	3.8
Sub-Scale Well-Being	1-28	19.4	6.0
Sub-Scale Nutrition	6-24	18.3	4.7

Research Question Two

The second question asked, what differences are there in scores on the Self-Rated Abilities Scale(Becker et al. 1993) and the General Self-Efficacy Sub-Scale(Sherer et al. 1982) between individuals who have single versus multiple disabilities? Individuals were grouped according to their designation of single versus multiple disability. Total scores on the Self-Rated Abilities Scale(Becker et al. 1993) and the General Self-Efficacy Sub-Scale(Sherer et al. 1982)were compared between the two groups using t-tests for independent means.

The single disability group and multiple disability group were fairly equal in number(n=21 and n=23, respectively). Both groups were comprised predominately of lower income, single white males. All the individuals had been referred to the school by Michigan Jobs Commission-Michigan Rehabilitation Services. Other demographics of the single and multiple disability groups are reported in table 3 and 4.

Table 3

Demographic Characteristics of Single verses Multiple Disability Groups

Category	Single Disability n=21		Multiple Disability n=23	
<u>Gender</u>	Frequency	Percent	Frequency	Percent
Male	17	81.0	18	78.3
Female	4	19.0	5	21.7
<u>Marital Status</u>				
Single	20	95.2	18	78.3
Married	1	4.8	2	8.7
Divorced	-	-	3	13.0
<u>Income</u>				
0-4,999	15	71.4	15	65.2
5-9,999	4	19.0	6	26.1
10-19,999	2	9.6	-	-
25,000>	-	-	2	8.6
<u>Culture</u>				
Caucasian	17	81.0	18	78.2
African American	2	9.5	2	8.7
Asian American	1	4.8	2	8.7
Native American	-	-	1	4.3

Differences between the groups can also be noted. Major differences can be noted in age. The mean age of the single disability group was 21.5(SD=3.4). The mean age of the multiple disability group was 34.83(SD=12.5). T-tests comparing the two means revealed a significant difference( $t=-4.90$ ;  $df=25.5$ ;  $p=.000$ ). Duration of the disability also revealed significant differences in the groups( $t=-2.10$ ;  $df=29.7$ ;  $p=.04$ ). The duration of the disability in the single disability group was 11.7 years(SD=4.95). The duration of the disability in the multiple group was 17.48 years(SD=12.1). The impact of

the age demographics were further analyzed by ANCOVA and no significant difference was noted in duration of disability when controlling for age ( $f=.07, p=.794$ ). No differences were noted in the mean number of years of education ( $t=.06; df=28.7; p=.95$ ). However, Chi Square with Yates Continuity Correction analysis of how the two groups utilized governmental aid also revealed a significant difference between the two groups ( $\chi^2=5.83; df=1, p=.016$ ), which means the multiple group utilized more of governmental aid for support.

Table 4

Comparison of Financial Resources of Single verses Multiple Disability Groups

Category	Single Disability n=21		Multiple Disability n=23	
	n	%	n	%
<u>Governmental Aid</u>				
Michigan Rehabilitation Services	17	81.0	14	60.9
State Disability Assistance	3	14.3	10	43.5
Supplemental Security Income	2	9.5	6	26.1
Supplemental Security Disability Income	1	4.8	1	4.3
Veterans Disability Assistance	-	-	1	4.3
Cripple Children Fund	-	-	1	4.3
<u>Governmental Health Insurance</u>				
Medicaid Voucher	1	4.8	7	30.4
Medicaid	4	19.0	5	21.4
Medicare	2	9.5	-	-
Champus	-	-	1	4.3

Different in disabilities were noted across the two groups. The single disability group's most common disabilities were: learning

disability(52.4%), hearing impairment(14.3%), attention deficit disorder(9.5%), emotional impairment(9.5%). The multiple disability group listed the following major disabilities: learning disabled(52.2%), physical impairment(39.1%), chronic pain syndrome(39.1%), back impairment(26.1), emotional impairment(26.1%), hearing impairment(21.7%), seizure disorder(17.4%), substance abuse(17.4%), visual impairment(13.0%), asthma(13.0%, see Table 5).

Table 5

Frequency of Disabilities for Groups

Disability	Single Disability n=21		Multiple Disability n=23	
	Frequency	Percent	Frequency	Percent
Learning Disability	11	52.5	12	52.2
Physical Impairment	-	-	9	39.1
Chronic Pain Syndrome	-	-	9	39.1
Emotional Impairment	2	9.5	6	26.1
Hearing Impairment	3	14.3	5	21.7
Back Impairment	-	-	6	26.1
Seizure Disorder	1	4.8	4	17.4
Substance Abuser	1	4.8	4	17.4
Visual Impairment	-	-	3	13.0
Asthma	-	-	3	13.0
Diabetes	-	-	2	8.7
Attention Deficit Disorder	2	9.5	-	-
Speech Impairment	-	-	2	8.7
Brain Impairment	-	-	1	4.3
Arthritis	1	4.8	1	4.3

The single disability group's total mean score on the General Self-Efficacy Sub-Scale(Sherer et al. 1982) was 66.76(SD=8.98). This group's total mean score on the Self-Rated Abilities Scale(Becker et al.

1993) was 88.62(SD=16.21). Sub-scale scores for the Self Rated Abilities scale for the single disability group were as follows: exercise M=25.71(SD=4.84), health practices M=24.14(SD= 3.77), well-being M=20.62(SD=6.11), and nutrition M=18.14(SD=5.07)(see table 6).

In comparison, the mean total score of the multiple disability group on the General Self-Efficacy Sub-Scale(Sherer et al. 1982) was 61.00(SD=11.54),while the total mean score on the Self-Rated Abilities Scale(Becker et al. 1993) was 85.70(SD=15.46). The sub-scale scores on the Self-Rated Abilities Scale(Becker et al. 1993)for the multiple disability group were as follows: exercise M=25.04(SD=5.46), health practices M=23.87,(SD=3.85), nutrition M=18.48,(SD=4.46), and well-being M=18.30,(SD=5.78).

Table 6

Comparison of Single versus Multiple Scores and Sub-Scale Scores on the General Self-Efficacy Scale and the Self-Rated Abilities Scale

Scale Score or Sub-Scale Score	Single Disability n=21		Multiple Disability n=23	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
General Self-Efficacy	66.76	8.98	61.00	11.54
Self-Rated Abilities	88.62	16.21	85.70	15.46
Sub-Scale Exercise	25.71	4.84	25.04	5.46
Sub-Scale Health Practices	24.14	3.77	23.87	3.85
Sub-Scale Well-Being	20.62	6.11	18.30	5.78
Sub-Scale Nutrition	18.14	5.07	18.48	4.46

No significant differences in self-efficacy were noted between the single and multiple disability groups. Although the means of the single disability group were consistently higher, they only approached significance with respect to the General Self-Efficacy Sub-Scale( $t=1.84$ ;  $df=42$ ;  $p=.07$ ).

### Research Question Three

The third question examined the relationship between general sense of self-efficacy and perceived ability to perform specific health practices. Total scores on the General Self-Efficacy Sub-Scale (Sherer et al. 1982) were compared to the total scores on the Self-Rated Abilities Scale (Becker et al. 1993) for the total sample of 44 participants. A moderate, significant relationship was found ( $r=.48$ ;  $p=.001$ ). The greater an individual's perception of general self-efficacy, the greater the perception of self-efficacy regarding specific health practices.

### Summary

Major findings related to the three research questions are as follows. Multiple disabilities had little impact on self-efficacy scores, general or specific. A moderately strong, significant relationship ( $r=.48$ ;  $p=.001$ ) was displayed between general and specific self-efficacy. The next chapter will discuss these results in relation to how they may be used in nursing practice, nursing education and nursing research.

## CHAPTER 5

### DISCUSSION AND IMPLICATIONS

The purpose of this study was to examine how adults with disabilities perceive their general self-efficacy and specific self-efficacy related to health practices. The study also compared self-efficacy of two groups: individuals with single disabilities and those with multiple disabilities. This chapter will discuss the findings and put forth recommendations for education, practice and research.

#### Discussion of the Findings

How do adults with disabilities perceive their abilities to perform health practices? Becker, Stuifbergen, Oh, and Hall(1993) originally examined this question while testing the Self-Rated Abilities Scale. The current study replicated the same descriptive statics in a sample of 44 disabled individuals attending a vocational school.

Table 7

#### Comparison of Mean Self-Rated Abilities Scale Scores for Two Disabled Population.

Scale and Sub-Scale Scores	Becker's Sample (N=117)		Current Sample (N=44)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Total Self-Rated Abilities	79.87	17.03	87.09	15.71
Exercise Sub-Scale	16.68	7.62	25.36	5.12
Nutrition Sub-Scale	20.59	5.02	18.31	4.71
Health Practices Sub-Scale	22.80	4.16	24.00	3.77
Well-Being Sub-Scale	19.79	4.99	19.41	5.99

Table 7 compares the total and sub-scale scores for this study and those found by Becker et al.(1993). At a glance, means for total scores and the exercise sub-scale appear different with individuals in the current study scoring higher. The environmental setting could be the explanation for these differences. Becker's disabled population data were collected from a convenience sample using a mailing list. The current study collected data via interview while individuals were attending a school for vocational training. These individuals had access to indoor and outdoor recreational facilities with structured activities. The sub-scale scores for exercise could therefore be elevated for this reason. The nutrition sub-scale mean was slightly lower. Individuals at the institute eat in a cafeteria, with little control over menu choice or selection. This lack of control may limit their ability to select healthy diets; and would not necessarily have been an issue for individuals living in private homes.

Another explanation for the differences between study samples could be that the disabled individuals in the current study have already displayed a tendency toward self-efficacy by choosing to attend the training programs at the school. The supportive environment the school provides could also be an explanation for differences. The school's milieu could elevate the disabled individual's specific self efficacy; hence, explaining the elevated exercise mean sub-scale score. This supportive learning environment may have elevated the scores to the point that they are comparable to the original Becker et al.(1993) sample of health fair attendees.

Staff at the institute have suspected for years that individuals who attended the school with multiple disabilities have a greater difficulty succeeding in their training programs. The second research question was designed to test this supposition.

There were no significant differences in the scores recorded on the General Self-Efficacy Sub-Scale(Sherer et al. 1982) or the Self-

Rated Abilities Scale(Becker et al. 1993) between the single and multiple disability groups.

Several explanations could be given for the failure to observe significant differences. The characteristics of the scales may provide one explanation. The scales used measure how individuals perceive their self-efficacy, not how others perceive that individual's self efficacy. Hence, individuals with single or multiple disabilities may view their self-efficacy more realistically than observers might. Having multiple disabilities may not automatically mean also having less self-efficacy.

Another reason for lack of differences could be that, the supportive environment the school provides may have minimized differences between the two groups. However, the smaller sample size in this study compared to Becker et al.(1993) may not have provided sufficient power to detect small non-chance differences.

The final research question inquired as to the existence of a correlation between general and specific self-efficacy. This research question relates back to the theoretical framework being used in the study. Pender's revised Health Promotion Model(1996) suggests that one of the most likely predictors of health promoting behaviors is self-efficacy. As stated previously in Chapter 2, Pender(1996) indicates that before the whole model can be tested, rigorous research must be conducted to test instruments to measure behavior specific variables. Becker, Stuifbergen, Oh and Hall(1993) developed such an instrument that allows a researcher to measure specific self-efficacy related to health practices. Stuifbergen and Becker(1994) then continued with Pender's recommended process by studying specific and then general self-efficacy as one of Pender's behavior specific variables. Stuifbergen and Becker(1994) found specific self-efficacy to be a better predictor of an individual engaging in health promoting practices. Although sample size allowed only correlational analyses to be done, this study replicated that relationship.

Total scores on the General Self-Efficacy Sub-Scale(Sherer, et al. 1982) were compared to the total scores on the Self-Rated Abilities Scale(Becker, et al. 1993). A moderately strong, significant relationship was obtained( $r=.48$ ;  $p=.001$ ). The greater an individual's perception of general self-efficacy, the greater the perception of self-efficacy with respect to specific health promoting practices of exercise, well-being, nutrition and health practice. However, without continued testing of this variable and refinement of instruments to measure self-efficacy, limited specific conclusions can be drawn for nursing interventions.

#### Limitations of the Study

Limitations of the current study were as follows: (a)single research setting, (b)experimenter effects, (c)student's comprehension levels and (d)school milieu and will be discussed in the following section. The single institution setting was a limitation for this study; therefore, making generalization beyond this sample inappropriate. To allow for increased ability to generalized these findings, a larger sample is needed that would reflect the target population. One way to accomplish this would be to replicate this study at the eight other vocational rehabilitation schools that exist in the United States. Another way to enhance the generalizability would be to compare individuals at the institute with disabled individuals who are being main streamed in the community.

A second limitation of the investigation was that the researcher was a nurse employed by the school, and this factor may have caused the individuals to alter their responses to certain questions. A script was used in an attempt to control experimenter effects, but body language can not be completely eliminated in an interview process and could have influenced scores.

A third possible limitation was the individual's ability to comprehend verbal or signed questions. If this was compromised in some

of the individuals, it may have contributed to possible misinterpretation of the questions in the scales used in this study. Comprehension levels vary greatly with this sample. Although controls were exercised such as reading the questionnaire and using cue card for scale responses, the researcher had a difficult time assessing how this may have factored into the results.

Finally, the effect that the school milieu played in the study was not accounted for. This school assists the disabled individuals in becoming employable and in other life skills. Therefore, scale scores may have been greater than would be encountered in a general disabled population of a local community. Nursing research has examined the effects that social support plays in positively influencing behaviors; with replication of the current study this factor needs to be explored to examine how this may have an impact on self-efficacy.

#### Contributions of the Study

As stated previously in this report, the disabled population is often unstudied. Only two previous research studies were identified that examined self-efficacy as a predictor of health practices in the disabled population (Stuifbergen & Becker, 1994; Becker & Schaller, 1995). Neither of these studies examined the effects of multiple disabilities on health practices. Recommendations for nursing practice, education and research based on information gathered from this study, follow.

#### Recommendations

Practice. There are a number of ways that study findings could be used in nursing practice. First, the multi-disciplinary team at the institute could begin to administer a self-efficacy assessment as one of a battery of support services assessments. As the intervention progresses, repeated testing could provide documentation that support services do, indeed, assist individuals in overcoming the stigma related to disability by improving their self-efficacy. Second, the multi-

disciplinary team could use self-efficacy assessment to identify weak areas in a individual's health practices. Once these weaknesses have been documented the team could begin transition teaching to facilitate the transformation of newly learned life skills to permanent lifestyle changes. These permanent lifestyle changes would allow the individual to lead a healthier life. This could translate to decreased absenteeism at work and prevention of disease.

Education. Many health professionals focus on the disease aspect of a disability, especially in the medical model, which prevents introduction of the topics of health and well-being. Nursing curricula need to incorporate a working knowledge of long term disability management in order to assist clients with health promotion and wellness practices. When focusing on health promotion, the disabled individual can be assist with prevention of disease and secondary disability. Nursing should be at the forefront of this health teaching because this is considered our strength.

Providing opportunities to make individual choices is a component in promoting self-efficacy related to nutrition. Many institutions do offer healthy meal choices with calories, fat grams and nutritional content listed in the cafeteria line with choices. This provides the individual with beginning knowledge of how to make healthy food choices. School training programs can offer individual cooking classes so that healthy foods can be prepared by the individual upon exit into their home environment.

Research. First and foremost, replication of this research related to general and specific self-efficacy in the disabled population is needed. This could be accomplished by comparison studies utilizing the General Self-Efficacy Sub-Scale (Sherer et al. 1982) and the Self-Rated Abilities Scale (Becker et al. 1993) with the eight other vocational schools in the United States.

Future research should also examine how the unintentional social support at the school has an impact on self-efficacy. This could be accomplished by running simultaneous studies at the vocational rehabilitation school and comparing scores to a sampling of the local disabled community.

Research comparing coping techniques and self-efficacy would also provide for interesting insights into the disabled population. Since the number of disabilities resulted in no documented differences in specific or general self-efficacy scores, it is possible that coping ability is a factor responsible for increased self-efficacy scores.

Finally, research needs to continue to examine self-efficacy and eventually the Health Promotion Model with regard to the impact it may have on not only the disabled population, but also on the chronically ill population. The chronically ill population is similar to the disabled population because both possess a narrower margin of health.

#### Summary

By administration of the General Self-Efficacy Sub-Scale (Sherer et al. 1982) and Self-Rated Abilities Scale (Becker et al. 1993), this current study accumulated knowledge related to the role self-efficacy (specific or general) plays in a disabled individual's ability to engage in health practices. These findings were discussed in relation to the three research questions. Major findings were: (a) this disabled sample's Self-Rated Abilities Scores were higher than previously recorded for a comparable disabled population, (b) multiple disabilities had little impact on self-efficacy scores, general or specific, (c) a moderately strong, significant relationship ( $r=.48$ ;  $p=.001$ ) existed in this sample between general and specific self-efficacy. Finally, this paper discussed recommendations for practice, education and research related to the topics of self-efficacy and disabilities.

## APPENDIX A

Permission letter to use Self-Rated Abilities for Health Practices Scale



SCHOOL OF NURSING

THE UNIVERSITY OF TEXAS AT AUSTIN

1700 Red River • Austin, Texas 78701-1499 • (512) 471-7311

FAX (512) 471-4910

July 16, 1996

Elizabeth Carrington  
8894 North 42nd Street  
Augusta, Michigan 49012

Dear Ms. Carrington,

You have my permission to use the Self-Rated Abilities for Health Practices in your research and you may also reprint it in your thesis as long as it is accompanied by a citation referencing it. There is no fee for use of the instrument and we would be pleased to receive a summary of your findings.

I will send the instrument by fax and mail the original copy to you today. I will also mail an article from Health Values that describes the development of this tool.

Best wishes in your research.

Sincerely,

A solid black rectangular box used to redact the signature of the sender.

Alexa Stuifbergen, PhD, RN  
Associate Professor

## Appendix B

Permission letter to use the Health Promotion Model

March 24, 1997  
8894 North 42<sup>nd</sup> Street  
Augusta, Michigan 49012

Dr. Nola Pender  
The University of Michigan  
School of Nursing  
400 North Ingalls Building  
Ann Arbor, Michigan 48109-0482

Dear Dr. Pender:

I am writing to thank you for providing me with two cited studies in your latest text page 56-57. It provided me needed material for the research process.

I am also writing to gain permission to reprint copies of your new and old Health Promotion Model in my thesis (**See Attached**). These model diagrams will add clarity to my discussion of the Health Promotion Model in the thesis. If a fee is required, please forward that information to me and I will forward a check. Would you contact me regarding terms and conditions to reprint these diagrams at your earliest convenience? My address is above. My fax number is (616)664-9295. My home phone number is (616)731-2505.

If you have any questions or would like a copy of the research once completed, please notify me. This study will explore self-efficacy as a predictor of health promoting behaviors in a disabled adult population.


Thank you once again for your assistance.

Sincerely,



Elizabeth M. Carrington  
Graduate Student-Grand Valley State University

Permission granted  
to reproduce HPM  
in your thesis.

  
J

## APPENDIX C

Permission letter to use the General Self-Efficacy Sub-Scale

TIRR

*TIRR Challenge Program*

4007 EE Bellaire Boulevard  
Houston, Texas 77025-1167  
Telephone (713) 669-1100  
Fax (713) 668-5210

**TIRR**

May 6, 1997

Elizabeth Carrington  
8894 North 42nd Street  
Augusts, MI 49012

Dear Ms. Carrington:

Please find enclosed two copies of the Self-efficacy Scale as well as scoring instructions and a partial list of articles that have cited the scale. You have my permission to reproduce the scale for use in your research.

I hope these materials are helpful to you. Good luck with your research.

Sincerely,



Mark Sherer, Ph.D., ABPP  
Director of Neuropsychology  
Clinical Associate Professor of  
Physical Medicine and Rehabilitation  
Baylor College of Medicine

APPENDIX D

Consent Form

## Consent Form

I understand that this is a study of factors that influence choices a person makes. The knowledge gained from this study is expected to help health care professional understand personal choices.

I also understand that:

1. Participation in this study will involve one 30 minute interview.
2. It is not expected that participation in this study will lead to any physical or emotional harm.
3. The information I provide will be strictly confidential, no names will be attached, and the data will be coded so that identification of individual participants will not be possible.
4. A summary of the results will be made available to me upon my request.

I acknowledge that:

"I have been give an opportunity to ask questions regarding the research study, and that these questions have been answered to my satisfaction."

"In giving my consent, I understand that my participation in this study is voluntary. I may withdraw at any time during the administration of this interview. Withdrawing will not affecting the education I am receiving here at MCTI."

"I hereby authorize the investigator to release the information obtained in this study to scientific literature. I understand that I will not be identified by name."

"I acknowledge that I read or have been read the above information. I understand the above information, and I agree to participate in this study."

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

\_\_\_\_\_ I am interested in receiving a summary of the study results.

## APPENDIX E

### Method to standardize interview techniques.

Greet Potential Subject: Hello, Fill in person name

Explanation of study: You have been asked here today to participate in a nursing research study. This study deals with how individuals make personal choices about issues in their life. This study could provide valuable insight into understanding what influences a person decisions and how this affects their well-being. Let me read the consent form to you and I will answer questions as they present.

Read Consent Form

Answer potential subjects questions about the study.

Obtain written informed consent.

Read demographics section to subject. Interviewer fills in responses.

Read General Self-Efficacy Scale directions to subject. Explain scale to subject and display scale cue sheet. Review example with subject.

Read General Self-Efficacy Scale to subject and record responses.

Read Self-Rated Abilities Scale directions to subject. Explain scale to subject and display scale cue sheet. Review example with subject.

Read Self-Rated Abilities Scale to subject and record responses.

Thank subject for participation.

## APPENDIX F

### Demographic Information

I.D. # \_\_\_\_\_

**Demographic Information:**

**1. What is your sex?** \_\_\_\_\_

1. \_\_\_\_\_ Female  
2. \_\_\_\_\_ Male

**2. What is your marital status?** \_\_\_\_\_

1. \_\_\_\_\_ Single  
2. \_\_\_\_\_ Married  
3. \_\_\_\_\_ Divorced  
4. \_\_\_\_\_ Separated  
5. \_\_\_\_\_ Widow

**3. What is the highest grade level you completed? (in years)** \_\_\_\_\_

**4. What is your yearly income?** \_\_\_\_\_

1. \_\_\_\_\_ 0 to \$4,999  
2. \_\_\_\_\_ \$5,000 to \$9,999  
3. \_\_\_\_\_ \$10,000 to \$14,999  
4. \_\_\_\_\_ \$15,000 to \$19,999  
5. \_\_\_\_\_ \$20,000 to \$24,999  
6. \_\_\_\_\_ \$25,000 to \$29,999  
7. \_\_\_\_\_ \$30,000 or more

**5. What is your age? (in years)** \_\_\_\_\_

**6. What is your cultural background?** \_\_\_\_\_

1. \_\_\_\_\_ Native American  
2. \_\_\_\_\_ African American  
3. \_\_\_\_\_ White American  
4. \_\_\_\_\_ Latino American  
5. \_\_\_\_\_ Asian American

**7. Who referred you to MCTI?** \_\_\_\_\_

1. \_\_\_\_\_ Michigan Jobs Commission-Michigan Rehabilitation Services  
2. \_\_\_\_\_ Veterans  
3. \_\_\_\_\_ Private  
4. \_\_\_\_\_ Other \_\_\_\_\_

**8. Do you receive help from the government?** \_\_\_\_\_

1. \_\_\_\_\_ Supplemental Security Income
2. \_\_\_\_\_ Supplemental Security Disability Income
3. \_\_\_\_\_ State Disability Assistance
4. \_\_\_\_\_ Veterans Disability Assistance
5. \_\_\_\_\_ Aid Dependent Children
6. \_\_\_\_\_ Michigan Veterans Trust Fund
7. \_\_\_\_\_ Cripple Children Fund
8. \_\_\_\_\_ Champus
9. \_\_\_\_\_ Medicare
10. \_\_\_\_\_ Medicaid
11. \_\_\_\_\_ Medicaid Voucher
12. \_\_\_\_\_ Michigan Rehabilitation Services
13. \_\_\_\_\_ Other \_\_\_\_\_

**9. What disabilities do you have?(list all)** \_\_\_\_\_

1. \_\_\_\_\_ Learning Disabled
2. \_\_\_\_\_ Emotional Impairment-Type \_\_\_\_\_
3. \_\_\_\_\_ Physical Impairment-Type \_\_\_\_\_
4. \_\_\_\_\_ Seizure Disorder
5. \_\_\_\_\_ Histroy of Recovering from Addiction
6. \_\_\_\_\_ Back Impairment
7. \_\_\_\_\_ Chronic Pain Syndrome
8. \_\_\_\_\_ Hearing Impairment
9. \_\_\_\_\_ Visual Impairment
10. \_\_\_\_\_ Diabetes
11. \_\_\_\_\_ Developmental Impairment-Type \_\_\_\_\_
12. \_\_\_\_\_ Cognitive Impairment
13. \_\_\_\_\_ Brain Injury
14. \_\_\_\_\_ Other \_\_\_\_\_

**10. Disability?** \_\_\_\_\_

1. \_\_\_\_\_ Single
2. \_\_\_\_\_ Multiple

**11. How long have you had your disability?(in years)** \_\_\_\_\_

**12. Did you exercise regularly in the past before your disability?** Yes \_\_\_\_\_ No \_\_\_\_\_

**13. If yes to #12, how many days in a week?** \_\_\_\_\_

## APPENDIX G

### The General Self-Efficacy Sub-Scale

**INSTRUCTIONS:** This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the number that best describes your attitude or feeling. Please be very truthful and describe yourself as you really are, not as you would like to be.

**MARK:**

- 1 = If you DISAGREE STRONGLY with the statement
- 2 = If you DISAGREE MODERATELY with the statement
- 3 = If you neither agree nor disagree with the statement
- 4 = If you AGREE MODERATELY with the statement
- 5 = If you AGREE STRONGLY with the statement

1. When I make plans, I am certain I can make them work.....1..2..3..4..5
2. One of my problems is that I cannot get down to work when I should.....1..2..3..4..5
3. If I can't do a job the first time, I keep trying until I can.....1..2..3..4..5
4. When I set important goals for myself, I rarely achieve them.....1..2..3..4..5
5. I give up on things before completing them.....1..2..3..4..5
6. I avoid facing difficulties.....1..2..3..4..5
7. If something looks too complicated, I will not even bother to try it.....1..2..3..4..5.
8. When I have something unpleasant to do, I stick to it until I finish it.....1..2..3..4..5
9. When I decide to do something, I go right to work on it.....1..2..3..4..5
10. When trying to learn something new, I soon give up if I am not initially successful.....1..2..3..4..5
11. When unexpected problems occur, I don't handle them well.....1..2..3..4..5
12. I avoid trying to learn new things when they look too difficult for me.....1..2..3..4..5
13. Failure just makes me try harder.....1..2..3..4..5
14. I feel insecure about my ability to do things.....1..2..3..4..5
15. I am a self-reliant person.....1..2..3..4..5
16. I give up easily.....1..2..3..4..5

17. I do not seem capable of dealing with most problems that come up in my life.....1..2..3..4..5

## APPENDIX H

### The Self-Rated Abilities Scale for Health Practices

**Self-Rated Abilities for Health Practices Scale**

The previous items asked how often you do different health practices. The following statements ask whether you are able to perform various health practices within the context of your lifestyle and any disabilities. This includes any assistance you have available to you (for example, an attendant to help with stretching exercises). Read each statement and use the following scale to indicate how well you are able to do each of the health practices, not how often you actually do it.

0 = Not at all  
 1 = A little  
 2 = Somewhat  
 3 = Mostly  
 4 = Completely

**I AM ABLE TO:**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Find healthy foods that are within my budget .....                       | 0 | 1 | 2 | 3 | 4 |
| 2. Eat a balanced diet .....  | 0 | 1 | 2 | 3 | 4 |
| 3. Figure out how much I should weigh to be healthy .....                   | 0 | 1 | 2 | 3 | 4 |
| 4. Brush my teeth regularly .....   | 0 | 1 | 2 | 3 | 4 |
| 5. Tell which foods are high in fiber content .....                         | 0 | 1 | 2 | 3 | 4 |
| 6. Figure out from labels what foods are good for me.....                   | 0 | 1 | 2 | 3 | 4 |
| 7. Drink as much water as I need to drink every day.....                    | 0 | 1 | 2 | 3 | 4 |
| 8. Figure out things I can do to help me relax .....                        | 0 | 1 | 2 | 3 | 4 |
| 9. Keep myself from feeling lonely .....                                    | 0 | 1 | 2 | 3 | 4 |
| 10. Do things that make me feel good about myself.....                      | 0 | 1 | 2 | 3 | 4 |
| 11. Avoid being bored .....   | 0 | 1 | 2 | 3 | 4 |
| 12. Talk to friends and family about the things that are bothering me ..... | 0 | 1 | 2 | 3 | 4 |
| 13. Figure out how I respond to stress .....                                | 0 | 1 | 2 | 3 | 4 |
| 14. Change things in my life to reduce my stress.....                       | 0 | 1 | 2 | 3 | 4 |
| 15. Do exercises that are good for me.....                                  | 0 | 1 | 2 | 3 | 4 |
| 16. Fit exercise into my regular routine.....                               | 0 | 1 | 2 | 3 | 4 |
| 17. Find ways to exercise that I enjoy .....                                | 0 | 1 | 2 | 3 | 4 |

**I AM ABLE TO:**

18. Find accessible places for me to exercise in the community.....	0	1	2	3	4
19. Know when to quit exercising .....	0	1	2	3	4
20. Do stretching exercises.....	0	1	2	3	4
21. Keep from getting hurt when I exercise.....	0	1	2	3	4
22. Figure out where to get information on how to take care of my health.....	0	1	2	3	4
23. Watch for negative changes in my body's condition (pressure sores, breathing problems).....	0	1	2	3	4
24. Recognize what symptoms should be reported to a doctor or nurse.....	0	1	2	3	4
25. Use medication correctly.....	0	1	2	3	4
26. Find a doctor or nurse who gives me good advice about how to stay healthy.....	0	1	2	3	4
27. Know my rights and stand up for myself effectively .....	0	1	2	3	4
28. Get help from others when I need it.....	0	1	2	3	4

APPENDIX I

Subject Information Sheet

## **Study Information Sheet**

This is a study of factors that influence choices a person makes. The knowledge from this study is expected to help health care professional understand personal choices.

This study:

1. Will involve one 30 minute interview.
2. Is not expected to cause any physical or emotional harm.
3. Information given to the researcher will be confidential.
4. A summary of results will be made available to me upon my request.
5. Number of people in the study will range from 30-50 people.
6. The person conducting the study is Elizabeth Carrington (616)664-9208.
7. If you have questions regarding your Human Rights in this study, contact Dr. Paul Huiznga (616)895-2472. He is the Director of the Human Subject Review Board at Grand Valley State University.

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