The Relationship between Self-Directedness and Health Promotion in the Elderly

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Barbara L. Hulsman
May 2011

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Acknowledgments

I would like to express my deep gratitude to Dr. James Neutens for his support and leadership during my time of study at The University of Tennessee, Knoxville. I would also like to thank Dr. Ralph Brockett for his encouragement with selection of a topic of interest for research as well as his direction and support throughout the research. I would also like to express my sincere thanks to Dr. Diane Klein and Dr. Greg Petty for their input and guidance during my research. Lastly, I would like to thank Mary Ellen Mayger, Senior Health Promotion Health Educator at East Tennessee Human Resources Agency for all of her support, encouragement and friendship during project development and the research data collection. I am so grateful to each of you for assisting me in accomplishing my educational goal.

ABSTRACT

With the number of people living longer and with more chronic problems, it is important that health educators examine who they are educating as well as the methods and circumstances of the education. The purpose of this study was to identify the relationship between self-directedness and health promotion in the elderly. A convenience sample of 108 elders who use Senior Centers in rural East Tennessee comprised the study group. The sample was asked to complete the Self-Directed Learning Readiness Scale, the Health Promoting Lifestyle Profile II, and a demographic information survey at a regular meeting of a Senior Center. A positive relationship ($r=.394$; $p<.005$) was found between self-directedness as a measure of intrinsic motivation with participation in health promoting behaviors. Demographic information was used to describe the sample and was also used to determine if there was a relationship between any of the demographic items and health promotion practices or self-directed learning readiness. Participation in religious/spiritual activities was significant for both self-directed learning readiness and health promotion practices. Pender's Revised Health Promotion Model and the Personal Responsibility Orientation Model provided an excellent basis for this study. The study confirmed the need for personal motivation in the elderly to accomplish increased participation in health promotion practices.

Both self-directed learning readiness and health promoting behaviors were reviewed for consideration of previous research in the area, and theoretical perspectives. The key implication for practice is that health educators need to understand the motivation of their client prior to educating them regarding an aspect of health promotion. Recommendations for research include more qualitative studies. Almost all the studies available at present are quantitative and the

reason for participation needs further investigation. Qualitative studies would enhance the information regarding the reasons for participation in health promotion.

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Chapter 1

Need for Study

There are multiple reasons to examine health promotion behaviors of the elderly in this time of shrinking health care dollars and greater competition for health care due to increased numbers of elderly living longer. Self-direction may provide a key to understanding the reason or part of the reason the elderly are or are not participating in health promotion behaviors. This information is influential in assisting health care providers to know the best practices of treatment in caring for their clients. Understanding a client's level of self-direction would help the health care provider identify the best care for the client in a shorter period of time – a key to health care delivery with a shortened time for individual health care visits with their provider and the rising productivity demands of the health care provider. The Affordable Care Act beginning in 2010 will change health care in the United States from being disease focused to being prevention focused (Understanding the Affordable Care Act, 2010). This change will require more access to prevention without more cost to the client– cancer screenings, immunizations, regular check-ups and counseling for smoking cessation, weight loss, eating healthy and depression treatment. The goal of the increase in prevention is to decrease the incidence and prevalence of chronic diseases such as cardiovascular disease, hypertension, cancer and diabetes. Currently, 75% of the health care dollars for senior citizens are spent on those four chronic diseases and seven to ten people over the age of 65 will die of one of them (Understanding the Affordable Care Act, 2010). The Affordable Care Act also focuses on decreasing health disparities found primarily in low income, racial or ethnic minorities as well as underserved populations such as rural areas which includes many elderly.

Following is a discussion of the enormity of the impact of the aging of America: increasing length of life, the increasing number of elderly living below the poverty level, the increase in the number of elderly with one or more chronic conditions, and the increasing costs of health care. Each of these factors impacts and validates the need for additional health promotion practices by the elderly to improve quality of longer life.

In 2000, there were 36.3 million people age 65 and over living in the United States, accounting for just over 12 percent of the total population. By the year 2030, the population of elderly will double to 71.5 million (Federal Interagency Forum on Aging-Related Statistics [FIFARS], 2006). Tennessee's elderly population is at 13.6 percent, higher than the national rate, and is expected to increase another 13 percent in the next five years. According to statistics, the number of elderly will continue to climb because of continued longevity and a greater percentage of the population being classified as elderly.

Across the United States persons reaching age 65 have an average life expectancy of an additional 18.1 years (19.4 years for females and 16.4 years for males) and for the 85+ population it is projected to increase from 4.6 million in 2002 to 9.6 million in 2030 (FIFARS, 2006). Because life expectancy has improved so much, it is imperative that the elderly participate in health promotion behaviors to decrease morbidity and mortality rates and to realize the goal of improved quality of life along with increased length of life.

An additional concern is that 14.6 percent of Tennessee's elderly are currently living below the poverty level (Administration on Aging, 2009). Tennessee anticipates an increase in the number of elderly citizens as the "baby boomers" reach the age of 65. As the number of elderly increases, so will the number of elderly below the poverty level. This is significant

because low income and limited education are directly correlated with poor health and decreased life expectancy. Xu (2006) researched the impact of states with lower incomes on the health of the population and found that the states with a lower average income experienced increased morbidity and mortality rates. Citizens in poorer states not only have lower average personal incomes but are also at risk of having fewer health resources because of the states' more limited funding provision for the health of the population.

In 2003, 38.6% of noninstitutionalized older persons (age 65 and greater) assessed their health as excellent or very good (compared to 66.6% for persons aged 18-64). There was little gender difference on this measure, but older African-Americans (57.7%) and older Hispanics (60.5%) were less likely to rate their health as excellent or good than were older Whites (75.4%) (FIFARS, 2006). As people age, they often do not perceive their health positively because they are experiencing chronic illnesses and are beginning to have to make some adjustments to their lifestyle because of changes in their health associated with chronic illness.

The majority of older persons have at least one chronic condition and many have multiple conditions. There is a significant cost associated with having one or more chronic illnesses. In 2002, older consumers averaged $3,586 in out-of-pocket health care expenditures, an increase of 45% since 1992. In contrast, the total population spent considerably less, averaging $2,350 in out-of-pocket costs. Older Americans directed 12.8% of their total expenditures on health, more than twice the proportion spent by all consumers (5.8%) (FIFARS, 2006). The growing number and proportion of older adults places increasing demands on the public health system and on medical and social services. According to the National Center for Health Statistics (2007) in the State of Tennessee from 1997 to 2002, there was a significant increase in the prevalence of

elderly with hypertension (46.5 to 50.2%), cancer (18.7 to 20.8%), and diabetes (13 to 15.5%). These statistics place the State of Tennessee in the top 25% of states for health risks. Over the same period of time, the elderly in the State of Tennessee have shown significant weight gain. The percentage of overweight elderly has grown to 68.8%, and the percent of those that are obese has increased to 29.8% (National Center for Health Statistics, 2007). Many Americans fail to make the connection between undertaking healthy behaviors today and the impact of these choices later in life (Adams, Bowden, Humphrey, & McAdams, 2000). Studies by the National Institute of Aging indicate that healthy eating, physical activity, mental stimulation, not smoking, active social engagement, moderate use of alcohol, maintaining a safe environment, social support, and regular health care are important in maintaining health and independence at any age (FIFARS, 2006). These are all activities included in health promotion practices or activities.

According to Healthy People 2010 (U.S. Department of Health and Human Services [DHHS], 2000), two of the major priorities for the current 10-year period are to increase the quality and years of healthy life and to eliminate health disparities. To help people, both individuals and communities, accomplish these goals, there will need to be an increase in the amount of health promotion practices, such as healthy eating, physical activity, etc. Community and national agencies are providing health promotion information to enhance the number of years and the quality of years that each individual lives. However, it is the motivation or self-directedness of the individual that readies them to use the health promotion education to improve the length and quality of life by participating in health promoting behaviors.

Multiple studies of various health promotion practices of children, adolescents and adults have reported that individuals are not self-directed to care for their own health as evidenced by

participating in health promotion practices. Most authors have focused on groups of people and examined which health promotion practices were used (Burn, Naylor, & Page, 1999; Kaewthummanukul & Brown, 2006). Bungum, Orsak and Chng (1997) and Annesi (2006) examined working adults for self-motivation and participation in physical activity. The MacArthur Foundation Study (Rowe & Kahn, 1999) has been a key to examining motivation and its impact on physical health. The results identified multiple factors as having a significant impact: current physical fitness, income over $10,000 per year, being male, normal weight, age (especially until the early to mid 70's), higher mental function, and social support (especially the frequency of emotional support) (Rowe & Kahn, 1999). There are also studies that have examined participation in healthy eating as an aspect of health promotion (Noureddine, 2001; Vansteenkiste, Soenens, & Vandereycken, 2005; Wynd & Ryan-Wenger, 2004). Each of these authors spoke of the need for self-motivation to participate in health promotion activities. Primary emphasis in the literature is on providing more health promotion education to the elderly. Few researchers have examined the intrinsic and/or extrinsic motivation to participate in health promotion practices.

Since the population of the United States is living longer and with more chronic illnesses and disabilities, it is important to view the elderly population as needing to continue health promotion activities into their later years for improved health as well as disease prevention. Children and young adults have received some health education through school and extracurricular groups and activities. However, the elderly have been excluded from the major thrust of health promotion education (Pullen, Walker & Fiandt, 2001). In general, the elderly are

dependent on their physicians to tell them what to do for healthcare, whereas, younger individuals are much more apt to advocate for their own health and health education.

The cost of healthcare also continues to rise quickly. The elderly are the ones who traditionally have used the majority of the health care dollars due to chronic health conditions and deteriorating health associated with aging. Therefore, the elderly can also contribute the greatest savings to health care dollars by participating in health promotion and disease prevention practices by maintaining their healthy state for a longer period of their lives.

When an individual or a community is presented with health information, the likelihood of acting or not acting on that information is related to what was done in the past when the same or similar thing happened (Loeb, 2003; Whetstone & Reed, 1991). Also, how they respond to new or repeated information is dependent on personal biological factors, psychological factors, and sociocultural factors. Because human beings seem to be creatures of habit, they must make a deliberate effort to change or modify behavior.

As stated previously, the elderly are at risk for non-participation in health promoting behaviors for multiple reasons. They have had limited health promotion education as children and young adults and, therefore, may not have established health promotion practices early in life when it would have the greatest impact or when they might have developed good health habits. Now in their older years, they may be missing the knowledge to make health promotion decisions regarding their own lives. They frequently have multiple demands on their time as well as multiple existing chronic health problems. Lastly, as a group, the elderly tend to trust their health care providers implicitly, especially those who have had a long-term relationship with their physician (Berry et al, 2008; Liang, Kasman, Wang, Yuan, & Mandelblatt, 2006). The

elderly also rely on their health care providers to instruct them on any change in health behaviors that the provider finds helpful. If health care providers do not educate their clients regarding health promotion, then the individuals may not seek out those practices that would be beneficial to their health or do not adopt the new behavior because the trusted physician has not encouraged them to do so.

There is little research that demonstrates effectiveness in quantifiably measuring health promotion practices in the elderly with the reasons for those practices. There is a definite need for the elderly population to practice health promotion to decrease health care costs and improve the quality of life as their life span lengthens. According to Healthy People 2010 (DHHS, 2000), there is urgency for health educators to take the opportunity to provide health promotion education at any and every opportunity. The elderly need to not only have knowledge, but they must also have the self-directedness and skills needed to move them toward optimal health.

The concept of self-direction has been studied with adults of all ages in employment, health/wellness and educational settings. In 1983 Leeb studied adults to learn if self-directedness could identify those who succeed in practicing health promotion. A correlation was found between level of education and practice of health promoting behaviors. Wood (1994) studied the deterrents to participation in higher education and self-directed learning readiness. As the participant's confidence level increased and one's personal priority for participation in higher education, the self-directedness also increased. Owen (1996) studied the relationship between self-directedness and wellness in graduate students. This study revealed that there was a positive correlation between self-directed learning readiness and the wellness dimensions of "physical fitness, nutrition, medical self-care, social awareness, sexuality and emotional awareness,

intellectual awareness, occupational awareness and spirituality and values" (p. 127). These studies provide the basis for a study of the elderly to examine the relationship between their level of self-directedness and their health promotion practices.

This study will increase the body of literature on self-direction and health promotion practices specifically in the elderly population. This study should also support the realization of the goals of Healthy People 2010 (DHHS, 2000) through increased understanding of what motivates the elderly to participate in health promotion activities. The study should encourage health care providers to better help their clients to move to increased health promotion practices when understanding the self-directedness of the client.

Purpose

The purpose of this study is to examine the relationship between self-directed learning readiness and health promotion practices among the elderly who use Senior Centers in East Tennessee.

Problem Statement

Is there a positive relationship between self-directedness and participation in health promotion practices among the rural elderly of East Tennessee who attend Senior Centers?

Research Questions

In order to address the purpose of the study the following research questions were formulated:

1. What is the relationship between self-directed learning readiness and the practice of health promoting behaviors in the elderly?

2. What is the relationship between health promoting behaviors and selected demographic information in the elderly?

3. What is the relationship between self-directed learning readiness and selected demographic information in the elderly?

Assumption

The following assumption was made regarding this study:

1. Participants were candid and honest in responding to the Self-Directed Learning Readiness Scale, the Health Promoting Lifestyle Profile II, and the demographic tool.

Limitations and Delimitations

The study was delimited as follows:

1. The study is delimited to a rural elderly population of East Tennessee.
2. This study is delimited to those elderly who use Senior Centers in East Tennessee that are under the direction of the Senior Health Promotion Health Educator at East Tennessee Human Resources Agency, Inc.
3. The study is delimited due to the use of a convenience sample of elderly who volunteered to participate.

The study was limited in the following ways:

1. The results of the instruments were based on data collected by self-reporting.
2. The information on the instruments came from elders who were volunteering to participate.

Definitions

The following terms are operationally defined for purposes of this study:

Elderly. – male and female participants over the age of 60 years (East Tennessee Human Resources Agency, n.d.).

Health promotion behaviors. – "any action to promote health or prevent illness" (Kulbok, Baldwin, Cox & Duffy, 1997), "those actions motivated by the desire to protect or promote health" (Pender, Murdaugh, & Parsons, 2002, p. 34) or as stated more fully, "the endpoint or action outcome directed toward attaining positive health outcomes such as optimal well being, personal fulfillment, and productive living" (Sakraida, 2002, p. 630).

Self-directed learning. – the process by which a learner is responsible for identifying what, how and when to learn. The evaluation of the learning is also at the determination of the learner (Guglielmino & Guglielmino, 2001).

Senior Centers. – "Senior Centers provide a community focal point for activities, information and community involvement in senior activities" for people over the age of sixty (East Tennessee Human Resources Agency, n.d.).

Conclusion

This chapter has discussed the problem and the need for the study, the research questions, the limitations and delimitations and the definitions to be used throughout the study. The following chapter contains a literature review of the theoretical basis of the study, the Revised Health Promotion Model, followed by a discussion of the Self-Directed Learning, older adults, and the use of Senior Centers by the elderly. The tools for the study – Health Promoting Lifestyle Profile II (HPLPII/LP), Self-Directed Learning Readiness Scale (SDLRS/LPA), and Demographic variables – will also be discussed.

Chapter 2

Literature Review

This chapter presents a literature review of the theoretical basis for the study – the Revised Health Promotion Model. Following will be a discussion of the elderly and health promotion. A brief review of self-direction is included with specific consideration of the Personal Responsibility Orientation Model and its relationship to the Revised Health Promotion Model. The review of the literature regarding older adults participating in health promotion as well as the use of Senior Centers for study of the elderly will follow. Lastly, a review of the instruments used in the study – the Health-Promoting Lifestyle Profile II, the Self-Directed Learning Readiness Scale, and the Demographic Tool – is presented.

Theoretical Basis- Revised Health Promotion Model

The Health Promotion Model first appeared in the nursing literature in the early 1980's. Initially it was an attempt to integrate nursing and behavioral sciences to explain factors that influence health promotion behaviors. The social cognitive theory by Albert Bandura forms the basis for the Health Promotion Model (Pender, Murdaugh, & Parsons, 2002). To better understand the Revised Health Promotion Model it is necessary to examine its foundation in the Health Promotion Model and the Social Cognitive Theory.

Bandura, in the Social Cognitive Theory, suggests that behavior change is influenced by the environment, personal factors and various aspects of the behavior itself (Baranowski, Perry & Parcel, 1997). The environment can encompass the physical, social, cultural, economical, political or situational environment. Key to understanding the environment is to identify the person's perception of the environment. Multiple personal factors such as demographics,

personality, attitudes, beliefs, motivation, and skills may affect a behavior change. Lastly, the nature of the behavior itself may influence whether a person is able and willing to make a change. Three key terms for this theory are self-attribution, self-evaluation and self-efficacy (Sakraida, 2002). All of these factors working together within a person will determine if change of behavior is possible and probable (Redding, Rossi, Rossi, Velicer, & Prochaska, 2000). Both the Social Cognitive Theory and the Health Promotion Model assume that people have power to shape their own destiny and to control outcomes regarding their health (Srof & Velsor-Friedrich, 2006). The Social Cognitive Theory emphasizes self-efficacy or the self-confidence to carry out an action (Ronis, Hong & Lusk, 2006). The Social Cognitive Theory has been used for the theoretical basis for multiple behavior change studies related to health promotion (Burns, Camanione, Froman, & Clark, 1998; Curry, 1983; Curry & Cole, 2001; Gaughan, 2003; Greene, DeJoy & Olejnik, 2005; National Institute of Mental Health, 2001).

Pender originally developed the Health Promotion Model to "identify concepts that may explain health-promoting behavior, facilitate generation of hypotheses for empirical testing, and integrate research findings into a coherent pattern" (Pender, Walker, Sechrist & Stromborg, 1988, p. 41). In the original model there were two sets of factors that were taken into consideration when determining the likelihood of participating in health-promoting behaviors – the modifying factors and the cognitive/perceptual factors. The modifying factors included demographic characteristics, biologic characteristics, interpersonal influences, situational factors, and behavioral factors, and collectively impact the cognitive/perceptual factors. The cognitive/perceptual factors included the importance of health, perceived control of health, perceived self-efficacy, the definition of health, perceived health status, perceived benefits of

health-promoting behaviors, and perceived barriers to health-promoting behaviors. Lastly, the cues to action resulting from the interaction of the modifying factors and the cognitive/perceptual factors influenced the likelihood of engaging in health-promoting behaviors (Pender et al., 1988; Ronis, Hong & Lusk, 2006).

Since the initial Health Promotion Model was developed, multiple studies have tested its ability to "predict capabilities for overall health-promoting lifestyle as well as specific behaviors such as exercise and nutrition practices" (Pender et al., 2002, p. 67). One concern about the model was that the results of the studies completed using the model had varied results. Two secondary analysis studies of data from the National Survey of Personal Health Practices and Consequences (Johnson, Ratner, Bottorff, & Hayduk, 1993; Ratner, Bottorff, Johnson, & Hayduk, 1994) found direct effects of modifying factors on various health-promoting behaviors rather than the indirect effects proposed by the original Health Promotion Model. Therefore, the validity of the original model was questioned. In response, Pender introduced the revised Health Promotion Model (see Figure 2.1) in 1996. Three new variables were added: activity-related affect, commitment to a plan of action, and immediate competing demands and preferences. The concepts were reorganized and there are now three aspects of the model. First, the individual characteristics and the previous experiences of the individual are considered. Included in this aspect are any prior related behaviors and personal factors from the biological, psychological and socio-cultural areas. The second aspect of the model comprises behavior-specific factors. This second section includes the perceived benefits of action; perceived barriers to action; perceived self-efficacy; activity-related affect; interpersonal influences of family, friends, and care providers; and situational influences which would include options, aesthetics, and demand

characteristics. The behavioral outcome is the third aspect of the model and includes commitment to a plan of action as well as the immediate competing demands and preferences. A unique characteristic of the model is that the behavioral outcome can be the result of individual characteristics and experiences and/or behavioral-specific factors, thus allowing for direct and indirect influences on changes in behavior. The revised model has been used extensively (Acton & Malathum, 2000; Callaghan, 2003; Conn, Burke, Pomeroy, Ulbrich & Cochran, 2003; Grubbs & Carter, 2002; and Stuifbergen, 1999).

In development of the revised Health Promotion Model, Pender proposes that benefits and barriers directly influence one engaging in health-promoting behaviors (Pender et al., 2002). The barriers to adopting health-promoting behaviors included barriers to access, inconvenience, lack of knowledge, and fear of injury. In a discussion of the model, Pender (1996) stated that it is necessary to address all barriers before changes in health behavior can occur.

The Revised Health Promotion Model is simple to understand. There are conceptual definitions for each of the factors in the model (Pender, 1996). The relationships between the factors are clearly defined. The diagram is simple and clearly displays relationships of factors. Although each of the factors is independent, the relationship and influence of each is clearly seen in the model. Research used to derive the model was based on adults of all ages, male and female, sick and well, participants in rural as well as urban settings.

There has been criticism of the original and the revised models. Srof and Velsor-Friedrich (2006) reviewed all aspects of the original and the revised models and found that “one of the shortcomings of the theoretical model is the failure to account for a relationship between

Figure 2.1. Revised Health Promotion Model

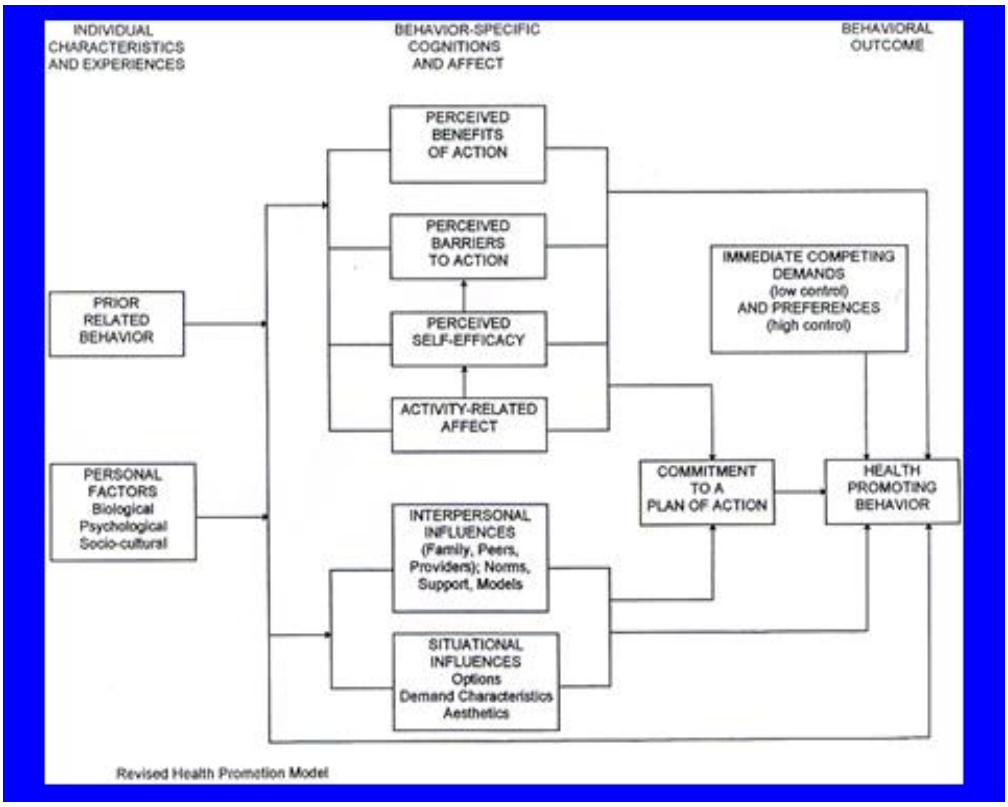


Figure 2.1. Revised Health Promotion Model. Adapted from Pender, N.J., Murdaugh, C.L., and Parsons, M.A. (2002). *Health promotion in nursing practice* (4th ed.). Boston, MA: Pearson. Reprinted with permission.

health –promoting behavior and health outcomes" (p. 372). This criticism is raised because of the current trend in healthcare for evidence-based practice. There is a need for the relationship between behavior and outcomes to be made clear. A second area of criticism was raised by Whitehead (2005) who feels that neither the original model nor the revised model is correctly titled. Whitehead believes that Pender has developed a health education model and not a health promotion model. His criticism is based on the semantics of the two terms. Padula (1997) states that a limitation of the Health Promotion Model is its focus on the individual participant rather than on couples or groups. However, Ronis et al. (2006) positively assessed the model's changes and stated that the revised model explained a higher proportion of the variance in a study. They examined the work of Lusk, Ronis and Hogan (1997) that looked at the application of the health promotion model as a causal model of construction workers' use of hearing protection and subsequently supported the changes to the model because of the "greater emphasis on the influence of behavior-specific factors on health-related behaviors" (p. 16). A study of activity and eating practices of older women in a rural area (Walker, Pullen, Hertzog, Boeckner, & Hageman, 2006) also tested and supported all four cognitive-perceptual constructs: perceived self-efficacy, benefits, barriers, and interpersonal influences.

The Health Promotion Model and the Revised Health Promotion Model have both served as a paradigm for instrument development. Two of these include the Health Promoting Lifestyle Profile and the Health Promoting Lifestyle II based respectively on the earlier and later versions of the Health Promotion Model (Sakraida, 2002). Since the Health Promoting Lifestyle Profile has been used extensively, there are numerous studies that relate to health promoting behaviors in the elderly as well as all other demographic groups. For purposes of this study, the comments

have been limited to the elderly. The determinants of health-promoting lifestyle behaviors have been examined in multiple settings such as independent living, assistive living, and nursing home living as well as in both rural and urban settings.

In general, the Health Promotion Model and the Revised Health Promotion Model are widely supported with the exceptions as noted previously. Both models have been used extensively for studies involving health promotion.

Health Promotion

One of the overriding goals of Healthy People 2010 is to "increase life expectancy and quality of life over the next 10 years by helping individuals gain the knowledge, motivation, and opportunities they need to make informed decisions about their health" (DHHS, 2000, p. 10). Each individual needs to have health knowledge to make informed decisions. Education of health promotion practices, prevention of disease, and empowerment to change lifestyle activities needs to be included in health promotion. Knowledge is not enough to make lifestyle changes.

A large quantity of research has focused on patient education related to the three levels of disease prevention. The purpose of such research is to prevent further complications from a specific disease or increasing disability. In the quest to improve quantity as well as quality of life, there is a continuing need to improve the education regarding disease. However, the need to prevent disease as much as possible also exists. Both of these factors are true as life expectancy and the number of elderly increase. In considering the quality of life, it is much more desirable to prevent diseases and therefore limit disability and increase the quantity and the quality of life for the elderly.

There are a number of studies using the Health-Promoting Lifestyle Profile II and an elderly cohort that focus on disease related education. A study by Sallee (1996) limited the participants to elderly Veteran Affairs primary clinic clients who were previously diagnosed with hypertension. This study examined the relationship between health locus of control and participation in health promoting behaviors and found a low level of relationship. The setting for a study by Mowad (2004) also was a clinic at a Veteran Affairs Medical Center. Participants were primarily men, ages 65 to 85. In this study, health promoting lifestyle and personal autonomy were found to be positively related to quality of life. However, no correlation was found between quality of life, health promoting behaviors and any specific chronic illness except hearing loss.

Numerous research studies state that the elderly need to have increased education about health promotion. However, there are few that have actually provided that education and determined the effectiveness as evidenced in changed health behavior(s). The discussion for this paper is limited to those researchers that have used the Health-Promoting Lifestyle Profile II to determine health behaviors and practices of the elderly. Boland (2000 a & b), in a study of older adults and commitment to health promoting behaviors, found that social support and interaction with others of similar interests and background played a significant role in commitment to health promoting behaviors. Two recommendations from the study are noteworthy. First, there is a need for additional health promotion information to be made available to the elderly. Second, there is a need to develop educational information that is culturally relevant for the elderly. At this time for most cultural cohorts of the elderly, these two recommendations have not been met.

In a quantitative study by Loeb (2003) with elderly men as the population sample, barriers to health promotion programs ranged from lack of motivation (12%), lack of time (11%), and lack of interest (9%) to external barriers such as lack of programs in the area (8%), cost (6%), and difficulty with transportation (4%). Whetstone and Reed (1991) also report finding a lack of motivation as a barrier for the older adult. The external barriers can be remedied rather easily but the internal or personal barriers are much more difficult to assuage. In a research study by MacLeod and Stewart (1994), the barriers to health-promoting behavior were found to lead to avoidance of the behaviors that would promote health. The study focused entirely on exercise in elderly women. There were those that dropped from the exercise program because they could not or would not overcome the barriers. Barriers were found to be greater than the perceived benefits for those who dropped the exercise program. Another study, which was limited to women age 65 – 95, examined the barriers to health promotion behaviors (Lucas, Orshan & Cook, 2000). Using the Health-Promoting Lifestyle Profile II and canonical correlation, the researchers identified several barriers to health promoting behavior: being Black, not presently married, with perceived poorer current health and lower health self-determinism, participating less in physical activities and interpersonal relations. The study's second finding was that women of advanced age, who were White, married and better educated but who reported lower self-esteem, were more likely to engage in healthy nutrition behaviors but were less likely to participate in spiritual growth activities. As a whole, the participants identified three categories of benefits to participating in health promoting behaviors: (1) "a positive sense of psychological well-being", (2) "perceived improvement in functional health, encompassing improved physical performance, greater energy, and mental stimulation", and (3) "perceived

social support, including social interaction, feelings of belonging, and mutual caring" (Lucas, Orshan & Cook, 2000, p. 91). The participants also identified internal and external barriers to participating in health promoting behaviors. Internal barriers were centered on perceived functional ability, lack of self-motivation and lack of knowledge. The external barriers included the complexity of the activity (cost, equipment and effort), lack of support from significant others, and structural barriers such as access, safety, and timing of the activity. The results of this study indicate that older adult women, over age 65, participate in health promoting practices for health enhancement and health maintenance. Barriers to health promoting practices were found to have a greater impact than previously understood.

Health knowledge and understanding is an ongoing, growing, and international problem. This is a new and growing problem for the elderly not only because of the increasing numbers of people who are aging but also because of the numerous medical advances and treatments affecting diseases and the elderly's survival. Much time and energy has been spent on disease related education with the elderly but little has been focused on health promotion primarily due to the shortened lifespan of the elderly in the past. A study by List, Maskay, Blumberg and Banik (1999), addressed older adults in sessions about cancer prevention and risk reduction. They found a 22% improvement in health promotion behaviors as a result of a one-hour presentation on health promotion and cancer prevention. Another study conducted in Greece by Velonakis, Sourtzi, Komitopoulos, Ioannides and Varsamis (1999) addressed a similar population with health promotion for the prevention of cardiovascular disease. Following health promotion education to older adults, this study found a statistically significant decrease of body weight, salt intake, and smoking, as well as an increase in the participants' daily walking time.

In a study by Otswald, Weiss-Farnan, and Monson (1990), an intervention was conducted that was an educational program of four 2-hour workshops. Following this intervention, reported consumption of meat, eggs, butter, sugar and salt decreased in the intervention group. Health improvements that were statistically significant in this study included decreasing their systolic blood pressure by at least five per cent in 90% of the participants.

Tidwell et al. (2004) used a different method of instruction in the study. Community based nurses acted as coaches to the participants who were all members of an elderly health maintenance organization on the west coast. Participants were all at least 65 years of age. The objective of the program was to educate and then coach individuals to obtain and maintain fitness. Success of the program came in financial savings, in that health care costs were decreased; however, there was concern because the participants were volunteers and it was felt that the voluntary participation skewed the results. Counseling, health education, and community health worker's support were also used in the Arizona WISEWOMAN project (Staten et al., 2004) to help increase health promotion practices. The 326 participants, who were primarily Hispanic and over 50 years of age, were assigned to one of three groups for the 12-month program period. All three groups received individual counseling. The second group had this counseling plus health education, and the third group had all three interventions: individual counseling, health education and the support of the community health workers. All three groups increased to moderate or vigorous physical activity, but only the group that had all three interventions changed their fruit and vegetable intake to the national recommendations as well as decreasing their systolic and diastolic blood pressure.

In examining all of the above studies, the consistent trend is that to achieve health promotion results, there needs to be some one-to-one interaction as well as information exchanged that applies to the participant's life. Once they incorporated the health promotion practices into their personal lives, the participants were able to make changes that should be able to enhance their longevity as well as the quality of their lives.

Self-Directed Learning

Self-directed learning is a concept that has been extensively explored in education, business and industry. In business and industry, self-directed learning has been used in management as well as manufacturing environments. This concept has been used occasionally with an older adult population but even less frequently with health promotion and health education. Similar concepts such as self-efficacy and self-determination have also been examined in previous studies relating to health promotion.

After reviewing multiple studies, there are still numerous unanswered questions about self-directed learning in the elderly. There are numerous labels for the process of self-directed learning including self-education, self-teaching, self-study, and independent learning or study. Each of these terms is describing an aspect of the same process. In a foundational work by Knowles (1975), self-directed learning is defined as a "process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 18).

Owen (1996) conducted a study of the relationship between wellness and self-directed learning among graduate students. A positive relationship was found between the concepts

indicating that health practices and a feeling of wellness increase as self-directedness increases. Concepts of health promotion and self-directed learning were studied by Leeb (1983). His study's purpose was to determine if self-determining characteristics are present in individuals who have positive health practices and then to develop the knowledge into a framework for health promotion practice. Leeb's study found there was a positive relationship between self-directedness, education level and self-control of health promotion practices.

Bager (2003) conducted a study that looked at self-directed learning and health promotion. Bager's study examined self-directed learning among women with breast cancer. The women in this qualitative study were 47 to 66 years of age. Participants discussed how they utilized print materials, the Internet, health professionals and agencies to find materials on breast cancer at the time of diagnosis. Findings of this study indicate that the women were more self-directed when there was a crisis. In a similar study of self-directed learning, self-care and health status of adults four to eight months after a myocardial infarction, Sedore (1988) found that self-directed learning readiness decreased the further the individual was from the crisis. This study also found a positive relationship between supportive relationships and self-directed learning.

Nelson (2000) conducted a study that examined self-directed learning and coping skills. Again, the clients who participated were often at a crisis when they explored additional understanding of asthma. The study's final recommendations also included a need to look at the role of social support with self-directed learning. Nelson also mentioned the need to look at other chronic disease populations to determine if the self-directedness found in this study is also true of populations of other chronic illnesses.

Young adult pregnant women were the focus of a study by Lacey (1988). This study measured self-directed learning at various stages throughout the pregnancy. There were no differences in self-directed learning throughout the four stages of pregnancy but there was a relationship between increased education and increased self-directed learning. Also, there were no significant differences in the self-directed learning found when examined for age differences.

A number of research studies were reviewed that examine self-directed learning in the older adult. In a study conducted by Brockett (1985 & 1987), life satisfaction was examined as it correlated with self-directed learning. East conducted a similar study in 1986. Diaz (1988) examined the same topics but segregated the participants into ethnic groups. Each of these studies found a relationship between increased life satisfaction and increased self-directed learning. Adams (1993) analyzed locus of control and self-directed learning and determined that there was a positive relationship between self-directed learning with females and with increased educational levels in older adults. More recently, a qualitative study by Roberson and Merriam (2005) examined the self-directed learning process of 10 older adults in rural southern Georgia. The findings confirmed that elderly rural adults can be self-directed but that usually there is another person or loss of a person that serves as a catalyst for the learning. Areas of learning included crafts, health, religion, diseases, animal care, nature, and gardening. Declining health and function related to a decrease in self-directedness.

Depending on the philosophical viewpoint of adult education – humanist, constructivism, or behaviorism – the definition of self-directed learning will take on a slightly different appearance. Caffarella (1993) takes the humanism perspective and defines self-directed learning as “a self-initiated process of learning that stresses the ability of individuals to plan and manage

their own learning, an attribute or characteristic of learners with personal autonomy as its hallmark, and a way of organizing instruction in formal settings that allows for greater learner control"(p. 25-26). On the other hand, Candy (1991), writing from a constructivism philosophy, defines self-direction as the "product of the interaction between a person and a situation rather than a quality that inheres in either the person or the situation independently" (p. xix). Lastly, the behavioral viewpoint is represented by Piskurich (1993) when he defined self-directed learning as "a training design in which trainees master packages of predetermined material, at their own pace, without the aid of an instructor" (p. 4). Perhaps the most frequently used operational definition of self-directed learning is by Guglielmino (1977). She states that self-directed learning "consists of a complex of attitudes, values and abilities that create the likelihood that an individual is capable of self-directed learning" (pg. 34).

Out of this multiplicity of philosophies, several models or frameworks for self-directed learning have emerged. Four models have been developed that express various perspectives on self-direction: Brockett and Hiemstra (1991), Candy (1991), Grow (1991), and Garrison (1997). Each model will be discussed briefly.

The Personal Responsibility Orientation (PRO) Model by Brockett and Hiemstra (1991) incorporates two dimensions into self-directed learning. "The first of these dimensions is a process in which a learner assumes primary responsibility for planning, implementing and evaluating the learning process (p. 24)." This first dimension is often facilitated by an educator. The second dimension is referred to as the personality aspect. It "centers on a learner's desire or preference for assuming responsibility for learning (p. 24)." The uniqueness of this model is that

there is an interaction of the internal characteristics of the learner and the external characteristics of the teaching-learning episode resulting in self-directed learning. An instrument has been developed by Stockdale (2003) based on the teaching-learning and learner characteristics aspects of the PRO model to measure self-directedness in learning. The instrument was developed for use with undergraduate and graduate students.

Several authors have critiqued the Personal Responsibility Model. Flannery (1993) criticized the omission of the cultural context or values and beliefs from the model. Also Flannery stated that the preferred method of learning and communicating was ignored in the model. However, she felt that the PRO model made a contribution to the literature on adult learning. Garrison (1997) noted the omission of the cognitive and metacognitive aspects of learning in the PRO model. He argued that the psychological dimension was too narrow and limited motivation to a specific characteristic.

The Self-Direction in Learning Model by Candy (1991) included three major domains: competence, resources and rights. Competence includes the skills of literacy, numeracy, information location and retrieval, goal setting, time management, critical thinking, and self-evaluation. Resources refer to the learning resources that educators can use with the student. These resources include use of the library, laboratory, computers, and on the job training. Finally, the rights refer to what is permitted and what the individual believes is permitted in the learning situation. Candy represents the constructivist perspective in adult education. This model emphasizes where learning takes place rather than just the learner and the teacher, but it does emphasize the characteristics of self-directed learning. The learning is enhanced or diminished by the social context.

Figure 2-2 The "Personal Responsibility Orientation" (PRO) Model

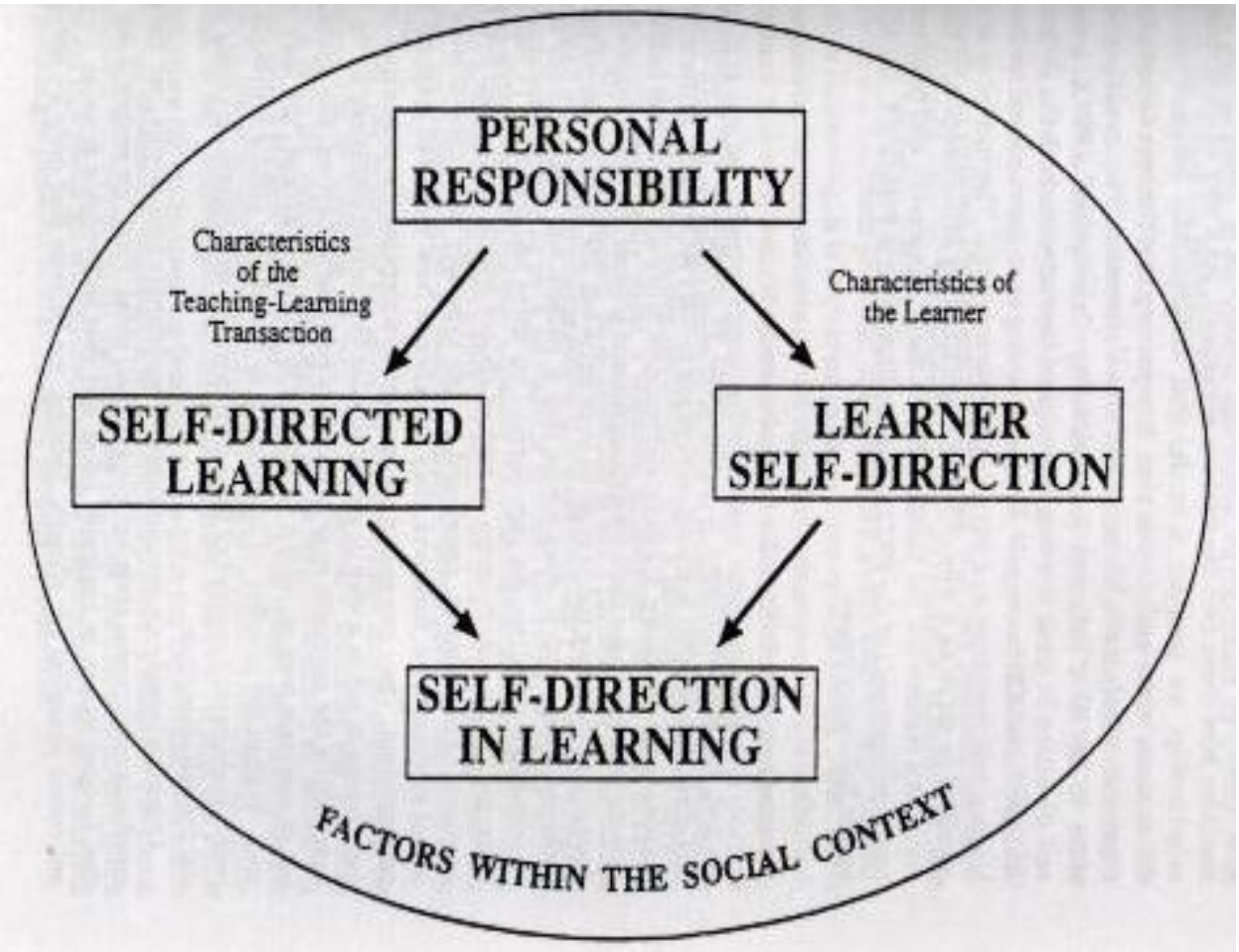


Figure 2.2. The "Personal Responsibility Orientation" (PRO) Model. Adapted from Brockett, R.G. & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice.* New York: Routledge. p. 25. Reprinted with permission.

The third model, the Staged Self-Directed Learning Model by Grow (1991), has four stages or levels. The lowest level is stage one where the students are not self-directed learners and need assistance in knowing what, how and when to do the assigned task. Learners that have some self-direction but prefer that guidance and instruction come from the teacher characterize the next stage. In the third stage the learners are more self-directed and utilize the teacher as a facilitator. High levels of self-direction characterize the final stage with the teacher serving only as a consultant or the one who delegates assignments. Grow (1991, 1993, 1994) summarizes the theory by saying that teaching is situational and that the teaching needs to match the readiness of the learner. This theory can be easily utilized with learning contracts. Tennant (1992) criticized this theory for lack of applicability in multiple teaching-learning situations. Grow (1994) defended the model by stating that the model is helpful in developing self-direction in the learner.

A fourth model, proposed by Garrison (1997), comes from a constructivist perspective. The model has three overlapping dimensions: self-management (contextual approach), self-monitoring (cognitive responsibility), and motivational (entering and task). The interaction of these three previously noted dimensions impacts self-directed learning. Garrison's model is built on the previous work of Brockett and Hiemstra (1991) but was expanded to include not only personality but also cognitive and metacognitive processes.

Several instruments have been developed to measure self-directedness. The most widely used instrument is the Self-Directed Learning Readiness Scale (SDLRS) developed by Guglielmino in 1977. The SDLRS was modified to reflect a name that does not identify the subject of the instrument: Learning Preference Assessment (LPA). Several other minor changes

were made to the items but the instrument is readily accepted and used. The SDLRS was used as a model to develop a tool to measure self-directed learning readiness in nursing education exclusively (Fisher, King & Tague, 2001). The SDLRS was also used to develop a tool measuring self-directed learning as explained by the Personal Responsibility Orientation Model developed by Brockett and Hiemstra in 1991 (Stockdale, 2003). A review of the literature resulted in few instruments that adequately measure self-directed learning readiness.

For the purposes of this study, the PRO Model of self-directedness will be used and applied to the results of the study because of the focus on the learner's role in planning, implementing and evaluating the learning process. The PRO Model emphasizes the psychological aspects of learning and merges well with the key elements of the Revised Health promotion Model. The learner is responsible for his/her own learning and implementation even though a learner may gain education from others. The instruments used in the study support that concept.

Older Adults

The term "older adult" or "elderly" does not have an agreed upon definition in the literature. There are those that want to define the older adult by calendar age while others choose to define the older adult by biological age. In the United States, the age of 65 is considered to be old because it is the age of retirement (Mertens, 1994). However, the characteristics of those at least 65 years of age today are not the same as those who were 65 years old in 1950. There is also no consensus from one country to the other. Gerontologists frequently separate the elderly into three groups: the young old (65 – 74), the middle old (75 – 84) and the old old (85 and

above). For the purposes of this study, participants will need to be at least 60 years of age (a requirement of the Senior Centers).

As the number of older adults increases, the longevity of each person is also increasing. The goal for each older adult is to live longer with improved quality of life and less disability. By the time that most people reach the age of 65 years, they usually have at least one chronic condition and may have more than one (Administration on Aging [AOA], 2009). In 2000 – 2001, the most frequently occurring chronic conditions included hypertension (49%), arthritic conditions (36%), heart disease (31%), cancer (20%), sinusitis (15%) and diabetes (15%) (AOA, 2009). In a large national survey, the Behavioral Risk Factor Surveillance System (BRFSS) found that older age is the "most powerful independent predictor of cardiovascular disease, cancer, arthritis, and all-causes of mortality in men and women" (Mokdad et al., 2004). Therefore, it is an accepted fact that chronic conditions are to be expected in the older adult population. The key is to minimize the disability or limitations caused by the condition and maximize the ability that the older person still possesses.

As early as the 1970's the health behaviors of older adults have been the subject of research. Several key studies such as those presented by Belloc and Breslow (1972), Steel and McBroom (1972), and Bausell (1986) found that increased numbers of health-promoting behaviors were associated with increased age. Bausell's study (1986) is of interest to this topic because it compared health behaviors of a large group of adults aged 18 to 69 to a group of older adults (age 70 or greater) and found that the older adults were more compliant with health-seeking and health-promoting behaviors. The older adults also placed a greater value on health-seeking and health-promoting behaviors. It was also found that as a group they perceived that

they had less control over their future health. In a study conducted by Maynard (1990), similar results were found. However, it was found that those who participated in a group were more likely to also participate more consistently in health-promoting behaviors due primarily to the group support. The group setting was found to be helpful in several areas: adaptation to the aging process, adaptation to chronic disease process, grieving, exploration of new health-promoting behaviors, exploration of new social roles, and enhanced spiritual well-being. The study group used by Maynard was made up of volunteers from a senior public housing complex and a large retirement community on the West Coast of Florida. Residents of public housing rated their health poorer than the retirement community residents supporting the positive impact of income on health perception.

A qualitative study by Loeb, Penrod, Falkenstern, Gueldner, and Poon (2003) identified that there is an increasing awareness that each individual must take an active role in the maintenance and/or improvement of his/her health with aging. This study explains some aspects of the motivation and methods of health maintenance for the older adult. Social support and relating with health care providers were identified as key concepts for participation in self-management of health. The role of health maintenance may be evidenced by regular visits to health care professionals, taking medications regularly, exercising, making modifications in their dietary intake, relying on information from sources other than the primary health care provider, or relying on spiritual or religious participation. But there continues to be a great need to increase the number of health promotion practices that would improve health presently or in each participant's future.

In 1990 Ostwald et al. conducted an experimental study of elderly women, some of whom were in health education classes with a teacher, others learning through audio tapes, and a third group who did not receive any health education. It was found that those who participated in the health promotion classes actually made the most changes in health promotion behaviors. The study only lasted four months so there is no indication of long-term changes. The DHHS released findings of a study of the elderly in a Public Health Report in 2004 stating "older Americans are less likely to smoke or drink alcohol and are more likely to exercise, eat at least five fruits and vegetables per day and to see their primary care provider regularly for check-ups" (pg. 360). However, in spite of this good news, there are also higher rates of obesity, high blood pressure, and diabetes than ever before in the elderly age groups. The authors concluded that it is necessary to have strategies and programs to improve the health behaviors and health status of older Americans. Older adults are capable of health improvements and would therefore gain the benefits of improved health (Mokdad et al., 2004). Multiple studies note the ability of older adults to learn and change health behaviors. List (1999) conducted a study that examined the ability of the older adult to participate in cancer risk reduction activities. Institutionalized elderly were subject in a study conducted by Kim, June and Song (2003) suggesting that the participants were able to maintain their health over a three-month period without any documented decline in health. There are also several studies that addressed the need for physical activity and the positive health results gained from the activity (Lee, 2005; Ness, Gurney & Ice, 2003; Robbins et al., 2001). The needs of the rural older adult are even greater than those of the urban dwellers (Alexy & Elnitsky, 1998) because of lack of availability, accessibility, affordability and appropriateness of health promotion education. One issue for rural older adults is that services

provided in rural areas might be of poor quality or lacking in comprehensiveness. Another area of concern raised with this study is that those who present health promotion education to the rural older adult may not be familiar with the values and culture of the area resulting in a less credible presentation to the rural elderly.

From these studies factors related to the older adults' participation in health promoting behaviors can be identified. As age increases, participation in self-care and health promotion tends to decrease even though there is a greater need because of the presence of multiple chronic conditions. Because of the limited number of studies and the recent population surge of older adults, older adults have been examined collectively rather than in age cohorts that would identify changes attributable to the aging process.

Senior Centers

Senior Centers were established as a result of the 1973 Amendments to the Older Americans Act through State and Area Agencies on Aging (AOA, 2005). The services provided at specific Senior Centers vary from area to area and from state to state. There are approximately 12,000 Senior Centers in the United States serving about 15% of the elderly population each year (Skarupski & Pelkowski, 2003).

Senior Centers have been used to gain access to the older adult population for research purposes. As stated previously, a limited number of older adults utilize the services of the Senior Center. Therefore, that limitation must be factored into the results of any research. There are several other factors that also need to be considered when research of the population of Senior Centers is used. First of all, the female participants outnumber the male participants two to one

(Turner, 2004). Second, minorities represent only about 20% of the attendees at Senior Centers. Any research would need to accommodate these limitations.

A qualitative study (Loeb et al., 2003) examined the coping abilities of independent living older adults with multiple chronic conditions to determine the coping strategies that were most effective. Participants identified seven areas of coping: "relating with health care providers, medicating, exercising, changing dietary patterns, seeking information, relying on spirituality and/or religion, and engaging in life"(p. 12). The participants stated that they used the coping strategies as a means of "staying in control" (p. 12). A common theme throughout the data collection and analysis was that the older adults were more successful if they had a strong support group. This was especially true for the strategies of exercising, changing dietary patterns and engaging in life.

Many studies have demonstrated that while the elderly population as a whole is well motivated to participate in health promotion practices, there is room for improvement throughout the cohort. It is estimated that 50-70% of older adults do not participate in regular exercise (Taylor et al., 2004). Older adults participate in fewer health screenings than younger adults. Studies of older women demonstrate a wide variation in compliance with mammography within the past two years with percentages varying from 27 – 51% (Blustein & Weiss, 1998; Schonberg, McCarthy, Davis, Phillips & Hamel, 2004). In a study by Resnick (2003) 206 residents in a continuing care retirement community were interviewed to determine the frequency of health promotion activities. It was found that nearly all of the residents had a flu shot within the past year (97%). The women demonstrated a high frequency of Pap tests (45%) and mammograms (42%). Over half (60%) of the residents participated in regular aerobic activity. The study

demonstrated higher than normal participation rates in multiple health promoting activities. Reasons cited for the unusual results included a high level of education, predominate Caucasian race participants, adequate medical insurance, and easy access to health care professionals within the continuing care retirement community.

Williams et al. (1998) conducted a study of health promotion workshops for seniors that were members of a Medicare Health Maintenance Organization (HMO). The purpose of the study was to identify predictors of attendance and behavior changes as a result of attending a series of health promotion workshops. Findings indicate that increasing age, smoking, and lack of reading health-related literature were related to increased absenteeism. However, there was no correlation between the attendance rate and the number of health behaviors in which an individual participated. Another interesting finding is that those individuals who participated in the mental health workshops demonstrated a "significant increase in their ability to cope with and tolerate stress after one year" (p. 166).

After examining multiple studies of health behaviors of the elderly, there does not appear to be a direct cause and effect to predict health promotion behaviors of the older adult. Rather, there appears to be a multiplicity of factors influencing the outcome of increased health promotion behaviors.

Instruments

For the purpose of this study, two instruments have been selected and a demographic tool has been developed based on previous research results. The Self-Directed Learning Readiness Scale (SDLRS) will be assessed for its ability to determine self-directedness. The Health

Promoting Lifestyle Profile II (HPLP II) will be evaluated to determine its use in identifying health promoting behaviors.

Self-Directed Learning Readiness Scale. The Self-Directed Learning Readiness Scale (SDLRS) was developed by Lucy Guglielmino (1977). This widely used tool is a 58 item self-report of positively and negatively worded Likert scale items was designed to assess the degree to which individuals perceive themselves to have the skills, characteristics and attitudes for self-directed learning (Delahaye & Choy, 2000). The tool was developed using a Delphi survey with 14 experts in the field of self-direction. The panel identified those characteristics, attitudes, values, and abilities that a highly self-directed learner would exhibit. A reliability coefficient of .94 using a split-half Pearson product moment correlation was found when used with participants that are at least 20 years of age. Test – retest reliability has been found to be .79 - .82 (Delahaye & Choy, 2000). The adult form of the SDLRS – A is also known as the Learning Preference Assessment (LPA) with a name change to conceal the fact that the instrument measures self-direction. The SDLRS and the LPA can be used with children but the validity and reliability are not as stable. The tool has been used in a number of studies that have exclusively targeted the elderly. The most frequent use of the tool is with adults, primarily in higher education and in work settings.

Since its inception, the SDLRS has undergone substantial analysis and evaluation. Long and Agyekum (1983) conducted a study to validate the SDLRS by testing faculty and students. Faculty were asked to identify those students who were self-directed in their classes. Students were given several instruments to complete – the SDLRS, the Agreement Response Scale and Rokeach's Dogmatism Scale. There was no significant relationship found between the faculty

and the student ratings. However, there was an association between the SDLRS scores and age, education level and race. A second validation study was completed by Crook in 1985 comparing year-end grades of nursing students, the SDLRS, peer assessment, and peer nomination of self-directed learners. There was a low but significant positive correlation of self-directed learning but it only explained 8% of the variance. The second finding explained only 7% of the variance between the SDLRS and peer assessment and nomination. This validation study provided minimal unique and predictive information of success or failure in the nursing program.

In 1985 Brockett critiqued the SDLRS and identified several issues in measuring self-directed learning readiness. There are a number of items on the SDLRS that refer to schooling or formal learning from books. Brockett questioned whether the internal consistency and content validity of those items referring to school or learning from books should be considered as part of the instrument. Further, Brockett argued that other types of learning needed to be included in the wording of the items. Field in 1989 investigated the structure, validity and reliability of the SDLRS. Field disagrees with the Delphi method used to develop the tool because there is a varying degree of expertise on the panel with important items being discarded during the process and with emphasis on introspection. He further concluded that Guglielmino's conceptual development of the SDLRS is flawed in wording and does not have adequate evidence to support the structure. Guglielmino (1989) rebutted Field's critique with a thorough review of the validity and reliability of the SDLRS. Long (1989) also criticized Field's work suggesting a larger data base and multiple researchers were need to answer some of the concerns raised by Field regarding the SDLRS. McCune (1989) criticized the statistical analysis used by Field stating that his results were "unreliable and invalid" (p. 245). A third analysis by Straka and Hinz in

1996 examined the cultural consistency of the instrument and the revalidation of the original factor structure. It was found that the factor solutions are not stable in any culture and that the original factor structure was not duplicated in this study. This raises the question of whether the SDLRS has the quality of a psychometric tool. While these issues are important to consider when using the SDLRS, it is also important to note the extensive use of the SDLRS over the past thirty years. In view of the widespread use of the SDLRS, the instrument was used in this study while taking note of the criticisms of the instrument.

As stated previously, the Self-Directed Learning Readiness Scale (SDLRS) has been used extensively in formal adult education. Caffarella and Caffarella (1986) used the SDRLS in association with learning contracts in graduate education. They found that the learning contracts did not enhance the self-directed learning. The SDRLS has been used with male students at a community college in a study by Sheckley (1985). The role of the instructor or faculty was examined to determine if there was a need to change teaching techniques with self-directed students. Sheckley suggests that the instructor take on the role of a facilitator with self-directed students. However, there is no mention of how to deal with a classroom of students of varying degrees of self-directedness.

Wood (1994, 1996) explored the deterrents to participation in self-directed learning for adults in a formal educational setting. Overcoming deterrents was found to be related to "increased self-confidence in one's ability to undertake and complete their education" (1994, p. 166). This has implications for faculty and advisors involved in any education, whether in a formal or informal setting.

The SDLRS has been used in several studies of self-directed learning in nursing students. Regan (2003) examined what motivates nursing students toward self-directed learning. Several items of interest appear in the conclusions to this study. First, the students noted that a "good lecture" was a motivator to self-directed learning. The second motivator was clear guidance on how to be a self-directed learner for a given topic. Finally, Regan reminded the readers that a wide range of factors motivates students and that the instructor needs to maintain an open mind about what and when students are motivated to be self-directed. O'Shea (2003) provided a review of the literature of self-directed learning in nursing education. The article concluded by stating that there are multiple definitions of self-directed learning and therefore self-directed learning can involve a variety of teaching techniques. It was also suggested that identifying learning styles would enhance teaching and learning. Self-directed learning is not appropriate for all learning styles. However, there are many benefits from using self-directed learning: "increased choice, confidence, autonomy, motivation and the development of skills for lifelong learning" (O'Shea, 2003, p. 68). Nursing education has utilized the SDLRS to such an extent that a readiness scale specifically for nursing education has been developed (Fisher et al., 2001).

The SDLRS has also been used extensively in business, for supervisors/managers as well as the general workforce. O'Neil and Lamattina (2000) present information on self-directed learning as a means of developing supervisory staff. Beck (2000) contends that advancements in technology, the globalization of industry, and an educated, independent workforce also benefit from self-directed learning opportunities. Entrepreneurs are the focus of a study by Callahan (2000) in where a positive relationship was found between self-directed learning and

entrepreneurship. Each of these studies identifies learning styles or personality characteristics that enhance self-directed learning.

The SDLRS has been used specifically with specifically with groups of elderly as well as with adults in general. Even though there are criticisms of the SDLRS, there is sufficient support to use the instrument. The use of the instrument in the present study will add to the wealth of information about the elderly.

Health-Promoting Lifestyle Profile II. The Health-Promoting Lifestyle Profile II (HPLP II) was developed by Walker et al. (Pender et al., 2002) and is made up of six subscales: health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations, and stress management. The instrument was developed to measure an overall health-promoting lifestyle. The information collected from participants who complete the instrument can be used to individualize a health promotion plan that identifies strengths and resources as well as areas of further growth. The instrument is valid and reliable and has been used with the elderly population repeatedly. Construct, content and criterion validity has been established. The alpha coefficient of internal consistency for the total scale is .943. Test-retest score for the entire scale is .892 (Walker & Hill-Polerecky, 1995). It has also been read to participants, for those who were unable to read it for themselves, and has maintained the validity and reliability. It has been translated into multiple foreign languages and retested for validity and reliability.

This instrument has been used with multiple studies in the recent past as well as with multiple types of participants. The HPLP II has been used with diabetic women (Zauszniewski & Chung, 2001) as well as with adults who had multiple sclerosis (Stuifbergen, Harrison,

Becker, & Carter, 2004). The HPLP II has also been used with multiple ages of adult participants (Acton & Malathum, 2000; Bruna, 1998; Callaghan, 2003; Hubbard, 2002).

The final section of the Health-Promoting Lifestyle Profile II addresses benefits and barriers. Each participant was asked to identify benefits and barriers to participating in each of the six domains of the instrument. Benefits and barriers were initially investigated with the use of open-ended questions (Walker, Sechrist, & Pender, 1987). Therefore, the barriers of lack of knowledge, lack of access to information, lack of convenience, and fear of injury can easily be identified when using the instrument as designed.

Walker et al. (2006) looked at the health-promoting behaviors of rural older women. To meet the criteria of participation, the women needed to be at least 65 years of age and live in a rural county of Nebraska as determined by census. Using the Health-Promoting Lifestyle Profile II, the authors found that the younger the person in the elderly cohort, the more likely they were to change an aspect of health promotion practices. It was also found in this study that the women did not have an adequate number of sources of health information. Most participants did not remember receiving health promoting information from their primary care provider.

Millard (1998) found similar results in a study of older Seventh-Day Adventists. Educational level, perceived health status, perceived internal health locus of control, and perceived social control of health behaviors had significant positive correlation with the frequency of engaging in health-promoting behaviors. Stockert (2000) had similar findings in a study conducted using the Health-Promoting Lifestyle Profile with older adults over the age of 60. Areas of significance in that study were related to spiritual growth, interpersonal relations, and stress management.

A number of studies were identified that dealt with social support, spiritual well-being and a health promotion lifestyle. In a study by Boland (2000 a & b), all three aspects were examined. Older adults were divided into three age groups: 65-74, 75-84, and 85+ years. It was found that social support and spiritual well-being had a direct effect on commitment but only an indirect effect on health-promoting behaviors. Commitment was found to no longer be an important issue for the oldest age group, those 85 years of age or greater. A positive relationship was also found between physical activity health behaviors and the younger age groups. Suwommaroop and Zausziewski conducted a similar study in 2002. The social support was again examined with health-promoting behaviors in older adults. Each participant was at least 55 years of age and lived in a senior housing project or attended a senior center. Several instruments were used in addition to the Health-Promoting Lifestyle Profile II. Findings were consistent with those mentioned previously. There was a positive relationship between increased education and greater participation in health-promoting behaviors. No difference was found between races. One of the limitations of this study was that it dealt primarily with elders that had an income of less than $10,000 per year. Therefore, it was a homogeneous group for income, which has not been true of any of the previous studies. Social support was not found to be related to health-promoting behaviors in this study.

Another study examined social support and health promotion lifestyles of rural women (Adams, Bowden, Humphrey, & McAdams, 2000). Women participating in this study were primarily Caucasian, married and Baptist and ranged in age from 19 to 86 years with a mean of 47.2 years. This study also supported Pender's Health Promotion Model and found that social support does significantly relate to promoting a healthy lifestyle. Researchers also found that

levels of education and the variables of social support, health promotion lifestyles, and health responsibility have a statistically significant relationship.

In another study Hamilton, Kives, Micevski, and Grace (2003) looked at time perspective and health-promoting behaviors in a cardiac rehabilitation population. The participants ranged in age from 33 – 80 years old. Future orientation was found to be "significantly and positively correlated with health responsibility" (p. 137). A question was raised about time perspective and normal aging. "Several researchers have postulated that as people age they experience a foreshortening of time perspective and their orientation shifts away from the future" (p. 136). If this is true, then it would be important for health care workers to encourage current well-being rather than emphasizing prevention of future diseases.

Since the HPLP II has been used successfully with elderly participants to determine health promotion practices, it will be used in this study as well. Even though subscales are available for the HPLP II, only the results for the total scale will be examined in this study.

Demographic tool. A demographic instrument was created by the researcher and used to collect data on age, gender, race, living arrangement, spiritual self-care, income, education, perceived health status and frequency of attendance at Senior Center activities. These factors were chosen based on the following research.

Williams et al. in 1998 concluded from their study that increasing age and smoking were negative predictors of health promotion behaviors. MacLeod and Stewart (1994) found that elderly women tended to participate in more exercise if they were younger in age. Boland's study (2000a) of a large age span found that a commitment to health behaviors may no longer be

an important issue for those over 85 years of age. Based on these studies, it seems that younger individuals participate in more health promoting activities than their older counterparts.

There is evidence that women are more likely than men to participate in health promotion activities (Johnson, 2005). MacLeod and Stewart (1994) found that women were more likely to participate in an exercise group when they had greater competence in health matters, higher education, a lower number of medications, and were younger in age. Similar results were found by Stockert (2000). Gender was found to be significantly related to older adults' practice of health promotion activities. Female gender and Caucasian race were predictive of health-promoting behaviors in a study by Hong, Lusk and Ronis (2005). These studies conclude that women participate in more promotion activities than men.

Very few studies regarding health promotion address differences in health promotion practices due to race. Most of the studies reviewed were done with primarily Caucasian participants. Johnson (2005) and Hong, Lusk and Ronis (2005) corroborated the finding that Caucasians participated in more health promotion activities than other races.

Padula (1996) completed a qualitative study that determined that older couples (married >35 years) tended to rely on each other for support to participate in self-care practices for health. This information was confirmed with a quantitative study (Padula, 1997). Study results indicated that the degree of social support was positively correlated to participation in health promotion practices. Johnson (2005) had found gender in conjunction with income, education, and marital status impacts health promotion behaviors. A study by Boland (1998) determined that social support and participation in religious activities have been positively related to health promotion behaviors. A qualitative study by Lewis, Hankin, Reynolds and Ogedegbe (2007) had

significant findings when all participants (twelve African-Americans) stated that spirituality was necessary for overall health. The social support most often was from a spouse but was also found to be high in group living settings such as senior centers, retirement homes, and assisted living settings as well as in faith communities.

A positive relationship between health and income and education has been determined in previous studies. This is true for all age groups and is not limited to the elderly. Riffle, Yoho, and Sams (1989) studied older persons with high levels of education and found that they tend to report the best levels of physical health, even though they may have more physiological problems. Millard (1998) found that educational level and perceived health status had a positive correlation with health-promoting behaviors. Breckon (1997) noted that the wealthy participated more frequently in health promotion activities. Similarly, Frank, Stephens, and Lee (1998) determined that women with higher education and an income above $10,000 per year practiced more health-promoting behaviors. Callaghan (2005) had similar findings in that an adequate income, college education and health insurance were related to healthy behaviors and the ability for self-care. The consistent findings from the above studies demonstrated that there is a positive relationship between income and educational level and health promoting activities.

The perception of health for each elderly person is a predictor of his/her participation in health promotion practices. Moore (1992) found that the elderly who view themselves as having good health have fewer health problems as well as greater health knowledge and better health practices. Older persons with high levels of education tend to report the best levels of physical health, even though they may have more physiological problems (Riffle et al., 1989). Millard (1998) had similar findings and stated that educational level as well as perceived health status

demonstrated a positive correlation with health promoting behaviors. A similar finding of a positive relationship between aging self-perceptions and preventive health behaviors was found by Levy and Myers (2004). Lastly, a qualitative study by Damron-Rodriquez, Frank, Enriquez-Haas and Reuben (2005) found that elders defined their "health with reference to their peers, typically comparing themselves to other older people when rating their (own) health" (pg. 15). Another key of late-life health was functioning and being able to engage in life.

After examining the above studies, the demographic variables to be included in this tool are age, gender, race, living arrangement, spiritual self-care, income, education, perceived health status and frequency of attendance at Senior Center activities. Each of these variables has been found to have a positive relationship with self-directed learning readiness or health-promotion.

Conclusion

The literature review has included the theoretical basis for this study of the relationship between self-directed learning and health promotion practices of the elderly. In addition, literature has been reviewed that provides previous definitions and description of the study's concepts of older adults, Senior Centers, self-directed learning, health promotion, and the instruments used for this study – Self-Directed Learning Readiness Scale, Health-Promoting Lifestyle Profile II and the demographic tool. The next chapter will discuss the method used in this study.

Chapter 3

Method

The question raised for this study is the relationship between self-directed learning and health promotion practices of the elderly who attend Senior Centers in East Tennessee. This chapter will provide an overview of the methods used in this study. The following will be described including sample selection, instrumentation, data collection, and data analysis.

Sample

The participants for this study formed a convenience sample of volunteer participants from Senior Centers in the seventeen-county area in East Tennessee served by the East Tennessee Human Resources Agency (ETHRA). Each participant was at least 60 years of age. To determine the appropriate minimum population size for this study, a sample size table was used which included the power of .80 and an α of .05. A medium effect size for γ is assigned a value of .30 (Polit & Hungler, 1991, p. 487). Cary Springer, statistician for the Statistical Consulting Services for The University of Tennessee (personal communication, April 24, 2008) confirmed this sample size. Using the above information, the sample size necessary for the study is 88.

The Senior Centers in each of the seventeen counties in the East Tennessee Area are governed by the either the East Tennessee Regional Office of Aging or the East Tennessee Human Resource Agency, or jointly by both agencies. Health promotion activities are supervised and/or provided by ETHRA. Participation at the Senior Centers is open to individuals who are at least 60 years of age. The Senior Centers are used for multiple activities. They provide an opportunity for various educational activities related to the needs and interests

of the participants. They also provide a place for congregate meals and in many counties they also are the source of Meals on Wheels delivery. Finally, they serve as a place for fellowship and friendship. Many activities, trips, game days and educational opportunities are planned for the desires of the elderly who use the specific center. Therefore, the activities in the Senior Center are dependent on the needs and requests of the participants. More populated counties often have multiple Senior Centers to provide closer locations to the participants. In the past two to three years there has been an increased effort to provide a greater emphasis on health promotion in the Senior Centers in East Tennessee. This focus has been encouraged because of the increased longevity in the elderly cohort as well as with the anticipated health needs of the baby boomer generation. In the counties that have been exposed to additional health education, health promotion changes have been successfully attempted by many of the participants and they have requested additional health education offerings and materials.

Instrumentation

Three instruments were used in this study: the Self-Directed Learning Readiness Scale also known as the Learning Preference Assessment or LPA, to measure self-direction, the Health-Promoting Lifestyle Profile II to measure health promotion activities, and a demographic tool to identify factors that may impact either of the other instruments. Instruments were chosen for the ability to quantify study variables and to relate the information obtained to the variables of the study.

Self-Directed Learning Readiness Scale. The SDLRS was developed, tested and revised in 1977 by Lucy Guglielmino. The SDLRS measures attitudes and behaviors related to readiness for self-directed learning. The instrument has been translated into many languages and

has been used in multiple research settings (Guglielmino & Guglielmino, 2004). The SDLRS is a 58-item instrument with Likert responses ranging from almost always true (1), usually true (2), sometimes true (3), usually not true (4), to almost never true (5) (SDRLS). The SDLRS has been administered to over 40,000 adults. More than 70 doctoral dissertations have been completed using the SDLRS. It has been used extensively with academic learning in formal settings such as high school, college or graduate studies faculties. In the past ten years it has also been used in business and industry to determine self-directed learning readiness. Most recently it has been used to increase awareness of self-directed learning and for self-assessment (O'Neil & Lamattina, 2000). The form of the instrument that was used for this study is called the Learning Preference Assessment. The items on the test are the same as the SDLRS, but self-scoring by the researcher is possible. Importantly, the name of the instrument does not skew the responses of the participants. The total score and the mean score were determined for each participant. The validity of the instrument has been consistent for content, construct, and criterion-related validity. The studies which measured reliability have demonstrated satisfactory to excellent levels with coefficient alpha of .72 when the participants are at least 20 years of age (Delahaye & Choy, 2000). The variability of learning styles of people under 20 years of age demonstrated a low normal score for internal reliability for that age group (Delahaye & Choy, 2000). Guglielmino's original work in 1977 estimated a Cronbach coefficient alpha of .87. A later anaylsis conducted by Guglielmino and Guglielmino(1991) revealed a split half reliability of .94. This tool has been used extensively with adults but a limited number of studies have used it with the elderly in particular.

Health-Promoting Lifestyle Profile II. The second instrument used in this study was the Health-Promoting Lifestyle Profile II (See Appendix C). It is a 52-item instrument that has six subscales: health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth and stress management (Pender, et. al., 2002). The HPLP II uses a 4-point Likert scale. Choices are from one to four and include never (1), sometimes (2), often (3), and routinely (4). Each subscale consists of either eight or nine items to measure frequency of self-reported health promoting behaviors. The higher scores indicate more health promoting behaviors. Subscale items are evenly distributed throughout the instrument to control for response set bias. Essentially the same process for psychometric evaluation was utilized for the HPLP II as for the Health-Promoting Lifestyle Profile (Walker & Hill-Polerecky, 1995). Reported subscale reliability ranged from .74 to .90 (Fowler, 1997; Larouche, 1998; Stuifbergen & Roberts, 1997). For the purposes of this study, only the total score and the mean were analyzed. This tool has been used extensively with adults and the elderly.

Demographic Tool. Lastly, a demographic instrument was created by the researcher and used to collect data on age, gender, race, living arrangement, income, education, perceived health status and frequency of attendance at Senior Center activities. The information obtained from the demographic variables was used to provide a better description of the population sample and to determine any correlation between the demographic factors and the HPLP II and the SDLRS.

Procedure

After obtaining permission from the Human Subjects Institutional Review Board at the University of Tennessee, Knoxville, and ETHRA, the manager of each Senior Center was contacted to provide an estimate of the number of regular participants in each of the counties

within the East Tennessee Area. The managers were then asked to estimate the number of participants that are probable to participate in the study. Times of data collection were established for each of the Senior Centers based on the Center's monthly schedule. Participation was open only to those participants that are at least 60 years of age. The researcher then explained the level of involvement required to participate in the study and answered any questions of the participants prior to beginning data collection. Each participant signed a consent to participate form (see Appendix A). This process was repeated at the Senior Centers throughout the seventeen county area in order of convenience until at least 88 participants had completed testing.

Measures were taken to protect the identity of the participants by coding the instruments with a participant's number rather than the participant's name. A master list of participant names was collected throughout the data collection period of this study. The master list is stored in a locked file in the researcher's home. From the time that the participants sign the consent form, all further information was identified with a code number rather than the participant's name. Information from the instruments was coded for computer entry by the researcher into a password-protected file that is compatible with the Statistical Package for the Social Sciences 18.0 (PASW). All data and coding is kept in a locked file in the researcher's home. Findings are reported as grouped data and therefore will not divulge the identity of any individuals. The forms, data and coding will be maintained by the researcher for a minimum of three years prior to destruction of the data by shredding.

The process of data collection focused on the three instruments previously discussed: the Self-Directed Learning Readiness Scale, the Health Promoting Lifestyle Profile II and the

demographic information sheet. The following review of the data collection is discussed as it pertains to the control group and the intervention group.

The initial meeting with participants in each Senior Center began with an explanation of the process of the study, signing of the consent form, and coding of the participant's names to protect confidentiality. Data collection was completed using the SDLRS, the HPLP II, and the demographic information sheets. All instruments utilized were able to be used as written and/or oral testing in the event that a participant is not able to read the tests. The investigator was responsible for administering all of the tools. For those participants who were unable to read the forms, the investigator read the forms for the participant and scored it according to the responses of the participant. No explanation or interpretation of the question was given by the reader. The identical process was repeated at each Senior Center used in the seventeen-county area in East Tennessee. Using the code number assigned to each participant, the data were then entered into the PASW program for analysis.

Data Analysis

All data were analyzed using the PASW program. Table 3.1 identifies the specific statistical analysis used to address the purpose of the study and to answer the research questions. The information from the demographic information sheet was also analyzed using descriptive statistics (percentages, frequencies, measures of central tendency and variance). A PASW Missing Values Analysis was run to check for patterns of missing data. The data from both the HPLP II and the SDLRS was reported as a total score for each participant. The analysis includes descriptive and inferential statistics.

Table 3.1 Statistical Procedures/ Data Analysis

Research Questions	Variables	Scale	Statistic	α level
1. What is the relationship between self-directed learning and health promoting behaviors in the elderly?	Independent – Self-directed learning (total scale from SDLRS/LPA) Dependent – Health promotion behaviors (total scale from HPLP II)	Interval	Pearson's Product-Moment Correlation	.05
2. What is the relationship between health promoting behaviors and selected demographic information in the elderly?	Independent – Demographic factors Dependent – Health promotion behaviors (total scale from HPLP II)	Interval	Pearson's Product-Moment Correlation	.05
3. What is the relationship between self-directed learning readiness and selected demographic information in the elderly?	Independent – Demographic factors Dependent – Self-directed learning (total scale from SDLRS/LPA)	Interval	Pearson's Product-Moment Correlation	.05

Conclusion

This chapter has provided the overview of the methods for this study including the population and sample selection, instrumentation, data collection, and data analysis. This study will add to the body of knowledge concerning self-directed learning and health promotion activities. The next chapter will provide the results of the data analysis.

Chapter 4

Results

A quantitative study was done to determine the relationship between self-directness and health promotion behaviors in the elderly. The SDLRS, HPLP II, and a tool of demographic variables were used to collect the data. PASW 18.0 was used to analyze the data. This chapter will present the results of this study's data analysis including a description of the sample, the statistical analysis of the data and a summary of the findings. The Senior Centers in 14 small towns in eight rural counties in the Southeastern United States served as data collection sites. Each person in the sample was attending a Senior Center activity at the time of the data collection.

Sample

There were 121 individuals who participated in the study. Two (2) were removed from the sample because they did not meet the age requirement and eleven (11) did not complete all three instruments. Therefore, the adjusted sample consisted of 108 participants. The size of the sample exceeds the minimally acceptable sample size of 88, which was determined with power analysis. Descriptive statistics used to describe the sample for this study are noted below. The mean age of the participants was 74.41 with a minimum of 60 years of age and a maximum of 98 years of age. Women outnumbered men three to one (see Table 4.1). The race of the participants (see Table 4.2) is reflective of the population of the counties in which the data were collected (Tennessee Department of Health, 2010). There were no Asian participants.

The living arrangements of the participants was most often alone (46.3%; n=50) or with a spouse (41.7%; n=45). The third most common living arrangement was with family at 9.3%

Table 4.1 Gender

Gender	Number of Participants	Percent
Men	25	23.1
Women	83	76.9
Total	108	100.0

Table 4.2 Race

Race	Number of Participants	Percent
Caucasian	95	88
Black	8	7.4
Hispanic	1	0.9
Other	4	3.7
Total	108	100.0

Table 4.3 Yearly Income

Income	Number of participants	Percent
$0-19,999	44	40.7
$20,000 – 39,999	26	24.1
$40,000 – 59,999	13	12.0
$60,000 and above	4	3.7
No response	21	19.4
Total	108	100

(n=10). Ninety-four of the participants (87%) stated that they participated in religious activities such as prayer, scripture reading or church services on a daily or weekly basis.

More than 20 (19.4%) of the participants verbalized that they did not want to answer questions about their income, and this was recorded as "No response" (see Table 4.3). Of those participants who participated in the income question, more than 50% were in the lowest category of income (less than $20,000 per year).

The most frequent level of education was high school with 51 (47%) participants stating they had completed high school. As can be noted from the statistics, there were a number of participants that did not complete high school but there was also one person who was a retired college professor with a doctoral degree.

Participants were asked to rate their health as excellent, good, fair, or poor. The majority of the participants rated their health as fair (33.3%) or good (50.9%). Eleven percent stated their health was excellent with only 4.6% stating their health was poor (see Table 4.5).

Each of the participants was also asked to identify his/her frequency of attendance at activities at the Senior Center. The majority of the participants reported attending the Senior Center daily or two to three times per week (see Table 4.6).

Table 4.4 Education

Years of school completed	Number of participants	Percent
Grade school – grades 1 to 6	4	3.7
Jr. High – Grades 7 to 9	10	9.3
High School – Grades 10 to 12	51	47.2
Some college – did not graduate	31	28.7
Graduate of college	8	7.4
Some graduate school	4	3.7
Total	108	100.0

Table 4.5 Health Perception

Stated health perception	Number of participants	Percent
Poor	5	4.6
Fair	36	33.3
Good	55	50.9
Excellent	12	11.1
Total	108	100

Table 4.6 Attendance at Senior Center

Sr. Center participation	Number of participants	Percent
Daily	27	25.0
Two to three times per week	38	35.2
One time per week	12	11.1
Two times per month	14	13.0
One time per month	17	15.7
Total	108	100.0

Data Analysis

The data relevant to the three research questions were entered and analyzed using PASW 18.0.

1. **What is the relationship between self-directed learning readiness and the practice of health promoting behaviors in the elderly?**

The first question examined the relationship between self-directed learning readiness and health promotion behaviors in the elderly. The Learning Preference Assessment (LPA) was used to determine self-directed learning readiness and the Lifestyle Profile II (LP) was used to measure participation of each person in health promotion behaviors. A histogram was used to determine normal distribution for each of the instruments and revealed a normal distribution for both instruments. Descriptors used to answer the statements of the LPA were

1. Almost never true of me; I hardly ever feel this way

2. Not often true of me; I feel this way less than half the time

3. Sometimes true of me; I feel this way about half the time

4. Usually true of me; I feel this way more than half the time

5. Almost always true of me; there are very few times when I don't feel this way

(Guglielmino, 1977).

The LP descriptors used to answer the statements were 1) *never*, 2) *sometimes*, 3) *often* and 4) *routinely*. Since the histograms of the LPA and the LP revealed normal distributions, a more robust test can be used to analyze the data. Therefore the descriptors were converted to numbers to represent the intervals depicted by the descriptors listed above.

The Cronbach's alpha for the LPA in this study was .931 demonstrating internal consistency. The mean of the items was 3.494 with a range of 1.896 to 4.325 from the 5-point Likert scale. The mean of the total scale of the LPA was 202.65 with a standard deviation of 34.415.

The internal consistency reliability of the LP in this study as determined by Cronbach's alpha was .932. The item mean was 2.799 with a range of 1.833 to 3.372 on a 4-point Likert scale. The scale mean was 145.53 with a standard deviation of 26.236.

The total score of each instrument was correlated using Pearson's product moment correlation to determine the relationship of self-directed learning readiness with health behaviors (see Table 4.7). The analysis revealed there is a statistically significant positive correlation (at the 0.01 level) of self-directing learning readiness with health behavior practices. Another way to state this result would be to say that the more self-directed a person is, the more likely they are to participate in health promotion behaviors. The coefficient of determination or $r^2 = 15.5$. Therefore, 15.5% of the variance of one variable can be accounted for by the other variable.

Table 4.7 Correlation of Lifestyle Profile II (LP) and Learning Preference Assessment (LPA)

		LP TOTAL	LPA TOTAL
LP TOTAL	Pearson Correlation	1	.394**
	Sig. (2-tailed)		.000
LPA TOTAL	Pearson Correlation	.394**	1
	Sig. (2-tailed)	.000	

** Correlation is significant at the 0.01 level (2-tailed).

2. What is the relationship between health promoting behaviors and selected demographic information in the elderly?

The second research question asked what the relationship was between health promoting behaviors and the demographic information of the elderly sample. Using Pearson's product-moment correlation to examine the relationship between the Lifestyle Profile II and the various demographic indicators revealed that there is a significant relationship between the health promotion behaviors and two of the demographics: religious practices and self-perception of health ($p = 0.05$ level). (See Table 4.8) In examination of all the demographic items, there was a weak inverse relationship of age with health promotion behaviors due to non-correlation of increasing *age* of the participant to increased participation in health promotion. The *race* demographic variable showed a weak relationship to health promotion behaviors. *Living arrangement* had a moderate relationship to health promotion behaviors. Frequency of *religious practices* had a strong inverse relationship to health promotion behaviors and was statistically significant (at the 0.05 level). On the demographic tool, those participants reporting the most frequent *religious practices* had a lower health promotion behavior score while those participants reporting fewer *religious practices* had relatively higher health promotion behavior scores. *Income* had a strong direct relationship with health promotion behaviors, but this relationship was not statistically significant. Conversely, *education* had a weak relationship with health promotion behaviors. *Self reported health status* demonstrated a weak to moderate direct relationship with health promotion behaviors and was statistically significant at the 0.05 level. There was an inverse relationship between *participation at Senior Centers* and health promotion behaviors indicating that the more frequent the participation, the lower the health promotion

behavior score. In summary, the second research question was statistically significant (0.05 level) for the relationship of health promotion behaviors with *religious practices* and *self-reported health status*.

3. **What is the relationship between self-directed learning readiness and selected demographic information in the elderly?**

The third research question examined the relationship between self-directed learning readiness and selected demographic variable information of the participants (See Table 4.9). Self-directed learning readiness was evaluated using the Learning Preference Assessment (LPA). Only one demographic factor, *religious practices*, was significant at the 0.05 level. The relationship of self-directed learning with *age* was strong and inverse. Caucasian was the most common *race* (88%) in these participants. Because of the lack of variability in race, only descriptive statistics were used to describe race. *Living arrangements* were found to have a moderate positive relationship to self-directed learning readiness. The *frequency of religious practices* had a weak inverse relationship to self-directed learning readiness but was statistically significant at the 0.05 level. On the demographic tool, the more frequent the religious practice, the lower the self-directed learning score. *Income* had a strong positive relationship to self-directed learning readiness, while level of *education* had a weak positive relationship to self-directed learning readiness. *Self-reported health status* had a weak positive relationship with self-directed learning readiness. Lastly, the *frequency of attending a senior center* had a weak positive relationship with self-directed learning readiness. In summary, only one demographic variable, religious practices at the 0.05 level was statistically significant when the relationship of self-directed learning readiness was examined.

Table 4.8 Correlations of Demographics with Lifestyle Profile (LP)

		LP TOTAL	Age	Living Arr	Religious	Income	Education	Health	Sr. Ctr
LP TOTAL	Correlation	1	-.016	.067	-.319**	.023	.155	.279**	-.053
	Sig. (2-tailed)		.871	.494	.001	.812	.108	.003	.588
Age	Correlation		1	-.208*	-.098	.018	.034	-.202*	.297**
	Sig. (2-tailed)			.031	.312	.854	.731	.036	.002
Living Arr	Correlation			1	.092	.322**	.048	.005	.045
	Sig. (2-tailed)				.346	.001	.624	.959	.641
Religious	Correlation				1	.050	.023	-.033	-.127
	Sig. (2-tailed)					.607	.811	.731	.190
Income	Correlation					1	.133	.055	.124
	Sig. (2-tailed)						.171	.569	.200
Education	Correlation						1	.251**	.024
	Sig. (2-tailed)							.009	.802
Health	Correlation							1	-.263**
	Sig. (2-tailed)								.006
Sr. Ctr	Correlation								1
	Sig. (2-tailed)								

Table 4.9 Correlations of Demographics with Learning Preference Assessment (LPA)

		LPA TOTAL	Age	Living Arr	Religious	Income	Education	Health	Sr. Ctr
LPA TOTAL	Correlation	1	-.002	.052	-.237*	.035	.168	.136	.018
	Sig. (2-tailed)		.982	.594	.014	.722	.082	.160	.852
Age	Correlation		1	-.208*	-.098	.018	.034	-.202*	.297**
	Sig. (2-tailed)			.031	.312	.854	.731	.036	.002
Living Arr	Correlation			1	.092	.322**	.048	.005	.045
	Sig. (2-tailed)				.346	.001	.624	.959	.641
Religious	Correlation				1	.050	.023	-.033	-.127
	Sig. (2-tailed)					.607	.811	.731	.190
Income	Correlation					1	.133	.055	.124
	Sig. (2-tailed)						.171	.569	.200
Education	Correlation						1	.251**	.024
	Sig. (2-tailed)							.009	.802
Health	Correlation							1	-.263**
	Sig. (2-tailed)								.006
Sr. Ctr	Correlation								1
	Sig. (2-tailed)								

Conclusion

This chapter has discussed the results of the three research questions. Data related to the question regarding the relationship between self-directed learning readiness and health promotion behaviors demonstrated a statistically significant relationship. The second question examined the relationship of the health promoting behaviors and demographic variables. Only two demographic items were found to be statistically significant: *frequency of religious practices* and *self-reported health status*. The final research question investigated the relationship between self-directed learning readiness and demographic variables. Again, only two variables, *race* and *frequency of religious practices* were found to be statistically significant. Discussion of the implications of these findings will follow in Chapter 5.

Chapter 5

Findings, Conclusions, Discussion and Recommendations

This study has examined the relationship between self-directedness and health promotion behaviors of the rural elderly participating at Senior Centers in East Tennessee This chapter will provide a discussion of the findings of the study based on the three research questions, the study's conclusions and implementation of the results into practice. The implications for future research, education and practice will be discussed.

Summary of Findings

The level of statistical significance for this study was set at the 0.05 level. The results from the study met at least this level of significance, but several findings listed below actually were significant at the 0.01 level. The first research question examined the relationship between self-directing learning readiness as measured by the Learning Preference Assessment (LPA) and health promotion as measured by the Lifestyle Profile II (LP) in the elderly population. A significant correlation at the 0.05 level was found. This is significant to research on this topic because there is limited research of self-directedness as it relates to the practice of health-promoting behaviors in the elderly.

The second research question explored the relationship of health-promoting behaviors to the demographic items. Only two of the demographic items were found to be statistically significant when evaluating their relationship to health-promoting behaviors. Both the frequency of religious activities and self-perception of health were statistically significant at the 0.05 level. Based on previous literature, additional relationships were anticipated but were not demonstrated in this study.

The third research question addressed the question of relationship of self-directed learning readiness with the demographic variables of age, gender, race, living arrangements, religious practices, income, education, health perception and participation in activities at the Senior Center. Only frequency of religious practices and health perception had a significant relationship to self-directed learning readiness at the 0.05 level. None of the other demographic items were significant when looking at the relationship to self-directed learning readiness.

The level of education (see Table 4.4) for the participants was actually higher than the education levels in the respective counties of Eastern Tennessee (Tennessee Department of Health, 2010). For example, in the State of Tennessee 81.8% of the population completes high school and 84.5% in the United States. However, for the counties used for data collection, the high school graduation rate varied from 33.02% to 35.69%. For this study the rate for high school education was 47.2%, higher than the overall county rates (Censusscope, 2010; Lumina Foundation, 2010).

Conclusions

The first research question examined the relationships between self-directed learning readiness and health promotion practices, and the results are key for those who provide health education and direct health care. There was a significant relationship at 0.05. Based on this study, it is important to determine the self-motivation or self-directedness of clients before beginning any education. Since there is a significant relationship between health promotion practices and self-directed learning, it is important that health educators to spend some time with clients in determining how they are motivated. It will save time and frustration for the health care provider to determine the self-directedness before education has started. As the United

States changes from a disease based model of healthcare to a prevention model as required by the Affordable Care Act, it is imperative that health care providers determine quickly if a person is self-directed in their health promotion practices or if the individual will need education and counseling in order to change his/her health care practices, both health promotion and disease treatment aspects will need to be addressed.

The second and third research questions examined the relationship of the demographic items to self-directed learning readiness and health promotion practices. The lack of relationships was disappointing based on previous research that found more and greater relationships. MacLeod and Stewart (1994) and Boland (2000a) found that participation in health promoting practices were related to age, but in this study age was not statistically significant. In 2005, Johnson found that gender, income, education and marital status had an impact on health promotion behaviors. Again, those variables were not statistically significant in this study. However, it is significant to note that the frequency of religious activities was found to have a significant correlation when related to both self-directed learning readiness and health promotion practices. This finding may encourage the health educator to address health needs within the structure of the church or faith-based community for improved results. A study addressing the significance of maintaining social support and spirituality by Boland (1998) found sustained or improved levels of health promotion practices. Few conclusions can be drawn from the relationships of the demographic information to self-directed learning readiness and health promotion practices as measured by the SDLRS and the HPLPII. This finding is supported by previous studies reporting that many combinations of factors impact self-directed learning readiness and health promotion practices.

Discussion

This study was theoretically based on two models – Pender's Revised Health Promotion Model and the Personal Responsibility Orientation Model (PRO). Pender's Revised Health Promotion Model was used as the theoretical basis for this study. One of the three instruments used in this study, the Health-Promoting Lifestyle Profile II, was developed from the model and therefore the results of the study support the model. The model and the tool have been used extensively with the elderly population. This study adds to the collection of data utilizing both the model and tool.

Secondly, the PRO Model of self-directed learning developed by Brockett and Hiemstra (1991) was used to guide the self-directed learning readiness aspects of this study. The two dimensions of the model include the concept that the learner assumes primary responsibility for all aspects of the learning process and the learner's desire to learn. Typically the first dimension is facilitated by the educator while the second dimension is the responsibility of the learner. The results of this study reinforce the general finding that the elderly learners participating in this study were motivated to participate in health promotion practices.

The data collection process was uncomplicated. Each participant was asked to complete three instruments: the demographic variable tool, the Lifestyle Profile II/LP and the SDRLS/LPA. The demographic tool was one page in length and asked for information regarding the participants' age, race, income, education, self-rated health status and participation in Senior Center activities. The only participant objection raised in completion of the demographic form was related to the rating for income. At least once at each Senior Center the question was raised of how to determine one's yearly income. Most of the participants knew their monthly income

but were not sure of their yearly income. The second problem with income is that most of the Senior Centers have educated their clientele to never divulge their income to protect themselves from scamming. Therefore, about nineteen per cent of the participants did not complete the income question. In light of this information, the findings related to income are not valid.

While the demographic tool was only one page long, the Lifestyle Profile II was two pages in length (one on front and back) and contained 52 items. A twelve point font was used on the printing and was relatively easy for most of the participants to read. The SDLRD/LPA was four pages (two pages on front and back) and the font was similar but there was greater separation between the 54 items which made the instrument appear longer. Many of the participants stated that the last test – SDLRS/LPA – was too long. Also, multiple participants needed clarification on the five answer options in the Likert scale. Several stated that the options were too wordy and therefore difficult to answer. Each participant was informed that the completion of forms would take 30 – 45 minutes to complete but after about twenty minutes, the participants started to complain about how long the last form was. The three forms were generally completed by most participants within the 30 – 35 minute time frame. Three participants keyed the SDLRS/LPA with all "1's" or "2's". Since items were asked positively or negatively, it is not probable they would have answered with the same answer throughout if the items had been read and therefore those forms were omitted from the results.

One of the anticipated problems was that the participants would not be able to read and comprehend the items in each of the tools. Only four people required a portion or all of the instruments to be read. Since this was an anticipated issue with data collection based on the association of the participant's education level and income level with educational ability, the

instruments were chosen with the possibility of reading the items to those who were not able to read them independently. Therefore, the practice of reading the instruments to the participants had no appreciable effect on the findings of the study.

Finally, there were some other correlations that supported previous research. In this study an inverse relationship between increasing age and decreasing self-perceived health was observed. A positive relationship also was found between living arrangement and income with married couples having the strongest relationship to increased income. Education was also found to have a positive relationship to self-perceived health.

The overall purpose of this study was to determine the relationship of self-directed learning readiness and health promotion practices among the elderly who use Senior Centers in East Tennessee. This study found that there is a correlation for the sample in this study when the first research question was answered. The conclusion regarding the first research question of the relationship of self-directed learning readiness and participation in health promotion activities is important to the body of research because the relationship of these concepts has not been tested previously with the tools used in this study. For those who ascribe to and/or teach the practices of health promotion, this finding is significant because if the participant is not self-directed the results may be less than optimal. This is especially noteworthy for the elderly because of their limited years of life and probable existence of chronic illness.

Implications for Future Research

As noted earlier, there is a paucity of research that looks at self-directed learning readiness and health promotion behaviors in the elderly. Additional studies with a larger number of elderly would help to confirm the findings with this limited sample. A study that examined

multiple areas of the country would also be helpful. Lastly, a qualitative study looking at health promotion behaviors and self-directedness would enhance the research on the topic. Many of the studies on health promotion are quantitative and therefore may not address the participant's reasons for practicing health promotion or recognition of the role of self-directedness.

Health promotion is currently a major focus in health education. Further research is needed to answer the question of why individuals participate in health promotion behaviors. The findings of such research will impact health education and ultimately health promotion behaviors and increased quantity and quality of life while helping to move toward attainment of one of the goals of Healthy People 2010. The elderly may only improve the quality of their lives while those that practice health-promoting behaviors earlier in life may also lengthen their lives. Higher education across disciplines needs to lead in addressing the health-promoting behaviors and health-promotion education.

Lastly, health promotion must be part of the practice of every health care worker and educator in the future if the goals of Health People 2010 are met. It is necessary to identify the current health promotion practices of clients, provide adequate health education and then work with the client to determine motivators and barriers to change. Knowledge is not the anticipated end product – a change of behavior is the ultimate goal.

Conclusion

In review, Chapter 1 introduced the need for this study as well as the purpose, problem statement, the research questions, assumptions, limitations and delimitations, and definitions. The literature review of the Revised Health Promotion Model, health promotion, self-directed learning with a discussion of the PRO Model, older adults, and Senior Centers was presented in

Chapter 2. The chapter concluded with a discussion of the three instruments used in this study: Self-directed learning readiness (SDLRS), Health-Promoting Lifestyle Profile II, and demographic variables. The method and process of the study comprised Chapter 3 with sample selection, data collection using the three instruments noted earlier and data analysis. Chapter 4 consisted of results of the data collection and analysis based on the three research questions. The findings of the study, conclusions, discussion of various aspects of the data collection and analysis, and the implications for the future are included in Chapter 5. This study questioned the relationship between self-directed learning and health promotion in the rural elderly using Senior Centers in East Tennessee and a statistically significant positive relationship was found.

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Appendix

Appendix A

Consent Form

Dear Participants,

My name is Barbara Hulsman and I am a graduate student at The University of Tennessee in Knoxville (UTK). I am conducting a research study under the supervision of the University and with the permission of East Tennessee Human Resources Agency. You are invited to participate in this research study. This study looks at the relationship of self-directedness or self-motivation and health promotion. You need to be at least 60 years of age and participating in the Senior Center(s) in your county.

Your involvement will be about 30 – 60 minutes to complete the three surveys. Each participant will be responsible to complete the forms one time. Data will be collected in January, February, and March. The risks of participation are minimal as the participants complete the surveys. The benefits of this research are to add to the body of knowledge about self-directedness and health promotion. All records will maintain the confidentiality of the participant by the use of a numbering system on the survey forms. Only the consent form will reflect the client's name and number. The data will be stored securely and will be made available only to persons conducting the study unless participants specifically give permission in writing to do otherwise. No reference will be made in oral or written reports which could link participants to the study.

There will be no monetary reward for participating in this study. However, for every five (5) participants from a senior center, that center will receive one hour of health promotion instruction on a topic of their choice to be decided by the director and the participants. These classes will occur after the data collection is completed. Only those participants who complete all three forms will be counted toward the educational opportunity.

If you have questions at any time about the study or the procedures, you may contact the researcher, Barbara Hulsman at 865-898-8466. If you have questions about your rights as a participant, contact the Office of Research Compliance at 865-974-3466.

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed. Return of the completed surveys constitutes your consent to participate. Thank you for your interest in this study. I look forward to meeting with you.

Consent

I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's Signature _____ Date _____

Appendix B

Demographic Tool

Demographic Tool

Please answer the following questions about yourself.

1. Age_____ 2. Gender ____ M ____F

3. Race ____Caucasian ____Hispanic
____Black ____Other
____Asian

4. Living arrangement ____Alone ____With family
____With spouse ____With other unrelated person(s)

5. How often do you participate in religious activities such as prayer, scripture reading, services, etc.

____Daily ____2 -3 times per year
____Weekly ____Yearly
____Monthly ____Less than 1 time per year

6. What is your income level per year?

____$0-19,999
____$20,000 - 39,999
____$40,000 – 59,999
____$60,000 and above

7. What level of education did you complete?

____Grade school (grades 1 – 6)
____Junior high school (grades 7-8)
____High school (grades 9 – 12)
____Some college classes
____College degree
____Graduate degree

8. How would you rate your health?

____Excellent ____ Good ____Fair ____Poor

9. How often do you participate in activities at the Senior Center?

____Daily
____2 – 3 times per week
____1 time per week
____2 times per month
____1 time per month
____Less than one time per month

Appendix C

Lifestyle Profile II

LIFESTYLE PROFILE II

DIRECTIONS: This questionnaire contains statements about your *present* way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never, S for sometimes, O for often, or R for routinely

	NEVER	SOMETIMES	OFTEN	ROUTINELY
1. Discuss my problems and concerns with people close to me.	N	S	O	R
2. Choose a diet low in fat, saturated fat, and cholesterol.	N	S	O	R
3. Report any unusual signs or symptoms to a physician or other health professional.	N	S	O	R
4. Follow a planned exercise program.	N	S	O	R
5. Get enough sleep.	N	S	O	R
6. Feel I am growing and changing in positive ways.	N	S	O	R
7. Praise other people easily for their achievements.	N	S	O	R
8. Limit use of sugars and food containing sugar (sweets).	N	S	O	R
9. Read or watch TV programs about improving health.	N	S	O	R
10. Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).	N	S	O	R
11. Take some time for relaxation each day.	N	S	O	R
12. Believe that my life has purpose.	N	S	O	R
13. Maintain meaningful and fulfilling relationships with others.	N	S	O	R
14. Eat 6-11 servings of bread, cereal, rice and pasta each day.	N	S	O	R
15. Question health professionals in order to understand their instructions.	N	S	O	R
16. Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).	N	S	O	R
17. Accept those things in my life which I can not change.	N	S	O	R
18. Look forward to the future.	N	S	O	R
19. Spend time with close friends.	N	S	O	R
20. Eat 2-4 servings of fruit each day.	N	S	O	R
21. Get a second opinion when I question my health care provider's advice.	N	S	O	R
22. Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).	N	S	O	R
23. Concentrate on pleasant thoughts at bedtime.	N	S	O	R
24. Feel content and at peace with myself.	N	S	O	R
25. Find it easy to show concern, love and warmth to others.	N	S	O	R
26. Eat 3-5 servings of vegetables each day.	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
27. Discuss my health concerns with health professionals.	N	S	O	R
28. Do stretching exercises at least 3 times per week.	N	S	O	R
29. Use specific methods to control my stress.	N	S	O	R
30. Work toward long-term goals in my life.	N	S	O	R
31. Touch and am touched by people I care about.	N	S	O	R
32. Eat 2-3 servings of milk, yogurt or cheese each day.	N	S	O	R
33. Inspect my body at least monthly for physical changes/danger signs.	N	S	O	R
34. Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	N	S	O	R
35. Balance time between work and play.	N	S	O	R
36. Find each day interesting and challenging.	N	S	O	R
37. Find ways to meet my needs for intimacy.	N	S	O	R
38. Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day.	N	S	O	R
39. Ask for information from health professionals about how to take good care of myself.	N	S	O	R
40. Check my pulse rate when exercising.	N	S	O	R
41. *Practice relaxation or meditation for 15-20 minutes daily.*	N	S	O	R
42. Am aware of what is important to me in life.	N	S	O	R
43. Get support from a network of caring people.	N	S	O	R
44. *Read labels to identify nutrients, fats, and sodium content in packaged food.*	N	S	O	R
45. Attend educational programs on personal health care.	N	S	O	R
46. Reach my target heart rate when exercising.	N	S	O	R
47. Pace myself to prevent tiredness.	N	S	O	R
48. Feel connected with some force greater than myself.	N	S	O	R
49. Settle conflicts with others through discussion and compromise.	N	S	O	R
50. Eat breakfast.	N	S	O	R
51. Seek guidance or counseling when necessary.	N	S	O	R
52. Expose myself to new experiences and challenges.	N	S	O	R

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Lifestyle Profile II was used with permission from Susan Noble Walker. She can be contacted at 38 Cottage Cove, Plymouth, MA 02360. Phone: (508) 209-0662. E-mail: swalker@unmc.edu.

VITA

Barbara Hulsman was born in Holland, Michigan to parents Leon and Leona Hulsman. She grew up in a rural agricultural area as the oldest of three children. Her siblings are Keith and Patricia. After graduating from Hamilton High School she then continued her education at Baylor University and received a Bachelor of Science Degree in Nursing. She has worked in many areas of nursing including general staff nursing in a hospital, intensive care, pediatrics and home health. After completing a graduate certificate in Bible and Missions at Columbia International University she went on to pursue a Master's Degree in Nursing from the University of South Carolina in community health nursing. More recent years of employment have included teaching in multiple levels of nursing and healthcare education. Upon completion of the doctoral education at The University of Tennessee, Knoxville, she will continue her administrative and educational responsibilities at Carson-Newman College in Jefferson City, Tennessee.