CORRELATES OF HEALTH-PROMOTING LIFESTYLE BEHAVIORS FOR EMPLOYED, MIDLIFE WOMEN

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CORRELATES OF HEALTH-PROMOTING LIFESTYLE BEHAVIORS FOR EMPLOYED, MIDLIFE WOMEN

ABSTRACT

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A non-experimental, descriptive study of the correlates of health-promoting lifestyle behaviors was conducted with a convenience sample of employed, midlife women (N=126). The Health Promotion Model by Pender (1987) provided the theoretical framework for the study and guided the placement of the variables. The correlates of perceived health status, social support, occupation, and selected demographics were measured by confidential questionnaires administered to employed women (35-45 years of age) who belonged to a networking organization.

Results for each independent variable measured by a questionnaire were: Perceived health status as measured by the MOS Short-form General Health Survey (M = 78.99, SD 10.07), social support as measured by the Duke-UNC Functional Social Support Questionnaire (M = 31.27, SD 6.58), and occupation as measured by the Hollingshead Occupational Scale (M = 7.47, SD 1.09). Multiple Regression was used to examine the relationship between perceived health status, social

support, selected demographics and health-promoting lifestyle profile. Results indicated that perceived health status and social support had a significant relationship to health-promoting lifestyle profile at $p \leq .01$. Pearson's Correlation measured the degree of correlation between these significant independent variables and indicated redundancy which impacted the predictability for both variables. Social support accounted for 34% of the variability of health-promoting lifestyle behaviors. The variability from social support was stable regardless of effects from perceived health status. Social support was the single greatest predictor of health-promoting lifestyle behaviors in this sample of employed, midlife women.

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CHAPTER I

The number of American women in the labor force has increased since World War II (Rodin & Ickovics, 1990). Historically, scientific studies dealing with the health of employed women were focused primarily on childbearing issues. However, recent studies have demonstrated that employed women are healthier than non-employed women, resulting in a growing interest in examination of the correlates of health-promoting lifestyle behaviors of employed women (Older Women's League, 1988). This study focused on the correlates of health-promoting lifestyle behaviors: perceived health status, social support, occupation, and selected demographics in employed, midlife women.

Three independent variables in this study, perceived health status, social support, and occupation were identified in the published literature as potential correlates to health-promoting lifestyle behaviors (Palmore & Luikart, 1972; Cohen & Syme, 1985). In addition, selected demographic factors were identified as being important to the health of working women and included age, educational level, race, marital status, socioeconomic level, number of children, and religious orientation (Adelman, Antonucci,

Crohan, & Coleman, 1990; Marcus & Seeman, 1981; Walker, Volkan, Sechrist, & Pender, 1988; Cohen & Syme, 1985). The dependent variable, health-promoting lifestyle behaviors, was an outcome identified within the Health Promotion Model (Pender, 1982, 1987). Health-promoting lifestyle behaviors become integrated within a person for the purpose of promoting personal health. These behaviors may include physical exercise, good nutritional practices, development of social support, and the use of stress management techniques. The theoretical framework for the study was provided by Pender's Health Promotion Model (1987).

Both employment status and stage of life impact the health status of women. Employment provides both physical health advantages and psychological benefits for women (Hazuda, Haffner, Stern, Knapp, Eifler & Rosenthal, 1986; Verbrugge, 1979, 1983). The midlife period, 35 to 45 years of age, defines an opportune time for women to take preventive actions for their future health (Baruch & Brooks-Gunn, 1984; Giele, 1982). Although scientific studies about the health of employed, midlife women have been conducted (Hazuda et al., 1986; Duffy, 1988), findings have not identified the relationship of perceived health status, social support, occupation, and the selected demographic factors to health-promoting lifestyle behaviors of employed, midlife women.

Problem of Study

The problem under investigation for this study was as follows: What is the relationship between perceived health status, social support, occupation, and selected demographic factors, to health-promoting lifestyle behaviors of employed, midlife women?

Rationale for Study

Historically, men rather than women have been the focus of scientific studies (Roberts, 1990); however, Duffy (1988) cited a growing body of knowledge presently focusing upon the health of women. As the number of women in the labor force continues to increase, information is needed about the correlates of health-promoting behaviors of employed women.

Even though a greater number of women are in the workforce, employed women are still victims of the health coverage crisis. Health care expenses are 11% of the gross national product, with 41% of the total distribution going to hospital care (Wiest, 1988).

The explosion of health care costs has led policymakers, like state governments, to look at redirecting resources toward preventive services and away from high-cost, high-technology procedures (Chu & Trapnell, 1990). A study investigating the correlates of health-promoting

lifestyle behaviors will add to the knowledge-base regarding health-promoting lifestyle behaviors, assist in health promotion, and protect the public from the high costs of hospitalization by identifying correlates of health.

Evidence of a national focus on both health and women currently exists. First, the Surgeon General of the United States established national objectives to achieve a higher level of health for all Americans by the year 2000 in Healthy People 2000 (United States Department of Health and Human Services, 1991). Second, the Centers for Disease Control and Health Promotion have designated a network of National Prevention Centers to investigate and disseminate information about health in designated geographic areas (Connor & Livingood, 1991). Third, the Women's Health Equity Act of 1990 created the Office of Research on Women's Health at the National Institutes of Health. As a result, current studies specific to the health of women and the appropriate participation of women as the subjects of scientific studies are currently emphasized for federally funded studies (Sharp, 1990; U.S. Public Health Service, 1992).

This study of the correlates of health-promoting behaviors for midlife, employed women was based on three facts. First, women have longer lifespans than men (Ortmeyer, 1979). The life expectancy rate for

females born in 1985 is 78 years, while males born that same year have only a life expectancy rate of 71 years (Davis, 1988). Second, midlife is a time in which women have protected their health by preventive actions including mammograms and Papanicolaou smears (Baruch & Brooks-Gunn, 1984; Giele, 1982; Older Women's League, 1988). Third, employed women often experience limited access to health care as a result of lower salaries (Rodin & Ickovics, 1990). Identifying correlates of health-promoting behaviors can provide information to prevent or modify chronic health problems, thereby decreasing the medical costs for women.

For this study, the correlates of health-promoting behaviors such as perceived health status, social support, occupation, and selected demographics were identified as health-promoting lifestyle behaviors by a review of the published literature. Perceived health status has been shown to influence the frequency and intensity of health promoting behaviors (Pender, 1987). Pender and Pender (1986) identified health status as a significant determinant of behavioral intentions to attain or maintain recommended weight. Social support has been shown to influence health and health practices (Cohen & Syme, 1985; Muhlenkamp & Sayles, 1986). Occupations which were more complex, challenging, and offered more autonomy were associated with better health status than more routine

work (Muller, 1986). The selected demographic factors related to health-promoting lifestyle behaviors included age, educational level, race, marital status, number of children, socioeconomic level, and religious orientation. These variables have been correlated with the health of adult women in several studies.

Pender and Pender (1980) identified post high school education as a predictor for the use of preventive and health promotion services. Racial differences for longevity were demonstrated by national norms in which white American women outlived non-white American women by 5 years (Baruch & Brooks-Gunn, 1984). Adelman et al. (1990) and Verbrugge (1979, 1983) found that married women had better health than unmarried women.

In the same study, Adelman et al., (1990) demonstrated that women with children described themselves as having a better life than a comparison group of women without children; a result also obtained in an earlier study by Marcus and Seeman, (1981). Walker, Volkan, Sechrist, & Pender (1988) associated a high socioeconomic status with healthy behavior. Cohen and Syme (1985) found lower rates of disease among members of religious groups such as Mormons and Seventh-Day Adventists. The dependent variable, health-promoting lifestyle behaviors, was derived from the Health Promotion Model developed by Pender as a

means of measuring the multidimensions of health status (Walker, Sechrist, and Pender, 1987).

Gaining information about the correlates of health-promoting behaviors benefits employers, nurses, and other health professionals. Describing the extent to which correlates relate to the healthy lifestyle of employees is of concern both to employers who bear health care costs, as well as to nurses and other health professionals who are responsible for providing health promotion programs particularly in work settings.

Previous studies have demonstrated the cost and effectiveness of corporate wellness programs with a 19% reduction in absenteeism at General Mills (Wood, Olmstead & Craig, 1989), a 14% decrease in blue collar absenteeism at Dupont Corporation (Bertera, 1990), and a decrease in absenteeism by 1.2 days per annum for employees at Traveler's Insurance Company (Lynch, Golaszewski, Clearie, Snow & Vickery, 1990).

Still needed are studies concerning correlates of healthy lifestyle behaviors of employees. Results of this study will enable health care professionals to gain information about the correlates of health-promoting lifestyle behaviors.

Theoretical Framework

The theoretical framework for this study was provided by Pender's 1987 Health Promotion Model, (see Figure 1) and is presented in the following sequence: (a) overview, (b) components of model, (c) development of model, (d) use of model for nursing, (e) use of model for study.

Overview

The Health Promotion Model (Pender, 1987) (see Figure 1) enabled the identification of components which result in health as an increased level of well-being and self-actualization in a given individual or group. The model was developed to be complementary to other models which focus on health protection (Pender, 1987). In the Health Promotion Model, health-promoting behavior is defined as behavior that maintains or improves the individual's level of well-being, personal fulfillment, and self-actualization (Pender, 1987). Behaviors are directed toward an end result of health promotion (Pender, 1982). Motivation for health-promotion behaviors comes from a desire for growth, expression of human potential, and an increased quality of life, not from an attempt to avoid a specific illness or disease. Pender stated that, "Health-promoting behaviors represent man acting on his environment as he moves toward higher levels of health

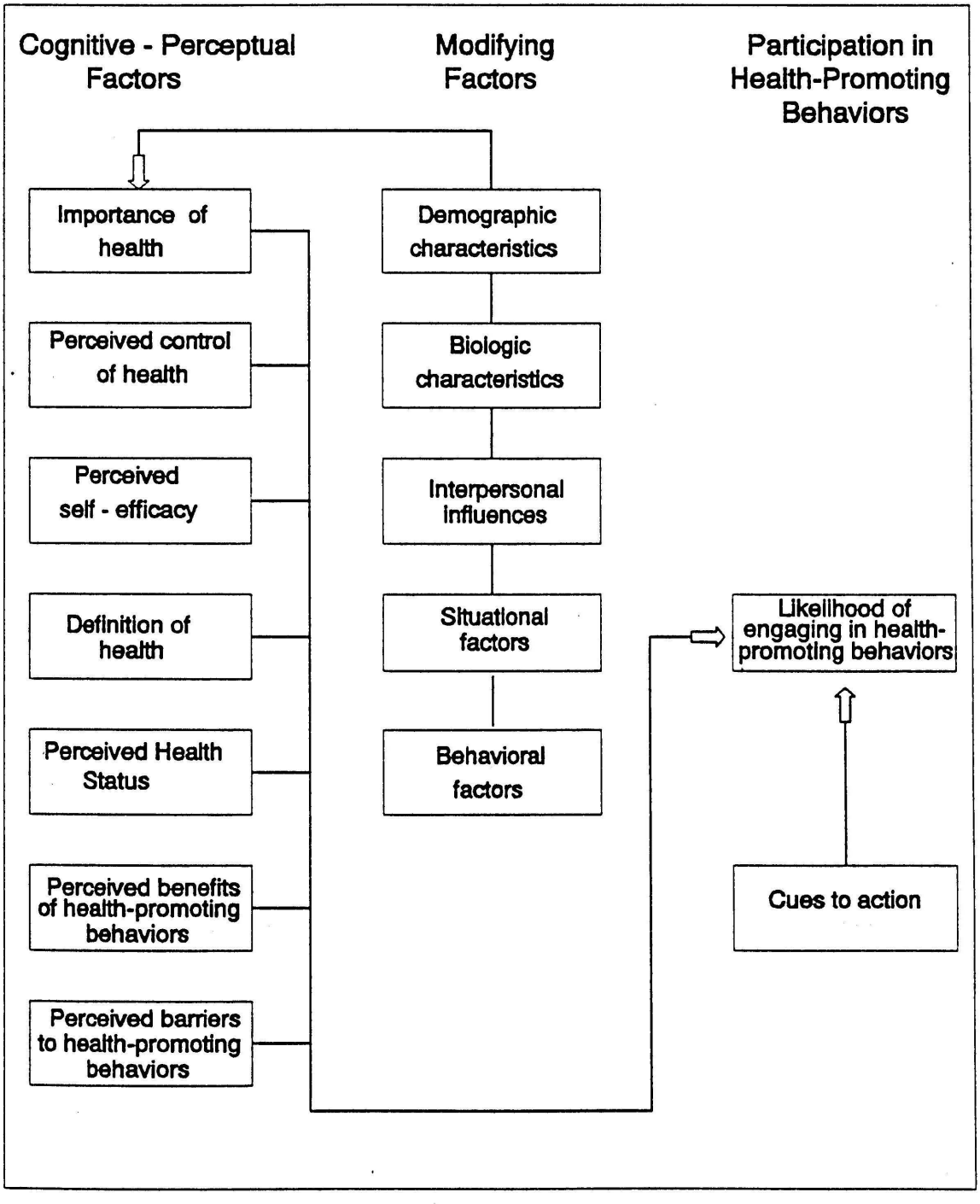

Figure 1. Health Promotion Model by Pender (1987) identifies the attainment of health - promoting behaviors. Note. From Health Promotion in Nursing Practice (p.58) by N. J. Pender, PhD, 1987, Connecticut: Appleton and Lange. Copyright 1987 by Appleton and Lange. Reprinted by permission.

rather than reacting to external influences or threats posed by the environment" (Pender, 1987, p. 60).

Components of Model

Pender's model categorized the correlates of health-promoting behaviors into three separate but interrelated processes. The three processes are Cognitive-Perceptual Factors, Modifying Factors, and Participation in Health-Promoting Behavior.

Cognitive-Perceptual Factors

The primary motivational behaviors are labeled as Cognitive-Perceptual Factors and are the factors that directly impact the occurrence of health-promoting behaviors. Pender identified the six components of the Cognitive-Perceptual Factors as: importance of health, perceived control of health, perceived self-efficacy, definition of health, perceived health status, and perceived benefits of health-promoting behaviors.

Modifying Factors

The secondary mechanisms which act indirectly upon the occurrence of health-promoting behaviors are identified as Modifying Factors. These factors indirectly impact health-promoting behaviors by exerting action through the

Cognitive-Perceptual Factors (Pender, 1987). Pender described the Modifying Factors as the following: demographic characteristics consisting of age, sex, race, ethnicity, education, and income; biological characteristics composed of body fat and body weight; interpersonal influences arising through the expectations of significant others, family patterns of health care, and interactions with health professionals; situational factors with environmental determinants that impact the availability and ease of access to health-promoting alternatives; and behavioral factors like previous experiences with health-promoting behaviors that affect people's dispositions toward health-promoting behavior (Pender, 1987).

Participation in Health-Promoting Behavior

Recognition that each person either chooses to engage or not to engage in a health-promoting behavior, was identified by Pender (1987) as participation in health-promoting behavior. This model component includes cues to action that originate either internally such as an increase in positive feelings or externally as a message from the media or from conversations with others in the environment. Participation in health-promoting behavior has a direct impact on whether or not an individual exhibits health-promoting behaviors (Pender, 1987).

Development of Model

The Health Promotion Model developed by Pender (1987) is based upon a synthesis of research findings from studies of health promotion and wellness behavior. Pender identified health promotion and illness prevention as complementary but distinct entities. Prior to development of the Health Promotion Model, Pender reviewed the Health Belief Model developed by Rosenstock, Hochbaum, and Kegeles in the 1950's and determined that model to be unsatisfactory for the concept of health promotion (Pender, 1982). In 1982, Pender developed the original Health Promotion Model to explain behavior directed toward health promotion (Pender, 1982). The model was developed with concepts from social learning theory while the structure was derived from the framework of the Health Belief Model (Pender, 1982). Pender requested health promotion investigators to substantiate the prediction potential of the model by empirical testing (Pender, 1982). Data collected from empirical testing led to a revised Health Promotion Model in 1987 (Pender, 1987). The Health Promotion Model (Pender, 1987) provided the theoretical framework for the proposed study.

Use of Model for Nursing

The Health Promotion Model provided an organizing

framework within which nurses could function independently. In the nurse-client relationship, the nurse serves as a consultant and the client becomes a "producer of health" (Pender 1987). Behaviors occur as a result of interaction between the nurse and client. Within the educative-supportive function, the focus is upon prevention and health promotion. The goal of the nurse in such a relationship is to empower the client for his own self-determination and self-management in order to attain high-level health and well-being (Pender, 1987).

Use of Model for Study

The Health Promotion Model (Pender, 1987) guided the posing of the research problem and development of the hypothesis in this study by enabling identification of specific correlates for health-promoting behaviors. The correlates for this study were based upon the concepts and their theoretical relationships as identified in the model. Correlates in this project were specified according to the definitions within each component of the Health Promotion Model.

Pender conceptualized Cognitive-Perceptual Factors along with certain behavioral and contextual factors as contributing to the use or nonparticipation of health-promoting behaviors. Within this study, perceived health

status was identified as a Cognitive-Perceptual Factor of the Health Promotion Model (see Figure 2). Social support was identified as an interpersonal influence, and selected demographic factors were identified as demographic characteristics. Occupation was identified as a situational factor since jobs in the workplace provide health-promoting options or constraints, in accordance with the specified criteria designated by Pender, Walker, Sechrist, and Frank-Stromberg (1990). Thus, the three correlates of social support, selected demographic variables, and occupation were posed as Modifying Factors of health-promoting behavior (see Figure 2).

Both Cognitive-Perceptual and Modifying Factors were measured to determine individual and cumulative effects upon the health-promoting lifestyle behaviors as identified by the Health-Promoting Lifestyle Profile (HPLP) developed by Walker, Sechrist, and Pender (1987) (see Appendix A). The results of this study will assist in the validation of the theoretical relationships posed by the Health Promotion Model in employed, midlife women.

Assumptions

Assumptions derived from the theoretical framework were:

1. The health-seeking process occurs in the context of

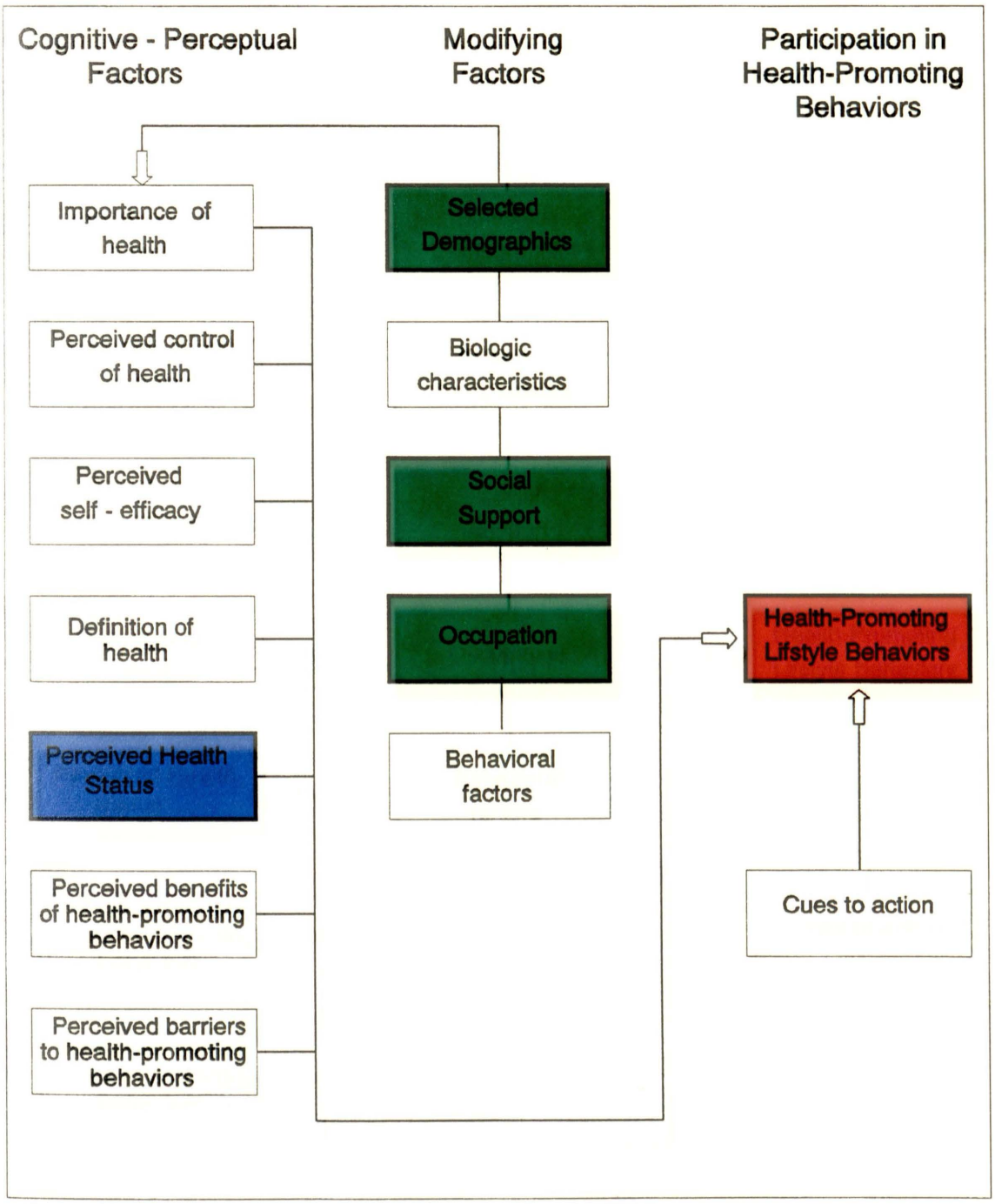

Figure 2. Highlighted areas of Health Promotion Model depict variables to be measured in study. Note. From Health Promotion in Nursing Practice (p.58) by N. J. Pender, PhD, 1987, Connecticut: Appleton and Lange. Copyright 1987 by Appleton and Lange. Reprinted by permission.

interpersonal and social relationships (Pender, 1987).

2. Individuals will engage in health behaviors that are found to be relevant personally and acceptable in their social context (Pender, 1987).

3. Clients become "producers of health" due to self-directed initiatives (Pender, 1987).

Hypothesis

The hypothesis for this study was: Perceived health status, social support, occupation, and selected demographics (age, educational level, race, marital status, socioeconomic level, number of children, and religious orientation) of employed, midlife women are related to health-promoting lifestyle behaviors.

Definition of Terms

Specific terms were used throughout the study. For the purposes of this study, the following terms were defined:

1. Employed is a report of participation in the labor force (Webster's Ninth New Collegiate Dictionary, 1983). Within this study, employed was operationalized as an affirmative answer to question 1 of the Occupational Scale (see Appendix B).

2. Health-promoting lifestyle behaviors refer to the multidimensional patterns of self-initiated actions and

perceptions that served to maintain or enhance the level of wellness, self-actualization, and fulfillment of the specified individual or group of individuals (Walker, Sechrist, & Pender, 1987). Within this study, the operational definition of health-promoting lifestyle behaviors were behaviors that become an integral part of an individual lifestyle (Pender, 1986). The health-promoting lifestyle behaviors were measured by the Health-Promoting Lifestyle Profile (HPLP) developed by Walker, Sechrist, and Pender in 1987 (see Appendix A).

The Health-Promoting Lifestyle Profile is composed of six subsections: nutrition, exercise, health responsibility, stress management, interpersonal support, and self-actualization. Together these subsections contributed to a total score resulting in the profile of health-promoting lifestyle behaviors.

3. Midlife is the central portion of a person's age, typically 35 to 65 years of age (Baruch & Brooks-Gunn, 1984). Within this study, midlife was operationalized as 35 to 45 years of age. The data is collected with the Demographic Data Form (see Appendix D).

4. Occupation is the trade, profession, or business for which one receives compensation (Webster's Ninth New Collegiate Dictionary, 1983). Within this study, occupation was measured with the Occupational Scale

developed by Hollingshead (1975) (see Appendix B).

5. Perceived health status is self-rated health for an individual (Palmore & Luikart, 1972). Within this study, perceived health status was measured by the Medical Outcomes Study (MOS) Short-form Health Survey developed by Stewart, Hays, and Ware (1988) (see Appendix C).

6. Selected demographic factors refer to the specific information about a population (Webster's Ninth New Collegiate Dictionary, 1983). Within this study, the selected demographic factors of age, educational level, race, marital status, economic level, number of children, and religious orientation were measured for the sample (see Appendix D).

7. Social support is the subjective feeling of belonging, of being accepted, loved, esteemed, valued, and needed for oneself, not for what one can do for others (Moss, 1973). Within this study, social support was measured with the Duke-University of North Carolina (UNC) Functional Social Support Questionnaire as reported by Broadhead, Gehlback, deGruy and Kaplan (1988) (see Appendix E).

Limitations

The limitations of the study were:

1. Data was collected in specific sites within one geographic area and results cannot be generalized to other areas.
2. The use of nonprobability convenience sampling limited generalization of findings to the subjects in the sample.
3. Causality cannot be inferred in this study as a nonexperimental research design was used.

Summary

Chapter one has demonstrated the importance of investigating the relationship between perceived health status, social support, occupation, and the selected demographic factors of age, educational level, race, marital status, socioeconomic level, number of children, and religious orientation to health-promoting lifestyle behaviors in employed, midlife women. The Health Promotion Model developed by Pender (1987) provided the theoretical foundation for this study and guided the selection of the variables for the study. Results of this study will assist in the validation of the theoretical relationships posed by the Health Promotion Model in employed, midlife women.

Information about the correlates of health-promoting behaviors will provide information for health care workers, especially nurses who are responsible for providing health promotion programs in work settings.

CHAPTER II

REVIEW OF LITERATURE

Historically, illness, not health, has been the primary basis for the health professions with mortality and morbidity as the most frequent indicators of "health" (Smith, 1981). However, the health movement of the 80's, which fostered widespread wellness programs with people committed to their own wellness, led to a change in direction by some health professionals. Health professionals, including nursing, are now seeking to stake a claim in the health promotion arena (Smith, 1990).

Nursing theorists have offered different perspectives of health and health promotion (Smith, 1990). Health promotion has been defined as optimizing functioning (King, 1981; Orem, 1985), supporting balance or stability (Johnson, 1980; Neuman, 1989), strengthening adaptation (Roy, 1987), maximizing well-being (Rogers, 1970), expanding consciousness (Newman, 1987), promoting harmony (Watson, 1985), or co-creating becoming (Parse, 1987). The variation in definitions depicts the diversity of opinions by nurses about health. Pender (1990) asserted that a new definition of health was needed that would be positive, comprehensive, unifying, and humanistic.

Health has historically been viewed as a positive state for individuals. The World Health Organization in 1974 identified health as "a state of complete physical, mental, and social well-being and not merely the absence of disease and infirmity" (Pender, 1987, p. 17). In addition, health has been described as leading to the actualization of human potential and maintenance of a balanced and purposeful direction within the environment (Dunn, 1980; Goodstadt, Simpson, & Loranger, 1987). Health is a complex and multidetermined issue, influenced by a wide variety of factors: physiological, biochemical, psychological, environmental and social (Rodin & Salovey, 1989).

Motivation for health comes from a desire for growth, expression of human potential, and an increased quality of life not from an attempt to avoid a specific illness or disease (Pender, 1987). Health-promotive behaviors have been defined as those behaviors initiated by a person, of any age, to sustain or increase optimal well-being, self-actualization, and personal fulfillment (Palank, 1991).

Health promotion leads to changes in patterns of living which enhance the quality of life not the avoidance of disease processes (Parse, 1990). Pender (1987) separated health promotion and prevention as distinguishable but complementary processes. Investigation of the impact of lifestyle on health has led the scientific community to

design empirical studies concerning the correlates for a health-promotive lifestyle.

A review of the literature identified determinants of a health-promotive lifestyle which became the variables for this study. The variables have been organized according to the Health-Promotion Model of Pender (1987). Perceived health status is a cognitive-perceptual factor of the model. Social support, occupation, and selected demographics are identified as modifying factors of the model. Modifying factors consist of demographic and biological characteristics, and interpersonal, situational, and behavioral factors. Social support is an example of an interpersonal factor and demographic characteristics are identified in the model by the same name. Occupation, usually considered a demographic characteristic, fulfills the criteria as a situational factor in this study.

This chapter provides a review of the literature for each variable of the study. When possible, studies specific to adult women regarding the independent and dependent variables of this study have been reviewed and discussed in relation to employment.

Perceived Health Status

Perceived health status is an evaluation of one's own self-health. The perception of health status appears to

impact the frequency and intensity of health-promoting behaviors (Pender, 1987). In a review of studies concerning the determinants of participation in exercise programs, Dishman, Sallis, & Orenstein (1985) concluded that perceptions of good health were associated with an increased probability of continuing exercise.

The assessment of "feeling good" may be a source of motivation to take actions that increase personal health status (Pender & Pender, 1986). Kaplan and Cowles (1978) recommended initial health-promoting behaviors like exercise and relaxation through which individuals experience rapid and noticeable changes in well-being as initial steps in a smoking cessation program. Initial experiences of increased well-being and improved health status can be used to reinforce the value of good health and promote more extensive changes in life style that individuals perceive as difficult (Pender, 1987).

Perceived health status has demonstrated an effect on response to health-promotion efforts (Pender, 1987). Sidney and Shephard (1976) reported that those individuals who viewed themselves as very healthy, indicated a higher motivation to engage intensively and frequently in health-promoting behaviors than did individuals who viewed themselves as only moderately healthy. The experience of health may be a source of motivation for health information

seeking and health action (Pender, 1987).

The perception and interpretation of personal health is as influential for health care as the presence or absence of pathology (Weisensee, 1986). A comparative study of males (n=16) and females (n=19) by Weisensee (1986) was based on the assumption that people seek care on the basis of a self-assessed need for it. The study revealed a gender difference for the statement, "Most people get sick a little easier than I do," (X=6.11, df=2, $p \leq 0.05$). The majority of males (75%) indicated "true" while 25% of males indicated "don't know" and 0% indicated the statement was false. In comparison, only half (52.6%) of females stated "true" while 15.8% of females answered "don't know" and 31.6% indicated the statement was "false." Due to the small sample size, the study should not be generalized. However, the study does provide preliminary support for the idea that men and women have differing perceptions of their own health.

Women do not routinely view their own health as worse than the health of other women. McElmurry and LiBrizzi (1986) found the majority of women ages 65 to 86 (M=68) rated their health as better than other women their age. The 130 women in this study were predominately middle class widows with 8-17 years of education. In another study, Napholz (1985) confirmed that 50% of the sample of women (N=67) with a mean age of 40, rated themselves as above

average health or very healthy when compared with other women.

Pender & Pender (1986) identified that women who perceived their own health status as either good or excellent increased their reported intentions to eat an appropriate diet and to perform exercises to maintain their weight. The sample included 377 household residents in two communities, resulting in a sample composed of 40% males and 60% females between the ages of 18 and 66 ($\underline{M}$=38, SD=12).

Studies of the experiences of women during menopause have been common, but few have linked the perception of health status to the event. In one study, 249 menopausal women ages 40 to 55 ($\underline{M}$=47, SD=5.46) were recruited from professional, community, and religious groups (Engel, 1987). The women had a mean level of 14.5 years of education (SD=2.62), mean family income of $46,716 (SD=$35,676), and 74.3% were employed outside the home. Perceived health status was measured in this study by a combination of several instruments which focused separately on physical, psychological, or social domains of health. Women who were experiencing life changes like menopause were found to have a less positive perception of their health status.

Initial studies of employed women at the executive level have demonstrated their perception of health status. LaRosa (1990) studied 545 executive women ($\underline{M}$=49, 90% white,

58% married). The majority of the sample perceived themselves to be quite healthy which was supported by their overall wellness and risk assessment scores (LaRosa, 1990). The findings suggested that women in executive positions do seek to increase their own health status since over half of the executive group practiced positive stress reducing activities, such as regular exercise.

Social Support

Social support has been defined several ways in the literature. Moss (1973) defined social support as the subjective feeling of belonging, of being accepted, loved, esteemed, valued, and needed for oneself, not for what one can do for others. Cobb (1976) conceived of social support as information that leads people to believe they are cared for, loved, esteemed, and valued, and that they belong to a network of communication and mutual obligation. Similarly, Kahn and Antonucci (1980) defined social support as an interpersonal transaction which resulted in affect, affirmation, or aid. Each of these definitions is multifaceted and presents difficulties in measurement.

Researchers have defined and measured social support from three perspectives. Social support has been defined and measured either by the quantity of social relationships, by the structure of a person's social relationships, or by

the functional content of the relationships (House & Kahn, 1985). Contemporary researchers strive to separate the structural and functional aspects of social support, as differentiated from early researchers who frequently combined the two perspectives. Schulze and Rau (1985) reported that many researchers identify the functional aspects of social support as more relevant than the number of people in a network. The Duke-UNC Social Support Questionnaire (Broadhead, Gehlback, deGruy, & Kaplan, 1988) measures functional aspects of social support and reflects the perspective of this researcher.

Linkage of Social Support to Health

Currently, there is considerable research and clinical interest in the concept of social support as an important determinant of health status. In such research, social support is most often conceptualized as having either a direct positive effect on health or an indirect protective effect via a stress-buffering mechanism (Blake, 1991). As a result of research, low levels of social support have been clearly associated with poor physical and mental health (Shumaker and Hill, 1991).

The possible mechanisms underlying the relationship between social support and health have been investigated (Cohen, 1988; Davidson & Shumaker, 1987; House, Landis & Umberson, 1988). Social support may influence health by

directly or indirectly affecting health behaviors (Cohen, 1988), by promoting healthy or unhealthy behaviors (Kaplan & Hartwell, 1987), by the provision of information from supportive exchanges (Cohen, 1988), or by the provision of tangible resources (Cohen, 1988). Social support may be associated with positive affective states, such as increased feelings of belonging and control (Cohen, 1988).

Other researchers have suggested that neuroendocrine, immunologic, and hemodynamic responses impact the relationship of social support and health (Broadhead et al., 1983; Cohen, 1988). Much of the research in this area emphasizes the effects that acute neuroendocrine and cardiovascular responses to stressful stimuli have upon atherogenesis or the precipitation of acute clinical events (myocardial ischemia, myocardial infarction, arrhythmia, and sudden cardiac death). Stress is thought to be associated with physiological responses that enhance the development of lesions and social support may buffer the physiological responses, thus influencing the development of lesions (Shumaker & Hill, 1991). In a recent study, Kamarch, Manuck, and Jennings (1989) found that the presence of a supportive person attenuated reactivity to psychological stressors for women in a laboratory situation.

There are questionable findings in the research linking social support and health because most of the investigations

have been almost exclusively limited to Caucasian men (Shumaker & Hill, 1991). Despite the limited data available, Shumaker and Hill (1991) reported a relationship between social support and physical health for women.

Although gender based studies are not prevalent, some studies have included women and men as subjects. In the Alameda County, California study 2,496 women and 2,229 men completed a self-administered questionnaire concerning social support (Berkman, 1985). Mortality data were collected on the sample from 1965 through 1974. For both men and women, the relationship between social support and mortality followed a linear pattern. Social support was determined by the number and frequency of contacts with friends and relatives in the study.

In the Tecumseh (Michigan) Community Health Study, 1,432 women and 1,322 men participated in an initial baseline survey which included a physical exam (House, Landis, & Umberson 1988). Four structure-based aspects of social support were assessed: (a) marital status, visits with family and friends, and going on pleasure drives or picnics, (b) formal organizational involvement including churches, meetings, and voluntary organizations; (c) active and social leisure activities (e.g. classes, movies); and (d) passive and solitary leisure activities (e.g. reading). A strong relationship between the low cumulative index level

of social support and an increased incidence in ischemic heart disease was identified in women (House, Robbins, & Metzner, 1982).

Hubbard, Muhlenkamp, and Brown (1984) measured social support and its impact on positive health practices. In their study, social support was demonstrated to have a strong positive association with participation in positive health practices.

Social Support and Employment

Social support and employment can provide an interactive effect on health behaviors. The impact of employment on women was examined by Pugliesi (1988) in a sample of adult employed women (N=534). Results indicated that both social support and employment directly affected well-being. Similarly, the health effects of three roles - labor force participant, spouse and parent were assessed in a longitudinal study with a sample of older middle-aged women. Waldron and Jacobs (1989) found that women who held more roles generally also reported having better health. The investigators concluded that employment increased social support which was beneficial for women's health. The results varied, however, depending upon race and roles held by the women. Labor force participation had beneficial effects on health for white unmarried women and for black women with children at home, but not for other women.

Occupation

As defined by Webster's Ninth New Collegiate Dictionary (1983), occupation refers to a trade, profession, or business. Interest concerning the impact of different occupations upon women's health has been stimulated by the increased number of women entering the labor force since World War II (Rodin & Ickovics, 1990). Research has demonstrated that employment has both positive and negative effects on the mental and physical health of women.

Waldron and Jacobs (1989) analyzed longitudinal data for three roles in a national sample of older middle aged women. The three roles included labor force participant, spouse and parent. The sample consisted of women ages 30 to 44 years at the initial survey in 1967, ages 40 to 54 years when surveyed in 1977, and ages 45 to 59 years at the third sampling in 1982. In the latest survey, conducted in 1982, the sample of 3,282 women (2392 white women and 890 black women) were interviewed (response rate = 70%). Health status was assessed with a 22 questionnaire interview which encompassed difficulty with activities, limitations due to poor health and psychosomatic symptoms. The use of regression analysis identified that women holding more roles had significantly better health trends ($p \leq .01$). However, the effects of role involvement on health were not uniform throughout the population. For unmarried white women, labor

force participation had beneficial effects on health; marriage had beneficial effects on health for women not in the labor force and parental status did not affect health. For black women, it appeared that labor force participation had beneficial effects on health for mothers, children at home had harmful effects on health for women who were not in the labor force, and marital status did not affect health.

The relation between type of occupation and health has been studied in women. The assumption that women like men would experience high levels of illness in relation to occupational stress has not been demonstrated. Studies by Baruch, Barnett and Rivers (1985), Hibbard and Pope (1985), and Verbrugge (1986, 1987) have shown that women in high status occupations have higher levels of wellness. In contrast, women in low status occupations, such as clerical positions have worse health outcomes than do other working women (Haynes & Feinleib, 1980).

In the Framingham Study, (Gordon, Castelli, Hjortland, Kannel, & Dawber, 1977) lipid and lipoprotein values, including fasting triglycerides and high density lipoproteins, low density lipoproteins and total cholesterol levels, were obtained on 1,445 women and 1,025 men free of coronary heart disease. High density lipoproteins were found to have an inverse association with the incidence of coronary heart disease ($p < 0.001$) in either men or women.

Among women clerical workers in the Framingham study, the most significant factors found to be predictors of coronary disease were stress related. The common stressors were an unsupportive boss and decreased job mobility, resulting in suppressed hostility (Haynes & Feinleib, 1980).

Selected Demographics

Varying results concerning the relationship between demographic characteristics and health were found in the review of the literature. Pender (1982) identified a relationship between health and the demographic characteristics of age, ethnicity, level of education, marital status, religious affiliation, family income and number of children in the family. However, Duffy (1988, 1989) did not find a correlation between health and the demographic variables of age, race, income level, education, marital status, employment and number of persons in the household.

Historically, middle age, as a topic for research, has been largely ignored due to a prevailing view that nothing of interest took place during this period of development. However, studies of elderly populations identified the diversity of the population and interest was generated in the antecedents for different patterns of old age and the focus became aging rather than the aged (Nolan, 1986).

Still, most research to date on midlife has been based on samples of males, and has generated male models (Nolan, 1986). Due to the limited amount of research on midlife for women, negative stereotypes have been perpetuated (Nolan,1986).

The age span for midlife can vary as widely as 35 to 75 years of age (American Board of Family Practice Report, 1990). A more conservative age span of 35 to 45 years of age was used in National Longitudinal Surveys (Shaw, 1986) and reflects the perspective of this study.

Midlife has been variously characterized as a time of stability in which people change little in their attitudes, values, and orientations toward life (Chiriboga, 1981) or as a period of new social experiences and developmental goals which require adjustments in attitude and life orientations (Neugarten, 1968, Sheehy 1976).

Studies about midlife women have focused largely on menopause or environmental stressors like changes in the family environment when children leave home or the influence of work on health (Nolan, 1986). Menopausal symptoms like hot flashes and night sweats are now well documented as indicators of hormonal changes. Psychological symptoms have not consistently been identified with menopause.

The influence of work on health for midlife women was analyzed by Coleman and Antonucci (1983) from data of a

national survey conducted by the Survey Research Center at the University of Michigan. Comparison of working women to homemakers revealed that working women scored higher on most of the measures for psychological well-being, had higher self-esteem, and reported being in better physical health than women not employed outside the home.

The link between marriage and good physical health has been supported in studies by Gove and Hughes (1979), Marcus and Seeman (1981), and Verbrugge (1979, 1982). However, a sample of 20,745 white women aged 18 to 55 years from the 1979 National Health Interview Survey revealed a different outcome. When a health-profiles approach was taken, the health of women in different living arrangements ranked from highest to lowest in the following ways: women living with their parents were healthiest followed by those who lived in children/relatives' households; women head of families were the least healthy, proceeded only by those living alone; women who lived with their husbands or with unrelated persons were intermediate, and did not differ from each other (Anson, 1988).

Religion and health have historical connections in the literature (Marty & Vaux, 1982). In the Old Testament repetition of the word "shalom," is a blessing one seeks for oneself and wishes for others, to express the fullness and well-being of life (Wilkinson, 1980). Religion may impact

beliefs about healthy behaviors for a group. Cohen & Syme (1985) found lower rates of disease among members of religious groups such as Mormons and Seventh-Day Adventists. Studies by Vaux (1976) identified that Mormons in Utah had a 30 percent lower incidence of most cancers, Jewish men in New York City had lower rates of lung cancer than Protestant or Catholic men, and regular church-attenders in Washington County, Maryland, had 40 percent less risk from arteriosclerotic heart disease. Such studies have lent support to the idea that religious beliefs can sometimes result in a pattern of behavior which includes good health habits and excludes bad behaviors.

Ethnic differences in relation to health have been demonstrated in various studies (U.S. Department of Health and Human Services, 1986). Gottlieb and Green (1987) documented the influence of ethnicity (Anglo, Black, or Hispanic) on the following lifestyle health risk behaviors: alcohol use, smoking, relative weight, and physical activity ($p \leq .001$). Among women, lower alcohol consumption was found among Black and Hispanic individuals, but Anglo women were more likely to exercise than the other two groups. Black women were more likely to be overweight than Black men, while the opposite was true for Anglos. Data for the analyses originated from the National Survey of Personal Health Practices and Consequences conducted in 1979 (Wilson

& Elison, 1981) with a sample representative of the United States adult household population. A sample of 3,025 completed interviews (response rate = 81%) were used in the analyses. Included among the respondents were 172 Hispanics and 282 Blacks.

National norms demonstrated racial differences for longevity with White American women outliving Non-white American women by 5 years (Baruch & Brooks-Gunn, 1984). In the United States in 1980, White women including Hispanics had a life expectancy of 78.1 years, followed by Black women with a life expectancy of 72.3 years (National Center for Health Statistics, 1980). Causes of death also vary by ethnicity. Blacks have higher age-adjusted death rates than Whites of the same gender for heart disease, cancer, cerebrovascular diseases, liver disease and cirrhosis, diabetes mellitus, and pneumonia (Gottlieb & Green, 1987). Differences in life expectancy and causes of death demonstrate the need to identify and evaluate populations to a comparable ethnic heritage.

Education has not consistently been identified as a correlate for the health status of women. Level of education has been demonstrated to impact knowledge, personal values, attitudes and beliefs, (Willits & Funk, 1989). In a study to evaluate prior college attendance of women (N = 749) with their attitudinal change during the

midlife, Willits and Funk (1989) identified no relationship between education and changes in attitudes toward traditional gender roles.

In a study of employment and health in midlife women 40 to 64 years of age (N =463) Adelmann, Antonucci, Crohan, and Coleman, (1990) posited that education would have an indirect effect on health through employment since better educated women are more likely to be employed and to benefit from the practical and psychologic benefits of employment. The study did not support education as a significant indicator for health in midlife women.

Behavioral changes, however, can result from educational experiences. Pender and Pender (1980) identified post high school education as a predictor for the use of preventive and health promotion services. Education has been shown to relate to the health status of a population (Gottlieb & Green, 1987). Education is both a mechanism and a measure for acculturation to the norms of the dominant Anglo ethnic group (Gottlieb & Green, 1987). Because differences in health-promoting behaviors have occurred with populations of different educational levels, it is important to determine the level of education for a sample of the population.

Socioeconomic level is an important factor to assess as a determinant of health-promoting lifestyle

behaviors (Hammer, 1983). The available economic resources of an individual or group can determine living conditions, clothing, and psychological stress. Walker, Volkan, Sechrist and Pender (1988) associated a higher socioeconomic status with healthy behaviors in a study comparing the health promoting lifestyles of older adults to young and middle aged adults (N=452). Higher socioeconomic status has been associated with healthy behaviors both among general and adult samples (Harris & Guten, 1979). The Black Report of 1982 demonstrated that people in poorer social classes had more illness, and a much higher mortality, than their fellow citizens in the more affluent classes (Townsend & Davidson, 1982).

Research about the health of parents has sometimes considered the number and ages of children in the family. While the findings are variable, they seem to point toward this generalization: women with no children or many children have more health problems than those with a few children (Haynes & Feinleib, 1980; Muller, 1986; Woods & Hulka, 1979). Employment can sometimes modify these results (Muller, 1986). Adelman et. al (1990) demonstrated that employed women with children described themselves as having a better life than a comparison group of women without children; a result also obtained in an earlier study by Marcus and Seeman, (1981).

In contrast, a study by Walker and Best (1991) demonstrated that seventy-eight full-time employed mothers of infants reported greater perceived stress in their lives and less healthy lifestyles (M=27.8, SD=7.1) when compared to a group of seventy homemakers (M=23.5, SD=83; F[1,144]=10.80; $p \leq .01$). The findings supported the hypothesis that full-time employed mothers of infants may adopt a pattern of self-neglect to cope with work overload (Walker & Best, 1991). The sample of full-time employed mothers (M=118.4, SD=18.9) reported less health-promotive lifestyles than the sample of homemakers (M=129.4, SD=17.9; F[1,144]=13.84, $p \leq .001$).

Full-time employed mothers were significantly lower on five of the six Health-Promoting Lifestyle Profile (HPLP) subscales: self-actualization, exercise, nutrition and stress management which indicated a decreased participation in the amount of health-promoting behaviors. Full-time employed mothers of infants may be a special subgroup of the population for which interventions should focus on the perceptions and lifestyle of the individual woman and her family (Walker & Best, 1991).

Health-Promoting Lifestyle Behaviors

Historically, the study of health-promoting lifestyle behaviors originated with the inquiry into the relationships

between health, environment, and behavior (Palank, 1991). By the 1960s, the relationship between behavior and subsequent health status had been identified (Grasser & Craft, 1984). By the mid-1970s, prevention became the goal for health care consumers (Kickbush, 1989). Recent emphasis has progressed into empirical study about the determinants of a health-promotive lifestyle (Palank, 1991).

A health-promotive lifestyle has been defined as the multidimensional pattern of self-initiated actions and perceptions which serve to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual (Walker, Sechrist, & Pender, 1987). Behaviors which promote this lifestyle include routine exercise, leisure activities, rest, optimal nutrition, stress reduction activities and development of social support systems (Pender, 1987).

Pender (1982) conceptualized health-promoting behaviors and health-protecting behaviors as complementary components for a healthy lifestyle. Health-promoting behaviors are directed toward sustaining or increasing the level of well-being, self-actualization, and personal fulfillment for the individual (Pender, 1982). Health-protective behaviors decrease the probability of an individual encountering illness (Pender, 1982). Such a positive approach to living is maintained because it becomes personally satisfying and

enjoyable.

Pender differentiated health-promoting behaviors from health protective behaviors. However, most health assessment tools have been based primarily on a risk reduction model rather than on a health enhancement model (Weiss, 1984). The Health-Promoting Lifestyle Profile (HPLP) developed by Pender was designed as a multidimensional tool encompassing self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management.

Differences in health-promoting behaviors between young adults 18-34 years of age, middle adults 35-54 years of age and older adults 55-88 years of age were measured by Walker, Volkan, Sechrist, & Pender (1988). Young adults (n=167), middle adults (n=188) and older adults (n=97) comprised the sample with a mean age of 41.9 years. Their educational level ranged from eighth grade to a graduate or professional degree, with the median at some college. Family income ranged from under $5,000 to over $50,000 with the median between $25,000 and $35,000. The study indicated that older adults report the highest frequency of health-promoting behaviors (Walker, Volkan, Sechrist & Pender, 1988).

Employees enrolled in six employer-sponsored health promotion programs were assessed for health-promoting behaviors. Study participants were full-time clerical,

operations and managerial employees enrolled in their respective employer-sponsored health promotion program. The sample of 589 (46% female) employees was composed of 83% white, 10% black, 5% Hispanic and 2% Asian. Participants ranged in age from 20 to 65 years with a mean age of 38 years. The results of the study indicated that a desire for well-being was a more effective source of motivation for healthy living among young and middle-aged working adults than fear arousal based on the threat of future illness.

Women (n=262) employees of a large southwestern public university composed the sample for a study of health determinants of health promotion in midlife women by Duffy (1988). The mean age of the sample was 45.5 years and median annual household income was $35,000. The majority of women lived with spouses (65%) and/or children (43%). Over 64% were in faculty appointments and over 80% had completed college or held graduate degrees. Results revealed that 25% of the variance was explained in the total health promotion score by the chance health locus of control, self-esteem, current health, health worry/concern, post high school education, and internal health locus of control variables.

Summary

This chapter contains the review of literature concerning the independent variables of: perceived health

status, social support, occupation and the selected demographic variables of age, ethnicity, level of education, marital status, religious affiliation, family income, and number of children in the family with the dependent variable of health-promoting lifestyle behaviors. Results varied among studies regarding the correlation of demographic variables to health. The review of literature provided a basis for the selection of the variables placed within Pender's Health Promotion Model (1987) for this study.

CHAPTER III

DESIGN FOR COLLECTION AND TREATMENT OF DATA

Many studies concerning human beings are nonexperimental in nature. Nonexperimental research includes observation without an intervention or treatment and with no controlled conditions specified for experimental research (Abdellah & Levine, 1979). In nonexperimental research, the independent variables are often brought into the study as characteristics of individuals and cannot be studied experimentally (Polit & Hungler, 1987). As a result, subjects of nonexperimental research are usually self-selected rather than randomly assigned to groups by the investigator (Abdellah & Levine, 1979).

This study is identified as nonexperimental since there was no manipulation of the independent variables nor a control of extraneous variables. The variables were assessed through five questionnaires that were answered through confidential self-reports from the subjects.

Nonexperimental studies can be further categorized as descriptive research, defined as acurate and meaningful descriptions of phenomena under study (Abdellah & Levine, 1979). Descriptive studies represent detailed accounting, either qualitative or quantitative, of a population,

situation or event (Williamson, 1981). Such studies require a well-formulated research question, a defined study population, and clearly delineated measurement of the phenomena of interest (Williamson, 1981).

This study was identified as descriptive due to the information that was collected. The quantitative relationship of the independent variables to the dependent variable was measured in a population of employed, midlife women. The confidential measurements were obtained by questionnaires for each independent variable: perceived health status, social support, occupation, and selected demographic factors, as well as, the dependent variable, health-promoting lifestyle behaviors.

Setting

Subjects were recruited from a southwestern state with a population of 3,752,000 (United States Bureau of Census, 1990). One county from the state was identified for subject recruitment because it has a large population representing migrants from other areas of the United States. The selected county has both urban and rural populations with a population of 49,051 women aged 35-45 years, which is representive of the age, percentage of employment, and racial/ethnic characteristics of the population within the state (United States Bureau of Census, 1990). The selected

county contains a major university, medical center, libraries, and businesses at both the national and local levels. In addition to employment, many women belong to organizations which encompass social, professional, service, labor, support, and networking groups.

For this study, a local chapter of a national networking organization of employed women was identified as a convenience sample. The networking organization was available to all employed women, regardless of occupation. The organization sponsored monthly meetings for networking in private conference rooms of designated hotels throughout the county. These monthly meetings provided the opportunity for the investigator to meet with a group of employed women to explain the study, discuss the criteria for participants, and provide questionnaire packets for collection of the confidential study data.

Population and Sample

The population of the study was composed of the members of a local networking organization. The organization was composed of 500 women, with 76% of the population between 35 and 45 years of age (D. Reed, personal communication, October 11, 1991). Members were in occupations ranging from hair dresser to physician. Approximately 90% of the members attended the monthly meetings (D. Reed, personal

communication, October 11, 1991).

The convenience sample for the study was 126 employed women, 35 to 45 years of age, recruited from monthly meetings of a networking organization for employed women. The following were the specified criteria for inclusion in the study: (a) female, (b) between the ages of 35 and 45 years, (c) able to read English and complete the questionnaires, (d) member of the networking organization, and (e) resident of the designated county of the southwestern state.

The sample was limited to women 35 to 45 years of age, based upon a review of the literature. The midlife period, 35-45 years of age provided an opportune time for women to incorporate preventive actions for health (Baruch & Brooks-Gunn, 1984; Giele, 1982). Belloc and Breslow (1971) identified that age contributed to the ability of an individual to engage in health-promoting activities. Women were identified as the subjects for this study, since women participated in health behaviors more frequently than men as reported in a review of health studies by Nathanson (1977) and Kasl and Cobb (1966). The restriction of the study population to women between the ages of 35 and 45 years enabled the investigator to control the possible effects of age and gender that may confound the relationship between the independent and dependent variables. Without

restricting the sample, confounding could result in spurious findings.

In studies using multiple-regression in data analysis, the number of independent variables influences the number of subjects required for the sample. Statisticians utilize differing criteria to determine the number of required subjects. Woods and Catanzaro (1988) recommended a minimum of 15 participants per variable or a total sample size of at least 50 more than the number of variables. Bausell (1986) recommended a minimum of 25 subjects for each independent variable. Polit and Hungler (1987) specified a minimum of thirty subjects for each variable. The most conservative estimate resulted in a requirement of 120 total subjects for this study.

Protection of Human Subjects

Permission for conducting the investigation was obtained from the networking organization prior to beginning the study. Although this investigation was exempt from the Human Rights Committee review of Texas Woman's University because survey questionnaires with minimal risks were used, the protection of the participants was assured by the following:

1. Anonymity in reporting the results of the study was maintained; the name of the participant and the organization

name were not used in the report. Data were reported in group format only.

2. An envelope which the participants sealed was used for return of questionnaires.

3. Consent to participate was indicated by return of the questionnaires (see Appendix F).

4. Subjects were informed that they were free to withdraw from the investigation at any time without penalty (see Appendix F).

5. Subjects were exposed to a minimal amount of inconvenience. They were contacted only once. A second contact was not required. However, should additional contact have been required, the same process of recruitment would have been followed.

6. A cover letter outlining the elements of informed consent was included in the questionnaire packets (see Appendix F).

7. Confidentiality was maintained since respondents did not place their names on the completed questionnaires.

8. Data will be stored in a locked, secure drawer for a minimum of 1 year, then destroyed.

Instruments

A cover letter (see Appendix F) was used to explain the purpose of the study and to outline the elements of informed

consent. The letter was included in each questionnaire packet distributed to the participants. The questionnaire packet included the following: Demographic Data Form, Medical Outcomes Study Short-form General Health Survey (Stewart, Hays, & Ware, 1988), Duke University of North Carolina Functional Social Support Questionnaire (Broadhead et al., 1988), Occupational Scale (Hollingshead, 1975) and the Health-Promoting Lifestyle Profile (Pender, 1987). These instruments are described in the following sections.

Demographic Data Form

The Demographic Data Form (see Appendix D) developed by the investigator is composed of seven questions designed to identify the selected demographics of age, educational level, race, marital status, economic level, number of children, and religious orientation. These variables have been correlated with the health of adult women in several studies. Pender and Pender (1980) found post high school education predicted the use of preventive and health promotion services. White American women outlive non-white American women by 5 years (Baruch & Brooks-Gunn, 1984). Adelman et al. (1990) and Verbrugge (1979, 1983) found that married women had better health than unmarried women. In the same study, Adelman et al. (1990) supported an earlier study of Marcus and Seeman (1981) in which women with children described themselves as having a better life than a

comparison group of women without children. Walker et al. (1988) associated a high socioeconomic status with healthy behavior. Cohen and Syme (1985) found lower rates of disease among members of religious groups such as Mormons and Seventh-Day Adventists.

Medical Outcomes Study Short-form General Health Survey

The Medical Outcomes Study (MOS) Short-form General Health Survey (Stewart, Hays, & Ware, 1988) (see Appendix C) measured the variable of perceived health status in this study. The questionnaire was reprinted by permission of the authors. The MOS Short-form provided an assessment of the functional status and well-being of an individual. The MOS Short-form was composed of four sections: general health, limitations of activities, feelings, and statements of health. Most of the questions could be answered positively by All of the time or Definitely True or negatively by None of the time or Definitely False. The 20-item survey was reverse scored on some items so that a high score indicated better health (Stewart et al. 1988). Total summative scores range from 20 to 85 for the questionnaire. The MOS Short-form questionnaire was created as a compromise between lengthy instruments and single-item measures of health. The instrument was tested with patients participating in the Medical Outcomes Study (MOS) researched by the Rand Corporation. The questionnaire was given to a sample of

11,186 adult patients (62% women with a mean age of 47 years) and 2,008 adults of the general population. The 20-item survey assessed physical functioning, role and social functioning, mental health, health perceptions, and pain. Reliability coefficients for the health scales ranged from r_{xx} = 0.81 to 0.88 and are identified in Table 1.

Table 1

Reliabilities for the MOS Short-form General Health Survey

Measure	Number of items	Reliability
Physical Functioning	6	0.86
Role Functioning	2	0.81
Social Functioning	1	-
Mental Health	5	0.88
Health Perceptions	5	0.87
Pain	1	-

Note. From "The MOS Short-form General Health Survey" by A. L. Stewart, R. D. Hays, and J. E. Ware, 1988, Medical Care, 26(7), p. 729. Reprinted by permission.

Validity was determined in three analyses: correlations among health measures, comparison of patient and general population samples, and correlations between health measures and sociodemographics (Stewart, Hays, & Ware, 1988). Correlations among the health measures

were statistically significant ($p<0.01$) (Stewart et al., 1988) (See Table 2).

Table 2

Correlations Among Health Measures for the MOS Short-form General Health Survey

Measure	PF	RF	SF	MH	HP	P
Physical Functioning(PF)	(0.86)					
Role Functioning(RF)	0.65	(0.81)				
Social Functioning(SF)	0.47	0.56	(-)			
Mental Health(MH)	0.24	0.33	0.45	(0.88)		
Health Perceptions(HP)	0.53	0.57	0.53	0.45	(0.87)	
Pain(P)	-0.39	-0.42	-0.39	-0.42	-0.47	(-)

Note. Ns varied from 9,729 to 10,860 due to missing data. All correlation coefficients are statistically significant ($p<0.01$). From "The MOS Short-form General Health Survey" by A. L. Stewart, R. D. Hays, and J. E. Ware, 1988, Medical Care, 26(7), p. 729. Reprinted by permission.

In comparing the patient and general population samples, the percentage of respondents with poor health was significantly greater ($p<0.01$) in the patient sample than in the general population sample. Correlations between the health measures and age, sex, education, income, and race were consistent with results which had utilized longer health survey

measures (Stewart et al., 1988).

Duke-University of North Carolina (UNC) Functional Social Support Questionnaire

The Duke-University of North Carolina (UNC) Functional Social Support Questionnaire reported by Broadhead et al.,(1988) measured the variable, social support, in this study (see Appendix E). The questionnaire was reprinted by permission of the authors. The Duke-UNC Functional Social Support Questionnaire is an 8-item Likert type questionnaire developed by Broadhead et al. (1988) to measure functional elements of the social supports of patients in a primary care (family medicine) setting. The questionnaire is presently in use at Duke-UNC and has been used successfully in a number of other settings (Broadhead, personal communication, October 1, 1990). Each question has a 6 point scale ranging from As much as I would like (value of 6) to Much less than I would like (value of 1). The maximum possible score is 48; the least possible score is 8, if all questions are answered.

The original 14-item questionnaire was evaluated using 401 patients (78% women with a mean age of 35.7 years), who were attending a family medicine clinic. The patients were selected from randomized time-frame sampling blocks during regular office hours. Eleven items remained after test-retest reliability assessment at 1 to 4 week

follow-ups. Test-retest reliability assessment demonstrated r_{xx} = 0.66, a moderately high correlation. Factor analysis was used as a validity measure to obtain the present 8-item questionnaire. The questionnaire covers two dimensions: affective support and confidant support. Confidant support (5 items) reflects a confidant relationship where important matters in life are discussed and shared. Affective support (3 items) reflects a more emotional form of support or caring. Test-retest reliability for the 8 items ranged from r_{xx} = 0.52 to 0.72 as demonstrated in Table 3.

Table 3

Reliability for Social Support Factors

Scale	Number of items	Pearson r
Confidant support	5	0.62
Chance to talk about work	1	0.63
Talk about matters	1	0.72
Chance to talk about money	1	0.63
Invitations	1	0.55
Advice	1	0.59
Affective support	3	0.64
People who care	1	0.68
Love and affection	1	0.72
Help when sick	1	0.52
	N=8	

Note. From "Duke-UNC Functional Social Support Questionnaire" by W. E. Broadhead, S. H. Gehlback, F. V. deGruy, and B. H. Kaplan, (1988). Medical Care, 26(7), p. 714. Reprinted by permission.

Occupational Scale

The Occupational Scale developed by Hollingshead (1975) measured the independent variable, occupation, in this study (see Appendix B). Permission to use the Occupational Scale was provided by the Department of Sociology of Yale University (see Appendix G). The Occupational Scale has been utilized in current nursing research with women subjects (Dixon, Dixon, & Spinner, 1991). The Occupational Scale separated occupations into nine categories according to the skills required for each category. The categories were scored from 9 (highest level of skill) to 1 (lowest level of skill). When possible, the Occupational Scale was keyed to the occupational titles assigned by the United States Census (Hollingshead, 1975). When the occupational titles assigned by the census were not precise enough to distinguish occupational categories, the occupational scale departed from census titles (Hollingshead, 1975). Occupational titles have been incorporated together with examples of occupations for each category by Hollingshead, (1975) (see Appendix B). Criterion validity was determined by comparison with the General Social Survey developed by the National Opinion Research Center (Hollingshead, 1975). The Pearson Product Moment Coeffecient of Correlation between the scales was r=.927, and the coefficient of

determination was $\underline{R^2}$ =.860.

Health-Promoting Lifestyle Profile

The Health-Promoting Lifestyle Profile (HPLP) was developed by Walker, Sechrist, and Pender (1987) (see Appendix A). It was reprinted by permission of the authors. The profile measured the current practice of behaviors which serve to maintain or increase levels of wellness, self-actualization, and fulfillment for an individual. The profile of 48 items had Likert answers from which the respondent selected options ranging from Routinely (value of 4) to Never (value of 1). Six subscales were individually scored according to instructions provided by the questionnaire developers, then combined for a total score. The range of total scores possible was 192 to 48.

The profile was developed from Pender's 1982 Lifestyle and Health Habits Assessment (LHHA), a checklist of 100 positive health behaviors which incorporated ideas from a variety of literature sources. The LHHA was condensed to the final 48 items by several actions. Initially, content validity was evaluated by four faculty members, familiar with the health promotion literature. As a result, some items were added, and those concerned with specific diseases were deleted.

The remaining items were analyzed to identify those

items contributing most to the homogeneity or internal consistency of the measure followed by factor analysis (Walker et al., 1987). Empirical validation of the tool was established with a sample of 952 completed questionnaires. The sample was composed of 46% women with a mean age of 39.2 years. Six factors explained 47.1% of the variance of the revised 48-item measure. Factor 1, Self-Actualization, accounted for 23.4% of the variance (Walker et al., 1987). The category was concerned with behaviors indicating health-promoting lifestyle. Factor 2, Health Responsibility, accounted for 8% of the variance (Walker et al., 1987). The category was concerned with accepting responsibility for one's health, being educated about one's own health, and seeking professional assistance when necessary. Factor 3, Exercise, accounted for 4.6% of the variance (Walker et al., 1987) and was concerned with a regular exercise pattern. Factor 4, Nutrition, accounted for 3.8% of the variance (Walker et al., 1987). This category dealt with meal patterns and food choices. Factor 5, Interpersonal Support, accounted for 3.8% of the variance (Walker et al., 1987). Interpersonal Support incorporated items concerning a sense of intimacy and closeness, as opposed to more casual interpersonal relationships. Factor 6, Stress Management, accounted for 3.2% of the variance (Walker et al., 1987). It included items dealing with sleep

patterns and methods of alleviating tension.

According to the HPLP authors, Walker, Sechrist and Pender (1987), a second-order factor analysis extracted one factor on which all six of the first-order factors loaded significantly. That factor was interpreted as Health-Promoting Lifestyle, the multidimensional construct measured by the instrument. First-order factors loaded on the second-order factor as: Self-Actualization .56, Health Responsibility .50, Exercise .45, Nutrition .40, Interpersonal Support .55, and Stress Management .62.

The instrument had an alpha coefficient (α)=0.922. Reliabilities for the six subscales ranged from 0.702 to 0.904. Nunnally (1978) reported that a modest reliability, designated as Cronbach's alpha 0.70, was acceptable in the early stages of research and a reliability of 0.80 was acceptable for instruments used in basic research.

Data Collection

The investigator presented information about the study, including the criteria for participation in the study, to women attending a business networking meeting. A group administration of the questionnaire packets was made to those women who fulfilled the eligibility criteria and agreed to participate. The questionnaire packets included a cover letter with an explanation of the purpose of the

study, an outline of the elements of informed consent, instructions for completion of each of the instruments in the packet, and instructions for the disposition of the completed questionnaires. The confidential questionnaires were expected to take 30-60 minutes for completion. Completed questionnaires were returned in envelopes provided by the investigator, either at the conclusion of the networking meeting or within one week by mail. The investigator continued to attend networking meetings until the required number of completed questionnaire packets was received.

Treatment of Data

The confidential data were coded for computer scoring according to the directions of each questionnaire. The convenience sample of employed women was described by means of the Demographic Data Form using frequencies, percentages, and the means as measures of central tendency with range and standard deviation as measures of variability. Results were reported only in group format and without identification of individual or group name.

Analysis of the relationship of the independent variables and the dependent variable was performed with multiple regression statistics. Multiple regression provided the opportunity to measure the simultaneous effects

of more than two independent variables on a dependent variable of interval level (Polit & Hungler, 1987). The demographic variables were initially entered into a stepwise multiple regression analysis, then significance determined by comparison with F statistics at a probability of $p \leq .01$. Significant demographic variables were then entered with the other independent variables for multiple regression analysis. To facilitate the multiple regression analysis, dummy variables were added when necessary for analysis.

To test the hypothesis of a relationship between the independent variables to the dependent variable, a hierarchical or step-wise multiple regression analysis was used. Each independent variable was included in the analysis according to the sequence proposed by the Health Promotion Model. According to the Health Promotion Model, the sequence from first order to last order was: perceived health status, demographic characteristics, social support and occupation.

Calculation of the correlation coefficient provided an indication of accuracy for the prediction. The correlation between the independent variables and the dependent variable was assessed with multiple correlation coefficient (R). Multiple correlation coefficient was a simple correlation for the first variable, perceived health status, but a multiple partial correlation coefficient for

subsequent equations.

The coefficient of determination (R^2) was calculated to determine the proportion of the dependent variable variance accounted for by the independent variables (Woods & Catanzaro, 1988). To determine the significance of the coefficient of determination, comparison to F statistics at a probability of $p \leq .01$ was calculated.

Summaries of the data analysis results were presented in Analysis of Variance Tables composed of Multiple Correlation Coefficient with significant values indicated for all variables. The Pearson Correlation Coefficient determined the correlation for the variables. A Venn Diagram was developed to illustrate the amount of variability which the significant independent variables had in common with the dependent variable.

Summary

Chapter III described the process for data collection and analysis of a nonexperimental descriptive study. Data was obtained from confidential questionnaires administered to a convenience sample of midlife, employed women (n=120) who were members of a networking group for employed women. Descriptive statistics of central tendency and variability summarize the convenience sample. The relationship of

perceived health status, social support, occupation, selected demographic variables, and health-promoting lifestyle behaviors was analyzed with Multiple Regression statistics.

CHAPTER IV

ANALYSIS OF THE DATA

Multiple regression was used to measure the effects of perceived health status, social support, occupation, selected demographics, and health-promoting lifestyle behaviors. The results of the data analysis are reported in this chapter. The findings are presented in the following order: data describing the sample characteristics, data relating to the problem of the study, and a summary of the findings.

Description of the Sample

A total of 131 women fulfilled the specified criteria of: ages 35-45, employment for more than 35 hours per week, resident of the county, member of the networking organization, and ability to read and answer the questionnaires. Missing demographic data from 5 subjects resulted in elimination of this number of subjects from the study. The remaining 126 subjects constituted the sample for the study.

Demographic data included age, ethnic origin, educational level, marital status, family income, religious orientation, and number of children in the family. Although

occupation would typically have been identified as demographic data, for this study occupation was designated as a separate independent variable in accordance with the Health Promotion Model.

Descriptive statistics and characteristics of the sample are presented in Table 4. The sample was comprised of well educated women with high family incomes. Women from the following ethnic groups were represented: White, Hispanic, Black, and Indian. The majority, 116 (92%) subjects were white. Eighty one (64%) subjects were college graduates and an additional 20% had some college education. Fifty seven (45%) subjects were married. Fifty nine (47%) of the subjects were Protestant. Number of children resulted in a bimodal distribution in which 38 (30%) of the subjects had no children and 38 (30%) had two children.

Continuous variables included age of subjects and family income. The ages of the subjects varied from 35 to 45 years of age. The mean age of the subjects was 39.67 years with a standard deviation of 3.04. Family income varied from a low level of $6,000 to a high level of $100,000. The mean family income was $50,118.11 with a standard deviation of $21,853.18.

Table 4

Descriptive Statistics and Characteristics of the Sample

Variable	Frequency	Percent
Ethnicity		
White	116	92.0
Hispanic	5	4.0
Black	2	1.6
Asian	0	0.0
American Indian	3	2.4
Total	126	100.0
Education		
High School	5	4.0
Some College	25	19.8
College Graduate	81	64.3
Graduate	15	11.9
Total	126	100.0
Marital Status		
Single	11	8.7
Divorced	32	25.4
Living with other	7	5.6
Remarried	18	14.3
Married	57	45.2
Widowed	1	.8
Total	126	100.0
Religion		
Protestant	59	46.8
Catholic	31	24.6
Jewish	2	1.6
Latter Day Saint	6	4.8
Other	28	22.2
Total	126	100.0
Number of children		
0	38	30.1
1	29	23.0
2	38	30.2
3	15	11.9
4	5	4.0
5	1	.8
Total	126	100.0

Perceived Health Status

The Medical Outcomes Study (MOS) Short-form General Health Survey (Stewart, Hays, and Ware, 1988) was used to measure perceived health status in the study. The questionnaire provided an assessment of the functional status and well-being of each individual.

The 20-item questionnaire was reverse scored on some items so that a high total score indicated better health. When two or more questions on the physical functioning component were unanswered, a missing score was assigned to the data, as discussed by the questionnaire authors. Scores were calibrated to a 0-100 scale. Mean score was 78.99 with a standard deviation of 10.07 as depicted in Table 5. Fifty percent of the sample scored more than 80 and only 5% scored below 60.

Social Support

The Duke-University of North Carolina (UNC) Functional Social Support Questionnaire (Broadhead et al., 1988) was used as a measure of the functional elements of social support. The 8-item Likert type questionnaire was scored on a 1 to 6 scale. Higher scores indicated increased social support. Mean score of the Duke-UNC Functional Social Support Questionnaire was 31.27 with a standard deviation of 6.58 as depicted in Table 5. Sixty seven

percent of the sample scored higher than 30 on the questionnaire with 40% scoring in the 31-35 range.

Occupation

The Hollingshead Occupational Scale (Hollingshead, 1975) was used to rank the occupations of the subjects on a 1 (lowest skill) to 9 (highest skill) scale. The sample was composed primarily of high status positions with 64% at the administrative or higher level while 8% held manual or clerical positions. The mean of the Hollingshead Scale was 7.47, a level composed of small business owners, farm owners, managers, and minor professionals. The standard deviation was 1.09 as depicted in Table 5.

Table 5

Descriptive Statistics of Independent Variables

Questionnaire	n	Range		Mean	Standard Deviation
		Min.	Max.		
MOS	126	40.84	94.36	78.99	10.07
Duke	126	8.00	40.00	31.27	6.58
Hollingshead	126	4.00	9.00	7.47	1.09

Health-Promoting Lifestyle Profile

The Health-Promoting Lifestyle Profile (HPLP) developed

by Walker, Sechrist, and Pender (1987) measured the behaviors which maintained or increased levels of wellness, self-actualization, and fulfillment for individuals. The profile of 48 items had Likert answers ranging from Routinely (value of 4) to Never (value of 1). Scores for the HPLP ranged from 95 to 187. The mean was 137 with a standard deviation of 21, indicating a moderate level of health-promoting lifestyle behaviors.

Analysis

Multiple regression was used to develop a regression equation to provide the best possible explanation of the variance in a dependent variable. The basic multiple regression equation: $y' = a+b_1x_1+b_2x_2+...b_kx_k+e$ was used. In the equation y' = the dependent variable, a = an intercept (constant), $b_1...b_k$ = regression coefficients, x_1 = independent variable 1, x_2 = independent variable 2, and x_k = independent variable k, k = the number of variables in the equation, and e = an error term (Woods & Catanzaro, 1988). In this study, perceived health status, social support, occupation and selected demographic variables were entered into a step-wise multiple regression.

As identified by the Health Promotion Model developed by Pender (1987), perceived health status was entered first

into the regression. This initial regression demonstrated 7% of health-promoting lifestyle profile at $p \leq .002$. Secondly, all demographic characteristics were entered into the multiple regression. However, only age and income displayed a regression with the dependent variable. Age and income accounted for 4% of the variability of HPLP with significance at $p = 0.08$. Third, social support as measured by the Duke-UNC Functional Social Support Questionnaire was entered into the multiple regression calculation. This independent variable accounted for 34% of the variability of the dependent variable and was significant at $p = 0.0001$. The fourth independent variable, occupation, as determined by the Hollingshead scale was entered into the multiple regression. Occupation did not explain a significant amount of variability for HPLP as demonstrated in Table 6.

Table 6

Regression of Independent Variables

Variable	R-Square	Significance
Health Status	.07	3.180 *
Demo Age/Income	.04	1.757
Social Support	.34	6.956 *
Occupation	.01	0.492

*Significant at $p \leq .01$

Social support contributed the greatest explanation to the variability of the Health-Promoting Lifestyle Profile, followed by perceived health status. As demonstrated in Figure 3, social support contributed 34% of the variability and perceived health status contributed 7% of the variability to the Health-Promoting Lifestyle Profile.

The Pearson Correlation Coefficients were calculated between all significant variables: social support, perceived health status and the Health-Promoting Lifestyle Profile. The Pearson Correlation between social support and perceived health status was r 0.30, $p \leq .01$. Due to the redundancy of these variables, prediction was decreased for both variables as depicted in the area of overlap in Figure 3. The Pearson Correlation between social support and the Health-Promoting Lifestyle Profile was r 0.57, $p \leq .01$. The correlation between perceived health status and the Health-Promoting Lifestyle Profile was r 0.27, $p \leq .01$.

Results

The hypothesis for this study was perceived health status, social support, occupation, and selected demographic factors of employed, midlife women are related to health-promoting lifestyle behaviors.

Based upon the results of this study, social support is the strongest predictor for health-promoting lifestyle

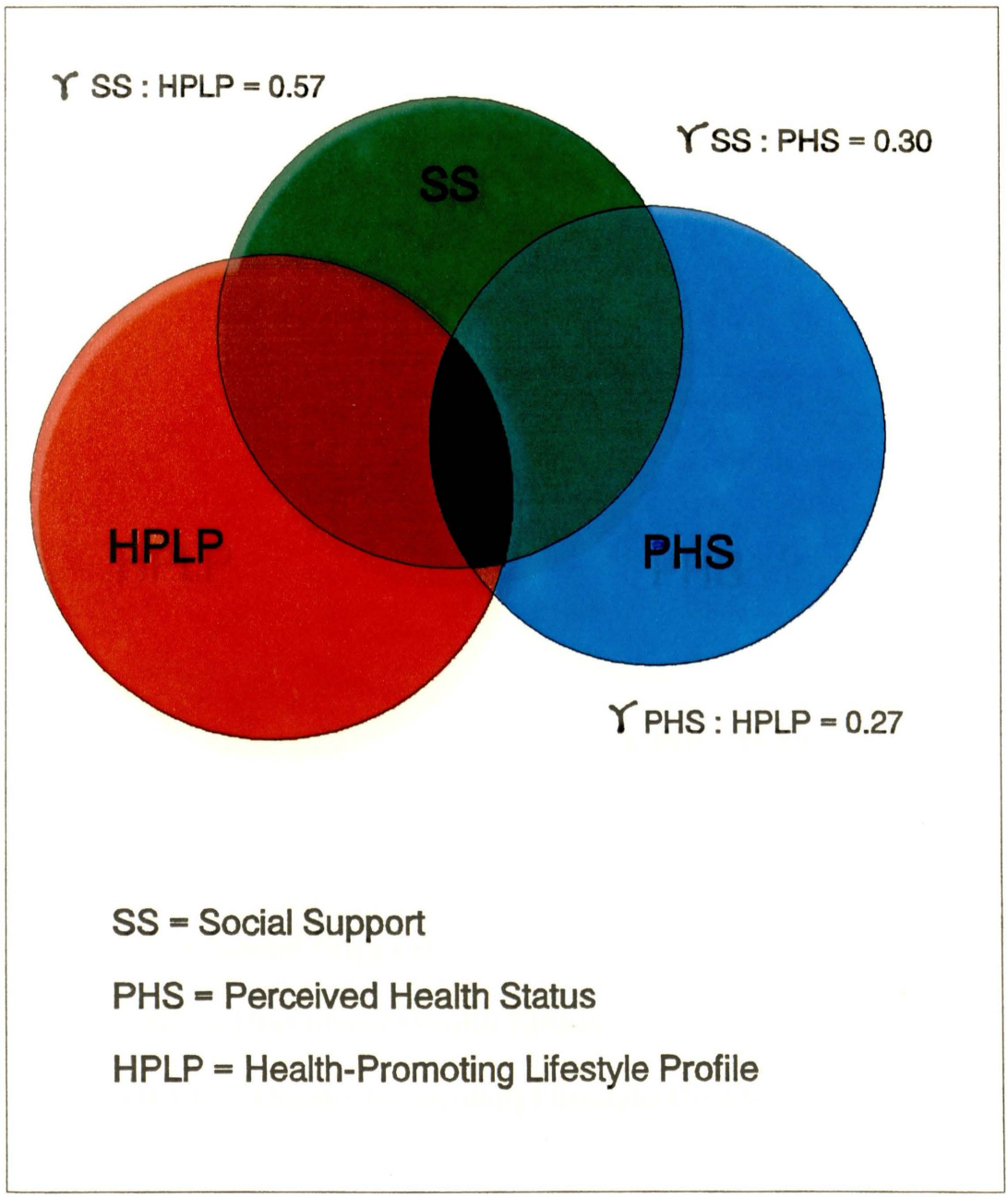

Figure 3. Venn diagram depicting regression of Social support and Perceived health status to Health-Promoting Lifestyle Profile.

behaviors in employed, midlife women while perceived health status can also predict health-promoting lifestyle behaviors in employed, midlife women. However, there is no increased predictability when perceived health status is combined with social support. The same area of prediction is determined whether social support is used singularly or in combination. Neither demographic variables nor occupation yielded any information for health-promoting lifestyle behaviors.

Summary

This chapter has described the analyses used in obtaining the results of the study. The sample of 126 employed, midlife women was described with descriptive statistics. Multiple regression demonstrated the relationship of the independent variables and the dependent variable.

CHAPTER V

SUMMARY OF THE STUDY

The purpose of this study was to examine the relationship between perceived health status, social support, occupation, selected demographics, and the Health-Promoting Lifestyle Profile in employed, midlife women. This chapter includes a summary of the study, discussion of findings, conclusions and implications, and recommendations for further study.

Summary

This study was a descriptive, nonexperimental study. The sample of 126 women met the criteria of 35-45 years of age, resident of the county, member of a networking organization, employed a minimum of 35 hours per week for pay, and able to read and answer the questionnaires. Confidential questionnaires were given to the women for their completion. Questionnaires were returned to the investigator in person or by mail in pre-addressed envelopes.

Descriptive data for the sample were obtained with frequencies, percentages, means, standard deviations, and ranges. The majority of the employed women ages 35-45 years

the sample were white, married, college educated, Protestants who had 0-3 children, with an average family income of $50,118.00.

The quantitative relationship of the independent variables: perceived health status, social support, occupation, selected demographics and the dependent variable, Health-Promoting Lifestyle Profile were analyzed by multiple regression. Multiple regression provided the opportunity to measure the simultaneous effects of more than two independent variables on a dependent variable of interval level (Polit and Hungler, 1987).

Initially, the demographic variables were entered into a step-wise multiple regression analysis; then significance was determined by comparison with F statistics at $p \leq .01$. Significant demographic variables, age and income, were then entered with the other independent variables for multiple regression analysis.

The hypothesis of a relationship between the independent variables to the dependent variable was measured by a step-wise or hierarchical multiple regression analysis. Each of the independent variables was included in the analysis according to the sequence proposed by the Health Promotion Model. As determined by the Health Promotion Model, the sequence from first order to last order was: perceived health status, demographic characteristics, social

support and occupation.

The coefficient of determination (R^2) was calculated to determine the proportion of the dependent variable variance accounted for by the independent variables (Woods and Catanzaro, 1988). The significance of the coefficient of determination was determined at $p \leq .01$. The Pearson Correlation Coefficient measured the degree of correlation between the variables. The independent variables, social support, and perceived health status resulted in $r = .30$, $p \leq .01$ This finding indicated that redundancy existed between social support and perceived health status thereby decreasing the prediction of both variables.

Discussion of Findings

Descriptive data analyses and hypothesis testing were compared to previous research on correlates of health-promoting lifestyle behaviors. The findings of this study are consistent with findings by LaRosa (1990) for executive women who were found to practice health-promoting lifestyle behaviors like stress reducing activities or regular exercise. Results were also similar to Woods (1981) who reported that women are health conscious and take an active interest in improving their health.

This study lends support to Neugarten's (1968) view

that persons in midlife use this period to take careful stock of their health as they begin to prepare for the rigors of old age. Findings of the study supported Duffy's (1988) research which demonstrated that midlife women, as they grow older, may manifest concern about their health. Such steps may entail taking active responsibility for their health, monitoring themselves closely, eating properly, and taking action to manage the stress in their lives.

Results regarding the relationship of social support and the Health-Promoting Lifestyle Profile are consistent with the findings of Pugliesi (1988). In the study by Pugliesi (1988), social support was identified as directly affecting well-being in a population of employed women. With similar results from a longitudinal study of employed women, Waldron and Jacobs (1989) theorized that employment increased social support which was beneficial to the health of women.

Similar to Duffy (1988), the researcher found no correlation between the demographic variables of age, race, income level, education, marital status, employment, number of persons in the household, and health-promoting lifestyle behaviors. The researcher, like Duffy, did not identify any demographic variables as significant predictors for Health-Promoting Lifestyle Profile and did not lend support to this aspect of the Health Promotion Model (Pender, 1987).

This study tested the correlates and their theoretical relationships as identified by the Health Promotion Model (Pender, 1987). For the study, perceived health status was identified as a Cognitive-Perceptual Factor of the Health Promotion Model. Social support, occupation, and demographic variables were posed as Modifying Factors of the Health Promotion Model. Although occupation has previously been delineated as a demographic variable, in the present study, occupation fulfilled the criteria for the Situational Factor, listed under the Modifying Factors column in the Health Promotion Model.

According to the Health Promotion Model, (Pender, 1987) a relationship with the Health-Promoting Lifestyle Profile was expected to occur in the following order from highest to lowest: perceived health status, demographic variables, social support, and occupation. The study provided only partial support for the Health Promotion Model. Social support, identified as a Modifying Factor of the Health Promotion Model, provided the strongest relationship with the Health-Promoting Lifestyle Profile. Perceived health status identified as a Cognitive-Perceptual Factor of the Health Promotion Model provided the second strongest relationship with health-promoting lifestyle profile. Demographic variables and occupation did not demonstrate a significant relationship with the Health-Promoting

Lifestyle Profile.

The Pearson Correlation Coefficient demonstrated an interaction between social support and perceived health status. The correlation corresponded to the relationship proposed by the Health Promotion Model (Pender, 1987) between a Cognitive-Perceptual Factor and a Modifying Factor. However, based upon the results of this study, social support would be classified as a Cognitive-Perceptual Factor and perceived health status would be classified as a Modifying Factor. In addition, demographic variables and occupation did not demonstrate a significant relationship and their positions on the Health Promotion Model would require further investigation.

Conclusions and Implications

Based on the findings of this study, the following conclusions were made:

1. Social support is a predictor of health-promoting lifestyle behaviors for some employed, midlife women.
2. At least some employed, midlife women can be expected to participate in health-promoting lifestyle behaviors.
3. Some women at the executive level can be expected to participate in health-promoting

lifestyle behaviors.

4. Demographic variables do not always predict health-promoting lifestyle behaviors for employed, midlife women.
5. Occupation, as measured by level of skill, does not always predict health-promoting lifestyle behaviors for women.
6. Perceived health status is not always a predictor for the Health-Promoting Lifestyle Profile of employed, midlife women.
7. Theoretical relationships proposed by the Health Promotion Model are not supported in this study of employed, midlife women.

Implications concerning social support were derived from the above conclusions. Since social support is a predictor of health-promoting lifestyle behaviors, social support can be strengthened through a variety of sources to improve the health of employed, midlife women. Such sources may include family, friends, co-workers, or members of a networking organization. Social support may serve to reinforce healthy behaviors or to increase an individual's self-esteem.

Implications for executive, midlife women likely to participate in health-promoting behaviors include options in the workplace like exercise facilities, nutritious snacks,

and stress management workshops offered by employers. Such options may be positive reinforcers for healthy behaviors which the women already use, or the options may be educational, providing new information with which to make selections.

Further study to determine whether occupation, preceived health status, or demographic variables are predictors of health-promoting lifestyle behaviors should use different measures of evaluation. In addition, studies with different population samples may provide different information regarding these correlates.

The findings of this study supported the theoretical literature regarding the relationship of social support and health-promoting lifestyle behaviors in employed, midlife women. However, the findings of the study did not support theoretical relationships for demographic variables, occupation, and the Health-Promoting Lifestyle Profile. The study partially supported the theoretical literature regarding the relationship of perceived health status and Health-Promoting Lifestyle Profile. The findings of this study did not support the theoretical relationships proposed by the Health Promotion Model (Pender, 1987).

Recommendations

The results of this study channel recommendations into

three areas: additional correlates, social support networks, and worksite support groups.

Investigation of the relationship of additional correlates like the benefits and barriers for health-promoting behaviors as identified in the Health Promotion Model (Pender, 1987) conducted with a random sample of employed, midlife women would be helpful. A similar design to explore these correlates would be relevant if conducted with a different population like employed, midlife males.

A comparative study to determine the most effective social support approach for increasing the participation in health-promoting lifestyle behaviors in a population of employed, midlife women should be conducted. Since the functional aspects of social support have already demonstrated prediction with the Health-Promoting Lifestyle Profile, a future study would focus upon social support networks as a correlate to the Health-Promoting Lifestyle Profile in a sample of employed, midlife women. This information will lend support to whether the actions of a network or the specific persons in a network are more effective as predictors for health-promoting lifestyle behaviors with employed, midlife women.

Based upon the results of this study, social support should be evaluated for prediction of health-promoting lifestyle behaviors with other populations in the workforce.

Whether social support is as meaningful for employed males or for older members of the workforce still needs to be determined.

A worksite study to measure the effectiveness of social support groups to members in the maintainance of health-promoting lifestyle behaviors is needed. Worksite support groups can be formed around the concepts of nutrition, stress reduction, or exercise, according to the identified needs of the workforce. The study should be designed to measure the effectiveness of support groups in initiating health-promoting lifestyle behaviors for members of the group.

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APPENDIX A

HEALTH-PROMOTING LIFESTYLE PROFILE

Appendix A

Health-Promoting Lifestyle Profile

DIRECTIONS: This questionnaire contains statements regarding 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 regularity 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. Eat breakfast.....	N	S	O	R
2. Report any unusual signs or symptoms to a physician.....	N	S	O	R
3. Like myself	N	S	O	R
4. Perform stretching exercises at least 3 times per week	N	S	O	R
5. Choose foods without preservatives or other additives.....	N	S	O	R
6. Take some time for relaxation each day.....	N	S	O	R
7. Have my cholesterol level checked and know the result.....	N	S	O	R
8. Am enthusiastic and optimistic about life.....	N	S	O	R
9. Feel I am growing and changing personally in positive directions.....	N	S	O	R
10. Discuss personal problems and concerns with persons close to me....	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
11. Am aware of the sources of stress in my life.....	N	S	O	R
12. Feel happy and content.....	N	S	O	R
13. Exercise vigorously for 20-30 minutes at least 3 times per week.....	N	S	O	R
14. Eat 3 regular meals a day.....	N	S	O	R
15. Read articles or books about promoting health.....	N	S	O	R
16. Am aware of my personal strengths and weaknesses.....	N	S	O	R
17. Work toward long-term goals in my life.....	N	S	O	R
18. Praise other people easily for their accomplishments.....	N	S	O	R
19. Read labels to identify nutrients in packaged food.....	N	S	O	R
20. Question my physician or seek a second opinion when I do not agree with recommendations.....	N	S	O	R
21. Look forward to the future.....	N	S	O	R
22. Participate in supervised exercise programs or activities.....	N	S	O	R
23. Am aware of what is important to me in life.....	N	S	O	R
24. Enjoy touching and being touched by people close to me.....	N	S	O	R
25. Maintain meaningful and fulfilling interpersonal relationships.....	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
26. Include roughage/fiber (whole grains, raw fruits, raw vegetables) in my diet.....	N	S	O	R
27. Practice relaxation or meditation for 15-20 minutes daily.....	N	S	O	R
28. Discuss my health care concerns with qualified professionals.....	N	S	O	R
29. Respect my accomplishments.....	N	S	O	R
30. Check my pulse rate when exercising..	N	S	O	R
31. Spend time with close friends.....	N	S	O	R
32. Have my blood pressure checked and know what it is.....	N	S	O	R
33. Attend educational programs on improving the environment in which we live.....	N	S	O	R
34. Find each day interesting and challenging	N	S	O	R
35. Plan or select meals to include the "basic four" food groups each day....	N	S	O	R
36. Consciously relax muscles before sleep.....	N	S	O	R
37. Find my living environment pleasant and satisfying.....	N	S	O	R
38. Engage in recreational physical activities (such as walking, swimming, soccer, bicycling).....	N	S	O	R
39. Find it easy to express concern, love and warmth to others.....	N	S	O	R
40. Concentrate on pleasant thoughts at bedtime.....	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
41. Find constructive ways to express my feelings.....	N	S	O	R
42. Seek information from health professionals about how to take good care of myself.....	N	S	O	R
43. Observe my body at least monthly for physical changes/danger signs....	N	S	O	R
44. Am realistic about the goals that I set.....	N	S	O	R
45. Use specific methods to control my stress.....	N	S	O	R
46. Attend educational programs on personal health care.....	N	S	O	R
47. Touch and am touched by people I care about.....	N	S	O	R
48. Believe that my life has purpose.....	N	S	O	R

APPENDIX B

OCCUPATIONAL SCALE

Appendix B

Occupational Scale

1. Do you work at least 35 hours per week for pay?

_____ Yes

_____ No (if "No," you will not be eligible to participate in this study)

If you are eligible to participate, please circle the number on the left which corresponds to your occupation. Examples of Occupational Titles for each occupational level are provided on the following pages, for your assistance.

Number	**Occupation**
9	Higher Executives, Proprietors of Large Businesses, Major Professionals
8	Administrators, Lesser Professionals, Proprietors of Medium-Sized Businesses
7	Smaller Business Owners, Farm Owners, Managers, Minor Professionals
6	Technicians, Semiprofessionals, Small Business Owners
5	Clerical and Sales Workers, Small Farm and Business Owners
4	Smaller Business Owners, Skilled Manual Workers, Craftsmen, and Tenant Farmers
3	Machine Operators and Semiskilled Workers
2	Unskilled Workers
1	Farm Laborers/Menial Service Workers

Examples of Occupational Titles for Each Occupational Level

9 Higher Executives, Proprietors of Large Businesses, and Major Professionals

Occupational Titles

Actuaries
Aeronautical engineers
Architects
Astronautical engineers
Astronomers
Atmospheric scientists
Bank officers
Biologic scientists
Chemical engineers
Chemists
Civil engineers
Dentists
Economists
Electrical/electronic engineers
Engineers
Financial managers
Geologists
Health administrators
Judges
Lawyers
Life scientists
Marine scientists
Materials engineers
Mathematicians
Mechanical engineers
Metallurgical engineers
Mining engineers
Optometrists
Petroleum engineers
Physical scientists
Physicians
Political scientists
Psychologists
Social scientists
Space scientists
Teachers, college
Urban/regional planners
Veterinarians

8 Administrators, Lesser Professionals, Proprietors of Medium-Sized Businesses

Occupational Titles

Accountants
Administrators, college
Administrators, elementary/secondary school
Administrators, public administration
Archivists
Assessors, local public administration
Authors
Chiropractors
Clergymen
Computer specialists
Computer systems analysts
Controllers, local public administration
Curators
Editors
Farm management advisors
Industrial engineers
Labor relations workers
Librarians
Musicians/composers
Nurses, registered
Officials, public administration
Personnel workers
Pharmacists
Pilots, airplane
Podiatrists
Sales engineers
Statisticians
Teachers, secondary
Treasurers, local public

7 Smaller Business Owners, Farm Owners, Managers, Minor Professionals

Occupational Titles

Actors
Agricultural scientists
Announcers, radio/television
Appraisers, real estate
Artists
Buyers, wholesale/retail trade
Computer programmers
Credit persons
Designers
Entertainers
Funeral directors
Health practitioners
Insurance adjusters, examiners, investigators
Insurance agents, brokers, underwriters
Managers, administration
Managers, residential building
Managers, office
Officers, lodges, societies, unions
Officers/pilots, pursers, shipping
Operations/systems researchers/analysts
Painters
Postmasters, mail supervisors
Public relations persons
Publicity writers
Purchasing agents, buyers
Real estate brokers/agents
Reporters
Sales managers, except retail trade
Sales representatives, manufacturing industries
Sculptors
Social workers
Stock/bond salesmen
Surveyors
Teachers, except college/university/secondary school
Vocational/education counselors
Writers

6 Technicians, Semiprofessionals, Small Business Owners

Occupational Titles

Administrators, except farm - - allocated
Advertising agents/salesmen
Air traffic controllers
Athletes/kindred workers
Buyers, farm products
Computer/peripheral equipment operators
Conservationists
Dental hygienists
Dental laboratory technicians
Department heads, retail trade
Dieticians
Draftsmen
Embalmers
Flight engineers
Foremen
Foresters
Home management advisors
Inspectors, construction, public administration
Inspectors, except construction, public administration
Managers, except farm - - allocated
Opticians, lens grinders/polishers
Payroll/timekeeping clerks
Photographers
Professional, technical, kindred workers - - allocated
Religious workers
Research workers, not specified
Sales managers, retail trade
Sales representatives, wholesale trade
Secretaries, legal, medical, other
Sheriffs/bailiffs
Shippers, farm products
Stenographers
Teacher aides, except school monitors
Technicians
Therapists
Tool programmers, numerical control

5 Clerical and Sales Workers, Small Farm and Business Owners

Occupational Titles

Auctioneers
Bank tellers
Billing clerks
Bookkeepers
Bookkeeping/billing machine operators
Calculating machine operators
Cashiers
Clerical assistants, social welfare
Clerical workers, miscellaneous
Clerical/kindred workers
Clerical supervisors
Clerks, statistical
Collectors, bill/account
Dental assistants
Estimators
Health trainees
Investigators
Key punch operators
Library assistants/attendants
Recreation workers
Tabulating machine operators
Telegraph operators
Telephone operators
Therapy assistants
Typists

4 Smaller Business Owners, Skilled Manual Workers, Craftsmen, and Tenant Farmers

Occupational Title

Airline cabin attendants
Automobile accessories installers
Bakers
Blacksmiths
Boilermakers
Bookbinders
Brakemen, railroad
Brickmasons/stonemasons
Brickmason/stonemason apprentices
Cabinetmakers
Carpenters
Carpenter apprentices
Carpet installers
Cement/concrete finishers
Checkers/examiners/inspectors, manufacturing
Clerks, shipping/receiving
Compositors/typesetters
Conductors, railroad
Constables
Counter clerks, except food
Decorators/window dressers
Demonstrators
Detectives
Dispatchers/starters, vehicles
Drillers, earth
Dry wall installers/lathers
Duplicating machine operators
Electricians
Electrician apprentices
Electric power linemen/cablemen
Electrotypers
Engineers, locomotive
Engineers, stationary
Engravers, except photoengravers
Enumerators
Expediters
Firemen, for protection
Firemen, locomotive
Floor layers
Foremen, farm
Forgemen/hammermen
Furriers
Glaziers
Heat treaters/annealers/temperers
Heaters, metal

4 Continued

Housekeepers, except private household
Inspectors
Inspectors/grader/scalers, log and lumber
Interviewers
Jewelers/watchmakers
Job and diesetters, metal
Lithographers
Loom fixers
Machinists
Machinist apprentices
Mail carriers, post office
Mail handlers, except post office
Managers, bar/restaurant/cafeteria
Marshals, law enforcement
Mechanics
Meter readers
Millers, grain/flour/feed
Millwrights
Molders, metal
Molder apprentices
Office machine operators
Patternmakers, modelmakers
Photoengravers
Plasterers
Plasterer apprentices
Power station operators
Postal clerks
Practical nurses
Piano/organ tuners/repairment
Pressmen, plate printers, printing trade
Pressmen apprentices
Projectionists, motion picture
Printing trade apprentices, except pressmen
Proof readers
Radio operators
Receptionists
Repairmen
Rollers/finishers, metal
Sheetmetal workers
Sheetmetal worker apprentices
Stereotypers
Stock clerks/storekeepers
Stone cutters/carvers
Structural metal workers
Superintendents, building
Switchmen, railroad
Tailors

4 continued

Telephone linemen/splicers
Telephone installers/repairmen
Ticket/station/express agents
Tile setters
Tool and diemakers
Tool and diemaker apprectices
Weighers
Welders/flame cutters

3 Machine Operators and Semiskilled Workers

Occupational Titles

Animal caretakers
Asbestos/insulation workers
Assemblers
Barbers
Blasters/powdermen
Boardinghouse/lodginghouse keepers
Boatment/canalmen
Bottling operatives
Bulldoxer operators
Bus drivers
Canning operatives
Carding, lapping, combing operatives
Chauffeurs
Child care workers, except private household
Conductors/motormen, urban rail transit
Cranemen/derrickmen/hoistmen
Cutting operatives
Deliverymen
Dressmakers/seamstresses, except factory
Drill press operatives
Dyers
Excavating/grading/road machine operators, except bulldozer
Farm services, laborers, self-employed
File clerks
Filers/polishers/sanders/buffers
Fishermen/oystermen
Forklift/tow motor operatives
Furnacemen/smelters/pourers
Furniture/wood finishers
Graders/sorters/manufacturing
Grinding machine operatives
Guards/watchmen
Hairdressers/cosmetologists

3 continued

Health aides, except nursing
Housekeepers, private household
Knitters/loopers/toppers
Lathe/milling machine operatives
Machine operatives
Meat cutters, butchers
Metal platers
Midwives (lay)
Milliners
Mine operatives
Mixing operatives
Motormen, mine/factory/logging camp
Nursing aides/attendants
Oilers/greasers, except auto
Operatives
Orderlies
Painter, construction, maintenance, apprentices
Paperhangers
Photographic process workers
Precision machine operatives
Pressers/ironers, clothing
Punch/stamping press operatives
Riveters/fasteners
Roofers/slaters
Routemen
Sailors/deckhands
Sawyers
Service workers, except private household
Sewers/stitchers
Shoemaking machine operatives
Shoe repairmen
Sign painters/letterers
Spinners/twisters/winders
Solderers
Stationary firemen
Surveying, chainmen/rodmen/axmen
Taxicab drivers
Textile operatives
Transport equipment operatives
Truck drivers
Upholsterers
Weavers
Welfare service aides
Enlisted members of the armed services (other than noncommissioned officers)

2 Unskilled Workers

Occupational Title

Bartenders
Busboys
Carpenter's helpers
Child care workers, private household
Construction laborers
Cooks, private household and other
Crossing guards/bridge tenders
Elevator operators
Food service, except private household
Freight/materials handlers
Garbage workers/gas station attendants
Garbage collectors
Gardeners/groundskeepers, except farm
Hucksters/peddlers
Laborers
Laundry/drycleaning operatives
Lumbermen
Meat wrappers
Messengers
Office boys
Packers/wrappers
School monitors
Waiters
Warehousemen

1 Farm Laborers/Menial Service Workers

Occupational Title

Attendants
Baggage porters/bellhops
Bootblacks
Chambermaids, maids, except private household
Cleaners/charwomen
Dishwashers
Farm laborers, wage workers
Janitors
Laundresses
Maids/servants
Newsboys
Personal service apprentices
Private household workers
Produce graders/sorters, except factory/farm
Stockhandlers
Teamsters
Vehicle washers/equipment cleaners
Ushers, recreation/amusement
Dependent upon welfare--no regular occupation

APPENDIX C

MEDICAL OUTCOMES STUDY SHORT-FORM HEALTH SURVEY

Appendix C

Medical Outcomes Study (MOS) Short-form Health Survey

Please circle the one answer below which most describes your situation.

1. In general, would you say your health is:

    a. Excellent
    b. Very Good
    c. Good
    d. Fair
    e. Poor

2. How much bodily pain have you had during the past 4 weeks?

    a. None
    b. Very mild
    c. Mild
    d. Moderate
    e. Severe
    f. Very Severe

3. Does your health keep you from working at a job, doing work around the house or going to school?

    a. Yes, for more than 3 months
    b. Yes, for 3 months or less
    c. No

4. Have you been unable to do certain kinds or amounts of work, housework or schoolwork because of your health?

    a. Yes, for more than 3 months
    b. Yes, for 3 months or less
    c. No

Please check one answer for each question below.

For how long (if at all) has your health limited you in each of the following activities?

	Limited for more than 3 months	Limited for 3 months or less	Not limited at all
5. The kinds or amounts of vigorous activities you can do, like lifting heavy objects, running or participating in strenuous sports....			
6. The kinds or amounts of moderate activities you can do, like moving a table, carrying groceries or bowling...			
7. Walking uphill or climbing a few flights of stairs....			
8. Bending, lifting or stooping...			
9. Walking one block...			
10. Eating, dressing, bathing, or using the toilet			

For each of the following questions, please check the box for the one answer that comes closest to the way you have been feeling during the past month. (Check One Box on Each Line)

	All the Time	Most of Time	Good Bit of Time	Some of Time	Little of the Time	None of the Time
11. How much of the time during the past month, has your health limited your social activities (like visiting with friends or close relatives)?..						
12. How much of the time, during the past month, have you been a very nervous person?..						
13. During the past month, how much of the time have you felt calm and peaceful?...						
14. How much of the time during the past month, have you felt downhearted and blue?...						
15. During the past month, how much of the time have you been a happy person?...						
16. How often, during the past month, have you felt so down in the dumps that nothing could cheer you up?...						

Please check the box that best describes whether each of the following statements is true or false for you. (Check One Box on Each Line)

	Definitely True	Mostly True	Not Sure	Mostly False	Definitely False
17. I am somewhat ill...					
18. I am as healthy as anybody I know ...					
19. My health is excellent...					
20. I have been feeling bad lately...					

APPENDIX D

DEMOGRAPHIC DATA FORM

Appendix D

Demographic Data

Please check (√) each answer or fill in the blank that best describes your situation. Answer the questions as they apply to you and your family at this time.

1. What is your age?

   _____

2. Which of the following are you?
   (a) _____ White
   (b) _____ Hispanic
   (c) _____ Black
   (d) _____ Asian
   (e) _____ American Indian
   (f) _____ Other, please specify _____

3. What is your highest level of education?
   (a) _____ Less than high school
   (b) _____ High school graduation or equivalent
   (c) _____ Some college
   (d) _____ College graduate
   (e) _____ Graduate studies

4. What is your present marital status?
   (a) _____ Single, never married
   (b) _____ Divorced or separated
   (c) _____ Single, living with partner
   (d) _____ Remarried
   (e) _____ Married
   (f) _____ Widowed

5. What is your religious affiliation?
   (a) _____ Protestant
   (b) _____ Catholic
   (c) _____ Jewish
   (d) _____ Latter Day Saint
   (e) _____ Other, please specify

6. What is your family income on a yearly basis?

   _____

7. Number of children in family, (if none, please place "0" in category). _____

APPENDIX E

DUKE-UNIVERSITY OF NORTH CAROLINA FUNCTIONAL SOCIAL SUPPORT QUESTIONNAIRE

Appendix E

Duke-UNC Functional Social Support Questionnaire

HERE IS A LIST OF SOME THINGS THAT OTHER PEOPLE DO FOR US OR GIVE US THAT MAY BE HELPFUL OR SUPPORTIVE. PLEASE READ EACH STATEMENT CAREFULLY AND PLACE A CHECK ( ) IN THE BOX THAT IS CLOSEST TO YOUR SITUATION.

ANSWER EACH ITEM AS BEST YOU CAN. THERE ARE NO RIGHT OR WRONG ANSWERS.

	As much as I would like				Much less than I would like
I get ...					
1. people who care what happens to me					
2. love and affection					
3. chances to talk to someone about problems at work or with my housework					
4. chances to talk to someone I trust about my personal and family problems					
5. chances to talk about money matters					
6. invitations to go out and do things with other people					
7. useful advice about important things in life					
8. help when I'm sick in bed					

APPENDIX F

COVER LETTER

Appendix F

Cover Letter

Dear Study Participant:

I am a doctoral candidate in nursing at Texas Woman's University in Houston, Texas. The questionnaires in this packet are concerned with a study I am conducting regarding health-promoting lifestyle behaviors of women in the community.

To minimize the possible risks of embarrassment and loss of confidentiality, do not place your name on any of the questionnaires. No names of persons or organizations will be used in this study. I will be the only one to see the questionnaires.

Although your knowledge may not be increased by the completion of the items in this packet, the potential exists for the enhancement of knowledge to the health professions. After you have completed the questionnaires, please place them in the pre-addressed envelope provided, seal it, and mail it to me within seven (7) days.

I welcome and appreciate your participation in this study.

I UNDERSTAND THAT MY RETURN OF THE QUESTIONNAIRES CONSTITUTES MY INFORMED CONSENT TO ACT AS A PARTICIPANT IN THIS STUDY. I understand that no medical services or compensation are provided subjects by Texas Woman's University as a result of injury resulting from participation in this research.

If you have any questions or comments regarding the questionnaire packets, please do not hesitate to contact me at (602) 886-9713. Thank you again for your participation in this study.

Sincerely,

Jeanne Archer, R.N., M.S.N.

APPENDIX G

APPROVALS FOR QUESTIONNAIRES

Appendix G.

Approvals for Questionnaires

Approval for use of MOS-Short form Health Survey:

Granted 10/16/90 in telephone conversation with Ron Hays, PhD of Rand Corporation in Santa Monica, California.

Approval for use of Duke-UNC Functional Social Support Questionnaire:

Granted 10/1/90 in telephone conversation with W.E. Broadhead, MD of Duke Medical Center.

Approval for use of Hollingshead Occupational Scale:

Granted 3/20/92 in telephone conversation with Pam Colesworthy, Department of Sociology at Yale University.

APPENDIX H

APPROVAL FOR HEALTH-PROMOTING LIFESTYLE PROFILE

Dear Colleague:

We are pleased to reply to your request for information about our Health-Promoting Lifestyle Profile. In order to respond promptly to the large volume of correspondence we receive, we have found it necessary to prepare this standard letter containing information that is commonly sought. We hope that you will feel free to write or call as necessary to obtain any further information that you may need.

The Health-Promoting Lifestyle Profile measures health-promoting behavior, conceptualized as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual. The 48-item summated behavior rating scale employs a 4-point response format to measure the frequency of self-reported health-promoting behaviors in the domains of self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. It was developed for use in research within the framework of the Health Promotion Model (Pender, 1987), but has subsequently been employed for a variety of other purposes as well. The development and psychometric evaluation of the English language versions were described by Walker, Sechrist and Pender (1987) and scores among the initial study sample were reported by Walker, Volkan, Sechrist and Pender (1988). The translation and psychometric evaluation of the Spanish language version as well as scores among a Hispanic sample were reported by Walker, Kerr, Pender and Sechrist (1990).

There is no charge for such authorized use, but we would appreciate receiving notification of your intent to use the instrument and a report of your completed study/project for our files. It is particularly useful to know of any publications reporting use of the instrument so that we can maintain an accurate complete listing. To facilitate record keeping, all information should be sent to:

Susan Noble Walker, Ed.D., R.N.
Associate Professor
University of Nebraska Medical Center
College of Nursing
600 South 42nd Street
Omaha, Nebraska 68198-5330
(402) 559-6561

We thank you for your interest in using the Health-Promoting Lifestyle Profile and wish you much success with your efforts.

Sincerely,

Susan Noble Walker Karen R. Sechrist Nola J. Pender

APPENDIX I

APPROVAL FOR DATA COLLECTION SITE

Resources For Women, Inc.

A membership networking business • *CONNECTIONS* are our *business!*

June 22, 1992

Jeanne Archer
Program Coordinator
Arizona Disease Prevention Center
2501 E. Lee
Tucson, AZ 85716

Dear Ms. Archer:

As President and Founder of **Resources For Women, Inc.**, I authorize you to work with **RFW** members in whatever ways seem appropriate and beneficial to you in your research project.

As an **RFW** member, you have access to all membership benefits and are welcome to use these benefits to ensure success with your research project.

It is a pleasure to welcome you as a member and I look forward to a mutually rewarding relationship.

Sincerely,

Donna M. Reed

Donna M. Reed
President

5210 E. Pima • Suite 130 • Tucson, Arizona 85712 • (602)881-4506 24 hour (602)798-6073 • Fax (602)795-9493
Serving the United States and Canada

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING
1130 M.D. ANDERSON BLVD.
HOUSTON, TEXAS 77030-2897

AGENCY PERMISSION FOR CONDUCTING STUDY*

THE Resources for Women

GRANTS TO Jeanne Archer
a student enrolled in a program of nursing leading to a Ph.D. in nursing at Texas Woman's University, the privilege of its facilities in order to study the following problem:

Correlates for Health Promoting Lifestyle Behaviors for Employed, Midlife Women

The conditions mutually agreed upon are as follows:

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

Date: 7-15-92

Signature of Agency Personnel

Signature of Student

Signature of Faculty Advisor

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

DR:lt
1/13/92

CURRICULUM VITAE

Jeanne Tidwell Archer

Present Title:	Program Coordinator Arizona Disease Prevention Center University of Arizona Tucson, Arizona
Residence Address:	5
Office Address:	2501 East Lee Tucson, Arizona 85716
Date of Birth:	
Citizenship:	U.S.A.
Marital Status:	Married to

Undergraduate Education

1971	The University of Texas Austin, Texas

Graduate Education

1973	The University of Texas Austin, Texas
1983 until present	Texas Woman's University Houston, Texas
1987	Admitted to Candidacy

Professional Positions

1991 until present	Program Coordinator Arizona Disease Prevention Center University of Arizona Tucson, Arizona
1986-1989	Clinic Coordinator Women's Health Clinic Tucson, Arizona
1981-1986	Assistant Professor University of Texas Health Science Center School of Nursing Houston, Texas
1978-1981	Instructor University of Texas Health Science Center School of Nursing Houston, Texas
1976-1978	Nurse Practitioner City of Houston Public Health Department Houston, Texas
1975-1976	Instructor City College School of Nursing New York, New York
1973-1975	Coordinator St. David's Hospital Austin, Texas
1971-1972	Staff Nurse Brackenridge Hospital Austin, Texas