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**Qualitative generation of wellness motivation theory: A
secondary analysis**

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The University of Arizona, 1992

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QUALITATIVE GENERATION OF WELLNESS MOTIVATION

THEORY: A SECONDARY ANALYSIS

by

Jennifer Marie Burke

A Thesis Submitted to the Faculty of the

COLLEGE OF NURSING

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ABSTRACT

The purpose of this study was to provide a secondary analysis of Derenowski's inductively generated conceptualization of wellness motivation, specifically the category identifying barriers. The sample consisted of 29 individuals who were attempting to initiate and sustain programs of cardiac risk factor modification. Descriptions of perceived barriers to initiating health behavior change were generated from the data using grounded theory methodology. Categories identified within perceived barriers to initiating health behavior change included: personal control, life stress, social relationships, physical capability, and resources. The descriptions of perceived barriers to health behavior change generated from the data provide an understanding and theoretical basis for nursing assessment and the development of interventions designed to assist individuals in continued growth and the emergence of positive health patterns.

CHAPTER 1
INTRODUCTION

The purpose of this study was to provide a secondary analysis of Derenowski's (1990) inductively generated conceptualization of wellness motivation, specifically the category identifying barriers. Perceived environmental and psychosocial barriers to initiating and sustaining cardiovascular health behavior change were examined. Chapter 1 is divided into three sections. The first section includes an overview of cardiovascular disease as a public health problem and addresses the incidence of cardiovascular disease mortality and disability, the prevalence of cardiovascular disease, and the economic costs of cardiovascular disease. Section two substantiates the need for nursing research on motivational processes in cardiovascular risk factor modification. The chapter concludes with a discussion of the significance of the problem, and specification of the purpose of the study.

Overview of the Problem

Although the incidence of mortality from coronary artery disease (CAD) has decreased over the past 20 years, CAD remains the leading cause of death in the United States and contributes significantly to the incidence of disability (American Heart Association, 1991; Fleetwood & Packa, 1991). Cardiovascular disease claimed a total of 944,688 lives in 1989 (American Heart Association, 1991). Of those individuals who died from cardiovascular disease, 170,000 were under the age of sixty-five (American Heart Association, 1991). The American Heart Association

(1991) reported that, in 1988, cardiovascular disease accounted for 5,100,000 years of potential life lost for people under the age of seventy-five.

The prevalence of cardiovascular disease in the United States is astonishing as well as disturbing. It is estimated that 69,080,000 Americans have one or more forms of cardiovascular disease (American Heart Association, 1991). Statistics show that 6,160,000 people alive today have a history of heart attack, angina pectoris, or both, and that stroke accounts for half of all patients hospitalized for acute neurological disease (American Heart Association, 1991). Cardiovascular disease occurs in people across the age continuum. Statistics indicate that an estimated 62,770,000 Americans aged six years and older have high blood pressure (American Heart Association, 1991). Disability from cardiovascular disease is a primary public health problem that contributes to escalating health care costs and lost productivity.

The total cost of cardiovascular disease for 1992 has been estimated to be \$108.9 billion, of which hospital and nursing home services account for \$69.6 billion, physician and nurse services equal \$16.4 billion, and medications make up \$6.1 billion of the total expenditure (American Heart Association, 1991). Lost productivity resulting from cardiovascular disease disability is being projected to reach \$17.0 billion in 1992 (American Heart Association, 1991).

Epidemiological research has shown that the development of atherosclerosis and subsequent coronary artery disease (CAD) has a multifactorial etiology. The major risk factors positively correlated with atherosclerotic lesions include cigarette smoking, high blood pressure, and

abnormal blood cholesterol levels (American Heart Association, 1991; Criqui, 1986). Maleness, increasing age, and heredity have also been shown to significantly influence the development of atherosclerosis. Other risk factors of consequence include diabetes, obesity, physical inactivity, and emotional stress (American Heart Association, 1991).

Studies involving cigarette smoking, high blood pressure, and elevated serum cholesterol levels report that individuals with one of these major cardiovascular risk factors can have up to a two to four times increase in the incidence of CAD (Kannel, 1977; Stamler, Wentworth, & Neaton, 1986). A combination of two of the referenced risk factors has been found to increase the incidence of CAD as much as nine times, and when all three risk factors are present the incidence may increase as much as 16 times (Kannel, 1977; Stamler et al., 1986). The adverse effects of these risk factors appear to interact in a synergistic manner (Criqui, 1986; Mancina, 1988). Mancina (1988) reported that, in several populations around the world, the major risk factors for CAD are so widely distributed that the combination of two or three in a given individual is not uncommon.

Research strongly supports the proposition that cigarette smoking increases the incidence of cardiovascular disease. As one component of the Framingham study, Kannel, McGee, and Castelli (1984) found that cigarette smoking doubled the risk of coronary attacks in middle-aged men, as well as the risk of premature stroke in men and the risk of cardiac failure in women. The data also indicated that the risk of sudden death increased more than ten times in men who smoked and five times in women who smoked. Aberg et al. (1983) reported that men who had

suffered one myocardial infarction and stopped smoking had an 84% survival rate at five years, while post-infarct men who continued to smoke had a survival rate of 78%.

In addition to increased risk following a cardiac event, cigarette smoking decreases high-density lipoprotein cholesterol (HDL-C) and raises low-density lipoprotein cholesterol (LDL-C), thereby producing a more atherogenic LDL-C/HDL-C ratio (Kannel et al., 1984). Smoking can also produce other potentially adverse effects on the cardiovascular system, as shown by the effect of nicotine on thrombosis, arrhythmias, and platelet function, and the effect of carboxyhemoglobin on left ventricular wall function and ventricular fibrillation threshold (Mulcahy, 1983).

Abnormally high serum cholesterol levels have been positively correlated to the development of atherosclerosis and the incidence of coronary heart disease. The Framingham study found that the risk of heart attack in persons under the age of 50 years began to gradually rise at an approximate cholesterol level of 150 and then increased more intensely when the level exceeded 200 (Castelli & Anderson, 1986). An individual whose total blood cholesterol level is 300 has four times the risk of coronary heart disease than that of a person whose level is 200 (Castelli et al., 1986). Findings from the Framingham study indicated that, regardless of total cholesterol level, the risk of heart disease was decreased as HDL levels rose (Castelli et al., 1986). Subjects who had high HDL concentrations (at the 80th percentile) had half the risk of heart disease as those with low HDL concentrations (Castelli et al., 1986). In a study examining the effects of colestipol hydrochloride

plus niacin on atherosclerotic lesions, Blankenhorn et al. (1987) reported halted progression of atherosclerotic lesions in 45% of subjects, and an actual regression of lesions in 16% of the subjects with a lowering of total cholesterol and an increase in HDL cholesterol.

Hypertension has been positively correlated to the incidence of CAD, and the risk is proportional to the severity of the hypertension (Kannel, 1990). Kannel (1990) reported the incidence of CAD to be two to three times higher in hypertensive individuals compared with normotensive individuals. Hypertension plays an independent role in atherogenesis, but the magnitude of its impact is influenced by coexistent risk factors such as obesity, abnormal blood lipids, glucose intolerance, cigarette smoking, increased alcohol intake, age, sex, and sedentary lifestyle (Criqui, 1986; Kannel, 1990).

Risk factor modification is important in reducing morbidity and mortality in the long-term management of individuals diagnosed with cardiovascular disease (Conroy, Mulcahy, Graham, Reid, & Cahill, 1986; Kinsey, Fletcher, Rice, Watson, & Fletcher, 1989). Research indicates that the progression of atherosclerosis may be slowed or even halted in individuals who are able to reduce or eliminate risk factors (Blankenhorn et al., 1987; Mancina, 1988; Nash, 1988). Varied success has been shown with interventions used to assist individuals in modifying cardiovascular risk factors.

Although the potential benefits of smoking cessation have been substantiated, individuals report difficulty in reducing or stopping smoking. Conroy et al. (1986) reported that, of 170 patients who received advice to quit smoking while in the hospital, 34% were still

smoking one year later. Hjermann, Byre, Holme, and Leren (1981) found that, while 45% of their study's male subjects reduced mean tobacco consumption after receiving risk factor modification intervention, only 25% of these subjects completely stopped smoking. Lastly, Vermeulen, Lie, and Durreer (1983) reported that a six-week rehabilitation program failed to influence the smoking habits of its participants. Cardiovascular risk factor modification includes a low-cholesterol, low-fat diet which often decreases an individual's total serum cholesterol level (Ulene, 1989). Vermeulen et al. (1983) found that a control group which did not participate in a structured rehabilitation program including physical, social, and psychological intervention approximately 4-6 weeks after myocardial infarction showed no decrease in total serum cholesterol levels when tested at follow-up. However, the rehabilitation group receiving intervention had significantly lower cholesterol levels. Hjermann et al. (1981) reported a decrease in total serum triglycerides of 20% in subjects who received education and counseling related to the need to stop smoking and modify their diet compared with a control group who did not receive these interventions.

Although the benefits of lowering total serum cholesterol and increasing HDL levels have been shown to be beneficial in reducing risk for CAD, the literature reports poor subject adherence to prescribed low-cholesterol, low-fat diets. Kinsey et al. (1989) investigated subjects' adherence to the American Heart Association prudent diet four years after completing an inpatient cardiac rehabilitation program followed by a 12-week, home-monitored exercise program. The data showed

that 74% of the subjects failed to adhere to the recommended dietary modifications (Kinsey et al., 1989).

Over the past several years, exercise training has been considered the cornerstone of cardiac rehabilitation efforts. Studies have revealed that aerobic exercise decreases cardiac workload and increases cardiac efficiency (Fontana, Kerns, Rosenberg, Marcus, & Colonese, 1986). In addition, regular physical exercise has been shown to improve mood, increase self-esteem, and have a positive effect on vocational changes (Fontana et al., 1986; Oldridge & Spencer, 1985). Recent research has indicated that regular physical exercise may reduce cardiovascular mortality. Oldridge, Guyatt, Fischer, and Rimm (1988) performed a meta-analysis of ten selected trials of rehabilitation following myocardial infarction. Data indicated a 25% reduction in cardiovascular mortality for subjects who participated in comprehensive rehabilitation programs compared with subjects who did not participate in rehabilitation programs (Oldridge et al., 1988). Similar results have been obtained by other researchers. O'Conner et al. (1989) reviewed 22 randomized trials of rehabilitation after myocardial infarction and found that subjects who participated in rehabilitation also had significantly lower cardiovascular mortality than those subjects who did not participate in rehabilitation. Both studies indicated no significant difference in the incidence of non-fatal recurrent myocardial infarction in subjects who participated in rehabilitation programs compared with those subjects who did not (O'Conner et al., 1989; Oldridge et al., 1988).

Although research shows that regular physical exercise reduces mortality and has many positive benefits for the individual with heart disease, programs report high dropout rates. Fontana et al. (1986) reported a decline of 50% in exercise adherence over a one-year time period. Oldridge (1982) reviewed 12 published studies of cardiac rehabilitation exercise programs and found dropout rates ranging from 15% to 87%. Generally, participant dropout was the highest during the first three months of a program.

Individuals diagnosed with cardiovascular disease frequently receive education from health care professionals about major and contributing risk factors and regimens to modify existing risk factors. In addition, many individuals are given the opportunity to participate in structured, supervised risk factor modification programs. Structured risk factor modification programs traditionally have been oriented toward secondary prevention, or a decrease in the incidence of subsequent cardiac events in persons already diagnosed with CAD. A comprehensive approach to coronary risk factor management is recommended for patients with atherosclerotic CAD. Multifactorial risk factor reduction must include smoking cessation, reduction of dietary intake of cholesterol and saturated fat, hypertensive management, and the initiation and maintenance of a program of regular physical activity (Kinsey et al., 1989).

Individuals who choose to participate in secondary prevention programs often experience difficulty in adhering to the risk factor modification regimen (Fleury, 1991). Despite the role of secondary prevention in the reduction of coronary risk, lack of adherence to prescribed

regimens is a fundamental problem in risk factor modification efforts. Adherence is a problem with behaviors considered complex and of extended duration such as the modification of cardiac risk factors (Oldridge, 1988). A primary factor in lack of adherence to risk factor modification may be related to the failure to address differences in individual levels of motivation throughout the change process (Oldridge, 1988).

Wellness motivation is defined as individual intention to initiate and sustain a program of both primary and secondary health behavior (Derenowski, 1990). Individual motivation in health behavior change is considered to be a continuous process of growth and development which facilitates the emergence of new and positive health behaviors (Fleury, 1991). An understanding of individual motivation to initiate and sustain cardiovascular health behavior is an essential first step in developing a lasting program of risk factor modification (Oldridge, 1988). The challenge for nurses includes the implementation of interventions designed to motivate initiation of risk modification efforts and to facilitate sustained behavioral change.

Significance of the Problem

The incidence of cardiovascular disease mortality has decreased over the last two decades. However, coronary artery disease remains the leading cause of death in the United States. Continued success in decreasing cardiovascular disease mortality is dependent on individual behavior change. Research has shown that health education aimed at secondary prevention can reduce mortality due to cardiovascular disease (Briody, 1984). Nurses have the responsibility and opportunity to work

collaboratively with health care providers in other disciplines to provide secondary prevention programs (Briody, 1984; Miller, Wikoff, McMahon, Garrett, & Ringel, 1988). The nurse frequently assumes the role of coordinator of care for the multidisciplinary team and is the link between the patient and other team members. The nurse brings to the team an integrative focus in areas of assessment and intervention which is unique in facilitating health behavior change.

Nursing emphasizes the development of theory and practice directed toward enhancing individual motivation and promoting individual responsibility in initiating and maintaining positive health behaviors (American Nurses' Association, 1980). An emphasis on enhancing client motivation is a key component of risk factor modification programs. Nursing interventions designed to enhance individual motivation and promote individual responsibility facilitate adherence with the prescribed regimen (Oldridge, 1986; Oldridge & Stoedefalke, 1984).

Nurses require a research-based body of knowledge to apply to clinical practice. This knowledge will assist nurses in planning interventions to help individuals make positive cardiovascular health behavior changes. According to Donaldson and Crowley (1978), themes relevant to the discipline of nursing include those processes through which positive changes in health status occur and the patterns of human behavior in interaction with the environment. These themes provide direction for both inquiry and theory development within nursing. Nursing research must begin to expand and refine existing motivational theory to include both an evaluation of the processes inherent in individual motivation and an identification of variables relevant to initiating and

maintaining health behavior change (Derenowski, 1990). An understanding of the process through which motivated action is initiated and re-initiated and the patterns of human behavior in interaction with the environment is expected to lead to the development of nursing interventions designed to assist individuals in the long-term maintenance of cardiovascular health behaviors (Derenowski, 1990).

Purpose of the Study

The purpose of this study was to provide a secondary analysis of the inductively generated concept of individual "appraisal of readiness" within the theory of "Empowering Potential" to initiate health behavior change (Derenowski, 1990). The secondary analysis of qualitative data focused on "identifying barriers" as one category of individual appraisal of readiness within the process of risk factor modification. The original study conducted by Derenowski (1990) provided an analysis of the psychological and social processes used by 29 individuals who were attempting to initiate and sustain programs of cardiac risk factor modification. A secondary analysis of qualitative data further investigated those environmental and psychosocial barriers to health behavior change as a basis for the development of nursing intervention strategies designed to enhance individual readiness to initiate and sustain cardiovascular health behavior.

Summary

In summary, cardiovascular disease is a health problem which requires intensive intervention by health care professionals. Secondary preventive measures focused on the modification of cardiovascular risk

factors is one primary way of decreasing morbidity and mortality in individuals with diagnosed cardiovascular disease. Although individual motivation in cardiovascular health behavior is often cited as a primary determinant of risk modification, many individuals remain unmotivated to initiate and sustain health behavior change (Fleury, 1991). Nurses play an integral role in facilitating individual motivation and positive cardiovascular health behavior change.

A secondary analysis of qualitative data was conducted to describe perceived environmental and psychosocial barriers in appraising readiness to change health behaviors. The descriptions generated from the study will guide nurses in the development of interventions designed to minimize perceived barriers to health behavior change and facilitate the construction of intention to initiate and sustain cardiovascular health behaviors.

CHAPTER 2

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

A description of the theoretical framework which guided the research and a review of literature relevant to the study are presented in Chapter 2. The chapter is divided into three sections. Section one gives a description of the theoretical framework, "Empowering Potential" (Derenowski, 1990), which provides the basis for secondary analysis of qualitative data in investigating the role of perceived environmental and psychosocial barriers to health behavior change. The second section provides an overview of two deductively derived motivational theories used to explain and predict individual adherence in the initiation and maintenance of cardiovascular health behavior. The final section of the chapter explores the concepts of perceived environmental and psychosocial barriers to health behavior change through a review of recent empirical research.

Theoretical Framework

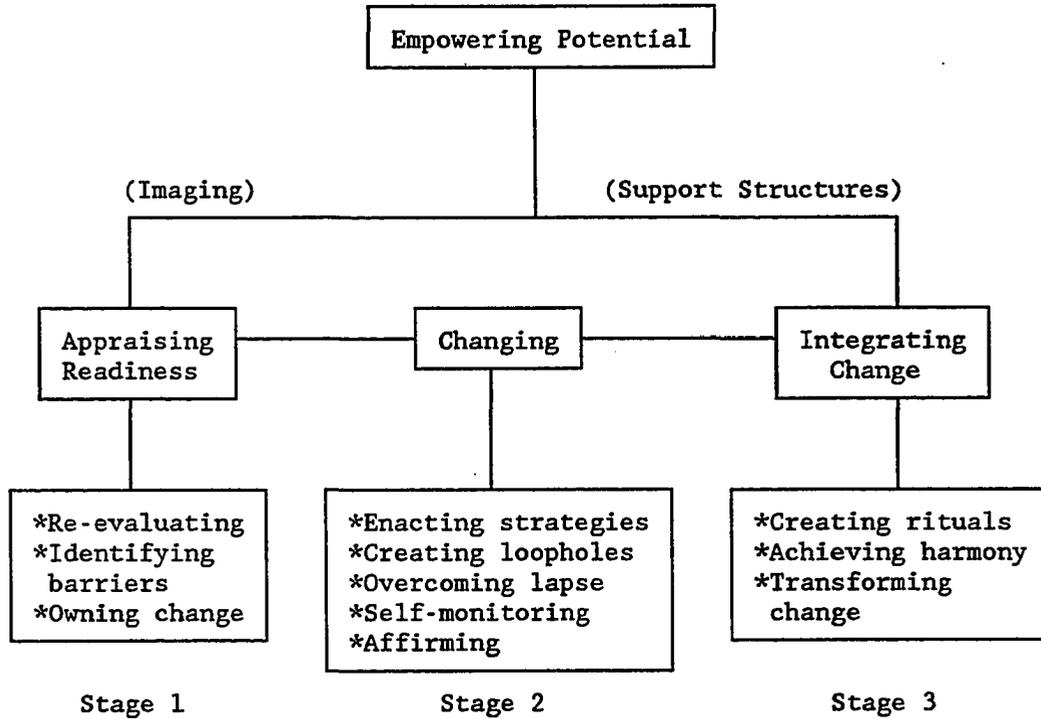
The theoretical framework guiding this study was that of Empowering Potential (Derenowski, 1990). The theory explains individual motivation to initiate and sustain health behavior change and provides a framework for understanding the process through which motivated action is initiated and re-initiated over time.

Empowering Potential is a continuous social process of individual growth and development that facilitates the emergence of new and positive health behaviors (Fleury, 1991). According to Fleury (1991), the

process of Empowering Potential consists of three stages: appraising readiness, changing, and integrating change (Figure 1). During the stage of appraising readiness, the individual constructs an intention to initiate and sustain health behavior. Changing occurs as behavioral intentions are transformed into personalized action through self-constructed plans of behavior and the use of self-regulatory mechanisms. Integration of change is experienced as the individual successfully sustains positive health behavior and perceives health-related changes as incorporated into existing life patterns. The three stages of Empowering Potential illustrate the individual's movement toward sustained positive health behaviors and maintenance of ongoing lifestyle change.

The focus of this study was on the role of perceived barriers within individual appraisal of readiness to initiate lifestyle change. The conceptualization of appraisal of readiness to initiate behavioral change is grounded in clinical data and the experience of individuals attempting to modify their risk-producing behavior.

Appraisal of readiness is the stage of initial decision making within the process of Empowering Potential (Derenowski, 1990). Individuals examine present behavior in relation to preferences and values, resources available for making a change, and perceived ability to successfully initiate desired change. Through an assessment of valued goals and judgments about the means best suited to attain those goals, individuals generate plans for goal attainment as well as a determination of perceived control over potential outcomes. Individual appraisal



() System drivers

Figure 1. The Grounded Theory of Empowering Potential.

Note. From "Empowering potential: A theory of wellness motivation" by J. D. Fleury, 1991, *Nursing Research*, 40, p. 287. Copyright 1991 by AJN Company Publication. Reprinted by permission.

of readiness consists of three categories: re-evaluating, identifying barriers, and owning change.

In appraising readiness to change, individuals experience a period of re-evaluation, an examination of the worth of risk-producing behaviors in relation to valued ways of living (Derenowski, 1990). Re-evaluation efforts are initiated in response to cues which include the concern of a loved one, physical changes, or information that heightens the awareness of risk. A perceived discrepancy between current behavior and valued personal standards enhances individual perception of the need for change, and motivates individual attempts to initiate cardiovascular health behavior.

Identifying barriers reflects individual acknowledgment of potential obstacles to change in appraising readiness to initiate and sustain lifestyle change (Derenowski, 1990). The identification of barriers to health-related change provides an important way of choosing between alternative means of goal achievement and determining individual perception of control in initiating desired change. Perceived barriers to lifestyle change include an awareness of environmental and psychosocial factors associated with risk-producing behaviors which serve as potential obstacles to change. In addition, identification of barriers reflects the individual's perception of control over self and the environment in successfully initiating change (Derenowski, 1990). In identifying barriers, individuals are aware that change cannot occur during unstable situations. Thus, individuals acknowledge those areas considered to be "out of control" and strive to maintain a sense of balance as one way of feeling ready to change (Derenowski, 1990).

In owning change, individuals accept responsibility for desired changes and create an intention to act in ways that will lead to the realization of valued goals (Derenowski, 1990). Individual commitment to change and acceptance of responsibility for initiating and sustaining lifestyle change is an essential indicator of readiness to act on behavioral change. In order to perceive ownership in change, individuals need to highly value the proposed change, feel able to carry out the desired changes, and accept responsibility for living change.

Review of Extant Theory

A review of existing conceptualizations related to the study of perceived barriers within individual health behavior change provides a basis for examining the theoretical context of this secondary analysis. Specifically, two deductively derived motivational theories which examine the role of perceived barriers in health behavior change, the Health Belief Model and the Health Promotion Model, are discussed. The literature addressed includes the role of sociodemographic/environmental factors in cardiovascular health behavior and perceived psychosocial barriers to health behavior change.

Health Belief Model

The Health Belief Model (HBM) was originally derived from Lewin, Dembo, Festinger, and Sears' (1944) level of aspiration theory by Hochbaum, Leventhal, Kegeles, and Rosenstock to analyze individual motivation to act as a function of goal attainment in health behavior (Maimen & Becker, 1974). Developed to explain health-related behavior at the level of individual decision making, the HBM focuses on

individual cognitions and perceptions of the present environment (Mikhail, 1981; Rosenstock, 1974). The HBM hypothesizes that health-related action results from the simultaneous occurrence of three categories of factors: (1) the belief that one is susceptible to a health threat or the medical and social ramifications of the health threat, (2) the existence of sufficient health concern to make health issues relevant, and (3) the belief that a particular health recommendation would be beneficial in reducing a perceived threat at an acceptable cost. Cost refers to the perceived psychological, physical, and financial barriers that must be overcome in order to follow health behavior recommendations. Modifying factors such as demographic, structural, and psychosocial variables may influence individual perceptions and health-related behaviors. In addition, internal or external cues must be present and of sufficient magnitude to initiate the decision-making process.

Perceived barriers are defined within the HBM as the potential negative aspects of a particular health action which may act as obstacles to undertaking the recommended health behavior (Janz & Becker, 1984). A cost-benefit analysis occurs when the individual weighs the health behavior's effectiveness against perceptions that the health behavior may be expensive, dangerous, or unpleasant, inconvenient, and time consuming (Janz & Becker, 1984).

Individual perception of barriers as conceptualized within the HBM has been frequently associated with cardiovascular health behaviors. Muench (1987) examined the issue of compliance in a cardiac rehabilitation program using selected HBM concepts. The purpose of the study was to describe patient perceptions in relation to susceptibility,

seriousness, barriers, and benefits. The three major barriers perceived by subjects to attending exercise sessions were the time of day that the program was offered, the exercise session conflicting with other activities, and transportation difficulties. Muench (1987) noted that subjects continued to perceive barriers to exercise despite time spent in the program. Tirrell and Hart (1980) evaluated the effect of an exercise program on long-term compliance in patients who had undergone coronary artery bypass surgery. A significant negative correlation was found between perceived barriers to action and adherence to prescribed walking regimens. The investigators found that the greater the number of barriers perceived by the individual, the lower the level of compliance with exercise. Hiatt, Hoenshell-Nelson, and Zimmerman (1990) identified factors that influenced patient participation in a cardiac rehabilitation program. The data indicated that patients who participated in a cardiac rehabilitation program perceived more benefits and fewer barriers to entering the program than those who did not. In a comprehensive review of 29 HBM studies published between 1974 and 1984, including 24 studies which specifically examined preventive health behaviors, Janz and Becker (1984) found the concept of perceived barriers to be the most powerful of the HBM dimensions when compared to the concepts of severity, susceptibility, and benefits.

Although use of the HBM in attempting to explain and predict individual health behavior has yielded significant results, these results have not been consistent across studies. Murdaugh and Verran (1987) tested the Preventive Behavior Model (Murdaugh & Hinshaw, 1986) derived from the HBM to explore the influence of perceived barriers, benefits,

health value orientations, and certain health care activities on physiological outcomes, including cholesterol level, high-density lipoprotein levels, systolic blood pressure, and diastolic blood pressure. The investigators measured subjects' health value orientation using the Value Orientation Scale. Dominant value orientations were measured with four subscales: human nature (evil but changeable), time (past, present, future), activity (spontaneous, expressive, doing), and relationship (traditional, group, individual). The higher the score on one of the subscale variations, the greater the subject valued the orientation. The investigators reported that future-oriented subjects who perceived greater barriers to undertaking health care activities had lower cholesterol and higher HDL levels than did past-oriented subjects. In addition, the data indicated that spontaneous persons who perceived both high barriers and benefits to undertaking preventive behaviors had lower systolic and diastolic blood pressures than doing persons. Pirie et al. (1986) attempted to characterize participants and non-participants in a cardiovascular risk-screening and education program in terms of their health beliefs. The data indicated that individual health beliefs were not related to participation. In addition, the investigators found that participants in the health-screening and education program perceived more difficulties in taking preventive action than did non-participants.

Health Promotion Model

The Health Promotion Model (HPM) (Pender, 1987) is derived from the HBM and examines similar variables, but has been expanded to include determinants of health-promoting behavior. Health-promoting behaviors

are continuing activities which the individual undertakes in interacting with the environment in moving toward higher levels of health and self-actualization. The determinants of health-promoting behavior are categorized into cognitive-perceptual factors, modifying factors, and variables affecting the likelihood of action. According to the HPM (Pender, 1987), cognitive-perceptual factors are the primary motivational mechanisms for the initiation and maintenance of health-promoting behaviors. The cognitive-perceptual factors influencing health-promoting behaviors include the importance of health, perceived control over health outcomes, perceived self-efficacy, definition of health, perceived health status, perceived benefits, and perceived barriers to health-promoting behavior. Modifying factors indirectly affect health-promoting behaviors through their impact on cognitive-perceptual mechanisms, and include demographic factors, biological characteristics, interpersonal influences, situational factors, and behavioral factors. In addition, the likelihood of taking health-promoting action is dependent on activating cues of internal or external origin such as uncomfortable symptoms, feelings of fatigue, and advice from others and newspaper or magazine articles.

The concept of perceived barriers has been identified as a cognitive-perceptual factor in the HPM. Perceived barriers exert a direct influence on the individual's predisposition to engage in health-promoting behavior (Pender, 1987). Barriers may be imagined or real, and consist of perceptions concerning the unavailability, inconvenience, or difficulty of a particular health-promoting option.

The impact of the cognitive-perceptual factor perceived barriers related to cardiovascular health behavior has been examined in several recent studies using the HPM. Frenn, Borgeson, Lee, and Simandl (1989) examined factors that clients participating in a cardiac rehabilitation program viewed as enabling or disabling their life-style changes for health promotion, specifically changes in diet, smoking cessation, and incorporation of exercise. The investigators reported that individuals who perceived few barriers to change felt more able to make desired life-style changes. Bonheur and Young (1991) examined the variables that influence an individual's decision to participate in fitness activities in 105 college students. The variables examined included self-esteem, perceived benefits, and perceived barriers. The investigators found that individuals classified as exercisers (reported exercising at least three times per week for a duration of at least 20 minutes) perceived greater benefits and fewer barriers to exercise than did non-exercisers (participants not meeting exercise criteria).

Nurse researchers to date have demonstrated empirical support for several relationships proposed within the HPM, including the cognitive-perceptual variables of health locus of control, self-esteem, definition of health, perceived health status, and health concerns (Fleury, 1992). However, areas that have not been addressed in the literature include the stability of the variables over time; the role of perceived benefits and barriers in health-promoting behavior; the influence of specific interpersonal, situational, and behavioral factors; and the role of cues to action on health-promoting lifestyle (Fleury, 1992).

Review of Empirical Literature

A review of existing empirical literature related to perceived sociodemographic and environmental barriers to initiating and sustaining cardiovascular health behavior provides a conceptual basis which guides this secondary analysis of qualitative data. Sociodemographic and environmental factors which may increase the risk of cardiovascular disease, as well as influence individual adherence to a program of cardiac risk factor modification, are discussed.

Perceived Sociodemographic/Environmental Barriers

Sociodemographic and environmental variables have been identified as potential barriers to the initiation and maintenance of positive cardiovascular health behaviors. In a recent review of literature regarding barriers to preventive health care, illness behavior, and health services utilization, Melnyk (1988) categorized sociodemographic and environmental barrier variables as structural barriers and individual barriers. Structural barriers include the lack of time to initiate and sustain health behaviors, distance or proximity of health care services, the financial cost of health care, and the unavailability of health care services. Individual barriers include demographic factors, patient attitudes, knowledge, and lack of effort in sustaining health behaviors.

Structural barriers to health behavior change have been well documented. Rehabilitation program conflicts with work and activity schedules have been identified as a common barrier to changing cardiovascular health behavior across studies (Melnyk, 1988; Muench, 1987; Oldridge,

1982). Melnyk (1988) reported the unavailability or inaccessibility of health care services as a deterrent to users. In addition, limited, inconvenient, or unfavorable program hours have been perceived as barriers by program participants and may discourage program adherence (Melnyk, 1988; Muench, 1987; Oldridge, 1982).

The adequacy of individual financial resources may also influence active participation in a cardiac risk factor modification program (Ades, Meacham, Handy, Nedde, & Hanson, 1986; Melnyk, 1988; Oldridge, 1982; Tirrell & Hart, 1980). Oldridge (1982) and Ades et al. (1986) found that the lack of personal finances to pay for a cardiac rehabilitation program was a significant obstacle to participation. Investigators have also reported inadequate or limited insurance coverage as negatively related to program adherence (Melnyk, 1988; Tirrell & Hart, 1980).

The time of day a rehabilitation program was offered, the proximity of the program site to the individual's home, and the availability of convenient transportation have been negatively related to adherence to cardiac rehabilitation programs (Ades et al., 1986; Godin, Shephard, & Colantonio, 1986; Melnyk, 1988; Muench, 1987; Oldridge, 1982). Muench (1987) examined patient adherence to a cardiac rehabilitation program and found transportation difficulties to be one of three major barriers to attending prescribed exercise sessions. Melnyk (1988) found that the amount of time taken to reach the rehabilitation program site may deter participation. Oldridge (1982) and Ades et al. (1986) also identified the program's location and driving distance as barriers to program adherence.

Time has frequently been identified in the literature as a barrier to cardiovascular health behaviors. Godin et al. (1986) conducted a study to identify the cognitive profile of people who intend to exercise but fail to carry out this intention. For participants in this study, those who had positive intentions to exercise but did not do so had difficulty in reconciling the time demands of an exercise program with their weekly schedules.

Individual barriers to sustaining health behavior change have been documented in the literature as well. The presence of acute or chronic illness, as well as the individual's perception of enjoyment, the physical exertion required, and the degree of discomfort experienced during exercise training, has been shown to directly influence the individual's decision to participate in a program of cardiovascular health behavior (Dishman, 1982; Tirrell & Hart, 1980). Tirrell and Hart (1980) evaluated the effect of an exercise teaching program on long-term exercise compliance and found that both acute illness and concomitant chronic illness were identified by subjects as significant barriers to attending the exercise program. Melnyk (1988) reported that decreased activity due to chronic impairment and a greater number of physical problems were barriers to seeking health care services.

Cardiac rehabilitation program characteristics, especially characteristics of the exercise regimen, may be related to individual program adherence. Dishman (1982) suggested that an individual will not adhere to a type of exercise that is unenjoyable or is uncomfortable due to perceived duration or intensity. Godin et al. (1986) found that subjects who had positive intentions to exercise but failed to do so

perceived regular exercise as physically demanding. In discussing behavioral intentions designed to improve health and fitness, Martin and Dubbert (1984) suggested that individuals who begin an exercise program at low aerobic levels and then accelerate gradually will be more likely to adhere to the program. Martin and Dubbert (1984) identified the behavioral intervention of "shaping" as the most vital procedure in effectively establishing a long-term habit. Shaping is the process by which behavior is dissected into a series of successive approximations that are gradually progressed to the desired end (Martin & Dubbert, 1984).

The importance of sociodemographic and environmental variables in increasing cardiovascular risk has been well documented. Socioeconomic status in terms of employment, occupation, education, and income has been found to be associated with risk factors for coronary heart disease, or CHD (Liu et al., 1982; Ruberman, Weinblatt, Goldberg, & Chaudhary, 1984; Tyroler et al., 1987). Tyroler et al. (1987) found socioeconomic status to be inversely associated with CHD morbidity and mortality. Individuals of lower socioeconomic positions have been shown to have a greater incidence of hypertension, smoke more cigarettes, have higher serum cholesterol levels, and a greater incidence of obesity than individuals of higher socioeconomic status (Tyroler et al., 1987).

Ruberman et al. (1984) found an inverse relationship between educational level and increased risk for death in male survivors of acute myocardial infarction. In examining the relationship of education to cardiovascular risk factors, Liu et al. (1982) identified a significant negative relationship between education and lifestyle-related risk

factors. Melnyk (1988) identified socioeconomic status (SES) as a barrier to program adherence, with the effect of SES mediated by demographic factors, including education, income, age, and social participation. Melnyk (1988) also reported that educational level consistently affected the use of health services. In a review of the literature related to underlying causes of non-compliance, Byham and Vickery (1988) found that life factors such as employment and economic conditions were primary obstacles to sustained dietary modification.

The role of stress should be considered when examining the impact of psychosocial factors on the incidence of coronary artery disease (Syme, 1987) and adherence to a program of cardiovascular risk factor modification. In attempting to determine the role of psychological stress in the development of CHD, as well as the interaction of stress with behavioral risk, Eliot (1987) found a negative relationship between stress and serum cholesterol levels, individual decision to smoke, and the development of hypertension. In a study of male survivors of acute myocardial infarction, Ruberman et al. (1984) found that a high degree of life stress accompanied by inadequate social support increased the risk of CHD mortality by four times. The data also indicated that high levels of stress and social isolation were more prevalent among less-educated men. Tyroler et al. (1987) found that subjects who experienced occupational stress, defined as the interaction of demanding work with few opportunities to control the job, had an increased incidence of CHD signs, symptoms, prevalence, and mortality.

The amount of stress an individual experiences influences adherence to risk factor modification regimens. The effect of stress on smoking

cessation has been well documented (Curry, Thompson, Sexton, & Omenn, 1989; Epstein & Perkins, 1988; Swan et al., 1988). Curry et al. (1989) examined the relationship of stress to long-term abstinence in a sample of 402 smokers who participated in a smoking cessation program. The data indicated that program participants who achieved long-term abstinence reported less daily stress. Swan et al. (1988) followed 329 ex-smokers for a period of a year to ascertain which individual characteristics were predictive of relapse. The investigators found that both male and female ex-smokers with high levels of stress in the form of daily hassles were at a heightened risk for relapse.

Summary

Research has substantiated the proposition that individuals who perceive greater benefits than barriers to health behavior change will be more likely to initiate and sustain such behaviors (Bonheur & Young, 1991; Frenn et al., 1989; Hiatt et al., 1990; Tirrell & Hart, 1980). However, empirical research has frequently left unmeasured specific barriers to health behavior change. Although the role of perceived barriers using the Health Belief Model and Health Promotion Model has been empirically supported (Janz & Becker, 1984; Pender, 1987), no studies have focused on individual perception of environmental cues or control over self and the environment as potential obstacles to change. When measured, the role of perceived barriers in initiating and sustaining cardiovascular health behavior is proposed and tested with instruments derived prior to conducting the study. The measures are assumed to be relevant and meaningful. Investigations of individual

motivation to initiate and sustain cardiovascular health behaviors need to include an examination of both psychosocial and environmental factors as experienced by the individual attempting to initiate and sustain change. Cardiac risk factors should be considered as interacting variables with regard to the social context. Risk factor modification interventions must employ knowledge about the individual's decision-making experience in attempting to change behaviors and include the individual's perception of barriers to change. Only through a consideration of both the psychosocial context and the subjective relevance of behavioral risk factors can effective risk-reducing interventions be designed.

CHAPTER 3
RESEARCH METHODOLOGY

Exploratory qualitative methodology was followed in this secondary analysis of data. The role of perceived environmental and psychosocial barriers in individual appraisal of readiness to initiate health behavior change was examined following a grounded theory approach based on the work of Glaser and Strauss (Glaser, 1978; Glaser & Strauss, 1967) and other nurse researchers who have interpreted and used grounded theory techniques (Benoliel, 1984; Chenitz & Swanson, 1986; Sandelowski, 1986; Stern, 1980).

Chapter 3 is divided into four sections. The chapter begins with an introduction to grounded theory methodology, including its purpose and the specific procedures used in the generation of grounded theory. In the second section of the chapter, the specification of procedures for the primary qualitative study, including the sample, data collection, and methods used to ensure methodologic rigor, is described. The third section of the chapter provides an overview of secondary analytic methods, as well as the specification of procedures for the proposed secondary analysis, including informant characteristics, protection of human subjects, theoretical sensitivity, theoretical sampling, data analysis, and methods to establish trustworthiness or the reliability and validity of the data. Finally, a brief discussion of the limitations associated with the secondary analysis is presented.

Grounded Theory Methodology

Grounded theory is an inductive research method which is used to generate theory that furthers the understanding of social and psychological phenomenon (Benoliel, 1984; Glaser & Strauss, 1967; Stern, 1980). The grounded theory approach to the discovery of social processes is characterized by the concurrent collection, categorization, and interpretation of data; theoretical sampling of comparative sources of data; and the ongoing use of measures to ensure trustworthiness of the data (Glaser & Strauss, 1967). Grounded theory uses a recursive process in which theoretical categorizations are developed based on data generated, and in which sampling decisions are directed to challenge and strengthen those categorizations.

The elements of a grounded theory are categories and their properties (Glaser & Strauss, 1967). A category is an abstraction of the phenomenon observed in the data (Chenitz & Swanson, 1986). A property is a conceptual aspect of a category which denotes the nature of the category (Glaser & Strauss, 1967). The core category, usually a process, accounts for the majority of the action in the phenomenon under investigation (Chenitz & Swanson, 1986; Glaser and Strauss, 1967). The core category of a grounded theory functions to integrate the theory through the discovered relations among categories and their properties (Glaser, 1978). A "Basic Social Process" is one type of core category and represents a pattern of behavior which occurs and involves change over time (Glaser, 1978).

Four elements of design are considered essential in understanding grounded theory methodology. The first is that the conceptual framework

is generated from the data rather than from previous studies or existing conceptualizations (Stern, 1980). The generation of theory from data means that the working hypotheses and conceptualizations not only are generated from the data, but are systematically tested through theoretical sampling and constant comparative methods during the course of the research (Glaser & Strauss, 1967). The resulting theory is grounded in the lived experience of the informants and is inherently relevant to the world from which it emerges (Hutchinson, 1986).

The second element of grounded theory methodology is the nature of the sample. The researcher, concerned with sampling relevant data rather than individuals, uses the technique of theoretical sampling to purposely select subjects who will substantiate or further explore the emerging concepts in the data (Knafl & Webster, 1988). In theoretical sampling, the developing theory is used to generate questions about the data which direct sampling decisions. Theoretical sampling is based on the need to collect data to examine and refine categories and their relationships and to assure the representativeness of the categories. Theoretical sampling is conducted throughout the course of the study to test and refine the conceptual framework by directing researcher decisions about which data to collect (Stern, 1980). Theoretical sampling in combination with constant comparative analysis continues until no new data are received that further explain a particular aspect of the emerging theory (Stern, 1980).

The third element of design is the reliance on the personal experiences of the researcher as grounded theorist. Theoretical sensitivity, or the insights of the observer throughout the research process, is

essential to the discovery of grounded theory (Glaser, 1978; Glaser & Strauss, 1967). Theoretical sensitivity implies an informed, disciplined, yet open and impressionable, approach to data analysis. In order to conceptualize and formulate theory from data, the investigators, using grounded theory methodology, must develop a sensitivity to the area of inquiry through their experience and familiarity with the phenomenon under investigation (Glaser, 1978).

Specification of theoretical context facilitates the maintenance of theoretical sensitivity. Grounded theory research focuses on the works and actions of individuals that occur within a specific context. The context refers to the immediately relevant aspects of the situation as a social system in which the individuals are functioning. Focusing on individual behavior without consideration of the related context increases the risk of misinterpreting the meaning and relevance of the events occurring within the social system (Miles & Huberman, 1984). Maintenance of theoretical sensitivity also includes an ongoing review of relevant literature throughout data collection and analysis. Sensitivity is increased by the investigator's familiarity with literature relevant to the concepts of inquiry (Glaser, 1978). The literature search is initially focused on the substantive area of interest and as the research progresses the review is directed by the data generated and the emerging conceptualizations.

The fourth element of grounded theory methodology refers to concurrent data collection and analysis. Constant comparative analysis is a systematic process which occurs throughout the research process and includes the purposeful gathering of data bits from which categories are

formed or expanded, comparing each piece of data with every other data bit to determine the relationships between categories and properties, and merging categories and properties into concepts (Chenitz & Swanson, 1986).

Primary Study: Specification of Procedures

Grounded theory methodology was used to identify, describe, and provide an analysis of the psychological and social processes used by individuals to initiate and sustain cardiovascular health behavior over time. The Basic Social Process identified from the data, Empowering Potential (Derenowski, 1990), explains the individual's desire to achieve full potential through initiating and sustaining health behaviors.

Sample

The sample consisted of 29 individuals who were attempting to initiate and sustain programs of cardiac risk factor modification. Twenty-four individuals who were participating in an outpatient cardiac rehabilitation program served as the focal group for the research. To aid theoretical sampling, attempts were made to identify variations in the phenomena under investigation by including a comparison group and a negative case analysis. Five individuals who were involved in a weight loss support group formed the comparison sample. Eleven informants in the focal and comparison groups were considered to be non-adherent in risk factor modification efforts and were used to provide a negative case analysis.

Of the 29 subjects sampled, 18 were male and 11 were female. The respondents' ages ranged from 25 to 79, with a mean age of 56. Twelve were employed full-time, 5 were employed part-time, and 11 had retired. One had never worked. The majority of subjects (n = 19) were married. All had graduated from high school and 14 had some college education. Fifteen of the subjects had been, or were currently employed in blue-collar professions, while 14 had been, or were currently employed in white-collar professions.

Data Collection

Data collection procedures involved the use of increasingly structured interviews with individuals who were attempting to initiate and sustain cardiovascular health behaviors, in addition to a progressive literature review. Data collection took place over seven months, from September 1989 to March 1990. Throughout data collection and analysis, the investigator attended risk factor modification seminars and exercise sessions with potential informants for eight hours per week. Regular interaction with potential informants allowed the investigator to become familiar with the process of lifestyle change and individuals at different stages in the change process.

The grounded theory process began with unstructured interviews to collect data from theoretically sampled informants. Interviews ranged from 45 minutes to 2 hours and were conducted in a private area chosen by each respondent. Each interview opened with the broad question, "Tell me about some recent health-related changes that you have made." Although the questions for each interview followed the same general

format, as the theoretical sample increased and the data were concurrently analyzed, questions became more refined and focused. Interviews were conducted with subjects until no new data emerged relative to the evolving theory. Interviews were transcribed by a transcriptionist skilled in processing audiotaped data.

Protection of Human Subjects

Data collected from subjects were used exclusively for research purposes. Subjects were approached and asked to participate in the study. Informed consent was obtained from each informant following an individual explanation of the purpose of the study, assurance of subject anonymity, and the presentation of a written disclaimer form. Human subjects approval was granted by the University of Arizona College of Nursing Ethical Review Subcommittee and Institutional Review for Protection of Human Rights. Anonymity was preserved by changing names used in the interview to reflect an alphabetical order. For example, the first interview contained all names that began with the letter "A." Interview data which were audiotaped were transcribed and, following transcript review and correction, the audiotapes were erased.

Data Analysis

The constant comparative method of analytic induction was used in data collection and analysis in order to identify the elements and structure of the theory (Glaser, 1978; Glaser & Strauss, 1967). The method involved line-by-line analysis of the transcribed interviews and the coding of data into relevant sentences and phrases. Codes were compared both within and across interviews, with related codes clustered to

determine categories and their properties. The investigator sought to determine relationships between categories by formulating propositions and testing them in the data. As data collection and analysis progressed, the category structure was refined by merging categories and their properties into a smaller set of more abstract categories. Concurrent coding and analysis continued until unique categories were no longer identified.

Through constant comparison, a core category was identified that explained the majority of the action in the process under investigation. Identification of the core category redirected the purpose of analysis to verification of categories and elaboration of key concepts. The categories identified in the study were integrated into the substantive theory of Empowering Potential, which provides a framework for understanding the phenomenon of individual motivation in cardiovascular health behavior.

Methodologic Rigor

The outcome of qualitative inquiry is to know and understand a specific phenomenon. Reliability and validity of data generated are addressed through establishing trustworthiness. Lincoln and Guba (1985) and Guba (1981) identified four criteria used to ensure the rigor of naturalistic inquiry: credibility, transferability, dependability, and confirmability.

The first criterion by which to evaluate the scientific merit of the research is to establish the credibility of the data. Credibility is analogous to the internal validity criterion in quantitative research

methods. The credibility of quantitative methods refers to having confidence in the truth of the findings as lived and experienced by the informants (Lincoln & Guba, 1985). The credibility of the primary research study was established using several techniques. The investigator had regular interaction with the subjects during data collection and analysis which provided validation and clarification of the data generated. Peer debriefing, or the exposure of data collected and rationale for data categorization to knowledgeable peers, was achieved by discussing the findings with lifestyle change counselors who worked with patients and their families. Referential adequacy was obtained by comparing the developing theory with related data sources. Through a review of the literature, data relevant to the discovered theory was used to ground coding and categorization decisions. Member checks, or the testing of theoretical interpretations with members of the group from which the data were solicited, allowed the emerging conceptualizations to be modified and verified by informants.

The second factor, transferability, refers to external validity or the "generalizability" of the findings. In qualitative research, transferability is concerned with the verification that data obtained are not context bound (Lincoln & Guba, 1985; Sandelowski, 1986). The sample from the primary study covered a wide range of adult age groups, levels of physiologic functioning, cardiovascular risk factors, and level of commitment to lifestyle changes. The use of a contrast group and negative case analysis was useful in ensuring transferability to related health behaviors. The range and content of data generated provided a

basis for determining relevancy to related contexts and health care providers.

Dependability or consistency refers to the stability and the trackability of the findings over time. The findings are dependable if another researcher is able to follow the progression of events in the data collection and analysis process and arrive at comparable conclusions. The maintenance of a record of all significant events throughout the course of the inquiry was used to ensure dependability (Guba, 1981; Miles & Huberman, 1984). During the course of the study, the primary investigator recorded process and analytic memos which included decisions made about the data and sampling decisions to clarify patterns identified in the data. These decisions were reviewed and discussed with peers to ensure accuracy and consistency in the process of data collection, analysis, and interpretation.

The last factor, confirmability, refers to the interpretational objectivity of the data (Lincoln & Guba, 1985). Confirmability was maintained in the primary study by the investigator exploring alternative explanations for data generated with knowledgeable peers in addition to informants. Exploration of alternative explanations supports the objectivity of the data and grounding in the experience of the informant. Peer review and member checks assisted in maintaining interpretational objectivity by providing a forum for discussion and clarification of the investigator's conceptualizations (Lincoln & Guba, 1985).

Secondary Analysis: Specification of Procedures

An exploratory qualitative design was used in this secondary analysis of data. Data analysis followed grounded theory methodology (Glaser, 1978; Glaser & Strauss, 1967). Grounded theory was an appropriate choice of methodology, as the purpose of this secondary analysis of qualitative data was to further investigate perceived environmental and psychosocial barriers as one component of the individual's appraisal of readiness to initiate cardiovascular health behavior.

Secondary analysis is defined as any further analysis of existing data for the purpose of presenting interpretations, conclusions, or knowledge additional to, or different from, those presented in the original study (Leske, 1990). Secondary analysis has recently become a more accepted method for conducting research (Herron, 1989; Leske, 1990; McArt & McDougal, 1985; Moldanado, 1991), with the purpose of shedding new light on the overall research question and thus adding new knowledge to an area under investigation (McArt & McDougal, 1985). The purpose of secondary analysis of qualitative data is to expand and refine existing conceptualizations and theoretical relationships.

Although data collection and analysis within grounded theory methodology occurred concurrently, the following discussion is organized into six sections outlining the process of secondary analysis: descriptions of informant characteristics and protection of human subjects, the maintenance of theoretical sensitivity, theoretical sampling of data, data analysis, and the maintenance of methodologic rigor. Limitations of secondary analysis follows.

Informant Characteristics

The sample for this secondary analysis consisted of the same 29 subjects described in the primary study who were attempting to initiate and sustain programs of cardiac risk factor modification (Table 1). A detailed description of the sample which was used in this study is presented. Initial informants (n = 24) in the primary study consisted of individuals who had diagnosed CAD and who were affiliated with an outpatient cardiac rehabilitation program. Of these informants, 17 were male and 7 were female. Twelve subjects were referred to cardiac rehabilitation following an acute myocardial infarction. Six subjects had undergone coronary artery bypass surgery following myocardial infarction, while two had undergone surgery following the clinical diagnosis of myocardial ischemia. Three subjects were referred to rehabilitation following exercise tests indicating myocardial ischemia. Informants had been involved in cardiac rehabilitation for an average length of 10.2 weeks. One respondent had been participating for 12 years, and was selected to provide insight on the process of change over a long period of time. The respondents' ages ranged from 38 to 79, with a mean age of 57.9 (S.D. = 8.2). Seven subjects were employed full time, 5 were employed part time, and 10 had retired prior to the cardiac event. One subject had never been employed, and one subject had stopped working due to disability. Thirteen of the subjects had been, or were currently employed in blue-collar professions, while 10 had been, or were currently employed in white-collar professions. Nineteen subjects were married, 2 were widowed, and 3 were divorced. All subjects had graduated from high school, and 10 had some college education.

Table 1. Demographic Profile of Informants.

Variable	Category	Frequency	Percent
Age	26-30	1	3.4
	31-35	3	10.3
	36-40	1	3.4
	41-45	1	3.4
	46-50	2	7.0
	51-55	4	13.8
	56-60	6	20.7
	61-65	8	27.6
	66-70	2	7.0
	71-75	0	0.0
	76-80	<u>1</u>	<u>3.4</u>
		29	100.0
Gender	Male	18	62.0
	Female	<u>11</u>	<u>38.0</u>
		29	100.0
Employment Status	Employed Full-Time	12	41.5
	Employed Part-Time	5	17.2
	Retired	10	34.5
	Disability Retirement	1	3.4
	Never Employed	<u>1</u>	<u>3.4</u>
		29	100.0
Marital Status	Married	19	65.5
	Divorced	5	17.2
	Widowed	2	7.0
	Never Married	<u>3</u>	<u>10.3</u>
		29	100.0
Educational Level	High School Degree	8	27.6
	Attended Past High School Education	7	24.1
	College Graduate	<u>14</u>	<u>48.3</u>
		29	100.0
Occupation	Blue Collar	15	51.7
	White Collar	<u>14</u>	<u>48.3</u>
		29	100.0

Note. From The Qualitative Generation of Wellness Motivation Theory: A Secondary Analysis (p. 89) by J. M. Derenowski, 1990, unpublished dissertation, University of Arizona, Tucson. Reprinted by permission.

A comparison group, which had not experienced a cardiac event, was sampled in the primary study to identify the role of a diagnosis of CAD in the initiation and maintenance of risk factor modification efforts. The comparison group included five individuals who were considered to be overweight and who were currently making, or who had made previous attempts to reduce their weight. Of the comparison group, four informants were female and one was male. The informants' ages ranged from 24 to 49, with a mean age of 34.8 (S.D. = 8.6). None of the subjects were currently married; two had been divorced. All subjects had graduated from high school and four had some college education. At the time the informants were interviewed by the primary investigator, two informants had successfully managed to maintain weight loss for over one year. Two informants were in the process of attempting to reduce their weight, and one had unsuccessfully ended a dieting attempt. All informants were employed full time. Two were employed in blue-collar professions and three were employed in white-collar professions.

The primary investigator sampled 11 informants to provide a negative case analysis. The negative case analysis consisted of informants considered to be struggling with adherence in risk factor modification efforts. Six of the informants within the negative case analysis were female, while five were male. The mean age was 48.9 (S.D. = 7.8), with a range from 38 to 64. Six subjects were married, four were divorced, and one was widowed. All subjects graduated from high school; three had some college education. Four subjects had retired prior to the cardiac event, four were employed full time, two were employed part time, and one had retired due to disability. Seven had been, or were currently

employed in blue-collar professions, while five had been, or were currently employed in white-collar professions.

Protection of Human Subjects

This secondary analysis project was submitted to the University of Arizona Human Subjects Committee for human subjects approval. The investigator had access only to the transcribed interview data, with identifying information coded as described in the primary study to ensure anonymity. The transcribed interview data were stored in a secure place in the investigator's office to ensure confidentiality.

Maintenance of Theoretical Sensitivity

Theoretical sensitivity, or the sensitization of the investigator to the data, was maintained during this secondary analysis through specification of the theoretical context. The specification of the theoretical context from which the research proceeded was presented in Chapter 2.

In addition, the investigator conducted an ongoing review of relevant literature throughout the course of the inquiry. Initially, the literature focused on the substantive area of interest. Further review of the literature was directed by the data generated and the emerging conceptualizations. Selected literature provided insight into the emerging concepts and was considered sources of data which were incorporated into the analysis. Sensitivity was increased by the investigator's familiarity with literature relevant to the concepts of interest in the inquiry (Glaser, 1978).

Theoretical Sampling

Theoretical sampling in this secondary analysis was accomplished by selectively sampling data obtained from the 29 informants, including the comparison group and negative case analysis, to strengthen the emerging conceptualization of the role of perceived environmental and psychosocial barriers in individual appraisal of readiness to change. Identifying variations in the phenomenon enhanced the meaningfulness of the categories and subcategories, and identified the boundaries and conditions of the emerging conceptualizations. The investigator examined the comparison group and negative case analysis data to generate questions about the data which directed data sampling decisions. Theoretical sampling of data expanded and refined emerging categories and subcategories, and their interrelationships. Sampling choices were progressive and were based on what was considered relevant to the developing conceptualizations.

Data Analysis Plan

Secondary analysis of the qualitative data focused on the generation of categories related to perceived environmental and psychosocial barriers in appraising readiness to change cardiovascular health behavior. The constant comparative method (Chenitz & Swanson, 1986; Glaser & Strauss, 1967) was used in conjunction with the theoretical sampling of qualitative data. The constant comparative method involved the joint coding and analysis of data to explore perceived environmental and psychosocial barriers in appraising readiness to change cardiovascular health behaviors.

Data analysis began with a comprehensive review of the transcribed data. Each interview was then analyzed line by line to look for data bits related to perceived environmental and psychosocial barriers to cardiovascular health behavior change. The substantive coding component of data analysis included memoing, fracturing, comparing, and sorting of the data generated. Through substantive coding, data related to perceived environmental and psychosocial barriers were grouped into as many categories as possible.

Initial categories, tentative properties, and working hypotheses were outlined in memos. Memoing is a method of preserving emerging hypotheses, analytical schemes, hunches, and abstractions (Stern, 1980). Throughout the research process, the investigator recorded insights and decisions about the data in analytic memos. For example, early in the investigation, the category conflicting activities was discovered. The category was later identified as a subcategory of social relationships. Continued comparative analysis of the data bits revealed the social nature of the activities. The investigator recorded this memo:

Conflicting activities looks to be a subcategory of social relationships. The activities described by informants are all social in nature such as work (employer/employee), socialization (friends), etc.

Memoing of the investigator's insights and decisions facilitated logical progression of data collection and analysis throughout the research process (Chenitz & Swanson, 1986). For example, general malaise was initially thought to be a subcategory of physical capability. However, similarities were noted between general malaise and the subcategory acute and chronic illness. The investigator theoretically sampled the

data, and through constant comparative analysis determined general malaise was not a unique subcategory, but partially described a property of the subcategory acute and chronic illness. The investigator recorded this memo:

I am unable to identify unique properties within the subcategory general malaise. In addition, general malaise is very similar to the subcategory acute and chronic illness. I need to theoretically sample the data to clarify whether general malaise is a unique subcategory within physical capabilities or perhaps partially describes a property of the subcategory acute and chronic illness.

In addition, memoing served the purpose of recording insights and decisions about interrelationships between emerging categories and properties as one way of maintaining investigator theoretical sensitivity (Stern, 1985). For example, an ongoing review of the literature clarified that poor coping mechanisms were not a subcategory of personal control, but a property associated with high-risk situations and negative emotional states. The investigator recorded memos on index cards for ease of sorting. Memos were linked with other memos to enrich the conceptual schemes of the analysis (Stern, 1980).

Fracturing refers to the partitioning of qualitative data into relevant phrases or passages. Initially, each data bit was examined individually, and assigned a letter and number to identify the location of the data bit in the transcript. The investigator identified the perceived barrier indicated in the data and labeled the data with the corresponding substantive code (Stern, 1980). Each data bit was entered into a word processing program file titled with the substantive code the data bit described. The comparison and sorting of data bits occurred concurrently throughout the research process. Data were compared with

every other data bit to identify similarities and patterns in the data. In sorting, data bits were grouped according to relatedness in meaning and context. Through continued comparison and analysis of data meaning and patterning, categories and their properties were identified. Throughout data analysis, specific questions guided the sampling of data to test and substantiate initial categorization.

The theoretical sampling of data generated strengthened and clarified the meaning and categorization of data throughout the constant comparative process. Data generated during negative case analysis were compared to data generated from subjects categorized as adherent to enhance the description of perceived environmental and psychosocial barriers to initiating health behavior change. For example, the investigator questioned if the subcategory conflicting activities was applicable only to individuals considered to be non-adherent in health behavior change. Comparison of data indicated that both adherent and non-adherent individuals experienced conflicting activities.

Data generated from the comparison group were compared with data from the initial sample of informants to identify similarities and differences between the groups. The data from informants within the comparison group substantiated the credibility of the emerging categories and properties. For example, the property within goal congruence which reflects the construction of boundaries by significant others in an attempt to protect the individual from harm was initially believed to apply to all individuals initiating health behavior change. However, further review of the data generated from the comparison group indicated

this property was applicable only to individuals who had experienced a cardiac event.

As data analysis progressed, comparative units changed from individual data bits to the comparison of category properties or the conceptual elements of the category (Munhall & Oiler, 1986). The constant comparison of subcategory properties enabled the investigator to refine emerging categorizations and identify underlying patterns in the data. The categories and their properties were progressively compared until each category was viewed as a separate, identifiable unit. For example, early in data analysis, the subcategory urges and cravings was initially considered to be a property of high-risk situations. A comparison of properties and data grounding the subcategories later substantiated urges and cravings as a separate, identifiable unit.

Data collection and analysis continued until unique categories were no longer identified. Once category saturation had occurred, each category and its associated properties were compared with every other category to identify relationships between the categories (Stern, 1980). Conceptually related categories were integrated to form general categories, with properties refined to better describe the categories (Stern, 1980). Repeated comparison of categories, their properties and interrelationships, provided the basis for category refinement (Glaser, 1978).

Throughout the course of the study, the investigator conducted a continuous literature search. The existing literature was used as data and woven into the matrix consisting of data, category, and conceptualization (Stern, 1980). A review of relevant literature was directed by

the data and the developing conceptualizations. As categories became increasingly interrelated and refined, the focused literature review supported and modified concepts and their relationships (Munhall & Oiler, 1986). For example, as data analysis progressed, it became clear that informants perceived social relationships as a barrier to initiating health-related lifestyle change. A review of related social support literature substantiated this conceptualization and assisted the investigator in clarifying and refining the subcategories within social relationships.

Establishing Trustworthiness

The establishment of the reliability and validity of the data generated in qualitative research is essential to ensure the scientific integrity of the inquiry. In qualitative research, the reliability and validity of data generated are addressed through establishing trustworthiness. Three factors were used to ensure the methodologic rigor of this secondary analysis: credibility, dependability, and confirmability (Guba, 1981).

Credibility, or having confidence in the truth of the findings, was established by two methods. Referential adequacy was obtained by comparing the developing conceptualizations with related data sources. Through a review of scientific literature, data pertinent to the conceptualizations were used to ground coding and categorization decisions. Comparing data from a variety of sources, including related literature and peer review, tested theoretical interpretations and modified developing concepts.

Peer debriefing, or discussion of the findings with the investigator's knowledgeable peers, was achieved by sharing the data collected and rationale for data categorization with nurses who had worked with individuals attempting health behavior change. Peer perceptions provided a test for emerging conceptualizations, as well as an exploration of alternative explanations for the data generated.

The maintenance of memos throughout the course of the research process was used to ensure dependability or consistency of the findings over time. Dependability was also established by working closely with the primary investigator during data analysis, and sharing with her the secondary investigator's analytic decision-making process.

Confirmability refers to the interpretational objectivity of the data. Confirmability was maintained by exploring alternative explanations for data generated with staff nurses who had worked with individuals attempting health behavior change and their families. Peer review provided a forum for discussion and clarification of investigator conceptualizations.

Limitations of Secondary Analysis

Secondary analysis of qualitative data is associated with several methodological limitations. The investigator's inability to use member checks to confirm original data may limit the credibility and confirmability of the secondary analysis. Original informants are unavailable to the investigator in secondary analysis and, therefore, cannot be asked to substantiate descriptions and interpretations generated from the data.

Similarly, transferability of the findings cannot be established due to the unavailability of original informants. The researcher is unable to establish the informant's perception of the importance and relevance of the data; thus, transferability of findings for this study is limited.

Summary

Grounded theory, an inductive qualitative research method, was used to explore perceived environmental and psychosocial barriers to initiating cardiovascular health behavior. The process of grounded theory methodology, including a description of its purpose and specific procedures used in the generation of grounded theory, was described in this chapter. The research methodology for the primary study, including design, sample, protection of human subjects, data collection protocol, and methods used to ensure methodologic rigor, was reviewed. The specification procedures for the secondary analysis of data, including the maintenance of theoretical sensitivity, theoretical sampling, informant characteristics, protection of human subjects, and data analysis, were described. Methods which were used to establish the trustworthiness of the data generated in the secondary analysis followed. Finally, the limitations associated with secondary analysis of qualitative data were identified.

CHAPTER 4

THE GROUNDED THEORY

Descriptions of perceived barriers to initiating positive cardiovascular health behavior were generated from the data during a secondary analysis of qualitative data (Derenowski, 1990). Chapter 4 begins with a discussion of the concept of perceived barriers and its link to Derenowski's (1990) core category, Empowering Potential. The following five sections describe the categories and subcategories identified within perceived barriers to initiating positive cardiovascular health behaviors. Each category is described in relation to its properties. The chapter concludes with a summary of the conceptual structure of perceived barriers.

Perceived Barriers

The identification of perceived barriers to initiating positive cardiovascular health behaviors explains the individual's acknowledgment of potential obstacles to health behavior change. The identification of perceived barriers to health behavior change is one component of appraising readiness to change and determining an individual plan of action. The original study conducted by Derenowski (1990) provided an analysis of the psychological and social processes used by individuals who were attempting to initiate and sustain programs of cardiac risk factor modification. This secondary analysis of qualitative data further examines those environmental and psychosocial barriers to health behavior change as a basis for the development of nursing intervention

strategies to enhance individual readiness to initiate positive cardiovascular health behavior. The concept of perceived barriers is illustrated in Figure 2, and is comprised of five categories which describe global obstacles to health behavior change: personal control, life stress, social relationships, physical capability, and resources. Each of the five categories contains subcategories which more specifically define barriers to initiating health behavior change as perceived by informants. The nature of each subcategory is described by its related properties.

Personal Control

The category of personal control reflects the individual's perception of control over self and the environment in successfully initiating change. Individuals acknowledge that change cannot occur in unstable situations. Informants who perceive themselves as "out of control" strive to maintain a sense of balance as one way of feeling ready to change. The category of personal control is comprised of four subcategories which consist of both environmental and psychosocial variables. The subcategories within personal control include high-risk situations, negative emotional states, decreased self-efficacy, and urges and cravings (Figure 3).

High-Risk Situations

A high-risk situation is any situation which poses a potential threat to the client's sense of control over positive health behavior change and increases the risk of a potential lapse in health behavior. A lapse in health behavior refers to a temporary slip in the management

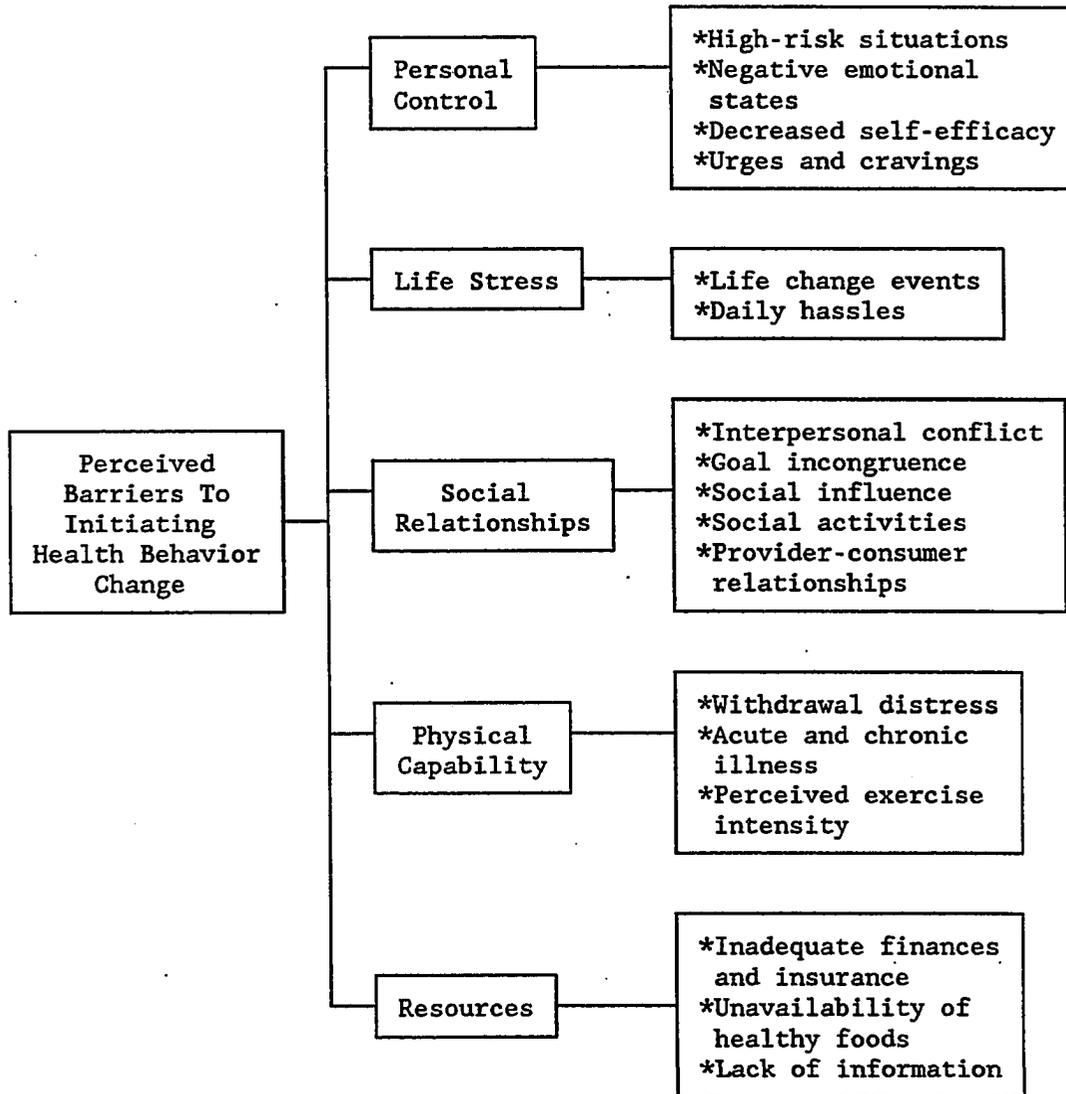


Figure 2. Perceived Barriers To Initiating Health Behavior Change.

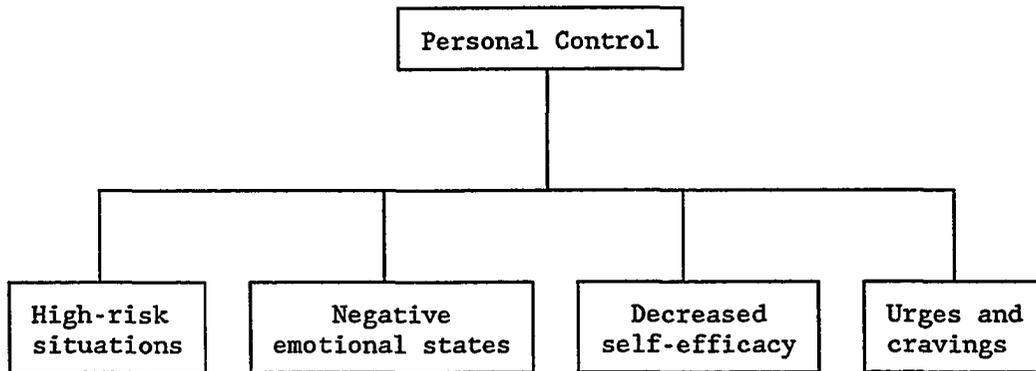


Figure 3. Subcategories of Personal Control.

of progressive change, and a return to previous patterns of less healthy behavior. Informants described specific situations which produce a strong desire to engage in unhealthy behaviors. Individuals unable to manage these high-risk situations may experience a behavioral lapse, thus initiating and perpetuating a sense of loss of control over positive health behavior. Informant data indicated individuals who perceive themselves as not in control of their own health behavior have difficulty initiating behavioral change. Three properties are included in the subcategory of high-risk situations.

The first property of high-risk situations reflects the inability of the individual to manipulate the environment to reduce the likelihood of engaging in an unhealthy behavior. Informants described high-risk situations as those places and situations in which they have no control over the stimuli they encounter, such as in other people's homes, at restaurants, work, and parties. Data which substantiate this property included:

I think eating at work is difficult. You go anyplace you don't have control over the food, it's difficult to find something to eat that's good for you. So, or you go out to a restaurant or over people's houses. That makes it difficult. (NN 214)

Like at work over the holidays — right outside of my office there's a table. And every day that table was full of doughnuts and cookies and that did bother me some. . . . I was asked why I didn't attend a potluck Christmas party. I didn't want to be in a room full of tons of food and lots of co-workers while they're all sitting down eating. (RR 575)

The second property of high-risk situations is environmental cue responsiveness. Informants described responding to environmental cues found within the context of situations by engaging in an unhealthy behavior. Informant data indicated that individuals have formed a past

association between the environmental cue and an unhealthy behavior which may trigger a lapse during the initiation of positive health behavior change. Data which substantiate this property included:

If you have a beer in one hand the law says that you have to have a cigarette in the other. You can't drink without a cigarette. Sitting down and watching a football game on television . . . you can't do that unless you have a bag of potato chips or something there. So, it's putting yourself in positions where things are available to you. (MM 727)

Basically, what would happen is, if I would go to a party and have a beer or a glass of wine, I'd have a cigarette. It triggered it, so I went for a whole year and I didn't have a beer. But I made the change in order to break the tie with cigarettes. (NN 321)

The third property of high-risk situations explains the individual's risk-producing behavior as a product of a habit. Habits are behavior patterns acquired by frequent repetition that have become nearly involuntary. Individuals reported situations that trigger a habitual response of engaging in unhealthy behaviors. Habits are difficult to break; therefore, any situation associated with a habitual response becomes high-risk for the individual attempting to initiate health behavior change. Data which substantiate this property included:

Normally, the first thing I would do when I came home from work was smoke a cig. And then it would leave a bad taste in my mouth so I ate some junk, and then I'd be feeling a little short of breath so I wouldn't go exercise. (QQ 869)

Cooking meals, I catch myself sticking my finger in the pot or I have an urge to lick the spoon after I stir. (RR 508)

Well, I would quit [smoking], and then get myself in situations where I felt like I had to have one [cigarette], so I'd start again. Even now I'll take a puff off of my wife's cigarette — while I'm driving sometimes. (BBB 516)

Negative Emotional States

Negative emotional states are discomforting moods or feelings such as anger, frustration, anxiety, sadness, depression, or boredom. Individuals who experience a negative emotional state want to rapidly change the unpleasant way they feel. Informants described engaging in unhealthy behaviors as a means to reduce the unpleasantness they were experiencing. Negative emotional states are obstacles to initiating positive health behaviors because the individuals' response to the emotion perpetuates their sense of lack of control over their own behavior. Negative emotional states include two properties.

The first property reflects the individual's current coping mechanisms in responding to negative emotional states. In the past, individuals may have learned to use unhealthy behaviors as their main response in dealing with negative emotions. If individuals have not learned other effective ways of coping with negative emotions, they may continue to use the unhealthy behavior as a main coping response:

Knowing how bad I am about food and the fact that I have absolutely no willpower whatsoever because I do eat emotionally, very much so. (SS 200)

When I first got out of the hospital I was home alone . . . and the tendency to cheat was a little more pronounced maybe because out of boredom. (MM 398)

The second property of negative emotional states reflects the crescendo patterning of unhealthy behaviors that occurs in response to negative emotions. Informants described how negative feelings build upon one another until the individual feels helpless and unable to control health behavior:

When you hate your job, you hate where you are living, when you have no friends, when you feel bad — you have no control over what you eat. You have all this going against you and you don't see any way out of any of it. I was working a job I hated and I'd come home and sleep and watch TV and eat, and the whole time I know how bad I was being. I didn't like myself very much at all — I might as well get really fat and really disgusting and really have no friends. (QQ 966)

Decreased Self-Efficacy

Inductively generated data indicated self-efficacy is the individuals' perception of their ability to successfully change their health behavior. This perception of self-efficacy is a determinant of the individual's readiness to initiate positive cardiovascular health behavior change. Informants often used the words "lack of willpower" to express the belief that they did not perceive themselves in control of a situation and, therefore, were incapable of initiating positive lifestyle changes. Self-efficacy includes two properties.

Self-efficacy reflects individuals' expectations regarding their level of performance in changing health behavior. Informant data indicated that when individuals begin to initiate health behavior change they set their performance expectations very high. These initial expectations are unrealistic and individuals become discouraged when they are unable to meet their own expectations. The failure of not meeting one's own expectations imparts a sense of loss of control over health behavior change and predisposes the individual to a lapse in initiating positive health behavior change:

I think my expectations were too high and I should have just — in retrospect — I should of allowed myself the amount of control that I did have. Just because I didn't have total control — I just gave it all up. (QQ 1054)

A second property of self-efficacy reflects the evolution of individuals' expectations of their performance over time. Informants adjusted their performance expectations over time and formulated more realistic goals. This adjustment of goals facilitated a sense of control over behavior. Informants recognized that, if they had been unable to modify their expectations over time, they would have been unsuccessful in initiating health behavior change:

My expectations for my own performance are pretty high, but I am learning to be more realistic and to set goals that I can reach. You need to set small goals and work to achieve them. It's the only way to feel like you have some control over what is happening to you. (II 282)

I don't feel I can tackle my smoking and the diet at the same time. I know smoking is not good for me but, when I get the weight off and reach my goal weight, I'm sure I'll be able to quit smoking. (RR 242)

If you keep your expectations realistic, so that you can feel like you're doing OK and get that structure, then you don't come home and lay on the couch and say, "Hmm, what exercise will I do today, or how will I make these changes today?" Because then, before you know it, you're napping and all change is forgotten. (TT 163)

Urges and Cravings

Informants identified urges and cravings as physiological and psychological cues which lead them to indulge in unhealthy behaviors. Urges are defined as relatively sudden impulses to engage in an act. A craving is a subjective desire to experience the effects or consequences of an act. Urges and cravings have been identified by informants as obstacles to initiating positive cardiovascular behaviors because the individual has no control over the occurrence of these cues and, therefore, the cues predispose the individual to lapses in the initiation of

health behavior change. Two properties are included in the subcategory of urges and cravings.

One property of urges and cravings is the association of the specific impulses or desires with feelings of self-deprivation:

The hardest thing probably is when I cook steak for my family.
(HH 256)

I always probably will have a problem with my diabetes because of the horrible craving for the things a diabetic shouldn't have.
(PP 568)

I'll go home and make a lemon icebox pie. You know perfectly well you don't want anything — I'm not hungry. But these little things pop into your mind that say, "Hey, yeah, you really are hungry — gee, wouldn't this taste good." (SS 1423)

A second property of urges and craving is that they are often linked to a long-time habit the individual has:

You smell it again and it's like . . . I could smoke again. I never quit because I didn't like it. I enjoyed smoking. (UU 979)

Cooking meals, I catch myself sticking my finger in the pot or I have an urge to lick the spoon after I stir. (RR 508)

It's like cigarettes — there's still a desire to do it. You would like to lay in front of the couch with some beer and hot dogs and cigarettes. (EEE 415)

Life Stress

Life stress is an internal subjective state involving the perception of threat to one's well-being which occurs in response to an individual's interactions with the environment. Life stress disrupts a person's stability and introduces new demands which may tax an individual's internal resources and, therefore, prevent follow-through on intentions to initiate positive cardiovascular health behaviors. The subcategories of life stress include life change events and daily hassles (Figure 4).

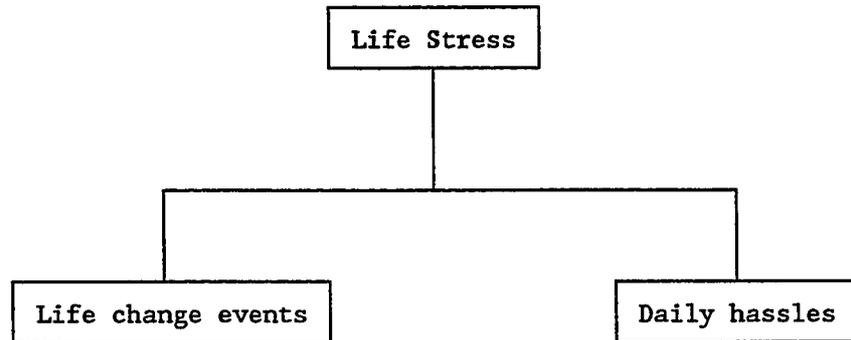


Figure 4. Subcategories of Life Stress.

Life Change Events

Life change events are extraordinary events which occur in an individual's life that are perceived by the individual as a source of significant stress. Personal/family illness, family death, divorce, and being laid off from work are all life change events identified by informants.

A property of life change events is the unpredictability in which they occur during an individual's lifetime. This unpredictability places individuals at a disadvantage in that they have had no time to develop adaptive coping mechanisms to manage the stress created by the life change event; therefore, individuals rely on past learned responses of using unhealthy behaviors as a means to cope with the stress:

I've recently been divorced. It's been like almost four years now. (SS 9)

I've been in Tucson now two years and a year ago this past November I was laid off from my job. (SS 76)

So it's been a case where I've had a lot of life change stresses in the last couple of years and it's just — I found it real hard for myself to not fall into that rut of just staying home all the time and feeling sorry for myself. (SS 85)

The day my brother passed away I went back to it [smoking]. I just couldn't take it. Three and a half months apart, I wasn't even over my mother [her death] and my brother passed away. (FF 165)

My husband fell ill and I didn't come [to rehabilitation] for several months. (CC 13)

Daily Hassles

Daily hassles are the repeated and chronic strains of everyday life that are perceived by the individual as being stressful in nature. One property of daily hassles is related to the constancy in which they

occur in an individual's life. This constant exposure to daily hassles taxes one's coping mechanisms and predisposes the individual to lapses in health behavior:

You recognize, say, for example, you're under stress. And you want to lapse into some maladaptive coping response. (QQ 325)

My life started getting shaky, and I remembered that they [cigarettes] were comforting and I thought, well, I'll just have one when I'm really under stress. Well, it wasn't a week before I was up to a pack a day. (EE 313)

Sometimes when things aren't going well for me I just want to eat whatever I want and forget about modifications. (BB 113)

A second property of daily hassles reflects the ordinary nature of the stressors as they occur on a daily basis. Daily hassles, unlike life change events, are common occurrences all individuals encounter on a daily basis:

And every day I would get up and say, "Today's the day. I'm going to start today." But then work would get tough, and I would be tired when I got home, or it would be cold out and I didn't feel like going out and exercising — all excuses. It just left me feeling worse because nothing had changed. (TT 81)

I just never had much luck with diet, and so many stresses in life. (DDD 394)

Well, my life has never been real smooth. I think just the stress of living. I got in some bad eating habits. (EE 134)

Social Relationships

Social relationships involve interpersonal interactions between individuals and their spouses, families, friends, employers, co-workers, and health care providers. Social relationships are not always benevolent in nature and may present obstacles for the individual who is appraising readiness to initiate positive cardiovascular health behavior change. Subcategories within social relationships include interpersonal

conflict, goal incongruence, social influence, social activities, and provider-consumer relationships (Figure 5).

Interpersonal Conflict

Interpersonal conflict is defined as an individual's perception of contention or discord in a social relationship. Informant data indicated that individuals perceive interpersonal conflict as a source of stress predisposing them to lapses in initiating health behavior change. Interpersonal conflict was manifested in the data as arguments, confrontations, or nagging. Two properties comprise the subcategory of interpersonal conflict.

One property of interpersonal conflict is the creation of a stressful environment in which the individual must interact with another person over a potentially prolonged period of time. Until the discord is resolved in the relationship, the individual will continue to perceive stress and is likely to lapse in initiating health behavior change:

The only thing my husband does is make me mad. If he says anything it makes me resentful and makes me naughtier than I should be. (EE 221)

But my wife keeps me in line. And sometimes I get really mad. Being told what you can and can't do is very irritating. You wonder why a child gets mad and an adult really gets irritated. (MM 274)

A second property of interpersonal conflict reflects the individual's current means of coping with the contention and discord in the social relationship. Informant data indicated individuals may revert back to learned coping responses which include the use of unhealthy behaviors when experiencing interpersonal conflict:

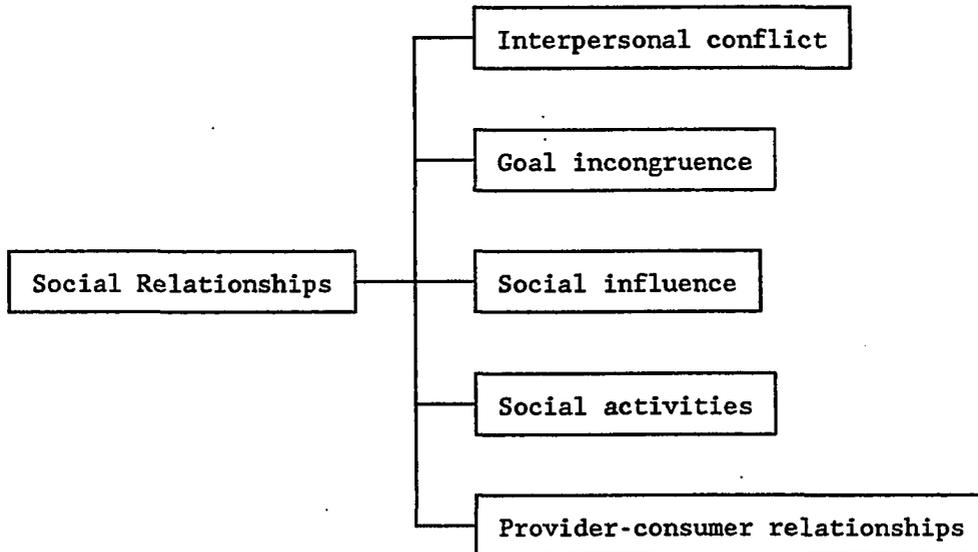


Figure 5. Subcategories of Social Relationships.

There were times when people would tell me, "You're smoking too much, you've put on too much weight." That would only aggravate me and send me back to the refrigerator, eating more food. (RR 763)

Well, my husband and I got in a terrible argument and I was upset and the first thing I did was went in the drawer and grabbed a pack of his cigarettes. (RR 359)

Goal Incongruence

Goal incongruence refers to a perceived disharmony between the goals of the individual attempting to initiate health behavior changes and the goals of significant others. Goal incongruence causes the individual to perceive significant others as unsupportive of efforts to initiate health behavior change. Two properties describe the subcategory of goal incongruence.

The first property reflects the construction of boundaries by significant others, who are motivated by fear, to protect from harm the individual who has experienced a cardiac event. Informants described the significant other's need to protect as hindering progress toward initiating health behavior change:

Families make it rougher on you than anybody else. They love you and they want to make sure that you don't hurt yourself or whatever. Sometimes they're over protective. And sometimes they stand in your way — don't do this, don't do this. So sometimes they have a tendency to slow you down a little bit with your progress maybe. But it's only out of fear. I know that. (MM 349)

The second property of goal incongruence is the lack of communication which prevails in the relationship between the individual initiating health behavior change and significant others. Significant others are unable to provide the necessary support to meet the individual's needs if they are unaware of the individual's goals in initiating positive health behavior change. Inductively generated data indicated that

individuals fail to clearly communicate their goals regarding health behavior change to the people in their lives:

Just like when you come home for the holidays — you know that you are not going to be able to fit the family schedule and foods into your changed lifestyle. They aren't going to wait for you while you exercise. They aren't going to prepare the food that you are used to eating. (QQ 502)

People don't respect your goals. People don't care about what your goals are. They don't know what's inside of you, they don't know what kind of insecurities you have or how you want to make yourself better. (QQ 825)

Social Influence

Social influence involves the perceived influence others have on the individual related to specific health behaviors. Informant data indicated individuals perceive this "peer pressure" as a barrier to initiating health behavior change. The subcategory of social influence contains two properties.

Social influence may be described as direct, and involves a situation where an individual or group of people coerces or attempts to persuade an individual to indulge in an unhealthy behavior. Direct social influence may be difficult for the individual to resist because of the strong psychological cue to engage in an unhealthy behavior:

Every time I've quit smoking before, people always say, "Hey, you sure you don't want a cigarette?" (MM 640)

A second property involves indirect social influence and is experienced when the individual perceives pressure to conform to the norm of the group. Indirect social influence is a more subtle process in that there is no direct invitation from others to engage in unhealthy behavior. Instead, the individual perceives the group as unsupportive in

his/her efforts to change and believes that the group expects conformity to group norms:

No way can you walk into a restaurant with your co-workers and tell them that you don't want to eat what they're eating because you're on a diet or you're just trying to watch your weight. They'd just yell at you. (QQ 829)

Social Activities

Social activities are energetic actions which take place within a social context. Informant data indicated that individuals perceive scheduling conflicts between their social activities and health behavior change activities, and these perceived conflicts affect the individual's intention to initiate health behavior change. Conflicting social activities identified by informants included work and informal and formal socializing.

One property of social activities reflects individual prioritization of activities. Informant data indicated that individuals may prioritize social activities above those activities needed to initiate health behavior change:

I started shooting my league darts, and you're figuring Monday night I didn't walk — I mean Tuesday night I didn't walk because I had my art class, my ceramic class, and then Thursday night I didn't walk because I had my dart thing and then something came up on Monday nights that I did on Monday nights and that I didn't walk there and we had already made an agreement we were going to give ourselves Friday night off. (SS 829)

A second property of social activities reflects perceived time limitations in initiating health behavior change. Informant data indicated that individuals perceive a lack of time during the day to complete social activities as well as health behavior change activities:

I've always liked to exercise but even then I was thinking, OK, if I do this today, then I have to work tomorrow, then it's two days — but I have to work tomorrow and the next day. You know I was working nights and I felt like I had to sleep and I had a long drive to work — and I felt like I had two days in between workouts — forget it. (QQ 1044)

Provider-Consumer Relationships

Provider-consumer relationships refer to interpersonal interactions between individuals and their health care providers. These interpersonal interactions may be perceived as unsupportive in facilitating health behavior change. Informants specifically described physicians as the group of health care providers most unsupportive during attempts to initiate health behavior change. Three properties describe the subcategory of provider-consumer relationships.

The first property reflects the failure of the health care provider to show genuine interest in the individual's problems:

The last time I went to see my cardiologist he was an hour late; his office was rude. I finally got in to see him and he says, "Oh, I have got an angioplasty scheduled over at the hospital. I hope you're going to make it quick." Then, in ten minutes he's gone, he's out the door. (NN 383)

The second property involves the individual's perception that the health care provider does not spend enough time addressing individual concerns and supporting them during the initiation of health behavior change:

Those guys [physicians] are so busy with their technology and medication they don't have time. It really takes time to spend with a heart patient and put them on the right track in all areas of his life. (NN 391)

The third property entails the lack of communication between the individual and health care provider, which is often perceived by individuals as a lack of concern for their well-being:

I couldn't handle it [exercise]. It was too much. And I told my doctors then, "I can't do this. It's too much. I can't do it." And they'd tell me, "Go back and walk some more." And then I'd get home, I'd be real angry and upset, and I'd go to bed and say, "They don't know what they're talking about because they don't know how it hurts, they don't know how it feels." (PP 22)

Physical Capability

The category of physical capability reflects the individual's perception of feeling physically capable of initiating health behavior change. Informant data indicated individuals experience physiological responses, such as symptoms related to chronic illness, which are perceived as physical limitations to initiating health behavior change. The intensity of the physiological response determines whether or not the individual chooses to continue the health behavior. The subcategories of physical capability include withdrawal distress, acute and chronic illness, and perceived exercise intensity (Figure 6).

Withdrawal Distress

Attempts to terminate an unhealthy behavior in which individuals are physically and/or psychologically dependent result in withdrawal distress. Withdrawal distress is an uncomfortable physiological and psychological response experienced by an individual who is attempting to initiate health behavior change. Withdrawal distress predisposes an individual to potential lapses in health behavior change. Informants

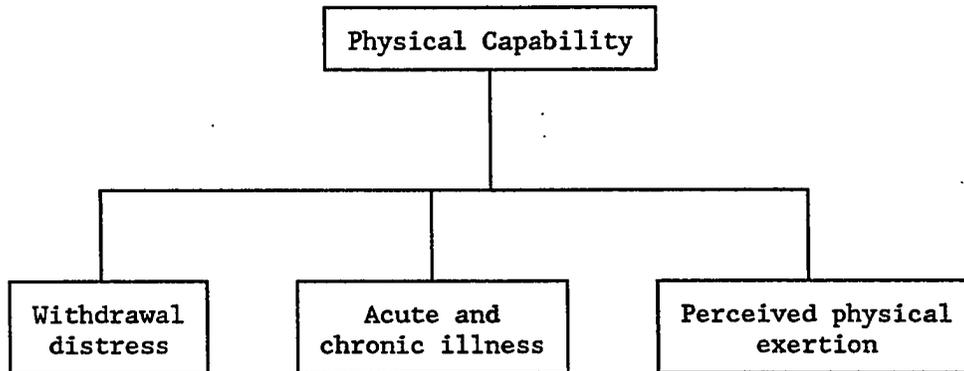


Figure 6. Subcategories of Physical Capability.

described experiencing withdrawal distress when initiating the process of smoking cessation and diet changes.

An identified property of withdrawal distress is related to the intensity of the physical and psychological responses experienced by the individual. The more intense the perceived distress by the individual, the more likely the individual will choose to engage in an unhealthy behavior in order to reduce perceived distress:

It was much harder initially because you go through those attempts, three- or four-day periods where you really have withdrawal because, particularly if you smoke three packs a day — that's a lot of stimulus you're trying to figure out what to do with.
(UU 906)

I go away from the table nearly every night hungry. It's hard, but if I wait about 15-20 minutes the craving goes away. (00 434)

Acute and Chronic Illness

The physical symptoms associated with acute and chronic illness were identified by informants as barriers to initiating health behavior change, particularly in the area of physical exercise. Individuals determine the degree to which they are physically capable of initiating health behavior change based on perceived physical symptoms. The subcategory of acute and chronic illness consists of two properties.

One property of acute and chronic illness reflects the perceived intensity of physiological symptoms experienced by the individual in determining the intention to initiate health behavior change. Informant data indicated the higher the perceived intensity of physiological symptoms, the less likely the individual is to initiate health behavior change:

Don't let them tell you [that you] get home and feel wonderful — you don't. I got home, I couldn't lift a rag to dust. That was discouraging. I used to move furniture. So, that's the reason I didn't come here [rehabilitation]. (FF 322)

What throws me into a setback right off the top is to have some angina. And if I start having that, then I say, "Oh, no, here I go again." (PP 526)

A second property of acute and chronic illness reflects the episodic nature of perceived physiological symptoms of acute and chronic illness. Informant data indicated the perception of physical symptoms by the individual varies over time and subsequently so do individuals' perceptions of their physical capability to initiate health behavior change:

We were walking 2 and 8/10 miles every day faithfully for six years. There is a little stretch in there where I don't — well, when my hips feel bad maybe I'll only walk a mile, but that's it. I have deterioration of the hips, the joints. (OO 155)

I've been exercising, but I do have my good days and bad days. Last Thursday I felt some irregular heart beats and didn't feel quite as good. That forces me to modify my goals. (II 108)

There's days you don't feel up to it [exercising] and I don't always do it. Or I cut back on it. Like today, I've had a sleepless night. My blood pressure was higher than it normally was when I came here today. (HH 247)

Perceived Exercise Intensity

The subcategory of perceived exercise intensity describes the individual's perception of physical stress experienced with regard to the intensity, duration, and frequency of participation in aerobic exercise. Informant data indicated that perceived exercise intensity is a determinant of an individual's intention to initiate health behavior change.

The first property of perceived exercise intensity relates to the fact that an exercise intensity which exceeds perceived tolerance for

physical stress will force an individual to stop exercising. An individual's perception of exercise intensity may not match the actual physical stress experienced by the individual. Whether or not the physical stress is perceived or actual, it is unlikely that an individual will adhere to a type of exercise that is perceived by that individual as unenjoyable or uncomfortable because of duration, intensity, or frequency:

It was very, very difficult at first. I used to go home — I'd go to bed after an hour's worth of exercise here — that was simple walking. And I couldn't handle it. It was too much. (PP 117)

I'd get out there and I'd overdo it and I'd be sore, then I wouldn't do it. (SS 1243)

But because sometimes you're hurting so bad that the tears start coming and you can't say you're enjoying it, so you don't feel like doing it. (PP 802)

The second property of perceived exercise intensity reflects the fear individuals experience when evaluating their physical exercise capability. Informant data indicated that individuals are initially uncertain of their capabilities in managing physical exercise and are initially afraid of hurting themselves:

You're afraid to do things in life to hurt yourself. (KK 293)

Resources

One form of support for individuals who are attempting to initiate health behavior change is found in resources such as services, materials, or information. Informant data indicated that inadequate or unavailable resources, including money, insurance, healthy food, and information, inhibit the initiation of positive health behavior change. The subcategories of resources include inadequate finances and

insurance, unavailability of healthy foods, and lack of information (Figure 7).

Inadequate Finances and Insurance

The present health care system in the United States necessitates individuals carrying adequate insurance or having sufficient personal financial resources to cover the costs of needed health care services. Informant data indicated that lack of insurance coverage and insufficient personal financial resources were barriers perceived by individuals attempting to initiate health behavior change.

One property of inadequate finances and insurance reflects the importance of money in providing for one's basic physical needs. Informants described the need to feel financially secure before focusing their energies toward initiating health behavior change:

I had my job here and I kind of felt I wasn't on a roller coaster in regard to where was my paycheck going to come from next time. It was a case of that burden, of the financial burden being off somewhat. . . . Now that I've gotten my job taken care of, now I can start changing something else. (SS 713)

If you don't ease your mind money wise — that really messes things up for you. (KK 147)

A second property of inadequate finances and insurance reflects lack of individual determination and frustration with the current health care system in initiating positive health behavior changes. Informant data indicated that it is the current health care system, not the individual, which determines whether or not an individual is able to obtain health care services which facilitate the initiation and maintenance of health behavior change:

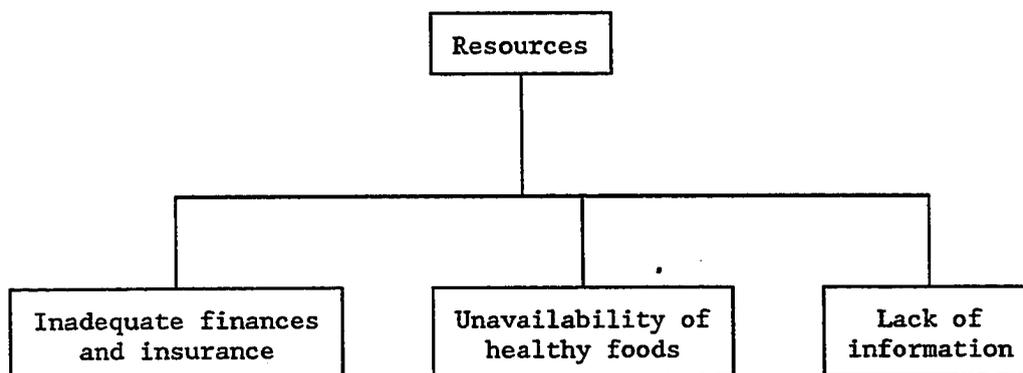


Figure 7. Subcategories of Resources.

I mean, I have been on and off blood pressure medicine for about 5-6 years. And the only reason I was off the medication was because I took myself off of it. It wasn't a case where a doctor said, "You're normal now and you have to come off of it." Due to changing jobs and not having insurance, and not having the money to buy the drug and everything like that, I go for periods of time and not take it. (SS 615)

But in order to get in here, your doctor has to prescribe it. I also went through a doctor change at that time, so it took me a couple of weeks before I got in this program down here. (NN 77)

Unavailability of Healthy Foods

The American lifestyle has changed dramatically over the last two decades and part of that change has been the advent of convenient, prepared foods. Generally, prepared foods are high in fat, salt, and sugar and, therefore, are prohibitive as a part of cardiovascular health behavior change. Informants stated that healthy foods are frequently unavailable for consumption at work, in restaurants, in grocery stores, and even other people's homes. The unavailability of healthy foods is perceived by individuals as a barrier to initiating health behavior change.

One property of unavailability of healthy foods reflects the extra work required of individuals and their significant others in finding and then preparing healthful foods. Informant data indicated that the extra work required of individuals and their significant others is perceived as an obstacle to initiating health behavior change:

When I go to the grocery store, my wife goes with me. We try to find things that are low in salt and sugar. It's very hard to find things in the store that don't have a lot of salt and a lot of sugar. (BB 166)

For example, in Safeway, I went to every cracker on the shelf. There was only one cracker in there that didn't have partially hydrogenated oils in it. Every other one did. (CCC 221)

A second property of healthy foods reflects an individual's habit of purchasing prepared foods. Informant data indicated that individuals perceive prepared foods as convenient and, therefore, they are more readily purchased:

I live in the city, and I run to the grocery store and it's all prepared — I have more of a tendency to buy it and eat it.
(BBB 747)

It's harder and harder because I'm back at work and we have a little weenie wagon or whatever — the lunch wagon that comes in. And the machines are there with candy bars and things like that.
(MM 253)

Lack of Information

Lack of information is the perceived absence of reliable and valid information to support the individual who is initiating health behavior change. Informant data indicated individuals seek information for the purpose of re-enforcing health behavior change. The perceived absence of reliable and valid information is an obstacle to the individual initiating health behavior change. The subcategory of lack of information is comprised of three properties.

The first property reflects individuals not being aware of the need to initiate health behavior change, largely due to the fact that they did not assume self-responsibility in seeking health-related information. Data which substantiate this property included:

When you get to be 70 there's a lot of change in your body. It starts before then — I didn't realize that. I should have started a long time ago doing something about it. It may just be not knowing. That was the case with me — ignorance. (AA 249)

The second property of lack of information reflects individuals' perceptions of the applicability of the information received in meeting

their needs for initiating lifestyle change. Informant data indicated individuals desire grounded information they can apply to the situations they are experiencing in initiating health behavior change:

I don't know the strategies to make it work [relaxation methods]. Maybe I need to learn more about the method. It's similar to diet. You can't go about doing the changes if you don't know what or how to do them. (NN 435)

For me, stress remains probably the toughest thing. I'd been reading about it and hearing about it. I'm all for it, but I don't know exactly what to do to try and change. It is important, but you can't commit to a change, or feel ready to change, until it's clear what you need to do. (CCC 444)

The third property describes an individual's perception that the information received is confusing in nature. Informant data indicated information is received from a variety of sources, and the information is sometimes contradictory. Informants described controversial information as a barrier to initiating health behavior change:

I read a lot of books and some of them are quite controversial, I think. Some of the things you read about this kind of food. One thing will contradict something else. Not just your cholesterol, which at one time I think that they thought all the cholesterol was the same, did they not? I mean, it was all bad cholesterol, and now they decided there is good and bad. (BBB 538)

I have a book over here, it's a whole study of cardiovascular disease and nutrition. By reading this, I try to incorporate this into my lifestyle. It's a never-ending process. As soon as you think you have something figured out, something new comes along. (CCC 239)

Conceptual Structure

The process of Empowering Potential (Derenowski, 1990) is initiated through an individual appraisal of the need for change and the desire to initiate changes which will lead to the realization of valued ways of being. Within the appraisal of readiness to change, individuals engage

in a pre-decisional process which directs the intention to initiate and sustain goal-directed behavior. The formation of a goal intention is preceded in part by the individual becoming increasingly aware of potential barriers to the achievement of individual potential.

The categories of perceived barriers generated from the data and grounded in the experience of informants were diverse and involved both psychosocial and environmental variables. The identification of barriers to initiating health behavior change enabled the individual to acknowledge the presence of potential sources of decreased motivation in goal attainment. The categories of personal control, life stress, social relationships, physical capability, and resources are considered integral concepts within identification of barriers in appraising readiness to change health-related behavior.

Summary

Chapter 4 described the concept of perceived barriers to initiating positive cardiovascular health behavior change. Five categories were identified and grounded in the experience of the informants. The identified categories were personal control, life stress, social relationships, physical capabilities, and resources. Subcategories were generated from the data for each category and were described in terms of their properties. The chapter concluded with a summary of the conceptual structure of perceived barriers.

CHAPTER 5

CONCLUSIONS

Chapter 5 presents the conclusions of the study based on the concept of perceived barriers as described in Chapter 4. Perceived barriers are the potential obstacles encountered by individuals in initiating health behavior change. Within the discovered theory of Empowering Potential (Derenowski, 1990), perceived barriers are a critical element of appraising readiness to change health behaviors. Empowering Potential is a Basic Social Process that explains a patterning of behaviors which direct health-related change. Empowering Potential is a continuous process of individual growth which directs the emergence of new and positive health patterns. The identification of barriers to health-related change provides an important way of choosing between alternative means of goal achievement and determination of perceived control in initiating desired change. Chapter 5 begins with a discussion of the potential linkage between identified categories within perceived barriers and existing research in nursing and psychology. Implications of the study for nursing research and practice are presented. Study limitations and recommendations for future research conclude the chapter.

Conclusions of the Study

Through the recognition of potential barriers to change, informants prepared themselves to initiate health behavior change. Barriers are the perceived costs related to a particular health action and they exert

a direct influence on the individual's intention to engage in health-promoting behavior (Janz & Becker, 1984; Pender, 1987). Barriers perceived by informants included both environmental and psychosocial cues, and individual perception of ability to manage environmental threats.

Barriers to health-related behavioral change have been measured within the Health Belief Model (Cummings, Becker, & Maile, 1980) as individual beliefs related to the costs associated with taking a health action. In a review of recent literature regarding barriers to health care, Melnyk (1988) identified the operationalization of barrier variables as consisting of structural barriers, provider-consumer barriers, and individual barriers. Structural barriers include a lack of time needed to initiate or sustain health behaviors, distance or proximity of health care services, the financial cost of health care, and the unavailability of health care services. Provider-consumer barriers include the lack of health care provider interest in patient problems, disagreement between client and health care provider regarding solutions to health care problems, and lack of follow-up related to health care needs. Individual barriers include demographic factors, patient attitude, knowledge, and individual effort in sustaining health behavior change.

Personal Control

Individual control is the ability to regulate or influence one's behavior or environment in a given situation (Woodward & Wallston, 1987). Informants recognized that change could not occur in situations where they did not feel in control. Perceived control can be applied to

a variety of situations, including one's personal life as well as health behavior change. The role of perceived control in facilitating patients' participation in their own health care has recently been explored. Krouse and Roberts (1989) compared three different nurse-patient interactive styles in order to determine if individuals experienced differing degrees of power and control. The researchers found that subjects who participated in an actively negotiated process of decision-making with the nurse practitioner expressed significantly stronger feelings of control over their treatment decisions than did subjects who were involved in a partial negotiation, or "traditional style." Krouse and Roberts (1989) suggested that feelings of power and control over one's destiny may influence factors such as compliance with treatment, following other health practices, and a general sense of satisfaction with health professionals.

A majority of adults inherently desire to control events in their lives (Burger, 1985). Woodward and Wallston (1987) reported that an individual's desire for control is related to their level of confidence in the area of health care. Burger (1985) examined individual differences in the general desire for control and performance in achievement-related tasks in college students. Burger (1985) found subjects high in the desire for control were found to aspire to higher levels of achievement than subjects low in the desire for control. In addition, subjects high in desire for control were found to respond to a challenge with more effort and to persist at a difficult task longer than were low desire for control subjects. Finally, high desire for control subjects

exhibited a pattern of attributions for success and failure that have been associated with high achievement levels.

High-risk situations pose a threat to the informant's sense of control and increase the potential risk for a lapse in health behavior. Cummings, Gordon, and Marlatt (1980), in investigating the relapse process, found exposure to a high-risk situation as the primary obstacle encountered in the maintenance phase of health behavior change. High-risk situations often involve an awareness of environmental cues which the individual associates with risk-producing behaviors. O'Connell and Martin (1987), using Marlatt and Gordon's (1980) relapse model, found that temporary lapses in smoking cessation were associated with situations primarily characterized by environmental cues. In a study of the relapse process in ex-smokers, Shiffman (1982) found relapse crisis occurred in the presence of other people such as family members or co-workers, and in 50% of the cases one of the other people present was smoking. These studies support the important role of environmental cues as a barrier to initiating and sustaining health behavior change.

Negative emotional states were identified by informants as a mood or feeling which perpetuated a sense of lack of control over their own health behavior change and predisposed them to lapse. The role of negative emotional states in the process of lapsing/relapsing has been supported by Marlatt and Gordon (1980), who reported that negative emotional states were one of three major areas associated with high rates of relapse. Shiffman (1982) reported that 55% of relapse crisis occurring with ex-smokers was precipitated by negative emotional states. More recently, O'Connell and Martin (1987) reported that negative

emotional states were one of the most frequently occurring situations leading to relapse crisis in individuals participating in a smoking cessation program.

Self-efficacy has been proposed by Bandura (1977, 1982) as a common cognitive mechanism which mediates behavior change. As one significant barrier to health behavior change, informants expressed the belief that they were not capable of initiating sustained lifestyle change. The concept of self-efficacy has been recognized as a predictor of health behavior change and maintenance. In a review of self-efficacy studies related to the health practices of cigarette smoking, weight control, contraception, alcohol abuse, and exercise behaviors, Strecher, DeVellis, Becker, and Rosenstock (1986) found self-efficacy to be a consistent predictor of short- and long-term success. The review also supported Bandura's (1982) assertion that efficacy expectations reflect a person's perceived, rather than actual capability, and that it is these perceptions and not one's true abilities that often influence behavior.

The role of self-efficacy in initiating and sustaining positive cardiovascular health behaviors has been supported in the literature. Allen, Becker, and Swank (1990) studied physical functioning as well as social and leisure functioning in men before, one month, and six months following coronary artery bypass surgery (CABG). The investigators consistently found self-efficacy to be a significant and independent predictor of six-month physical, as well as social and leisure functional status. Robertson and Keller (1992) found similar results in subjects participating in an exercise program following CABG or coronary artery

angioplasty. The investigators reported individuals with higher perceptions of self-efficacy for a recommended exercise regimen were more adherent than those with a lower perceived self-efficacy.

Informants identified urges and cravings as psychological cues to indulging in unhealthy behaviors. In their relapse model, Marlatt and Gordon (1980) proposed that when an individual who is having feelings of self-deprivation because of the imbalance in his/her lifestyle experiences urges or cravings, the resolve to maintain behavior change is threatened. The work of O'Connell and Martin (1987) empirically support this proposition. The investigators reported that a significant number of individuals participating in a smoking cessation program lapsed in behavior when confronted with the urge to smoke.

Life Stress

In his stress-coping theory, Lazarus (1966) defined stress as the product of a person's transactions with the environment. Altering health behavior may be stressful because it disrupts existing coping patterns and introduces new demands which may exceed a person's existing resources.

Current models of health behavior suggest that stress is a significant aspect of the initiation and maintenance of health behavior change. Ajzen and Fishbein (1980) suggested that the gap between behavioral intentions and actions may be a result of environmental demands exceeding individual resources, therefore preventing follow-through on intentions. Similarly, the Health Belief Model (Rosenstock, 1974) and the Health Promotion Model (Pender, 1987) suggest, through the concept

of perceived barriers, that conflicting forces may prevent adoption of a behavior which is perceived as healthy. These theories imply a stressful relationship between the individual and the environment when attempting to create an intention related to health behavior change.

Informants identified life change events as significant stressors in their lives. Informants coped with the experience of life change events such as family illness or death by using an unhealthy behavior to relieve the stress. Shiffman (1982), in studying relapse crisis in ex-smokers, found 55% of relapse crises were precipitated by severe stress.

Daily hassles, or the chronic and repeated strains of everyday life, were identified by informants as stressful and often precipitated a lapse in behavioral change. The effect of daily hassles on maintaining health behaviors has been supported in the literature. Curry et al. (1989), in a study of psychosocial predictors of outcome in a work-site smoking cessation program, found that participants who achieved long-term abstinence reported less daily stress. Macnee (1991), in examining the perceived well-being of persons attempting to quit smoking, reported that subjects successful in smoking cessation perceived a greater intensity of daily hassles, compared with both smokers and non-smokers. In addition, persons perceiving high intensity of daily hassles experienced high levels of life stress and experienced lower levels of well-being.

Social Relationships

Nursing research has supported the relationship between social support and positive health outcomes (Friis & Taff, 1986; Tilden & Weinert, 1987). However, informant data from this research also indicate the role of close relationships as a potential barrier to health-related changes. The conceptualization of social networks as a source of stress as well as support has been recently substantiated (Tilden, 1985; Tilden & Stewart, 1985). Tilden and Galyen (1987) emphasized the need for continued research exploring the various dimensions of social support, including perceived cost of support, perceived conflict in relationships, and the role of reciprocity and perceived equity in supportive relationships.

Informants identified interpersonal conflicts with significant others as barriers to initiating positive cardiovascular health behaviors. Interpersonal conflict as a source of stress leading to lapses in behavioral change has been substantiated in the literature. Research by Marlatt and Gordon (1980) found interpersonal conflict as a major area associated with high rates of relapse in behavior change. Shiffman (1982) found that subjects reported experiencing a relapse crisis during a period which they described as somewhat stressful. Subjects attributed the stress experienced to interpersonal relationships 35% of the time. O'Connell and Martin (1987) reported similar results in participants of a smoking cessation program. Subjects who had experienced a relapse in smoking behavior reported experiencing situations involving anxiety, fear, tension, or worry stemming from interpersonal conflict.

Goal incongruence between informants and significant others was also perceived as a barrier to health behavior change. For subjects who had experienced a cardiac event, goal incongruence resulted from the desire of significant others to protect the patient from harm in his/her attempts to change. However, this over-protection served as an obstacle to change. Mayou, Foster, and Williamson (1978) found, in a study of wives of men experiencing their first myocardial infarction, that wives were openly protective of their spouses and approximately one-third of the patients accepted the concern reluctantly while 15% rejected it outright. The investigators reported that the wives continued to influence the rate and extent of convalescence a year after the acute event.

Goal incongruence may, in part, result from a lack of communication between the individual and supportive others. Tilden and Weinert (1987), in a discussion of social support and chronically ill individuals, identified impaired social interaction as a source of stress for the individual. One of the characteristics of impaired social interaction described by the authors was dysfunctional communication patterns.

Both indirect and direct social influence were described by informants as obstacles to changing health behavior. The influence of indirect and direct social pressure was postulated by Marlatt and Gordon (1980) as a major area associated with relapse. According to Marlatt (1985), social pressure, defined as the influence of another person or group of people who exert pressure on the client to engage in a taboo behavior, accounted for 32% of the relapses in smoking behavior. O'Connell and Martin (1987) reported a 24% relapse rate in individuals participating in a smoking cessation program who encountered an indirect

social pressure situation. The investigators reported that relapse occurred primarily because subjects observed others smoking.

Conflicting social activities were identified by informants as obstacles to engaging in health behavior change activities. It appears that, in some instances, informants cognitively prioritize and choose the activity they will participate in. The concept of conflicting activities as a barrier to change has been reported in the literature. Oldridge (1982), in a review of studies examining compliance with exercise programs in the primary and secondary prevention of coronary heart disease, found conflicting activities a consistent barrier identified across studies. The most frequently cited conflicting activity was work. More recently, Muench (1987) examined the issue of exercise compliance in a cardiac rehabilitation program and found that exercise conflicting with other activities was cited as one of three major barriers to exercise.

Informants identified unsupportive professional relationships with their physician as a barrier to change. Melnyk (1988), in a recent review of the literature regarding barriers to care, substantiated this concept. The review of literature identified a variety of reasons for an individual to perceive the health care provider as unsupportive and as a barrier to change. The reasons cited included the provider showing a lack of interest in the client's problems, disagreement between the individual and health care provider regarding solutions to health problems, poor communication from the provider regarding treatment duration and expected outcome, and lack of concurrence between patient and provider regarding the treatment regimen. Croog (1984), in examining the

physician-heart patient relationship, cited lack of time for discussion between the doctor and patient for addressing social, psychological, and situational issues as factors related to satisfaction of the consumer in the provider-consumer relationship.

Physical Capability

Physical limitations were perceived by informants as obstacles to engaging in health behaviors. The physical limitations identified by the informants were diverse and included withdrawal distress, symptoms of acute and chronic illness, and the perceived intensity of exercise. Macnee (1991), in a study examining the well-being of persons quitting smoking, measured individuals' experiences with physical symptoms. Macnee (1991) found that persons who were quitting smoking reported a frequency of physical symptoms which was approximately 10% higher than the frequency reported by smokers and non-smokers. The frequency of physical symptoms was negatively correlated to feelings of well-being in the persons who were quitting smoking. The level of well-being an individual perceives may well affect adherence to a risk factor modification program.

Informants who were trying to quit smoking or change their dietary habits identified withdrawal symptoms as obstacles to initiating health behavior change. The effect of withdrawal distress on behavior change is well substantiated in the smoking cessation literature (O'Connell & Martin, 1987; Shiffman, 1982). Withdrawal distress, or the physiological and psychological symptoms experienced by an individual from ceasing a dependent behavior, has been found to play a major role in

precipitating relapse crisis in patients who are attempting to quit smoking (O'Connell & Martin, 1987; Shiffman, 1982). Withdrawal distress may play an important role in relapse that occurs distant from the time of actual cessation of smoking itself (Shiffman, 1982).

The symptoms associated with acute and chronic illness have been substantiated in the literature as an obstacle to behavioral change (Melnyk, 1988). Physical symptoms of acute and chronic illness provide an individual with a continual source of information about his/her body's physical condition. An individual who interprets the physical symptoms as a sign of treatment failure or disease progression may perceive the situation as threatening, and respond accordingly (Cronin, 1990). Tirrell and Hart (1980) reported that subjects in their study of exercise compliance following coronary bypass identified short bouts of acute illness and the symptoms of chronic illness as interfering with their exercise regimen. Symptoms of illness as an obstacle to exercise was also reported by Oldridge (1982). In examining subjects who had experienced a myocardial infarction, Oldridge (1982) found that the rate of exercise program dropout was significantly associated with the occurrence of angina.

Informants identified the physical stress they experienced during exercise as one obstacle to continuing an exercise regimen. The literature supports the hypothesis that the individual's perception of excessive stress and discomfort during exercise is associated with a high rate of drop out from exercise programs (Dishman, 1982; Dishman, Sallis, & Orenstein, 1985; Ice, 1985). Research in the area of exertion perception has illustrated the influence of social aspects of the exercise

environment on an individual's exertion perception and demonstrated that motivational factors can alter often strong relations between physiological and subjective indicators of physical work (Lewthwaite, 1990). Boutcher, Fleisher-Curtain, and Giles (1988), as well as Hardy, Hall, and Prestholdt (1986), found that individuals who exercised in the presence of others reported less physical exertion. These two studies provide strong evidence for the tie between psychological variables and perceived exertion.

Resources

Informants identified inadequate or unavailable resources as a barrier to health behavior change. The unavailability of adequate resources as an obstacle to health care has been substantiated in the literature (Melnyk, 1988). The concept of resources such as services, materials, and information has been included in the social support literature (House, 1981; Kahn & Antonucci, 1980). Adequate social support, as previously mentioned, has been associated with positive health outcomes (Friis & Taff, 1986; Tilden & Weinert, 1987).

Two informants specifically mentioned inadequate finances and insurance coverage as a barrier to obtaining health care services. The concept of monetary cost and the effect of inadequate insurance coverage as barriers to care have been supported in the literature (Melnyk, 1988). Cost of service, rising costs, the inflationary effects of Medicare and Medicaid, the cost of transportation, the cost of lost work, and the interaction of economic factors with the organization of the health care delivery system have all been cited as barriers to care

(Melnyk, 1988). Policy limitations as to the duration of treatment covered by insurance funds as a barrier to participation has also been reported (Tirrell & Hart, 1980).

Informants frequently cited the unavailability of healthy foods as a barrier to dietary adherence. The unavailability of healthy foods as a barrier to dietary adherence has not specifically been reported in the literature. However, the conceptualization of the availability of material supplies as a support for health behavior change has been substantiated (Tilden, 1985).

Informants identified the need to have reliable and valid information to support their health behavior changes. When this information was not available or was controversial in nature, informants perceived this lack of information as a barrier to health behavior change. The concept of knowledge as a predictor to engaging in positive health behaviors has been reported in the breast self-examination literature (Champion, 1989). Lack of information has been shown to predict lack of compliance to health behaviors and serve as a barrier to health care (Byham & Vickery, 1988; Melnyk, 1988).

Implications for Nursing Research

This study has added to knowledge regarding perceived barriers to initiating cardiovascular health behavior. Through the use of grounded theory methodology, existing motivational theory has been expanded to include a more comprehensive exploration of variables relevant to the experience of health behavior change.

This study is viewed as one step in identifying the variables involved in the individual appraisal of readiness to initiate health behavior change. The results of this study provide a basis for the continued investigation of barriers to appraising readiness to initiate health behavior change.

Recommendations for future research based on the results of this study include the continued exploration of perceived barriers to health-related change. Informant data indicated the strong role of perceived barriers in appraising readiness to change health behaviors. Perceived barriers as described in this study were found to be closely associated with the concepts of support, stress, coping, and self-efficacy. Further exploration of the concept barriers to health-related change in relation to existing theories on support, stress, coping, and self-efficacy needs to be undertaken. Secondly, the identification and exploration of strategies individuals use to overcome barriers to health-related change will further expand current theories of motivation, specifically related to individual intention to initiate health behavior change.

Implications for Nursing Practice

Over the past 20 years, the death rate for cardiovascular disease has declined dramatically (U.S. Department of Health and Human Services, 1991). Still, cardiovascular diseases, primarily coronary heart disease and stroke, kill nearly as many Americans as all other diseases combined (U.S. Department of Health and Human Services, 1991). Further reductions in coronary heart disease mortality may be achieved through

advances in treatment. Early intervention and prevention have the potential to reduce or postpone mortality due coronary artery disease. Control of key modifiable variables, including cigarette smoking, high blood cholesterol, high blood pressure, excessive body weight, and long-term physical inactivity, is important in the prevention of coronary heart disease. Risk factor reduction in those who already suffer from coronary heart disease and are at increased risk of having another coronary event is of great importance (U.S. Department of Health and Human Services, 1991).

The concept of perceived barriers to health-related change has important implications for directing interventions in the initiation and maintenance of cardiovascular health behavior. The descriptions of perceived barriers grounded in the experience of the informants provide a framework for understanding the process of individual appraisal of readiness to initiate health behavior change. This understanding is essential in establishing a theoretical basis for nursing assessment and the development of relevant interventions designed to assist individuals in initiating and sustaining cardiovascular health behaviors.

Nursing interventions based on the discovered categories should be designed to empower patients in achieving their fullest health potential. Empowerment is defined as a social process of recognizing, promoting, and enhancing people's abilities to meet their own needs, solve their own problems, and mobilize necessary resources in order to feel in control of their own lives (Gibson, 1991). The goal of empowering patients is to promote autonomous self-regulation so that the individual's potential for health and wellness is maximized (Funnell et al.,

1991). The outcomes of deliberate attempts to empower individuals, and their families, include the following: a positive self-concept, personal satisfaction, self-efficacy, a sense of mastery, a sense of control, a sense of connectedness, self-development, a feeling of hope, social justice, and improved quality of life (Gibson, 1991). Assisting individuals to form strategies to overcome perceived barriers to change will enhance the empowering process.

The health care provider may support the individual during preparation for behavioral change by providing needed information and materials, as well as acknowledging progress and providing encouragement. The role of the health care provider is to ensure optimal conditions so that individuals may, by their own efforts, achieve their fullest potential.

Study Limitations

Several limitations were associated with this study within theoretical sampling, data analysis, and the maintenance of methodologic rigor. These limitations were directly related to the research being a secondary analysis of qualitative data.

The secondary analysis of qualitative data prevents the theoretical sampling of subjects to clarify or further substantiate categories and properties. This inability to sample subjects may have prevented the identification of other relevant categories and properties. Additionally, the ability to sample subjects to establish the informant's perception of the importance and relevance of the data, as well as substantiate descriptions and interpretations generated from the data, was not

possible. Therefore, the credibility, confirmability, and transferability of the data are potentially limited.

Summary

The primary and secondary prevention of coronary artery disease involves the multifactorial modification of established risk factors. As nursing is concerned with reducing morbidity and mortality due to coronary artery disease, an awareness of individual motivation to initiate and sustain lifestyle change related to identified risk factors is important.

Through the use of qualitative methodology, existing motivational theory has been expanded to include an identification of variables relevant to the experience of health behavior change. The descriptions of perceived barriers to health behavior change generated from the data have provided an understanding and theoretical basis for nursing assessment and the development of interventions designed to assist individuals in continued growth and the emergence of positive health patterns.

APPENDIX A
HUMAN SUBJECTS APPROVAL WAIVER

College of Nursing



Tucson, Arizona 85721
(602) 626-6154

June 19, 1992

Jennifer Burke
4601 N. Via Entrada, Apt. 1030
Tucson, AZ 85718

Dear Jennifer:

Your request to complete a secondary data analysis of the data collected by Dr. Julie Fleury has been approved by the Office of Nursing Research.

We wish you success with your research.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leanna J. Crosby". The signature is written in dark ink and is positioned above the printed name and title.

Leanna J. Crosby, DNSc, RN
Director of Intramural & Laboratory Research

LJC/ga

APPENDIX B
OVERVIEW OF DATA

Personal Control

I knew that the minute somebody saw me they had certain thoughts in their heads — and there's no doubt about that they saw this person who was obese and their thought would be "this person is out of control."
(UU 342)

There's the sense that I'm not liberated — liberated from some sets of behaviors that are going on. And I'm reaching my potential to not be controlled by those things. (UU 1460)

But if you set a few rules for yourself, like exercise of some kind every day, then you have a structure to go on, you feel a little more in control. You need some rules. You need that sense of control over the situation. If you keep your expectations realistic, so that you can feel like you're doing OK and get that structure, then you don't come home and lay on the couch and say, "Hmm, what exercise will I do today, or how will I make these changes today?" Because then, before you know it, you're napping and all change is forgotten. (TT 160)

Even though I had it within myself for a period of time, I lost it. I mean, I lost it. I could see myself slipping. Maybe I'd get out there a couple nights a week at first and then all of a sudden I'd go out there, but then I'd come home and I'd eat. (SS 851)

I'm a little scared. Because, like I say, I feel like I've got inside me that initiative to get back on it. But it just doesn't seem to be there and the thing that is frightening me which may also be holding me back is the loss again. Am I going to hit it (brick wall — angina)? Or am I never going to get that attitude back again? You know, those things scare the hell out of you. (SS 906)

I've altered my way to go to work so I could go by a bakery because I know that I wouldn't be able to go by this bakery without stopping and getting something. And instead of being able to keep that car on the road that it's on, you take an alternate route. I mean that — those are the things that scare me that you think — why can't you be more in control of this? (SS 1440)

You do not eat until after you exercise. And that's a rule. And it's hard at first, but after a couple of times of doing it, it just becomes a habit — it just becomes something that you feel pretty compulsive about and you feel more in control when you have rules like that to live by. (QQ 107)

But when you hate your job, you hate where you are living, when you have no friends, when you feel like you have absolutely no control — it sounds so bad — you have no control over what you eat. I felt I didn't. You have all that going against you and you don't see any way out of any of it. (QQ 966)

See I stopped giving — I gave up because I felt that there was no hope. There was no chance I could make the changes. (QQ 1015)

In retrospect — I should have just allowed myself that amount of control — I just gave it all back up. (QQ 1061)

It's hard trying to get out of a routine that you have been in and accepting another one. (BB 110)

Decide what you will change first and what can wait for a bit. Not everything at once. (BB 168)

High-Risk Situations

I think the only harders were if I say if I were away from home and might be at a friend's house. (702)

I would go to somebody else's house for a weekend, I might eat more than I would have normally eaten, but it wasn't bizarre. (UU 822)

Say you go over to your parents house for dinner, or you go to a party. You know there may not be things there that you would choose to eat. (TT 346)

It was easier to do that [drink Ultra Slimfast] than eat and give myself that opportunity of having food in my hand at night so I would constantly keep eating or it would be an incentive to go back out and get more. (SS 314)

There had been quite a few birthday parties and things like that — here at the college over the fall and then the holidays and everything like that. . . . I didn't have willpower enough to be able to walk into a room and take a cup of coffee or a piece of fruit and then walk out (SS 1335)

You're not the least bit hungry and you know perfectly well you're not hungry enough to eat dinner that by the time 4:30 or 5:00 roll around I'm thinking about well, if I just eat this then it will get me through the night. (SS 1453)

If I was hungry or something like that — on my way home or whatever — instead of stopping at the store and saying to myself I'll just stop at the store and pick something up knowing perfectly well that I was hungry enough that I would then pick up some garbage. (SS 1618)

Going grocery shopping is very hard when I'm not eating. To decide what the other members of the family are going to eat. Cooking meals, I catch myself sticking my finger in the pot or I have an urge to lick the spoon after I stir. (RR 506)

Like at work over the holidays — right outside of my office there's a table. And every day that table was full of doughnuts and cookies and that did bother me some. . . . I was asked why I didn't attend a potluck Christmas party. I didn't want to be in a room full of tons of food and lots of co-workers while they're all sitting down eating. (RR 575)

You know, say, just like when you come home for the holidays. You know that you are not going to be able to fit the family schedule and foods into your changed lifestyle. They aren't going to wait for you while you exercise. They aren't going to prepare the foods that you are used to eating. (QQ 502)

Normally, the first thing I would do when I came home from work was smoke a cig. And then it would leave a bad taste in my mouth so I ate some junk, and then I'd be feeling a little short of breath so I wouldn't go exercise. (QQ 869)

Well, I would quit [smoking], and then get myself in situations where I felt like I had to have one [cigarette], so I'd start again. Even now I'll take a puff off my wife's cigarette — while I'm driving sometimes. (BBB 516)

For instance, my son come over last week with his family and dropped off the kids. When he came back by he had stopped by the Lucky Wishbone and got a family feast of chicken and shrimp. I had already eaten. I couldn't resist one piece of chicken. And I did. I ate a piece of chicken. (BBB 772)

I think eating at work is difficult. You go anyplace you don't have control over the food, it's difficult to find something to eat that's good for you. So, or you go out to a restaurant or over people's houses. That makes it difficult. (NN 214)

What would happen is, if I would go to a party and have a beer or a glass of wine, I'd have a cigarette. It triggered it, so I went for a whole year and didn't have a beer. But I made the change in order to break the tie with the cigarettes. (NN 321)

It's harder and harder because I'm back at work and we have a little weenie wagon or whatever. The lunch wagon that comes in, and the machines are there with candy bars and things like that. (MM 253)

If you have a beer in one hand, the law says that you have to have a cigarette in the other. You can't drink without a cigarette. Sitting down and watching a football game on television — you can't do that unless you have a bag of potato chips or something there. So it's putting yourself in positions where things are available to you. (MM 727)

Well, that's hard, that's probably the hardest thing [giving up habits]. You know, you don't go drinking after work really, because you have to

go exercise, and you don't eat a lot of lunches in the cafeteria at work, you don't have all the coffee break food. That's hard, because you have some friends there, it's a part of your life, and to some extent, you have to break off from that. (TT 223)

Negative Emotional States

When I was a kid my mother worked and I ate as a compensation when she wasn't around. Food was a solace. It was an addictive behavior that kind of solace. (UU 1319)

Knowing how bad I am about food and the fact that I have absolutely no willpower whatsoever because I do eat emotionally, very much so. (SS 200)

When something happens to your self-esteem or when you look in the mirror and say just looking — you think you look really bad so you eat more, or there's stress in your life — you have a cigarette or something like that. (QQ 294)

When you hate your job, you hate where you are living, when you have no friends, when you feel bad — you have no control over what you eat. You have all this going against you and you don't see any way out of any of it. I was working a job I hated and I'd come home and sleep and watch TV and eat, and the whole time I know how bad I was being. I didn't like myself very much at all — I might as well get really fat and really disgusting and really have no friends. (QQ 966)

When you're feeling bad, it not only your attitude gets bad and you get very depressed and when that sets in it's so hard to come out of it. (PP 409)

Because on most bad days — I used to have a lot of them. I would become very depressed. It would affect my whole day and it would be very hard to get myself to do much of anything. (PP 433)

When I first got out of the hospital I was home alone and the tendency to cheat was a little more pronounced maybe because out of boredom. (MM 398)

Maybe when I stopped [exercising] I was a little depressed. Maybe things were going badly at work and I thought, "The hell with it." (JJ 236)

I don't learn. If I was to learn something I wouldn't fall off. There's a big difference. It's your willpower and you lose your willpower, changes when you become despondent. Changes in your life hurt your willpower. (FF 263)

Self-Efficacy

If you keep your expectations realistic, so that you can feel like you're doing OK and get that structure, then you don't come home and lay on the couch and say, "Hmm, what exercise will I do today, or how will I make these changes today?" Because then, before you know it, you're napping and all change is forgotten. (TT 163)

It makes you feel funny when you know that you're so strong but you can't keep up with something that should be so simple. As a lousy diet. (SS 1312)

There had been quite a few birthday parties and things like that — here at the college over the fall and then the holidays and everything like that. . . . I didn't have willpower enough to be able to walk into a room and take a cup of coffee or a piece of fruit and then walk out (SS 1335)

I don't feel I can tackle my smoking and the diet at the same time. I know smoking is not good for me but — when I get the weight off and reach my goal weight — I'm sure I'll be able to quit smoking. (RR 242)

Smoking is a crutch. It's a habit — it's a nasty habit. I wish I had the willpower right now to quit. I tell myself if I don't stop and get cigarettes at the store I won't smoke. But then I find myself gorging food. (RR 332)

I felt I should have been strong enough and not cheated at all and I did cheat. (RR 549).

I made a deal to eat one leg, and end up eating the whole chicken. I know what to do, I want to do it, but I can't seem to manage it. (BBB 745)

We did exercises while I was in the hospital and left to my own devices I wouldn't exercise the way I should. (MM 17)

I was afraid — yes, I was. But I don't have the willpower whatever to do the exercises myself. (MM 35)

It's like the exercise. You think how you will feel after a hard workout. You wonder if you can do it. (II 159)

My expectations for my own performance are pretty high, but I am learning to be more realistic and to set goals that I can reach. You need to set small goals and work to achieve them. It's the only way to feel like you have some control over what is happening to you. (II 282)

I don't learn. If I was to learn something I wouldn't fall off. There's a big difference. It's your willpower and you lose your

willpower, changes when you become despondent. Changes in your life hurt your willpower. (FF 263)

I thought tonight I'd just have vegetables for dinner since I had a hamburger for lunch. But I say I'm going to do something and lots of times I don't do it. (EE 253)

I'm not a very good person who does it. If I can get away with something and not do it, I do it. (CC 42)

I think my expectations were too high and I should have just — in retrospect — I should of allowed myself the amount of control that I did have. Just because I didn't have total control — I just gave it all up. (QQ 1054)

Urges and Cravings

You smell it again and it's like . . . I could smoke again. I never quit because I didn't like it. I enjoyed smoking. (UU 979)

There are some foods that I could not — I don't care what you would offer me — that I would not be able to walk away from. (SS 1330)

I'll go home and make a lemon icebox pie. You know perfectly well you don't want anything — I'm not hungry. But these little things that pop into your mind that say, "Hey, yeah, you really are hungry — gee, wouldn't this taste good." (SS 1423)

Cooking meals, I catch myself sticking my finger in the pot or I have an urge to lick the spoon after I stir. (RR 508)

I always probably will have a problem with my diabetes because of the horrible craving for the things a diabetic shouldn't have. (PP 568)

In some ways with the diet it's always been a little hard because I love eggs. (OO 345)

It's like cigarettes — there's still a desire to do it. You would like to lay in front of the couch with some beer and hot dogs and cigarettes. (EEE 415)

Like I say, I have a lot of trouble trying to diet because I've always eaten anything I wanted. It's really hard for me to diet. (BBB 160)

But if you take a few drags and they [cigarettes] get to tasting good and you get the sensation that — you get to feeling good about it, then you want some more and another one and another one. (BBB 523)

For instance, my son come over last week with his family and dropped off the kids. When he came back by he had stopped by the Lucky Wishbone and

got a family feast of chicken and shrimp. I had already eaten. I couldn't resist one piece of chicken. And I did. I ate a piece of chicken. (BBB 772)

I'd been eating pretty good, but if it was time to have pizza, I'd go have pizza. (NN 141)

We got a pizza and, first of all, it was supposed to be an all vegetable. Well, it turned into pepperoni and sausage and everything on it. And it started out we were just gonna get a small, thin-crust pizza. We ended up with this huge pan pizza with grease dripping off the bottom. I probably ate 5 or 6 pieces. (MM 498)

But you can't do everything at once. If you cut everything you only go back to your old ways. It makes you want to cheat. We have special dinners and desserts sometimes. You don't want to make life miserable. (II 217)

I'm a typical Irishman. I love meat and potatoes, gravy, and that is difficult. (HH 117)

The food is hard because you like to eat. (HH 171)

The hardest thing probably is when I cook steak for my family. (HH 255)

I had people over and I made brownies. I love brownies. They left, and I ate them. (FF 208)

It was very difficult for me to stop eating beef. I loved to go out and grill in the backyard. [Giving up beef] that's something I hated to do. (DD 178)

Life Stress

I have a lot of stress. I have a lot of stress in my life and emotional stress and things like, gee, I wish I could wake up tomorrow and say that burden's off of my conscience or off of my mind or out of my heart or whatever it might be and I can take that energy and go with it someplace else. (SS 1907)

Well, I'd been under a lot of stress and I either react by eating or not eating. (RR 163)

Smoking is a crutch. It's a habit — it's a nasty habit. I wish I had the willpower right now to quit. I tell myself if I don't stop and get cigarettes at the store I won't smoke. But then I find myself gorging food. (RR 332)

You recognize — say, for example, you're under stress. And you want to lapse into some maladaptive coping response. (QQ 325)

Trying to make the change itself is causing stress. (QQ 818)

But you also think about life without a very powerful crutch, something that has been with you through some very rough times, a comfort of sorts. It's hard to think of getting through the rest of your life without a cigarette within reach. (GGG 134)

My life started getting shaky, and I remembered that they [cigarettes] were comforting and I thought, well, I'll just have one when I'm really under stress. Well, it wasn't a week before I was up to a pack a day. (EE 313)

Sometimes when things aren't going well for me I just want to eat whatever I want and forget about any modifications. (BB 113)

Life Change Events

I've recently been divorced. It's been like almost four years now. (SS 9)

I've been in Tucson now two years and a year ago this past November I was laid off from my job. (SS 76).

So it's been a case where I've had a lot of life change stresses in the last couple of years and it's just — I found it real hard for myself to not fall into that rut of just staying home all the time and feeling sorry for myself. (SS 85)

The day my brother passed away I went back to it [smoking]. I just couldn't take it. Three and a half months apart, I wasn't even over my mother, and my brother passed away. (FF 165)

My husband fell ill and I didn't come [to rehabilitation] for several months. (CC 13)

Daily Hassles

And every day I would get up and say, "Today's the day. I'm going to start today." But then work would get tough, and I would be tired when I got home, or it would be cold out and I didn't feel like going out and exercising. (TT 81)

When I was just starting out, work was difficult, and I was under a lot of stresses. I was feeling bad and I didn't go exercise for two days. I knew there was the potential for me to not go back at all if this went on. (TT 371)

I have major car problems. A stupid problem that they can't figure out what's wrong, but it's one of those problems that creates complete stress. (SS 1072)

I looked at my own habits in just the way — just like my day to day. How I lived my life. What do I do when I come home from work? Do I cope with the stress by laying down and watching TV and eating? You know, sometimes I do that. (QQ 97)

You start and you're doing OK, but then there's stress in your life or usually when you fall down in the change process is when there is some kind of blow to your self-esteem in some other way. (QQ 268)

I think that when you slip the commitment doesn't really change, you just have a temporary weakness, a hard day or whatever. (FFF 387)

I just never had much luck with the diet, and so many stresses in life. (DDD 394)

Maybe when I stopped [exercising] I was a little depressed. Maybe things were going badly at work and I thought, "The hell with it." (JJ 236)

Well, my life had never been real smooth. I think just the stress of living. I got in some bad eating habits. (EE 134)

Through the holidays a year ago and a lot of upsets I was nervous and I think everything I ate went to fat. (AA 163)

I had a very bad time over the holidays. My vacation didn't go as planned. A lot of stressful things happened — emotionally stressful things happened and I came home and I said, "OK, January first, I'm going to start back on my diet again. Forget this." And then that's where you create your guilt because three days later when you've gone back off that diet, or you slipped on that diet, you think, well, if I hadn't crammed up on that stuff. . . . (SS 1799).

Social Relationships

Interpersonal Conflict

If anybody told me I had to lose weight, I'd gain it just out of spite. (UU 550)

I think there is some difference when you're told to do something or whether you really work your way through a process, as saying this is for me and I cannot be healthy if I continue to do this. (UU 994)

I think that part of it was I had some emotional problems going on in regards to a friend — a couple of friends actually. (SS 811)

Well, my husband and I got in a terrible argument and I was upset and the first thing I did was went in the drawer and grabbed a pack of his cigarettes. (RR 359)

There were times when people would tell me you're smoking too much, you've put on too much weight. That would only aggravate me and send me back to the refrigerator, eating more food. (RR 763)

What I'm getting at is, like people who are in conflict but yet they don't want to change because that conflict does something for them. I think you are the only one who can do it because other people only try to make it hard on you. (QQ 1193)

But my wife keeps me in line. And sometimes I get really mad. Being told what you can and can't do is very irritating. You wonder why a child gets mad and an adult really gets irritated. (MM 274)

The only thing my husband does is make me mad. If he says anything it makes me resentful and makes me naughtier than I should be. (EE 221)

Goal Incongruence

You know, say, just like when you come home for the holidays. You know that you are not going to be able to fit the family schedule and foods into your changed lifestyle. They aren't going to wait for you while you exercise. They aren't going to prepare the foods that you are used to eating. (QQ 502)

People don't respect your goals. People don't care about what your goals are. Except maybe the people that love you, but even they try to sabotage you a lot. They don't know what's inside of you, they don't know what kind of insecurities you have or how you want to make yourself better. (QQ 825)

Families may it rougher on you than anybody else. They love you and they want to make sure that you don't hurt yourself or whatever. Sometimes they're over-protective. And sometimes they stand in your way — don't do this, don't do this. So sometimes they have a tendency to slow you down a little bit with your progress. But it's only out of fear. I know that. (MM 349)

Changing the habits that your family has back again is especially hard. Mostly self-protected are your families. You don't abide to what your family says. Like they was talking because they love you. (KK 328)

And I go back to it and then I go off the wagon again and then people come over and they don't want to understand and you make certain foods. (FF 202)

It's hard to make other people understand you and your life and how it is with you. (BB 127)

Social Influence

I had a friend at the time who was a hard-core alcoholic. So you wouldn't be paying much attention and all of a sudden you were having several drinks because this other person was having more than you. (UU 705)

People would say, "You look fine, what are you worried about?" I bought into that for a little while, just because I don't think I really wanted to change. (TT 94)

When I decided to go on this diet, some people had told me, "Oh, you're really not that overweight." (RR 769)

No way can you walk into a restaurant with your co-workers and tell them that you don't want to eat what they're eating because you're on a diet or you're just trying to watch your weight. They'd just yell at you. (QQ 832)

They [family] didn't stop me when I said I would eat just one piece of chicken. My wife said, "Well, you've been a good boy, go ahead and have one piece." (BBB 908)

Every time I've quit smoking before, people always say, "Hey, you sure you don't want a cigarette?" (MM 640)

Social Activities

I started shooting my league darts, and you're figuring Monday night I didn't walk — I mean Tuesday night I didn't walk because I had my art class, my ceramic class, and then Thursday night I didn't walk because I had my dart thing and then something came up on Monday nights that I did on Monday nights and that I didn't walk there and we had already made an agreement we were going to give ourselves Friday night off. (SS 829)

I've always liked to exercise but even then I was thinking, OK, if I do this today, then I have to work tomorrow, then it's two days — but I have to work tomorrow and the next day. You know I was working nights and I felt like I had to sleep and I had a long drive to work — and I felt like I had two days in between workouts — forget it. (QQ 1044)

One thing that is hard for me is being here day after day after day that was hard. (JJJ 282)

I think maybe once or twice I would start something at home and think, oh, I wish I didn't have to go and then I would call E. and say, "I don't think I will come today." (CC 182)

Then when I came down here I was so busy, it was easy to let it [exercise] go. (AA 160)

Provider-Consumer Relationships

I couldn't handle it [exercise]. It was too much. And I told my doctors then, "I can't do this. It's too much. I can't do it." And they'd tell me, "Go back and walk some more." And then I'd get home, I'd be real angry and upset, and I'd go to bed and say, "They don't know what they're talking about because they don't know how it hurts, they don't know how it feels." (PP 22)

The last time I went to see my cardiologist he was an hour late, his office was rude. I finally got in to see him and he says, "Oh, I have got an angioplasty scheduled over at the hospital. I hope you're going to make it quick." Then in ten minutes he's gone, he's out the door. Those guys are so busy with their technology and medication they don't have time. It really takes time to spend with a heart patient and put them on the right track in all areas of his life. (NN 383)

Physical Capability

Withdrawal Distress

It was much harder initially because you go through those attempts, three or four day periods where you really have withdrawal because, particularly if you smoke three packs a day — that's a lot of stimulus you're trying to figure out what to do with. (UU 906)

And then I was driving myself nuts lengthening the time between cigarettes because I said, OK now, maybe the average time is 15 or 20 minutes between cigarettes before, so now, today we will wait a half hour between cigarettes. (UU 955)

I go away from the table nearly every night hungry. It's hard, but if I wait about 15 or 20 minutes the craving goes away. (OO 434)

Getting through the first week was the worst, you think you would never get through the next five minutes. (GGG 126)

Acute and Chronic Illness

And the only reason I gained some of my weight back there was I moved to Arizona and got valley fever. (SS 564)

My blood pressure is normal and so now that was another burden off of me so I could concentrate more fully. (SS 641)

What throws me into a setback right off the top is to have some angina. And if I start having that then I say, "Oh no, here I go again."
(PP 526)

We were walking 2 and 8/10 miles every day faithfully for six years. There is a little stretch in there where I don't — well, when my hips feel bad, maybe I'll only walk a mile, but that's it. I have deterioration of the hips, the joints. (OO 155)

If I got to feeling really bad . . . that might cause me to stop [making changes]. (JJ 166)

I've been exercising, but I do have my good days and bad days. Last Thursday, I felt some irregular heart beats and didn't feel quite as good. That forces me to modify my goals. (II 108)

There's days you don't feel up to it [exercising] and I don't always do it. Or I cut back on it. Like today, I've had a sleepless night. My blood pressure was higher than it normally was when I came here today.
(HH 247)

But this morning I was in bad shape — I was hurting. My chest was killing me when I pedalled that bike. (GG 307)

Don't let them tell you get home and feel wonderful, you don't. I got home, I couldn't lift a rag to dust. That was discouraging. I used to move furniture. So, that's the reason I didn't come here. (FF 322)

Perceived Exercise Intensity

I'd get out there and I'd overdo it and I'd be sore, then I wouldn't do it. (SS 1243)

It was very, very difficult at first. I used to go home — I'd go to bed after an hour's worth of exercise here — that was simple walking. And I couldn't handle it. It was too much. (PP 117)

I'd do my walking and I'd be so exhausted when I got home — I'd go in — I had to lay down for awhile. I wouldn't even be able to eat breakfast or anything. I'd be so tired I wouldn't be able to fix it.
(PP 440)

Sometimes you're hurting so bad that the tears start coming and you can't say you're enjoying it, so you don't feel like doing it. That was a lot of years ago. (PP 802)

You're afraid to do things in life to hurt yourself. (KK 293).

Well, that was rough, really rough. I think I walked five laps the first day, but I was puffing. I was pushing instead of relaxing and enjoying it. I felt it was something I had to do, so I was pushing. Eventually my legs bothered me because I was pushing. (AA 46)

Resources

Inadequate Finances and Insurance

I mean I have been on and off blood pressure medicine for about five-six years. And the only reason I was off the medication was because I took myself off of it. Due to changing of jobs and not having insurance and not having the money to buy the drug and everything like that, I go for periods of time and not take it. (SS 615)

I had my job here and I kind of felt I wasn't on a rollercoaster in regards to where was my paycheck going to come from next time. It was a case of that burden, of the financial burden being off somewhat. Now that I've gotten my job taken care of, now I can start changing something else. (SS 713)

But in order to get in here your doctor has to prescribe it. I also went through a doctor change at that time, so it took me a couple weeks before I got in this program down here. (NN 77)

If you don't ease your mind money-wise — that really messes things up for you. (KK 147)

Unavailability of Healthy Foods

I made a point of checking out sodium content, calorie content . . . I cut out 80% of my food, just food with sodium content alone. (SS 1711)

It's one of the things I don't understand about this whole process. (SS 1725)

When I go to the grocery store my wife goes with me. We try to find things that are low in salt and sugar. It's very hard to find things in the store that don't have a lot of salt and a lot of sugar. (BB 166)

For example, in Safeway, I went to every cracker on the shelf. There was only one cracker in there that didn't have partially hydrogenated oils in it. Every other one did. (CCC 221)

Any prepared foods that you buy just about have something in them that you shouldn't be eating. (BBB 602)

I live in the city, and I run to the grocery store and it's all prepared — I have more of a tendency to buy it and eat it. (BBB 747)

And I think a lot of people don't realize how important diet is. They don't know what to do about it because if you walk into Safeway, 90 or 95% of the stuff in there is not really edible. It's either sugar, fat — meaning saturated fat, or hydrogenated fats. Then they pack in preservatives and colors. That's what the American diet is made of. I don't think most people realize that. (NN 126)

It's harder and harder because I'm back at work and we have a little weenie wagon or whatever. The lunch wagon that comes in, and the machines are there with candy bars and things like that. (MM 253)

Lack of Information

I have a book over here, it's a whole study of cardiovascular disease and nutrition. By reading this I try to incorporate this into my life-style. It's a never-ending process. As soon as you think you have something figured out, something new comes along. (CCC 239)

Stress reduction is a tough one. One of those things is how do I go about it. I come to these classes and I listen to the lectures, the tapes. I went to one guy that did biofeedback, but that didn't turn out real well. I think I'll try another person. (CCC 271)

For me stress remains probably the toughest thing. I'd been reading about it, and hearing about it. I'm all for it but I don't know exactly what to do to try and change. It is important, but you can't commit to a change, or feel ready to change until it's clear what you need to do. (CCC 444)

I read a lot of books and some of them are quite controversial, I think. Some of the things you read about this kind of food. One thing will contradict something else. Not just your cholesterol, which at one time I think that they thought all the cholesterol was the same, did they not? I mean it was all bad cholesterol and now they decided there is good and bad. (BBB 540)

I don't know the strategies to make it work [relaxation methods]. Maybe I need to learn more about the method. It's similar to diet. You can't go about doing the changes if you don't know what or how to do them. (NN 435)

The key is education. Once people understand how bad things are for them, they can get motivation to make a permanent change. (NN 500)

I knew what I wanted for myself — only that I wanted to get well, but it wasn't enough of a plan to say I'm going to do this, that. I didn't know what to expect — I didn't know how long it would take — I didn't know how I would feel. I was discouraged. (FF 314)

My doctor didn't tell me that I should have nitroglycerin if I had pain, so I wouldn't take it. (EE 67)

When you get to be 70 there's a lot of change in your body. It starts before then — I didn't realize that. I should have started a long time ago doing something about it. It may just be not knowing. That was the case with me, ignorance. (AA 249)

Patterning

I think people who don't allow themselves to ever digress then find themselves digressing big time. (UU 887)

You think, gee, I ate the crackers. Will it hurt me if I eat just today? (RR 633)

Usually when you fall down in the change process is when there's some kind of blow to your self-esteem in some other way. You know, it's like a big tumbleweed. You feel you're doing good, you look good, you keep going, you keep going, and you keep going, but something happens. Either you become ill or you just — you slip up one day . . . you eat pretzels — you gorge — and you get all bloated, you look disgusting. So then that night you don't want to exercise. And then the next day you wake up and like you eat a doughnut at work. You know and then it's like all this starts and things start to have to pull yourself out. And that's the hardest part.

If you have the same set of standards for yourself in a holiday situation or a vacation in the non-routine situation you will not be able to make it and you will have tons of guilt. Because you will probably just wind up screwing it up. Then you will just wind up blowing it off. Because something will happen and you will not be able to handle it and you will wind up stuffing your face like a pig. (QQ 515)

When you slide back a day it's like a whole 'nother day you feel that you have to get through just to get back to where you were. For every day that you slip up, it's going to take like two days to start over again. (QQ 742)

Normally, the first thing I would do when I came home from work was smoke a cig. And then it would leave a bad taste in my mouth so I ate

some junk, and then I'd be feeling a little short of breath so I wouldn't go exercise. (QQ 869)

So what happened was, I was working at a job I hated and I'd come home and sleep and watch TV and eat, and the whole time I know how bad I was being. I didn't like myself at all. I might as well get really fat and really disgusting and really have no friends. (QQ 983)

And I go back to it and then I go off the wagon again and then people come over and they don't want to understand and you make certain foods. (FF 202)

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