

To the Graduate Council:

I am submitting herewith a thesis written by Sandra Paul Thomas entitled "A Descriptive Profile of Individuals Exhibiting the Type B Personality Pattern." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Nursing.

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A DESCRIPTIVE PROFILE OF INDIVIDUALS
EXHIBITING THE TYPE B
PERSONALITY PATTERN

A Thesis
Presented for the
Master of Science in Nursing
Degree

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ABSTRACT

The purpose of this study was to develop a descriptive profile of individuals exhibiting the Type B personality pattern. Psychological, behavioral, sociodemographic, and environmental variables were examined. Subjects were 98 individuals from 25 states in the United States of America who had agreed to participate in the second phase of a longitudinal investigation of health in middle adulthood.

Instruments included the Current Health subscale of Ware's (1976) Health Perceptions Questionnaire, Form II; the Health Habits subscale of the Rand Medical History Questionnaire, Form A (1979); the Multidimensional Health Locus of Control Scale (Wallston, Wallston, and DeVellis, 1978); the Tennessee Self-Description Form (Thomas, Williams, and Olsen, 1982); the Jenkins Activity Survey (1979); Kanner's (1981) Hassles Scale; Sarason's (1983) Social Support Questionnaire; Kearney and Fleischer's Exercise of Self-care Agency Scale (1979); and a demographic survey developed by the researcher. Statistical analyses included measures of central tendency, frequency distributions, and t tests of hypotheses.

Type B individuals, in contrast to their coronary-prone Type A opposites, experience less stress due to the frustrating events of daily life and feel less pressured by too many things to do. They are more inclined to view life as a joy and express

fewer concerns about the meaning of life than Type As. Type Bs in middle adulthood tend to be married, employed full-time in a variety of occupations, and satisfied with their work. They profess belief in a higher power, but are not as likely to be involved in church activities as Type As. They understand themselves and espouse an internal locus of control.

The study revealed many positive health benefits for Type B individuals, including better general health status, fewer days ill, fewer visits to physicians, fewer hospitalizations, fewer surgical procedures, and fewer prescription medications. Both male and female Type Bs exhibited similar scoring patterns. Type A males had the worst health of all groups, and Type A females tended to resemble their male counterparts more than they did Type B women. Implications for nursing intervention and for future research were discussed.

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CHAPTER I

INTRODUCTION

Research on the Type A behavior pattern has established that individuals who exhibit a characteristic constellation of impatient, competitive, and hostile behaviors are at risk for coronary artery disease (Rosenman and Friedman, 1974). The Type A pattern appears to increase the risk of cardiovascular pathology independently of other factors such as hypertension, elevated cholesterol, and smoking (Suinn, 1982).

As a result of the initial research evidence, health professionals began to devise intervention strategies to prevent initial or recurrent myocardial infarctions. The intervention literature has been comprehensively reviewed by Razin (1982) and by Suinn (1982). It has been assumed that health-promoting behaviors would be the opposite of the hard-driving, competitive, Type A pattern. Therefore, clients were taught to slow down, to manage stress more effectively, and to relax.

However, little is known about the Type B pattern which is allegedly antithetical to the coronary-prone pattern. Price has noted that "Type B is rarely defined or even described in the literature beyond offhand references to it as the opposite of Type A . . . or as the relative absence of Type A characteristics" (Price, 1982, p. 20). There has been no research on the Type B pattern, perhaps because pathology is usually of more compelling

interest to researchers and of higher priority for external funding. Closer scrutiny of the Type B individual's cognitions, behaviors, and general health status is necessary in order to develop a firm empirical base for promoting specific behavior changes in coronary-prone clients.

Statement of Problem

The purpose of this study was to develop a descriptive profile of individuals exhibiting the Type B personality pattern. Psychological, behavioral, sociodemographic, and environmental variables were examined. The mid-life age group was deemed most appropriate for this investigation, since the preponderance of Type A/B research has been conducted with such individuals. Although the cumulative deleterious effects of health attitudes and behaviors are beginning to accrue in middle adulthood, most persons are not yet chronically ill; time remains for life-style modifications which could prolong life and improve its quality.

Nominal Definitions

Daily hassles. Relatively minor frustrations and irritations which characterize everyday transactions with the environment.

Health habits. Stable behavior patterns that affect health status directly or indirectly.

Health locus of control. The belief that health is primarily controlled by one's own behavior (internal locus); by powerful others such as doctors and other health care providers, family, and friends (powerful others locus); or by factors such as luck or fate (chance locus).

Health status. The self-assessed state of general health of an individual.

Middle adulthood. The period of adult life from age 35 to age 55.

Self-care agency. An individual's power to engage in health self-care actions.

Self-management effectiveness. The extent to which an individual applies self-management strategies across a broad spectrum of life activities, including work, social, health, and leisure areas.

Social support. The gratification of an individual's needs for approval, esteem, and nurturance by significant others, such as spouse, relatives, friends, and colleagues.

Type A pattern. A complex of behaviors known to be associated with increased incidence of coronary heart disease.

Type B pattern. A behavior pattern presumed to be antithetical to the coronary-prone pattern.

Assumptions

1. The instruments used in the investigation were valid reliable measures of the constructs.
2. Responses of the participants were honest and accurate within the limits of their perceptions.

Limitations

Findings of this study must be interpreted with cognizance of its nonexperimental design and its underrepresentation of ethnic minorities. The customary cautions in regard to self-report data are also applicable. Kirscht (1971) has emphasized the possibility of inaccurate self-report in health research of the survey type. However, Hunt, McKenna, McEwen, Backett, Williams, and Papp (1980) found that perceived health status accorded well with objective health status. Martini and McDowell (1976) similarly found that patient assessments of their own health provided a viable alternative to professional examinations.

CHAPTER II

REVIEW OF LITERATURE

Because there is no available literature on the Type B pattern, this chapter contains a review of the literature on Type A behavior, with concomitant inferences and logical deductions regarding Type B individuals. The chapter also presents a limited review of the theoretical and empirical literature on psychological, behavioral, sociodemographic, and environmental factors known to affect health status.

Type A Pattern

Introduction

The first dramatic evidence regarding the coronary-prone behavior pattern was provided by the Western Collaborative Group Study (WCGS), a longitudinal study of 3,154 men aged 39-59. Type A subjects who were healthy at intake were more than twice as prone to development of clinical coronary heart disease (CHD) as subjects assessed as Type B (Rosenman and Friedman, 1974). During the eight and one-half years of this study, the researchers also found that: (1) initially well Type A men were five times more likely to have a second myocardial infarction than Type Bs; (2) Type As were more likely to have fatal heart attacks; (3) 88% of the men who died of CHD were Type As; and (4) the degree of coronary atherosclerosis of Type As was twice that of Type Bs.

Subsequent research has demonstrated that the relationship between Type A and CHD remains significant even when hypertension, smoking, and diet are statistically controlled (Rosenman, Brand, Jenkins, Friedman, Straus, and Wurm, 1975). It has been pointed out that the Type A pattern is "neither a personality trait nor a standard reaction to a challenging situation, but rather the reaction of a characterologically predisposed person to a situation that challenges him or her. Different kinds of situations evoke maximal reactions from different persons" (Jenkins, 1979, p. 3).

Ambitious, achievement-oriented individuals seem to be prime candidates for development of the pattern, although it is not clear how early in life this pattern is manifested. Virtually all studies show a positive correlation between Type A scores and higher socioeconomic status, whether assessed in terms of occupational prestige or level of education. Rosenman and Friedman (1977) estimate that well over 50% of individuals in American urban populations now exhibit Type A behavior. However, it should be noted that the relationship between Type A pattern and cardiovascular disease is not a direct causal relationship; a relatively small percentage of Type A individuals develop disease. Only conjectural evidence is available to explain why some coronary-prone persons do not ever exhibit pathology.

A voluminous amount of research on the Type A pattern has been generated over the past two decades. As several excellent summaries of this research are available (e.g., Glass, 1977; Rowland and Sokol, 1977; Zyzanski, 1978), a comprehensive review will not be attempted here. However, key features of the Type A pattern will be delineated.

Competitiveness

Price (1982) tabulated frequency of citation of 31 Type A behavior characteristics in the research literature from 1959 to 1979. The number one Type A characteristic, competitiveness, was cited in 72 of the 101 articles. Type As appear to view life as a perpetual struggle against people, objects, and time; they fear that resources are scarce and will not be fairly distributed. Therefore, they must compete vigorously to obtain rewards and recognition. The academic world and the workplace intensify their competitive propensity; Type As seek high grades, then promotions, raises, and material trappings of success. Their behaviors are culturally sanctioned and often encouraged; in fact, such behaviors may be viewed as essential for "getting ahead." Eventually, Type As are unable to discriminate when it is really appropriate to be competitive; competitive behavior becomes the habitual mode of approaching any task. In the absence of someone else to compete with, Type As begin to compare their performances to their own stringent criteria and reward or punish themselves

accordingly (Price, 1982). Laboratory experiments have shown the physiological consequences of Type A competitiveness: ST segment depression and reduction of T wave and R wave amplitudes (Van Egeren, Fabrega, and Thornton, 1983).

Following the prevailing assumption that Type B individuals do not exhibit Type A behaviors, non-competitiveness would be predicted for Type Bs. VanEgeren (1979) has provided empirical confirmation of this prediction. Subjects classified as Type A or B participated in pairs in mixed-motive games (i.e., games which present a potential conflict of interests which may be resolved through cooperation for an equitable reward or through competition). Partners could cooperate, compete, punish, reward, or withdraw on each interaction. Type A dyads were significantly more aggressive and competitive; they competed twice as often and punished three times as often as Type B dyads. Type As appeared to find competition more stimulating and enjoyable. Type Bs were initially friendlier, exhibited more trust, and were twice as conciliatory. Interestingly, when Type A subjects interacted with Type Bs instead of other As, they became more cooperative and less aggressive. VanEgeren speculated that this change in strategy was because competitiveness must be reciprocated to be fully enjoyed, and Type Bs were less likely to reciprocate.

A similar experiment (Van Egeren, Sniderman, and Roggelin, 1982) confirmed the greater competitiveness of Type A individuals and provided additional data on the strategy favored by Type Bs, which was termed "tit-for-tat", (i.e., imitating the partner's response on the previous play). The inference could be drawn that Type Bs prefer to be followers rather than leaders; their game-playing style suggests dependence on the partner to direct the course of play. Another characteristic Type B behavior was sending messages about feeling hurt to the partner.

Time Urgency

The second most frequently cited characteristic of Type As in Price's review of the literature was time urgency. The chronic haste and impatience of Type A individuals was noted in the early work of Friedman and Rosenman (1959) and has been a consistent component of the behavioral pattern in subsequent studies. "Speed and Impatience" is one of the factor scales of the Jenkins Activity Survey (JAS), which was standardized on participants in the Western Collaborative Group Study and has been extensively used in Type A/B research.

Type As are known to accelerate the pace of such activities as talking and eating and to "polyphase" (do more than one thing at a time) in an effort to beat the tyranny of the clock. Pre-occupation with deadlines has been noted by most researchers; Burnam, Pennebaker, and Glass (1975) found that even when

there were no deadlines to meet, Type As behaved in the same hurried fashion.

In contrast to the accelerated, pressured, pace of Type A persons, Type Bs are described as "relaxed, unhurried, mellow, satisfied. . . . The Type B person may also be interested in progress and achievement, but tends to flow with the stream of life rather than constantly struggling against it" (Jenkins, Zyzanski, and Rosenman, 1979, p. 3).

One aspect of conceptual tempo which has received little attention is impulsivity-reflection. Blumenthal, McKee, Williams, and Haney (1981) used a matching-figures test to ascertain if Type A individuals exhibit a more impulsive style than Type Bs. There were significant differences in the performance of men and women. When the Speed and Impatience Scale of the JAS was used to classify subjects, Type A women were more impulsive than Type Bs. However, men scoring in the Type A direction on the Speed and Impatience Scale did not perform differently from Type B men. Further research is needed in this area.

Aggressiveness

Aggressiveness ranked third in Price's compilation of research citations and has been considered a central characteristic of the Type A pattern since the original description. Early researchers even noted that the voice of a Type A man exhibited

an aggressive timbre. Recent empirical evidence of Type A aggressiveness has been provided by Chesney, Black, Chadwick, and Rosenman (1981). Healthy adult males (N=384) were classified as Type A or B and given a battery of psychological inventories. Type As differed significantly from Bs on a number of scales, including measures of aggression, autonomy, exhibition (need for attention), change (need for variety), and dominance.

Price (1982) has offered several explanations of aggressive behavior in Type As. She hypothesizes that the earliest antecedent of such behavior is lack of adequate, dependable love from parents during childhood. She also speculates that a competitive working environment intensifies aggression, because it is necessary to fight to hold onto positions. Middle-aged men in particular are threatened by upwardly mobile younger men. Another possibility is that aggressive behavior is actually a facade concealing vulnerability.

In contrast to the aggressive style of Type As, Chesney and her associates (1981) found that Type Bs were more retiring, sober, and serious. Additionally, Type B men were more deferent, inhibited, introverted, and submissive. This finding introduces the possibility that Type Bs might be more prone to depressive illness, since assertion deficits have been viewed as influential in depression (Langone, 1979; Youngren and Lewinsohn, 1978). It should also be noted that submissive, deferent behavior is contrary to the sex role socialization of males in our society.

Hostility

Closely related to aggression is hostility. Price (1982) notes that hostility was largely overlooked in the Type A literature before 1975. In recent years, however, hostility has proved to be the key characteristic predictive of coronary atherosclerosis (Williams, Haney, Lee, Kong, Blumenthal, and Whalen, 1980). The hostile attitudinal set is characterized by the assumption that people in general are mean, selfish, and exploitive. A subsequent study by Barefoot, Dahlstrom, and Williams (1983) examined the relationship between hostility and eventual health status in a 25-year followup of physicians who had completed the MMPI while in medical school. High hostility scores were found to be predictive not only of coronary disease but also of total mortality.

The hostility component of Type A is also thought to have its genesis in early life. Frequent feelings of anger distinguished Type A adolescents from Type B adolescents in a study by Siegel and Leitch (1981). Projection may also be a prominent mechanism in the hostility of Type A individuals.

The logical inference regarding Type B individuals is that they are less angry and perhaps view the world as a more benign place, inhabited by people who are generally helpful, rather than seeking to take advantage. Presumably their childhood experiences facilitated establishment of basic trust. Being able to trust

others offers a significant advantage for mental health, in light of recent research documenting the importance of social support as a buffer for life stress (Kaplan, Cassel, and Gore, 1977; Nuckolls, Cassel, and Kaplan, 1972). Trust also facilitates good collaborative relationships with health professionals.

Physiological Hyperreactivity

Some researchers have proposed that a crucial element of Type A pattern is hyperreactivity. A study by Pittner and Houston (1980) indicated that Type A subjects exhibited higher pulse rates and higher blood pressures in response to threat to self-esteem than Type Bs. Newlin and Levenson (1982) found that Type A males had larger diastolic blood pressure responses to a variety of stressors (physical as well as psychosocial). Manuck, Craft, and Gold (1978) reported that Type A males showed greater elevations of systolic blood pressure than Type B males when exposed to a difficult and frustrating cognitive task. No differences were found between Type A and B women, however. Generally, research indicates that reactive blood pressure is much more sensitive to Type A-B differences than resting blood pressure (Suinn, 1982).

A combination of cardiovascular, sympathetic nervous system, and neuroendocrine hyperresponsivity was demonstrated in Type A males by Williams, Lane, Kuhn, Melosh, White, and Schanberg (1982). During mental work, Type As showed greater vasodilatation of muscle tissue and greater secretion of norepinephrine,

epinephrine, and cortisol than Type Bs. During reaction time tasks, hyperresponsivity for testosterone was noted in Type As; among subjects with family history of hypertension, hyperresponsivity for cortisol was also found. Type B individuals apparently do not exhibit the chronic overactivation of the sympathetic-adrenal-medullary system and the pituitary-adrenal-cortical system which is problematic for Type As.

Cognitive Characteristics

Underlying the overt behavioral manifestations of Type A, there appear to be a number of irrational cognitions which have received insufficient emphasis in existing intervention programs. Price (1982), who works in the Recurrent Coronary Prevention Program, proposes three faulty beliefs which form the core of the Type A pattern: (1) the belief that one must constantly prove himself; (2) the belief that no universal moral principle exists (i.e., there is no orderly relationship between intentionality and consequences); and (3) the belief that all resources are scarce. These beliefs engender fears (e.g., fear of being judged as lacking self-worth). This conceptualization of Type A is new and differs from Rosenman and Friedman's original description; anxiety and fear were not originally considered elements of Type A pattern. Type As themselves vigorously deny fear, although clinicians have suspected that their fearlessness is an over-compensation. One indicant of underlying anxiety and fear is

the propensity of Type As for trying to control and dominate the situations in which they are placed.

It has been noted that Type As are unreflective individuals who lack insight into their own style of behavior and its effect on other people (Jenkins, 1975). Further, Type As generally do not have well-defined personal goals (Friedman and Rosenman, 1959). Price (1982) has speculated that when a goal becomes attainable, it loses its value to a Type A individual and a greater challenge will be sought.

Several researchers have begun to examine cognitive characteristics of Type A, with interesting results. Humphries, Carver, and Neumann (1983) found that Type As and Bs process and encode information differently in a challenging situation. Students classified as As and Bs completed a concept-formation task and a recognition-memory task under one of four levels of challenge. When moderate and high levels of challenge were induced, Type As were more attentive to frequently occurring attributes (central tendencies) in the stimuli. On a subsequent recognition-memory task, Type As reported with greater certainty than Type Bs that they had seen stimuli composed of frequently observed attributes.

Unpredictable aversive events (bursts of noise) in a laboratory experiment have been demonstrated to produce physical symptoms (e.g., headache, racing heart, upset stomach, sweaty hands) in both Type A and B subjects. However, Type As failed

to report their symptoms during task performance. The researchers concluded that Type As were devoting their full attention to the task (computation of arithmetic problems) and thus ignored somatic clues (Weidner and Matthews, 1978).

Pittner, Houston, and Spiridigliozzi (1983) examined the cognitive coping of Type As and Bs in conditions that varied in both controllability and consistency of controllability over an aversive stimulus. College men were randomly assigned to one of four conditions: no control over shock, consistent control over shock, intermittent control over shock, and low stress. Type As employed more denial and projection across the high stress conditions than Type Bs.

The picture which emerges of Type B cognitions, if one infers that they are dissimilar to Type A beliefs, is as follows: (1) it is unnecessary to constantly prove oneself to others; (2) there are recognized universal moral principles (i.e., good will prevail); and (3) resources are equitably distributed. Type Bs accordingly should be less anxious and driven and more likely to have realistic, intrinsically valued goals. They should be more in touch with their bodily sensations, since they do not exhibit preoccupation with task performance in the single-minded fashion of Type As. Greater somatic awareness contributes to good health; i.e., it is important for individuals to recognize when they are stressed or fatigued and take appropriate measures to relax.

Gender Issues

All of the early work on Type A personality was done with middle-aged male subjects. Until recently, little attention was devoted to females, either because they are known to be less prone to develop CHD or because traditionally they were not involved in high-stress, competitive work environments. The first study in which the Jenkins Activity Survey was used with female CHD patients was conducted at a Connecticut hospital. Male and female patients (ages 22-64) with CHD and other diseases were compared in terms of selected behavioral variables. The case group consisted of 48 patients with diagnostically verified CHD. The control group comprised 42 patients whose reasons for hospitalization approximated CHD in seriousness (traumatic injuries, surgeries). As predicted, the CHD cases exhibited more Type A behavior. There were no meaningful differences between men and women on the JAS; women with CHD scored higher than women controls on both the Type A and hard-driving scales (Kenigsberg, Zyzanski, Jenkins, Wardwell, and Licciardello, 1974).

A much larger study (N=4108, age range 25-64) in the Chicago area investigated the relationship of JAS Type A score to sex, age, socioeconomic status, and known CHD risk factors. After socioeconomic status was controlled, there was no significant difference between the Type A scores of men and women (Shekelle, Schoenberger, and Stamler, 1976).

A subsample of participants in the longitudinal Framingham Heart Study completed psychosocial questionnaires in the mid-1960's and were followed over an eight-year period. Working men and women were much more likely to report Type A behavior than housewives. The researchers were particularly interested in the question of increased CHD risk for working women. They found that employment for women, per se, is not related to increased CHD risk; however, suppression of hostility coupled with a nonsupportive boss and lack of job mobility were associated with CHD incidence among female clerical workers (Haynes and Feinleib, 1980).

Congruent with the Framingham Study, Waldron (1980) found that mid-life women who were employed full-time were more likely to exhibit the Type A behavior pattern than housewives or women employed only part-time. The coronary-prone behavior pattern was correlated with higher occupational status, as previously demonstrated for men.

In summary, the available evidence suggests that the core of the Type A pattern may be constant for both females and males. However, laboratory research indicates that Type A males and females respond differently in challenging situations. For example, MacDougall, Dembroski, and Krantz (1981) found that Type A and B female college students, unlike previously tested males, did not differ in physiological response to a cold pressor test or a reaction time test. Several of the women were observed chuckling during the instructions and commenting on the silly

nature of the assigned tasks. Therefore, the researchers created a more challenging situation (an oral quiz) and tested a second group of female subjects. In the new situation, Type A women had higher systolic blood pressures than Type B women. MacDougall and his associates concluded that Type A women are more challenged by interpersonal exchanges, whereas men respond with increased blood pressure and other symptoms to a wider array of environmental challenges.

Researchers have also begun to scrutinize the overlap of Type A pattern and the stereotypical masculine role in western society. As noted previously, many of the Type A behaviors have been viewed as admirable. Women entering the workplace often seek to emulate them. DeGregorio and Carver (1980) proposed that Type A is a more adaptive style within a sex role orientation that has a significant masculine component, regardless of gender. In their study of 213 male and female college students, they found that Type A pattern had adverse implications for social adjustment if it occurred in conjunction with low masculinity scores. This combination (Type A + low masculinity) yielded low social self-esteem among both sexes and yielded high social anxiety and depression among women. Another group of researchers recently reported a positive association between masculinity and JAS scores in a sample consisting of 80 male and 40 female undergraduates (Stevens, Pfof, and Ackerman, 1984).

Psychological Variables Related to Health

Locus of Control

Locus of control is a construct from Rotter's (1954) social learning theory. Rotter asserted that the reinforcements to which individuals are exposed will eventually produce an expectancy that reinforcements are contingent upon one's own efforts (internal locus of control) or an expectancy that reinforcements are received on a random basis or dispensed by powerful others (external locus of control). Recently, locus of control measures specific to the domain of health have been developed, and research in this area has rapidly burgeoned; typical studies have focused on the relationship of locus of control and health behaviors such as weight reduction, exercise, and smoking cessation. This literature has been reviewed by Strickland (1978) and by Wallston and Wallston (1978). Internal locus of control has been positively correlated both with precautionary health practices and with health information-seeking in the majority of studies reviewed.

Only one study could be located which attempted to explore the relationship between the Type A pattern and health locus of control beliefs. The researcher (Furnam, 1983) had hypothesized that Type A individuals would have higher internal locus of control beliefs; however, no relationship was found.

Self-care Agency

Self-care agency is a construct from Orem's (1971) self-care model of nursing; it has been defined as a person's capability or power to initiate and perform health activities for himself or herself. The concept includes desire to perform and control health practices as well as the potential for these actions (Joseph, 1980). Kearney and Fleischer (1979) view self-care agency as a complex construct, since it includes motivational aspects as well as knowledge application. For example, a person with limited knowledge of health information may be using his or her self-care agency to a high degree; in contrast, someone with similar behaviors may be exercising self-care agency to a lower degree if he possesses greater knowledge and capability. An example of the latter is the health professional who chooses to smoke cigarettes, although cognizant of the risks.

Self-care agency is not synonymous with locus of control. In Kearney and Fleischer's study, the two constructs were not significantly related. The researchers concluded that source of reinforcement has no bearing on the degree to which one exercises self-care agency; one may be self-directing or simply complying with external authority figures. To date, the relationship between Type A pattern and self-care agency has not been examined. However, aggressiveness was negatively correlated with self-care agency in Kearney and Fleischer's investigation.

Life-Style Variables Related to Health

Health Habits

The importance of positive health practices has been conclusively demonstrated in the Alameda County study, a large longitudinal study which is frequently cited in the literature. Seven key health habits were identified: never smoking cigarettes, regular physical activity, moderate or no use of alcohol, 7-8 hours of sleep nightly, maintaining proper weight, eating breakfast, and not eating between meals (Belloc and Breslow, 1972). In 1980 the researchers reported on the relationship of these practices and subsequent mortality. Men following the seven practices had a mortality rate only 28% that of men following zero to three health practices; the comparable figure for women was 43% (Breslow and Enstrom, 1980). As the longitudinal study continued, two of the seven practices (eating breakfast, eating between meals) were found to have no relationship to health status. The researcher also modified their view of drinking when they found that nondrinkers had poorer health at nine-year followup than light drinkers. As a result of these findings, a new index of health practices was calculated for use in the Alameda County study (Wiley and Camacho, 1980). An individual received one point for each of the following characteristics: (1) currently a nonsmoker; (2) consumption of not more than 45

drinks per month; (3) moderate or strenuous physical activity during leisure time several times per week or more; (4) sleeping 7 or 8 hours per day; and (5) being within -10% and +29% of ideal weight for height. General health habits of Type A and B individuals have not been investigated.

Self-Management Effectiveness

The ability to acquire and maintain healthful habits suggests effective application of behavior management strategies by individuals. Self-management is a concept derived from the general area of applied behavior analysis. Williams and Long (1983) viewed self-modification as the ultimate application of behavior management concepts. During initial testing of the mid-life individuals participating in the present study, it was found that high scorers on a self-management inventory had better perceived health status than ineffective self-managers (Thomas, 1983). It was also found that good self-managers achieved a more nearly optimal balance across the four major aspects of life (physical health, interpersonal relationships, professional productivity, and leisure) than poor self-managers.

The relationship between the coronary-prone pattern and self-management effectiveness has not been explored. However, it is possible to make a logical prediction. In view of the heavy investment of Type As in their jobs, they may score higher than Type Bs on work self-management, but lower in the other areas.

Environmental Variables Related to Health

Stress

The pioneering work on stressful life events was done by Holmes and Rahe (1967) with large samples of naval personnel. They found modest but statistically significant relationships between escalating life change and the onset of illness. However, such research has been criticized due to methodological flaws and lack of consideration of intervening variables.

Attention has more recently turned toward scrutinizing the daily hassles of life and their impact on health, instead of dramatic and infrequently occurring major life changes such as losing a job or having a death in the family. Kanner, Coyne, Schaefer, and Lazarus (1981) administered a Hassles Scale to a community sample of middle-aged adults every month for 10 consecutive months. The researchers demonstrated that hassles were related to negative affect and predictive of psychological symptoms; furthermore, hassles were a more powerful predictor of psychological symptoms than major life events for this mid-life sample. More frequent hassles and greater mean intensity were associated with poor overall health status in a recent study of well educated, middle-aged, professional subjects (Zarski, 1984). This approach to stress measurement therefore seems preferable to administration of a standard life change inventory, particularly since it should discriminate between Type A and B individuals.

Social Support

A growing body of research indicates that adequate social support from friends, family, and neighbors somewhat buffers or ameliorates stress for the individual (Kaplan et al., 1977). Kaplan and his associates propose that the joint effects of stressor factors and protective factors (such as social support) determine susceptibility to illness.

Social support is a variable of interest in the present study because it appears likely that Type As and Bs will differ in number of social supports and satisfaction with quality of that support. Given their competitiveness, aggressiveness, and hostility, Type A persons may alienate potential sources of support. If Kaplan is correct, then their susceptibility to illness would increase.

Sociodemographic Factors Related to Health

Gender

Virtually all studies show that women, despite their greater longevity, report more health problems than men. In a large longitudinal study in California, women reported more illness than men in all categories (Bayer, Whissell-Buechy, and Honzik, 1981). Two stereotypes about the health-related sequelae of women's social roles are prevalent: the "neurotic housewife" who reports hypochondriacal complaints and the "career woman" who succumbs to the stressors of the working world. Depner (1981),

reporting initial results of the "Social Roles and Health of American Women" project, found that role status usually has no effect when variables such as age, education, and income are entered first into the regression equation. Of course, age, education, and income select individuals into roles and further affect health-related needs and resources.

Level of Education

Franks and Boisseau (1980) have provided a comprehensive review of the literature on educational level and health. A strong positive relationship between years of schooling and health was found. The authors suggested that formal education facilitates responsiveness to health education efforts. There is some evidence, however, that the poorly educated are not automatically disadvantaged with regard to health status. Wiley and Camacho (1980) found that individuals with high health practice scores had good health outcomes regardless of educational level. Leigh (1982) found that education had only indirect effects and no direct effects on ill health. He proposed that education affects health only by allowing individuals access to higher status jobs.

Income

The final variable of interest in this study is income. Higher income has been correlated with good health in numerous studies. Both physical and mental illnesses tend to be more

prevalent among those of lower socioeconomic status. Individuals with lower incomes are more concerned about the possibility of contracting debilitating diseases and view themselves as more susceptible to illness in general (Johnston and Ware, 1976).

Additionally, the poor are less likely to have the benefits of proper nutrition, preventive health measures such as immunizations, or proper medical care when they become ill. They are more likely to live in overcrowded, noisy environments with improper sanitation.

However, several researchers have found that even in the lower socioeconomic groups, adherence to positive health practices makes a difference. Pratt (1971) found that low-income women who had good health habits were not disadvantaged in health status when compared to women of higher socioeconomic status. Wiley and Camacho (1980) found the same relationship between health habits and health outcomes in families with inadequate incomes as that observed in high-income families.

CHAPTER III

METHOD

This chapter consists of six sections. In the first section, the hypotheses of the study are presented. Subsequent sections discuss the subjects, data collection procedures, instruments, operational definitions, and analyses selected for the study.

Hypotheses

The hypotheses tested in this study were:

1. Type B subjects will have better general health status than Type A subjects.
2. Type B subjects will report fewer days ill during the past year than Type A subjects.
3. Type B subjects will report fewer visits to physicians during the past year than Type A subjects.
4. Type B subjects will report less stress due to daily hassles than Type A subjects.
5. Type B subjects will report greater satisfaction with their social support networks than Type A subjects.

In addition to testing these hypotheses, measures of central tendency and frequency distributions were generated in order to develop a descriptive overview of the sample as a whole and of various subgroups of interest.

Subjects

Subjects were 98 adults from twenty-five states in the United States of America who had agreed to participate in the second phase of a longitudinal investigation of health in middle adulthood. A complete description of the original sample has been presented previously (Thomas, 1983). There were 61 females and 37 males participating in the present study. All subjects were between the ages of 35 and 55 at initial testing; mean age for females at second testing was 45.6 and for males was 45.9. All but one of the second phase respondents were Caucasian. There was considerable diversity within the sample in terms of health status, occupations, income, place of residence, and other characteristics. Additional information about the sample is presented in Chapter Four.

Data Collection Procedures

The first phase of data collection for the larger project took place during the summer of 1982 at the World's Fair in Knoxville, Tennessee. The investigator had received permission to collect data at the Wellness Station sponsored by the College of Nursing at The University of Tennessee. A poster soliciting volunteers for the study directed individuals to the researcher's data collection area. Potential participants were given both verbal and written explanations of the study and an opportunity

to ask questions about the project. As an incentive for participation, feedback from the researcher on personal questionnaire results and/or the results of the study was guaranteed. Those individuals who desired feedback provided the investigator with their mailing addresses.

The majority of subjects completed their questionnaires on-site at the World's Fair, but a small number requested additional forms to give to friends or relatives in their communities, to be returned by mail to the researcher. This phase of data collection produced 159 usable sets of questionnaires.

Additional data were collected during the winter of 1982-1983 at a metropolitan general hospital. Because the researcher sought a sample representative of all stages in the health-illness continuum and a variety of medical, surgical, and psychiatric disorders, all nursing units except the Obstetric Unit and the Acute Care units were visited regularly. After a review of the Kardex of the nursing unit, noting persons in the 35-55 age group, consultation with nursing staff of the unit ensured that the potential participant was in appropriate condition to be approached. Individuals deemed appropriate were visited by the researcher and provided with the same explanation of the study and incentive for participation as previously described. Forms were left with subjects for completion at their convenience, and collected by the researcher later. This phase of data collection produced 71 usable sets of questionnaires.

Because self-management effectiveness was a variable of particular interest, the investigator then sought to obtain subjects who might be presumed to represent extremes of the self-management continuum. Accordingly, women who were members of the Knoxville Association of Women Executives and their spouses were invited to participate. Twelve usable sets of data were obtained from this effort. Inpatients on an alcoholism treatment unit were also asked to participate; nine usable sets of questionnaires were collected. The total number of participants in the initial investigation was 251.

During the autumn of 1983, letters were sent to all study participants who had elected to provide their mailing addresses to the researcher at initial testing (N=226). Explanation of the second phase of the study was given, along with a postcard for indicating agreement to continue participation. A copy of the letter sent to respondents appears in Appendix A. Responses were received from 122 individuals, of which 4 declined further involvement in the project and 118 agreed to continue. Several letters were returned because addresses were no longer correct, and one letter was returned because the addressee was deceased.

Questionnaire packets for the present study were mailed to subjects in January, 1984, along with consent forms and stamped, self-addressed envelopes. A copy of the consent form may be found in Appendix B. A total of 104 packets were returned by subjects;

of this number, four sets of materials were incomplete and two sets were returned after the data analysis had already been completed. Thus there were 98 usable sets of questionnaires for the present investigation.

Instruments

Health Perceptions Questionnaire (Form II)

Ware's (1976) Health Perceptions Questionnaire (Form II), hereafter called the HPQ, is a 32-item instrument with several scales; only the Current Health scale was used in this study. After field testing the HPQ on approximately 2,000 adults, Ware reported that the scales were valid, reliable, and stable over time for diverse populations. The HPQ was included in the health status measures fielded in Rand's Health Insurance Study, a project involving 8,000 people in 2,750 families. The nine items comprising the Current Health scale appear in Appendix C.

Health Habits Scale

Nine items from the Health Habits scale of the Medical History Questionnaire, Form A, developed for the Rand study (Brook, Ware, Davies-Avery, Stewart, Donald, Rogers, Williams, and Johnston, 1979) were used to assess exercise, sleep, smoking, and drinking habits of the subjects. All scales used in the Health Insurance Study were constructed after empirical scaling analyses successfully tested hypothesized item groupings. Both reliability

and validity of these measures have been satisfactorily established (Brook et al., 1979). Health Habits scale items appear in Appendix C.

Multidimensional Health Locus of Control Scale

The Multidimensional Health Locus of Control Scale (MHLC), modeled after Levenson's (1974) Locus of Control Scale, was developed by Wallston, Wallston, and DeVellis (1978) to provide an improved health-specific assessment of locus of control. The MHLC measures three distinct dimensions: Internality (IHLC), Chance Externality (CHLC), and Powerful Others Externality (PHLC). Wallston and Wallston (1981) reported that alpha reliabilities for the MHLC scales ranged from .67 to .77. The concurrent and discriminant validity of the MHLC were ascertained by correlating the scales with Levenson's (1974) scales. Fairly good stability was suggested by test-retest data. Normative data obtained from the testing of several thousand subjects is now available (Wallston and Wallston, 1981). A copy of the MHLC may be found in Appendix D.

Tennessee Self-Description Form

The Tennessee Self-Description Form is a 47-item instrument developed by Thomas, Williams, and Olsen (1982) to assess self-management effectiveness in four areas of life: work, social, health, and leisure. Each of the areas is assessed by a 10-item

subscale; the remaining items are social desirability and filler items. Test-retest reliability coefficients ranged from .61 to .86 for the subscales, and the correlation for total self-management was .82. The compilation of normative data and statistics on internal consistency reliability is in progress at the present time, as well as attempts to establish validity of the instrument. This instrument may be found in Appendix E.

Jenkins Activity Survey

The Jenkins Activity Survey (Form C), hereafter called the JAS, is a 52-item questionnaire developed to assess the coronary-prone behavior pattern and standardized on participants in the Western Collaborative Group Study (Jenkins, Zyzanski, and Rosenman, 1979). The JAS contains four scales: the Type A scale, the Speed and Impatience scale, the Job Involvement scale, and the Hard-driving and Competitive scale. Only the Type A scale was used in this study.

Test-retest reliability coefficients for the Type A scale have ranged from .64 to .76. Internal consistency reliability coefficients for the scale have ranged from .83 to .85 (Jenkins et al., 1979). Form N of the JAS was used for unemployed individuals (e.g., housewives, retirees), as Form C is suitable only for employed persons. Because the JAS is copyrighted, this instrument is not included in the Appendix.

Hassles Scale

The Hassles Scale (Kanner et al., 1981) consists of a list of 117 irritating, frustrating demands of daily life. The first version of the scale was used in a study of Kaiser Permanente patients, who were encouraged to suggest additional hassles they had experienced; their suggestions were incorporated in the next version. Three summary scores are calculated: (1) frequency, the number of hassles experienced; (2) severity, the sum of severity ratings for all hassles; and (3) intensity, the cumulated severity divided by frequency (an index of how strongly the average hassle was experienced). Because the correlations between frequency and severity were extremely high, Kanner and his associates performed subsequent analyses only for frequency and intensity scores. Test-retest reliability for frequency was .79 and for intensity was .48. This questionnaire may be found in Appendix F.

Social Support Questionnaire

The Social Support Questionnaire (SSQ) was developed by Sarason, Levine, Basham, and Sarason (1983) and yields scores for perceived number of social supports available to an individual and for satisfaction with that support. The SSQ has satisfactory stability over a four-week period of time and high internal consistency among items. A copy of the SSQ appears in Appendix G.

Exercise of Self-care Agency Scale

The Exercise of Self-Care Agency Scale is a 43-item instrument which assesses the individual's power to engage in health self-care actions. Indicators of a person's exercise of self-care agency are self-responsibility; motivation to care for self; application of knowledge to self-care; valuing of health priorities; and a high level of self-esteem. This instrument was found to be reliable with both the test-retest and split-half methods, and there is preliminary evidence of content and construct validity (Kearney and Fleischer, 1979). A copy of this instrument may be found in Appendix H.

Demographic Survey

A demographic survey was developed by the researcher to obtain information such as marital status, educational level, occupation, income, days ill during the past year, number of hospitalizations, and other data. A copy of the survey appears in Appendix I.

Operational Definitions

Hassles frequency was operationalized as the subject's frequency score on the Hassles Scale developed by Kanner and associates (1981).

Hassles intensity was operationalized as the subject's intensity score on the Hassles Scale (Kanner et al., 1981).

Health habits was operationalized by computing an index of health practices in the manner of Wiley and Camacho (1980). The score was calculated by dichotomizing each of the five key health practice items (smoking, drinking, leisure-time physical activity, sleep, weight) and assigning one point for each on which the subject fell in the positive half of the dichotomy. Wiley and Camacho have demonstrated that equal weighting of these items is empirically tenable and that each characteristic makes a significant contribution to the prediction of health scores. The necessary information to calculate the health habits score was obtained from items in the Health Habits subscale of the Medical History Questionnaire, Form A, used in Rand's Health Insurance Study (Brook et al., 1979) and from the demographic survey prepared by the researcher.

Health locus of control was operationalized as the subject's scores on each of the three dimensions of Wallston and Wallston's Multidimensional Health Locus of Control Scale (1978).

Health status was operationalized as the subject's score on the Current Health subscale of Ware's Health Perceptions Questionnaire (Form II), developed in 1976.

Self-care agency was operationalized as the subject's score on the Exercise of Self-care Agency Scale developed by Kearney and Fleischer (1979).

Self-management effectiveness was operationalized as the subject's Total Self-Management score and his/her scores on the four subscales of the Tennessee Self-Description Form (Thomas, Williams, and Olsen, 1982).

Social support was operationalized as the subject's scores on the two dimensions of Sarason's (1983) Social Support Questionnaire, perceived number of social supports and satisfaction with that support.

Type A/B pattern was operationalized as the subject's score on the Type A scale of the Jenkins Activity Survey (Jenkins et al., 1979).

Analysis

Initial Examination of Data

Univariate descriptive statistics for all variables were examined for skewness. Health status was negatively skewed (mean 33.6, median 38, mode 41), because there were more persons in the sample in good health than in poor health. Skewed distributions of physical health measures are frequently reported in the literature (e.g., Brook et al., 1979), and a similar pattern was observed during the first phase of this investigation. Income was also negatively skewed, and exhibited extreme variability. Other variables which were negatively skewed included internal locus of control and powerful others locus of control.

Two variables evidenced positive skewness: hassles frequency (mean 27.1, median 20, mode 17); and Type A pattern (mean 1.16, median 0.6, mode -7.2). Considerable variability was evident for these factors. The remaining variables were fairly normally distributed.

Classification of Subjects

Scales of the Jenkins Activity Survey were constructed to have a mean of 0 and a standard deviation of 10. Scores greater than 0 indicate Type A tendencies, while scores less than 0 suggest Type B propensities. Thus, several researchers have dichotomized subjects with a simple median split. However, MacDougall, Dembrowski, and Musante (1979) assert that JAS behavior pattern classification is more valid when ± 0.5 standard deviation is employed rather than the median split. Therefore, participants in the present study were classified as follows:

1. Subjects whose Type A scale scores were greater than +5 were considered to be Type A (n=37).
2. Subjects whose Type A scale scores were less than -5 were considered to be Type B (n=29).
3. Subjects scoring between -5 and +5 were considered to be Type X, (i.e., possessing a mixture of Type A and B characteristics). There were 32 individuals in this group.

Statistical Procedures

Statistical analysis of the data was performed using a variety of Statistical Analysis System (SAS) computer programs. Several procedures were used to generate descriptive statistics. To test the hypotheses, t tests for independent samples were used. Because in several instances the two groups being compared were not of equal size, the F' (folded F statistic) was inspected to ascertain equality of the two variances. In cases in which the variances of the two groups were unequal, the t test under the assumption of unequal variances was computed. An alpha level of .05 was selected as the criterion of statistical significance for the study.

CHAPTER IV

RESULTS AND DISCUSSION

Study findings are presented in three sections. The first section presents descriptive data for the sample as a whole. The second section contains comparisons of Type A and Type B subjects, including results of the tests of hypotheses. A final section integrates the findings of the study and presents a summary profile of Type B individuals.

Descriptive Statistics for Total Sample

Table 1 presents means, standard deviations, and minimum and maximum scores for all variables of the study except the categorical sociodemographic variables. The number of respondents varied due to missing data. All variables were roughly normally distributed with the exception of health status, income, internal locus of control, powerful others locus of control, hassles frequency, and Type A pattern.

The diversity of the sample is evident, particularly in terms of education (range 8 to 22 years); income (range \$3,000 to \$120,000); and hassles frequency (range 3-117). Type A scale scores ranged from -17.8 (3rd percentile) to 23.6 (99th percentile), with a sample mean of 1.16. Interestingly, the highest Type A scorer was a female.

TABLE 1. N, Means, Standard Deviations, and Minimum and Maximum Scores for Total Sample

Variable	<u>N</u>	<u>$\bar{X}$</u>	<u>SD</u>	<u>Min.</u>	<u>Max.</u>
Health Status	98	33.61	9.7	9	45
Education	97	14.58	2.7	8	22
Health Habits	98	3.82	1.1	1	5
Internal Locus	98	26.36	5.3	6	36
Chance Locus	98	15.55	5.0	6	27
Powerful Others Locus	98	16.79	5.1	6	29
Work Self-management	98	5.18	3.1	-4.0	13
Social Self-management	98	6.87	3.0	-1.0	13
Health Self-management	98	4.71	4.4	-5.0	17
Leisure Self-management	98	6.38	2.1	1.5	12.5
Total Self-management	98	23.05	8.4	-2.5	46.5
Social Support-N	86	3.18	1.7	0.37	8.74
Social Support-S	85	4.96	0.9	2.52	6.89
Self-care Agency	98	122.24	17.7	62.0	169.0
Hassles Frequency	97	27.08	23.8	3	117.0
Hassles Intensity	97	1.47	0.4	1	2.41
Type A Pattern	98	1.16	9.4	-17.8	23.6
Income	88	37384.10	19276.70	3000.00	120,000

Note: Education is reported in number of years. Income is annual household income, not individual income of subject.

Comparisons of Type A and Type B Subjects

Subjects were classified as Type A, Type B, or Type X as described in the previous chapter. Type As and Bs were then compared on a number of demographic, attitudinal, behavioral, and health-related dimensions; Type X subjects were not included in these analyses. Interestingly, Type X subjects exhibited more similarities to Type As than to Type Bs; this finding suggests caution regarding pooling Type X subjects with Type Bs, as is frequently reported in the literature (e.g., Chesney et al., 1981).

Education

In the Western Collaborative Group Study, Type A scores were positively associated with level of education (Jenkins et al., 1979); other researchers have reported similar findings. In this study, the difference in educational levels between Type A and B subjects was negligible. Mean number of years of education for Type As was 15.0, as compared to a mean of 14.3 for Type Bs. There was greater variability among Type As (range 8 to 22 years) than among Bs (range 11 to 19 years).

Income

The Type A group had a slightly higher mean annual income (\$38,845) than the Type B group (\$35,720), but greater variability was again observed for Type A subjects. The lowest income for a

Type A subject was \$4,000, and the highest was \$120,000. In contrast, the range for Type Bs was less extreme (from \$8500 to \$75,000).

Other Sociodemographic Characteristics

Table 2 presents percentage distributions of the remaining sociodemographic variables for Type A and Type B subjects. The Type A group had a balanced distribution of males and females, but there were slightly more females in the Type B group. A majority of subjects in both groups were married. A greater percentage of Type As were divorced or separated, however. Although the greatest percentage of subjects in both groups were employed full-time, more Type Bs than Type As were unemployed.

Interestingly, Type B subjects were less likely to be involved in church activities than Type As. However, the majority of individuals in both groups professed belief in a higher power.

Type As were more likely to be involved in managerial and technical positions than Type Bs. Type Bs were more likely to be in government service and homemaking roles. There were no clear indications that Type As were in more stressful positions; in fact, an equal percentage of Type As and Type Bs were involved in sales work and teaching (K-12), two occupations which are generally viewed as quite stressful.

TABLE 2. Percentage Distribution of Sociodemographic Variables
for Type A and Type B Subjects

Variable	Type A %	Type B %
Gender		
Males	48.6	41.4
Females	51.4	58.6
Marital Status		
Never married	5.4	6.9
Married	83.8	82.8
Divorced/separated	10.8	3.4
Widowed	0	6.9
Employment Status		
Not employed	13.5	27.6
Employed full-time	70.3	62.1
Employed part-time	16.2	10.3
Religious involvement		
No belief in higher power	5.4	3.4
Belief, no church activity	8.1	27.6
Belief, some church activity	32.4	20.7
Belief, regular church activity	54.1	48.3
Occupation		
Professional practice	8.1	6.9
Owner of business	2.7	3.4
Clerical	2.7	3.4
Academic position, college	5.4	0
Academic position, K-12	10.8	10.3
Human service	2.7	3.4
Sales	13.5	13.8
Technical/engineering	13.5	6.9
Management, planning	16.2	0
Finance, banking	5.4	6.9

TABLE 2. (Continued)

Variable	<u>Type A</u> %	<u>Type B</u> %
Government service	2.7	10.3
Homemaking	5.4	17.2
Construction	2.7	0
Equipment repair, servicing	2.7	3.4
Transportation	0	3.4
Factory, production	2.7	0
Labor	0	6.9
Retired	2.7	3.4

Health Status

Type A and B subjects differed on virtually all health status dimensions scrutinized in the study. First, results of tests of the three health-related hypotheses will be presented.

1. The first hypothesis predicted that Type B subjects would have better general health status than Type A subjects. The health status mean for Type B subjects at 1984 testing was 36.3, compared to a mean of 31.6 for Type A subjects. Comparison of the two means resulted in a statistically significant difference ($t = 2.09$, $p < .04$). Therefore, hypothesis one was supported. Since scores were also available on the subjects for phase one testing in 1982, the comparison was repeated, with essentially the same results. The difference in 1982 means was significant at the .01 level ($t = 2.51$).

2. The second hypothesis predicted that Type B subjects would report fewer days ill during the past year than Type A subjects. Mean number of sick days for the Type B subjects was 2.52, in contrast to 18.37 for Type As. This difference was significant ($t = -2.07$, $p < .04$), providing support for hypothesis two.

3. The third hypothesis predicted that Type B subjects would report fewer visits to physicians during the past year than Type A subjects. Type Bs averaged 1.62 doctor visits, as compared to 4.83 visits by Type As. The difference between groups was statistically significant ($t = -2.10$, $p < .04$).

Table 3 presents means and standard deviations for Type A and Type B subjects for several other health measures. Type B subjects were noted to have fewer hospitalizations and fewer surgical procedures during the past year, and they took fewer prescription medications than Type As. There was little difference between groups in utilization of over-the-counter drugs or health habits, although Type Bs had slightly better habits.

Table 3. Means and Standard Deviations for Type A and B Subjects on Selected Health Measures

Variable	Type A		Type B	
	$\bar{X}$	SD	$\bar{X}$	SD
Number of hospitalizations	0.57	1.41	0.03	0.19
Number of surgical procedures	0.38	0.55	0.11	0.42
Number of prescription drugs	1.47	2.52	0.63	0.88
Number of non-prescription drugs	1.36	1.22	1.41	1.08
Number of positive health habits	3.70	0.97	3.86	1.19

Note: The range of possible scores for health habits is 0-5. Scores were computed in the manner of Wiley and Camacho (1980).

Type A and B subjects differed in both type and number of health problems. Diagnostic classifications appear in Table 4. Less morbidity was evident in the Type B group, and the most prevalent disorders for Type B individuals were musculoskeletal/collagen (e.g., arthritis). Consistent with previous studies, Type As reported a higher incidence of cardiovascular disease.

TABLE 4. Diagnostic Classifications of Type A and B Subjects

Category	Type A %	Type B %
Allergies	16.7	17.7
Cancer	8.3	11.8
Cardiovascular	27.8	11.8
Dermatologic	0	11.8
Gastrointestinal	2.8	5.8
Gynecologic	2.8	0
Musculoskeletal/collagen	19.4	35.3
Neurologic	5.5	0
Nutritional, metabolic	2.8	0
Otorhinolaryngology	5.5	0
Psychiatric	2.8	0
Pulmonary	2.8	5.8
Renal, urologic	2.8	0

Note: Disorders were classified according to Merck disease classifications. Subjects with multiple diagnoses were listed in each applicable category.

Locus of Control

Table 5 presents mean health locus of control scores for Type A and B subjects. The internal locus of control mean was greater for Type Bs, suggesting that these individuals are more likely to believe that good health is directly the result of their own behavior, not controlled by powerful others (doctors, nurses, family) or randomly determined by luck or chance. A t test confirmed that this difference was statistically significant ($t = 1.97$, $p < .05$). The importance of locus of control beliefs has been demonstrated in previous studies; internal locus of control was the strongest predictor of good health in the regression analysis performed during Phase I of the mid-life study conducted by Thomas (1983).

Table 5. Mean Scores for Locus of Control Variables

Variable	<u>Type A</u>		<u>Type B</u>	
	<u>$\bar{X}$</u>	<u>SD</u>	<u>$\bar{X}$</u>	<u>SD</u>
Internal Locus of Control	25.7	5.6	28.1	3.9
Chance Locus of Control	15.6	5.6	16.2	4.4
Powerful Others Locus of Control	17.6	5.5	16.1	4.4

Cognitive Characteristics

Responses to several items from the Exercise of Self-care Agency Scale and the Hassles Scale were scrutinized to explore differences in cognitive characteristics of Type As and Type Bs. The first contrast of interest results from analysis of responses to item 24 on the Hassles Scale, "Concerned about the meaning of life." It was noted that nearly one-third of Type A individuals reported this as a source of stress during the past month. In comparison, only one Type B subject reported this concern.

Jung (1954) was one of the first to document that mid-life was a time of psychological upheaval, particularly for people who were materially successful but found their lives meaningless and empty. He came to consider meaninglessness equivalent to illness. Similarly, Frankl pointed out, "Ever more people today have the means to live, but no meaning to live for" (Frankl, 1978, p. 21).

A related item was "Life is a joy" (item 31 on the ESCA Scale). The response continuum for this scale is from 4, "very characteristic" to 0, "very uncharacteristic." The modal response to this item for both Type As and Bs was option 3, "somewhat characteristic." However, only 30% of Type As endorsed the stronger response option which would indicate that it was "very characteristic" of them to view life as a joyous experience; in contrast, 45% of Type Bs selected this response. Further, 14% of

Type As said that viewing life as a joy was "somewhat uncharacteristic" or "very uncharacteristic" for them; no Type Bs selected these options.

Another interesting comparison involved responses to item 43 on the ESCA Scale, "I understand myself and my needs pretty well." All Type B subjects selected either response option 4 (52%) or option 3 (48%) for this item. Type A percentages for these responses were lower (46% for option 4, 43% for option 3), and 11% of these individuals selected response options toward the negative end of the continuum.

Although these findings pertain to only a segment of the Type A group, they are consistent with the work of Price (1982) and Jenkins (1975) which has been previously cited. At least some Type A individuals appear to be less insightful regarding their own needs and their sense of purpose in life than Type Bs. Further research is needed in this area.

Self-care Agency

There was little difference between mean scores of Type A and Type B subjects on the Exercise of Self-care Agency Scale. There was more variability within the Type A group, with scores ranging from 62 to 155, than within the B group (range 88-150). There was a gender-related difference in scores on this scale, with males scoring lower, on the average, than females.

Self-management Effectiveness

Mean scores for each of the subscales of the Tennessee Self-Description Form and for total self-management are presented in Table 6. There was little difference between Type A and Type B individuals in mean scores on total self-management, but Type As and Bs differed in subscale scores in three areas. Type Bs did not score as high on work self-management, but scored higher on social self-management and health self-management. Because some items from the work subscale emphasize goal attainment and meeting deadlines, it is not surprising that hard-driving, clock-watching Type A individuals score higher on this self-management dimension. However, achievement in the work arena may be exacting costs in interpersonal and health arenas.

Table 6. Mean Scores for Self-Management Effectiveness

<u>Variable</u>	<u>Type A</u>		<u>Type B</u>	
	<u>$\bar{X}$</u>	<u>SD</u>	<u>$\bar{X}$</u>	<u>SD</u>
Work Self-management	5.59	3.1	4.93	3.2
Social Self-management	6.79	3.1	7.48	2.8
Health self-management	4.03	4.1	5.17	4.1
Leisure self-management	6.34	2.3	6.33	1.8
Total self-management	22.74	9.3	23.93	8.0

Daily Hassles

It was hypothesized that Type B subjects would report less stress due to daily hassles than Type A subjects (hypothesis four). When mean scores of the two groups on hassles frequency were compared, the difference was statistically different (Type A mean 33.3, Type B mean 16.2, $t = -3.21$, $p < .002$). This finding suggests that Type Bs are simply less perturbed about the minor irritants and frustrations of daily living than Type As, because surely they encounter their share of traffic jams, broken shoelaces, and household maintenance problems. Further, examination of individual item responses from the Hassles Scale revealed that Type Bs were less likely than Type As to feel pressured about having "too many things to do" (item 79 on the scale). Almost half of Type As (49%) reported feeling stressed by this, compared to only 14% of Type Bs. Whether Type As actually have more to do, having overextended themselves, or just perceive that they have too much to do, warrants further empirical investigation.

Further, Type Bs were less likely to report feeling stressed by job dissatisfaction than Type As (item 33 on the Hassles Scale), and less likely to report trouble relaxing (item 25). These findings are consistent with the literature proposing that Type Bs have a more mellow, relaxed style of approaching the demands of daily living. Although they encounter many of the same environmental pressures, they seem to respond to them differently.

Major Life Changes

Although subjects in Phase II were not given a questionnaire to assess stress in terms of major life changes, the last item on the Hassles Scale invited them to write in such changes which had taken place in their lives. Examination of this data revealed that 54% of Type A individuals had experienced a major life change since Phase I testing took place. Examples included miscarriage, death of relative, prolonged illness and/or surgery, career switch or change in job responsibilities, adult child moving back home, illness of relative, marriage, and marital separation. Scrutiny of the Type B group revealed that 41% of these subjects had also experienced a major stressor. Changes reported by Type Bs included job layoff, divorce, decline in income, change in supervisors, altered health status, illness of relative, death of spouse, and "fight with city hall concerning rezoning."

These findings are consistent with the literature on major change in middle adulthood (e.g., Levinson, 1978; Sheehy, 1976; Stevenson, 1977). For some of these individuals, mid-life crisis could have precipitated the changes; for others, the changes may have produced a crisis. It was interesting to discover that a sizable number of Type Bs had encountered a major stressor, since they had significantly better health on all measures of the study. In view of the correlation between major life change and illness, it would seem that an equivalent number of Type As and Bs would have become ill. Obviously, intervening variables were salient.

Social Support

Because Type Bs are reported to be less hostile and aggressive than Type As, it was hypothesized that they would possess a more satisfying social support network (hypothesis five). The Social Support Questionnaire yields two scores: Social Support-N, for perceived number of social supports available to an individual, and Social Support-S, for satisfaction with this support. There was no difference between Type As and Bs in number of social supports (mean 3 for both groups), nor was there any significant difference in satisfaction scores (Type A mean 4.87, Type B mean 5.10).

Although there is no immediate explanation for the lack of support for hypothesis five, several problems related to the measurement of social support must be addressed. Many subjects indicated that the instrument was tedious to complete, and others declined to complete it. All of the initial administrations of the SSQ by its developers (Sarason et al., 1983) involved undergraduate students who were presumably a captive audience, and/or fulfilling a course requirement for research participation. The present investigator's experience suggests caution in adoption of the SSQ for other populations. Both Social Support-N scores and Social Support-S scores for this mid-life sample were lower than those reported by the developers of the instrument, but it is unclear whether this is an actual difference or an artifact.

Gender Differences

When descriptive data were examined for the total sample, there were minimal gender differences for the variables of the study. The Type A pattern mean was slightly higher for males (1.96) than for females (0.67), however.

Some interesting patterns emerged when Type As and Type Bs were compared within gender groupings. This comparison showed that Type A males had the poorest health of all subjects, the most days ill, the most physician visits, the lowest internal locus of control scores, the lowest social self-management scores, the lowest health self-management scores, the lowest leisure self-management scores, the lowest total self-management scores, the lowest social support-N scores, the lowest self-care agency scores, and the highest hassles frequency scores. Type A males do manage their work well, but it appears that they sacrifice more, in terms of non-work aspects of life (social, health, leisure), with their hard-driving, competitive approach.

The pattern of scores for Type A women was generally more similar to Type A men than to other women. Type A women manage their health better than Type A men, however. Clearly, Type B men and women displayed a more optimal pattern of scores across the variables known to be facilitative of health. These comparisons are presented in Table 7.

TABLE 7. Mean Scores on Selected Variables for Type A and Type B Subjects Within Gender Groupings

Variable	Males		Females	
	Type A	Type B	Type A	Type B
Health Status	30.50	37.83	32.74	35.18
Days ill	27.29	1.92	9.94	2.94
Dr. visits	6.39	0.67	3.28	2.29
Internal locus	24.94	28.42	26.42	27.88
Work self-mgmt.	6.05	6.17	5.16	4.06
Social self-mgmt.	6.17	7.92	7.37	7.18
Health self-mgmt.	3.45	4.58	4.58	5.59
Leisure self-mgmt.	5.89	6.33	6.76	6.32
Total self-mgmt.	21.56	25.08	23.87	23.12
Social support-N	2.23	2.80	3.67	3.13
Social support-S	5.08	5.18	4.69	5.04
Self-care agency	117.39	120.90	123.50	124.40
Hassles frequency	39.33	17.90	27.63	15.12

Summary of Findings

In this section, the findings of the study are summarized and integrated to develop a profile of the Type B personality pattern. Results of the present investigation are related to the findings of other researchers where possible.

Type B individuals in middle adulthood tend to be married, employed full-time in a variety of occupations, and satisfied with their work. They profess belief in a higher power, but are not as likely to be involved in church activities as Type As. Type Bs are more inclined to view life as a joy and express fewer concerns about the meaning of life than Type As. They understand themselves and their needs and espouse an internal locus of control. Type Bs experience less stress due to the frustrating events of daily life than Type As. They are less likely to feel pressured by too many things to do.

The study revealed many positive health benefits for Type B individuals, including better general health status, fewer days ill, fewer visits to physicians, fewer hospitalizations, fewer surgical procedures, and fewer prescription medications. Both male and female Type Bs exhibited similar scoring patterns. Type A males had the worst health of all groups, and Type A females tended to resemble their male counterparts more than they did Type B women.

Virginia Price (1982) has proposed that the Type A problem be examined within the framework of social learning theory, a framework which includes cognitions, behaviors, and acknowledgment of the environment. Her analysis of the Type A pattern places much emphasis on the irrational core beliefs and fears of these individuals, which may be learned in early life.

Results of this study suggest that Type Bs hold more rational beliefs; they appear to have greater certainty about who they are and what they are trying to accomplish. Further, Type Bs seem to be more inwardly-oriented than outwardly-oriented; they are not as responsive to environmental challenges and demands as are Type As. The low Hassles Scale scores indicate that they simply ignore most minor frustrations of daily life. Even when they encounter major life changes, they apparently cope more adaptively. Kobasa (1979) found that persons with high stress and low illness rates were "hardier" than persons with equivalent stress but high rates of illness; hardiness included commitment to self, an attitude of vigorousness, a sense of meaningfulness, and an internal locus of control. The emerging picture of Type B is similar to Kobasa's concept of hardiness. Similarities are also evident between Type B and the self-controlled personality type described by Bayer and associates (1981). One of the most provocative findings of that study was that a calm, responsible, and self-controlled personality was conducive to good health.

Although there is abundant literature documenting the relative immunity of Type Bs to cardiovascular disease, general health status of Type Bs has not been investigated previously. The present study indicates that Type Bs tend to have less morbidity of other types as well as less CHD. Results from another recent study add to the evidence regarding health advantages of Type B pattern. Type As reported more medical and psychological symptoms on a health history questionnaire given along with the JAS and other instruments to 294 white, middle-class adults by Carmody, Hollis, Matarazzo, Fey, and Connor (1984).

Noting the paucity of research on the relationship of Type A/B pattern to mental health, Furnham (1983) investigated this association. He found that Type A individuals had significantly higher mental distress scores than Type Bs. Given their greater responsivity to environmental stresses and their difficulty in relaxing, this finding is not surprising. Type Bs thus appear to have mental health advantages also.

The prevalent assumption that Type As are better educated and more successful than Type Bs was not borne out in the present study. Type B individuals averaged 14.3 years of education, as compared to 15 for Type As, a negligible difference. Although fewer Type Bs held managerial positions, many were employed in high status occupations and earned good incomes. Further, Type Bs were more satisfied with their jobs.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This study provides a modest beginning in appraisal of the Type B personality and its characteristics. Although a vast body of research focuses on its pathological opposite, the Type A pattern, investigators have failed to illuminate what attitudes and behaviors should be encouraged in coronary-prone clients. Antonovsky (1979) argues for studying health instead of disease, for adopting a salutogenic rather than pathogenic approach. Smith (1983) has noted the narrowness of most conceptualizations of health (i.e., emphasizing only absence of disease, fulfillment of social roles, or adaptation to changing life circumstances). A broader model, which parallels the philosophy of the researcher, is the eudaimonistic model first articulated by Plato and Aristotle and more recently by Abraham Maslow and leaders of the holistic health/wellness movement. In this model, health is described as "exuberant well-being", with an ideal of "complete development of the individual's potential" (Smith, 1983).

Implications for Nursing Interventions

Rather than simply teaching Type A individuals relaxation technique, nurses and other health professionals must attempt to alter their faulty cognitions. The goal of nursing intervention with coronary-prone clients or with recovering cardiac patients

must be to assist them to reexamine the external contingencies toward which their efforts have been directed and to redirect their energies toward interior contemplation on the meaning of their lives. A dramatic event such as a myocardial infarction provides the client sufficient impetus for change. The profile of the Type B personality developed in this study furnishes a healthy alternative toward which to strive.

The nurse who undertakes health counseling and teaching must believe that health attitudes and behaviors are learned and therefore amenable to change if appropriate external and/or self-reinforcers are applied. An intervention program suggested by the present study is internality training. Wallston and Wallston (1978) have recommended that health educators involve themselves in training patients to adopt more internal locus of control beliefs. Arakelian (1980) asserted that the potential for altering an individual's locus orientation always exists because new experiences can be introduced that alter previous patterns of success/failure. She reviewed three modalities for promoting internality: (1) reconstrual of stimuli (e.g., assisting clients to view a health problem as a challenge rather than as a burden or punishment; (2) an action-oriented approach (e.g., teaching a client how to formulate goals and develop behavioral strategies); and (3) a counseling approach (e.g., challenging externally oriented verbalizations and rewarding internally oriented ones).

Shillinger (1983) has provided excellent examples of incorporating the construct of locus of control into the nursing process.

Another aspect of nursing intervention programs must be prevention. It is disturbing to note that children as young as kindergarten age can be successfully classified as Type A or Type B by their teachers (Matthews, 1978). This finding warrants attention to parent education programs; parents must become aware of what they are modeling for their children and what performance standards they are setting (i.e., straight As, top athletic records, finishing tasks with great speed).

Price (1982) points out that meaningful change in Type A behavior also requires altering events that are antecedent to physiological arousal. Many stressful events encountered by Type As are recurrent, predictable, and self-induced. These events can be reduced in frequency through careful assessment and planning for change.

Nurses and other health professionals embarking on preventive endeavors should be aware that individuals who have no symptoms of discomfort at the moment are difficult to motivate toward life-style changes. Consequences seem remote when one is obtaining considerable reinforcement in the short-term from behaviors such as polyphasing and trouncing the competition to win the contract. Simply imparting factual knowledge is insufficient to facilitate change.

Implications for Future Research

Although the sample for the present study was a diverse one, it was relatively small. Replication with a larger sample is recommended. Reassessment of subjects at other points in the life-cycle would also be helpful. Up to this point, health habits and attitudes of participants in the mid-life health study have remained rather stable from Phase I testing in 1982 to Phase II testing in 1984. As the longitudinal study proceeds, it will be important to clarify the effects of periodic fluctuations in stress level, social support, and other alterations in status.

Another area for future investigation would involve subjects in age cohorts other than middle adulthood. Although some of the findings of this study might be presumed to have generalizability beyond the mid-life group, further research is necessary to validate this assumption.

Collection of qualitative data obtained through personal interviews would advance our understanding of Type A and B cognitions and values. Since few researchers have tested Price's model, it would be beneficial to health professionals to have empirical evidence regarding the core Type A beliefs. Comparison of American subjects with subjects from other cultures would permit delineation of those aspects of Type A and B attitudes which are culturally inculcated and perpetuated.

LIST OF REFERENCES

LIST OF REFERENCES

- Antonovsky, A. (1979). Health, stress, and coping. San Francisco: Jossey-Bass.
- Arakelian, M. (1980). An assessment and nursing application of the concept of locus of control. Advances in Nursing Science, 3, 25-42.
- Barefoot, J. C., Dahlstrom, W. G., and Williams, R. B. Jr. (1983). Hostility, CHD incidence, and total mortality: A 25-year follow-up study of 255 physicians. Psychosomatic Medicine, 45, 59-63.
- Bayer, L., Whissell-Buechy, and Honzik, M. P. (1981). Health in the middle years. In D. Eichorn, J. Clausen, N. Haan, M. Honzik, and P. Mussen (Eds.), Present and Past in Middle Life. New York: Academic Press.
- Belloc, N. B., and Breslow, L. (1972). Relationship of physical health status and health practices. Preventive Medicine, 1, 409-421.
- Blumenthal, J. A., McKee, D. C., Williams, R. B. Jr., and Haney, T. (1981). Assessment of conceptual tempo in the Type A (coronary prone) behavior pattern. Journal of Personality Assessment, 45, 44-51.
- Breslow, L., and Enstrom, J. E. (1980). Persistence of health habits and their relationship to mortality. Preventive Medicine, 9, 469-483.
- Brook, R. H., Ware, J. E. Jr., Davies-Avery, A., Stewart, A. L., Donald, C. A., Rogers, W. H., Williams, K. N., and Johnston, S. A. (1979). Overview of adult health status measures fielded in Rand's Health Insurance Study. Medical Care, 17 (7), Supplement, 1-131.
- Burnam, M. A., Pennebaker, J. W., and Glass, D. C. (1975). Time consciousness, achievement striving, and the Type A coronary-prone pattern. Journal of Abnormal Psychology, 84, 76-79.
- Carmody, T., Hollis, J., Matarazzo, J., Fey, S., and Connor, W. (1984). Type A behavior, attentional style, and symptom reporting among adult men and women. Health Psychology, 3, 45-61.

- Chesney, M. A., Black, G. W., Chadwick, J. H., and Rosenman, R. H. (1981). Psychological correlates of the Type A behavior pattern. Journal of Behavioral Medicine, 4, 217-229.
- DeGregorio, E., and Carver, C. S. (1980). Type A behavior pattern, sex role orientation, and psychological adjustment. Journal of Personality and Social Psychology, 39, 286-293.
- Depner, C. (1981, August). Exploring competing explanations of role-related differences in health. Paper presented at the meeting of the American Psychological Association, Los Angeles.
- Frankl, V. (1978). The Unheard Cry for Meaning: Psychotherapy and Humanism. New York: Simon and Schuster.
- Franks, P., and Boisseau, V. (1980). Educational status and health. The Journal of Family Practice, 10, 1029-1034.
- Friedman, M., and Rosenman, R. H. (1959). Association of specific overt behavior pattern with blood and cardiovascular findings. Journal of the American Medical Association, 169, 1286-1296.
- Furnham, A. (1983). The Type A behaviour pattern, mental health, and health locus of control beliefs. Social Science and Medicine, 17, 1569-1572.
- Glass, D. C. (1977). Stress, behavior patterns, and coronary disease. American Scientist, 65, 177-187.
- Haynes, S., and Feinleib, M. (1980). Women, work and coronary heart disease: Prospective findings from the Framingham Heart Study. American Journal of Public Health, 70, 133-141.
- Holmes, T. H., and Rahe, R. H. (1967). The Social Readjustment Rating Scale. Journal of Psychosomatic Research, 11, 213-218.
- Humphries, C., Carver, C. S., and Neumann, P. G. (1983). Cognitive characteristics of the Type A coronary-prone behavior pattern. Journal of Personality and Social Psychology, 44, 177-187.

- Hunt, S. M., McKenna, S. P., McEwen, J., Backett, E. M., Williams, J., and Papp, E. (1980). A quantitative approach to perceived health status: A validation study. Journal of Epidemiology and Community Health, 34, 281-286.
- Jenkins, C. D., Zyzanski, S. J., and Rosenman, R. H. (1979) Jenkins Activity Survey Manual. New York: The Psychological Corporation.
- Jenkins, C. D. (1975). The coronary-prone personality. In W. D. Gentry and R. B. Williams Jr. (Eds.), Psychological Aspects of Myocardial Infarction and Coronary Care. St. Louis: C. V. Mosby.
- Johnston, S. A., and Ware, J. E. Jr. (1976). Income group differences in relationships among survey measures of physical and mental health. Health Services Research, 11, 416-429.
- Joseph, L. S. (1980). Self-care and the nursing process. Nursing Clinics of North America, 15, 131-143.
- Jung, C. G. (1954). The Development of Personality. Collected Works, Vol. 17. New York: Pantheon Books.
- Kanner, A., Coyne, J., Schaefer, C., and Lazarus, R. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. Journal of Behavioral Medicine, 4, 1-39.
- Kaplan, B. H., Cassel, J. C., and Gore, S. (1977). Social support and health. Medical Care, 15 (5), Supplement, 47-58.
- Kearney, B., and Fleischer, B. (1979). Development of an instrument to measure exercise of self-care agency. Research in Nursing and Health, 2, 25-34.
- Kenigsberg, D., Zyzanski, S. J., Jenkins, C. D., Wardwell, W. I., and Licciardello, A. T. (1974). The coronary-prone behavior pattern in hospitalized patients with and without coronary heart disease. Psychosomatic Medicine, 36, 344-351.
- Kirscht, J. P. (1971). Social and psychological problems of surveys on health and illness. Social Science and Medicine, 5, 519-526.

- Kobasa, S. C. (1979). Stressful life events, personality and health: An inquiry into hardiness. Journal of Personality and Social Psychology, 37, 1-11.
- Langone, M. (1979). Assertiveness and Lewinsohn's theory of depression: An empirical test. The Behavior Therapist, 2, 21.
- Leigh, J. P. (1982). Education, occupational status, and illness. Work and Occupations, 9, 441-456.
- Levenson, H. (1974). Activism and powerful others: Distinctions within the concept of internal-external control. Journal of Personality Assessment, 38, 381-382.
- Levinson, D. J. (1978). The Seasons of a Man's Life. New York: Ballentine Books.
- MacDougall, J. M., Dembroski, T. M., and Krantz, D. S. (1981). Effects of type of challenge on pressor and heart rate responses in Type A and Type B women. Psychophysiology, 18, 1-9.
- MacDougall, J. M., Dembroski, T. M., and Musante, L. (1979). The structured interview and questionnaire methods of assessing coronary prone behavior in male and female college students. Journal of Behavioral Medicine, 2, 71-83.
- Manuck, S. B., Craft, S., and Gold, K. J. (1978). Coronary-prone behavior pattern and cardiovascular response. Psychophysiology, 15, 403-411.
- Martini, C. J., and McDowell, I. (1976). Health status: Patient and physician judgments. Health Services Research, 11, 508-515.
- Matthews, K. A. (1978). Assessment and developmental antecedents of Pattern A behavior in children. In T. M. Dembroski, S. M. Weiss, J. L. Shields, S. G. Haynes, and M. Feinleib (Eds.), Coronary-prone Behavior. New York: Springer-Verlag.
- Newlin, D. B., and Levenson, R. W. (1982). Cardiovascular responses of individuals with Type A behavior pattern and parental coronary heart disease. Journal of Psychosomatic Research, 26, 393-402.

- Nuckolls, K. B., Cassel, J., and Kaplan, B. H. (1972). Psychosocial assets, life crisis and the prognosis of pregnancy. American Journal of Epidemiology, 95, 431-441.
- Orem, D. E. (1971). Nursing: Concepts of Practice. New York: McGraw-Hill.
- Pittner, M. S., and Houston, B. K. (1980). Response to stress, cognitive coping strategies, and the Type A behavior pattern. Journal of Personality and Social Psychology, 39, 147-157.
- Pittner, M. S., Houston, B. K., and Spiridigliozzi, G. (1983) Control over stress, Type A behavior pattern, and response to stress. Journal of Personality and Social Psychology, 44, 627-637.
- Pratt, L. (1971). The relationship of socioeconomic status to health. American Journal of Public Health, 61, 281-291.
- Price, V. A. (1982). Type A behavior pattern: A model for research and practice. New York: Academic Press.
- Razin, A. M. (1982). Psychosocial intervention in coronary artery disease: A review. Psychosomatic Medicine, 44, 363-387.
- Rosenman, R. H., and Friedman, M. (1974). Neurogenic factors in pathogenesis of coronary heart disease. Medical Clinics of North America, 58, 269-279.
- Rosenman, R. H., Brand, R. J., Jenkins, C. D., Friedman, M., Straus, R., and Wurm, M. (1975). Coronary heart disease in the Western Collaborative Group Study: Final followup experience of 8 1/2 years. Journal of the American Medical Association, 233, 872-877.
- Rosenman, R. H., and Friedman, M. (1977). Modifying Type A behavior pattern. Journal of Psychosomatic Research, 21, 323-331.
- Rotter, J. B. (1954). Social Learning and Clinical Psychology. Englewood Cliffs, N. J.: Prentice-Hall.
- Rowland, K. F., and Sokol, B. (1977). A review of research examining the coronary-prone behavior pattern. Journal of Human Stress, 3, 26-33.

- Sarason, I., Levine, H., Basham, R., and Sarason, B. (1983). Assessing social support: The Social Support Questionnaire. Journal of Personality and Social Psychology, 44, 127-139.
- Sheehy, G. (1976). Passages: Predictable Crises of Adult Life. New York: Dutton.
- Shekelle, R. B., Schoenberger, J. A., and Stamler, J. (1976). Correlates of the JAS Type A behavior pattern score. Journal of Chronic Diseases, 29, 381-394.
- Shillinger, F. (1983). Locus of control: Implications for clinical nursing practice. Image: The Journal of Nursing Scholarship, 15, 58-63.
- Siegel, J. M., and Leitch, C. J. (1981). Assessment of the Type A behavior pattern in adolescents. Psychosomatic Medicine, 43, 45-56.
- Smith, J. A. (1983). The Idea of Health: Implications for the Nursing Professional. New York: Teachers College Press.
- Stevens, M. J., Pfost, K. S., and Ackerman, M. D. (1984). Sex-role orientation and Type A behavior pattern: A test of the main effect hypothesis. Behavioral Medicine Update, 6, 8.
- Stevenson, J. S. (1977). Issues and Crises During Middlescence. New York: Appleton-Century-Crofts.
- Strickland, B. R. (1978). Internal-external expectancies and health-related behaviors. Journal of Consulting and Clinical Psychology, 46, 1192-1211.
- Suinn, R. M. (1982). Intervention with Type A behaviors. Journal of Consulting and Clinical Psychology, 50, 933-949.
- Thomas, S. P. (1983). The relationship between selected psychological, environmental, and behavioral variables and health status of Americans in middle adulthood. Unpublished doctoral dissertation, University of Tennessee, Knoxville.
- Thomas, S. P., Williams, R., and Olsen, D. (1982, March). The development of a naturalistic self-management inventory. Paper presented at the meeting of the American Educational Research Association, New York.

- Van Egeren, L. F. (1979). Social interactions, communications, and the coronary-prone behavior pattern: A psychophysiological study. Psychosomatic Medicine, 41, 2-17.
- Van Egeren, L. F., Fabrega, H. Jr., and Thornton, D. W. (1983). Electrocardiographic effects of social stress on coronary-prone (Type A) individuals. Psychosomatic Medicine, 45, 195-203.
- Van Egeren, L.F., Sniderman, L. D., and Roggelin, M. S. (1982). Competitive two-person interactions of Type A and Type B individuals. Journal of Behavioral Medicine, 5, 55-66.
- Waldron, I. (1978). The coronary-prone behavior pattern, blood pressure, employment, and socioeconomic status in women. Journal of Psychosomatic Research, 22, 79-87.
- Wallston, B. S., and Wallston, K. A. (1978). Locus of control and health: A review of the literature. Health Education Monographs, 6, 106-117.
- Wallston, K. A., Wallston, B. S., and DeVellis, R. (1978). Development of the Multidimensional Health Locus of Control (MHLC) Scales. Health Education Monographs, 6, 160-170.
- Wallston, K. A., and Wallston, B. S. (1981). Health locus of control scales. In H. Lefcourt (Ed.), Research with the Locus of Control Construct (Vol.1). New York: Academic Press.
- Ware, J. E. Jr. (1976). Scales for measuring general health perceptions. Health Services Research, 11, 396-415.
- Weidner, G., and Matthews, K. A. (1978). Reported physical symptoms elicited by unpredictable events and the Type A coronary-prone behavior pattern. Journal of Personality and Social Psychology, 36, 1213-1220.
- Wiley, J. A., and Camacho, T. C. (1980). Life-style and future health: Evidence from the Alameda County Study. Preventive Medicine, 9, 1-21.
- Williams, R. B. Jr., Haney, T. L., Lee, K. L., Kong, Y., Blumenthal, J. A., and Whalen, R. E. (1980). Type A behavior, hostility, and coronary atherosclerosis. Psychosomatic Medicine, 42, 539-549.

- Williams, R. B. Jr., Lane, J. D., Kuhn, C., Melosh, W., White, A., and Schanberg, S. M. (1982). Type A behavior and elevated physiological and neuroendocrine responses to cognitive tasks. Science, 218, 483-485.
- Williams, R. L., and Long, J. D. (1983). Toward a Self-Managed Life Style. Boston: Houghton Mifflin, 1983.
- Youngren, M. A., and Lewinsohn, P. M. (1978, April). Depression and problematic interpersonal behavior. Paper presented at the meeting of the Western Psychological Association, San Francisco.
- Zarski, J. J. (1984). Hassles and health: A replication. Health Psychology, 3, 243-251.
- Zyzanski, S. J. (1978). Coronary-prone behavior pattern and coronary heart disease: Epidemiological evidence. In T. M. Dembroski, S. M. Weiss, J. L. Shields, S. G. Haynes, and M. Feinleib (Eds.), Coronary-Prone Behavior. New York: Springer-Verlag.

APPENDICES

APPENDIX A

The University of Tennessee, Knoxville

College of Nursing
1200 Volunteer Boulevard
Knoxville, Tennessee 37996-4110
Telephone (615) 974-4151

Dear Health Study Participant:

We have completed analysis of all of the data collected for our study of health in middle adulthood, in which you participated by filling out some questionnaires at _____ last year. We have some very interesting findings about the most important factors affecting your health which we will share with you soon.

The purpose of this letter is to invite you to participate in the second phase of this research project. By remaining involved in the project, you will receive more complete and better information on additional factors affecting your health.

If you agree to take part in this phase of the research, you will receive a packet of questionnaires by mail. Completion of these surveys will take about an hour. You will be provided an envelope with postage for return mail to us. Your name will not be required on any of the forms, only an assigned identification number. The new questionnaires deal with factors which we did not assess in the first phase of the project. We will also ask a few questions about your current health status.

If you are willing to continue involvement in our research effort, please return the enclosed postcard by October 1st. You will receive the results of your tests by mail as soon as scoring is completed, as well as the overall study results at a later time. If you have questions, you may contact us at the address above.

Thank you for your valuable contributions to our project. We believe some of the most exciting research in the country is being conducted here at the University of Tennessee presently.

Sincerely,

Sandra P. Thomas, Ph.D., R.N.
Assistant Professor

APPENDIX B

PARTICIPANT CONSENT FORM

I understand that the purpose of this study is to learn more about health and life-style factors of Americans in middle adulthood, and that my participation involves completion of a packet of questionnaires.

I understand that all responses will be held in confidence by the researchers, with code numbers instead of names identifying the completed questionnaires.

I understand that feedback on my personal results and/or the results of the study will be available from the researcher if desired.

I understand that my participation in this study is entirely voluntary, and that I may withdraw from participation at any time and/or refuse to answer specific questions without incurring any penalty.

I understand that I may contact the researchers at any time if I have further questions about the project or about my participation in it.

Signature _____

Date _____

APPENDIX C

I.D. No. _____

Rand Scale

Please read each of the following statements, and then circle one of the numbers on each line to indicate whether the statement is true or false for you.

There are no right or wrong answers.

- If a statement is definitely true for you, circle 5.
- If it is mostly true for you, circle 4.
- If you don't know whether it is true or false, circle 3.
- If it is mostly false for you, circle 2.
- If it is definitely false for you, circle 1.

Some of the statements may look or seem like others, but each statement is different, and should be rated by itself.

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
A. According to the doctors I've seen, my health is now excellent.	5	4	3	2	1
B. I feel better now than I ever have before.	5	4	3	2	1
C. I am somewhat ill.	5	4	3	2	1
D. I'm not as healthy now as I used to be.	5	4	3	2	1
E. I'm as healthy as anybody I know.	5	4	3	2	1
F. My health is excellent.	5	4	3	2	1
G. I have been feeling bad lately.	5	4	3	2	1
H. Doctors say that I am now in poor health.	5	4	3	2	1
I. I feel about as good now as I ever have.	5	4	3	2	1

Circle your answers to each of the following items:

- | | | |
|---------------------------------------|-----|----|
| 1. Do you smoke cigars or a pipe now? | YES | NO |
| 2. Do you smoke cigarettes now? | YES | NO |

3. During the past 12 months, about how often did you drink beer, wine or liquor?
(Circle one)

Every Day.1
Almost every day2
3 or 4 days a week3
1 or 2 days a week4
1,2, or 3 days a month5
Less than once a month,
but more than 3 times a year6
1, 2, or 3 times a year.7
Haven't had a drink in past 12 months. . .8

4. When you drink beer, about how much do you usually drink in a day? (Circle one)

6 quarts or more (18 glasses, bottles or cans). . . 1
4-5 quarts (12-15 glasses, bottles, or cans). . . 2
2-3 quarts (6-9 glasses, bottles, or cans). . . 3
1 quart (about 3 glasses, bottles, or cans) . . . 4
2 glasses, bottles or cans.5
1 glass, bottle, or can (or less)6
Do not drink beer at all.7

5. When you drink wine, about how much do you usually drink in a day? (Circle one)

3 or more bottles1
2 bottles.2
About 1 bottle (6-7 wine glasses).3
5-6 wine glasses (3 water glasses)4
3-4 wine glasses (2 water glasses)5
1-2 wine glasses (1 water glass).6
Do not drink wine at all.7

6. When you drink hard liquor, about how much do you drink in a day? (Circle one)

More than 1 quart or fifth1
About 1 quart or fifth.2
More that 1 pint but less than 1 quart.3
About 1 pint.4
11-15 ounces or shots5
7-10 ounces or shots.6
4-6 ounces or shots7
1-3 ounces or shots8
Do not drink hard liquor at all9

7. In their recreation or leisure activities, some people spend a lot of time in strenuous activity -- like jogging or running, playing handball or tennis, vigorous swimming, climbing, hiking, or doing heavy work around the house. (Circle one)

About how many hours do you spend in an average week in strenuous leisure time activities like these?

None, don't do strenuous activity.1
1 hour or less2
2 to 3 hours a week.3
4 to 5 hours a week.4
6 to 10 hours a week5
More than 10 hours a week.6

8. Then there are leisure activities that require a medium or moderate amount of physical activity -- like dancing, playing golf, gardening, or working with home tools. About how many hours do you spend in an average week, in medium or moderate leisure time activities like these? (Circle one)

None, don't do medium activity.	1
2 hours or less	2
3 to 5 hours a week	3
6 to 10 hours a week.	4
11 to 15 hours a week	5
More than 15 hours a week	6

9. In an average 24 hour period, about how many hours do you sleep? (Circle one)

6 hours or less.	.1
7 hours.	.2
8 hours.	.3
9 hours or more.	.4

APPENDIX D

I.D. No. _____

MHLC

This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. If I get sick, it is my own behavior which determines how soon I get well again.	1	2	3	4	5	6
2. No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
3. Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6
4. Most things that affect my health happen to me by accident.	1	2	3	4	5	6
5. Whenever I don't feel well, I should consult a medically trained professional.	1	2	3	4	5	6
6. I am in control of my health.	1	2	3	4	5	6
7. My family has a lot to do with my becoming sick or staying healthy.	1	2	3	4	5	6
8. When I get sick I am to blame.	1	2	3	4	5	6
9. Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
10. Health professionals control my health.	1	2	3	4	5	6
11. My good health is largely a matter of good fortune.	1	2	3	4	5	6

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
12. The main thing which affects my health is what I myself do.	1	2	3	4	5	6
13. If I take care of myself, I can avoid illness.	1	2	3	4	5	6
14. When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
15. No matter what I do, I'm likely to get sick.	1	2	3	4	5	6
16. If it's meant to be, I will stay healthy.	1	2	3	4	5	6
17. If I take the right actions, I can stay healthy.	1	2	3	4	5	6
18. Regarding my health, I can only do what my doctor tells me to do.	1	2	3	4	5	6

APPENDIX E

ID NO. _____

Self-Description Form A

This form lists many different personal and professional behaviors of adults. Using the following scale, circle the number that most closely describes how often you exhibit each behavior:

- | | |
|------------------|--|
| Never (0) | - Under no circumstances do you ever engage in the behavior. |
| Rarely (1) | - You engage in the behavior a few times a year. |
| Periodically (2) | - You engage in the behavior a few times a month. |
| Regularly (3) | - You engage in the behavior several times a week. |
| Frequently (4) | - You engage in the behavior several times a day. |

BEHAVIOR	LEVEL OF PARTICIPATION				
	NEVER	Rarely (few times a year)	Periodically (few times a month)	Regularly (several times a week)	Frequently (several times a day)
1. Drinking coffee	0	1	2	3	4
2. Filing work materials	0	1	2	3	4
3. Rambling in conversation	0	1	2	3	4
4. Flossing my teeth	0	1	2	3	4
5. Creating art objects	0	1	2	3	4
6. Over-extending myself in work commitments	0	1	2	3	4
7. Keeping my word	0	1	2	3	4
8. Using hard drugs	0	1	2	3	4
9. Attending art and cultural exhibits	0	1	2	3	4
10. Donating to all good causes	0	1	2	3	4
11. Attaining work goals	0	1	2	3	4
12. Criticizing others behind their back	0	1	2	3	4
13. Getting adequate rest at night	0	1	2	3	4
14. Playing a musical instru- ment	0	1	2	3	4

BEHAVIOR	LEVEL OF PARTICIPATION				
	Never	Rarely (few times a year)	Periodically (few times a month)	Regularly (several times a week)	Frequently (several times a day)
15. Aiding stranded motorists on the interstate	0	1	2	3	4
16. Jumping from one task to another	0	1	2	3	4
17. Initiating conversation	0	1	2	3	4
18. Eating excessively	0	1	2	3	4
19. Attending concerts	0	1	2	3	4
20. Completing work assignments on time	0	1	2	3	4
21. Interrupting others during conversation	0	1	2	3	4
22. Participating in vigorous physical activity	0	1	2	3	4
23. Writing creatively (e.g., poetry, short stories)	0	1	2	3	4
24. Eating only nutritious food	0	1	2	3	4
25. Putting off unpleasant, but necessary, tasks	0	1	2	3	4
26. Listening closely to others comments	0	1	2	3	4
27. Smoking cigarettes	0	1	2	3	4
28. Reading leisurely (e.g., poetry, fiction, magazines)	0	1	2	3	4
29. Helping anyone needing help	0	1	2	3	4
30. Setting work goals	0	1	2	3	4
31. Dominating conversation	0	1	2	3	4
32. Drinking water	0	1	2	3	4
33. Gardening/working in the yard	0	1	2	3	4

BEHAVIOR	LEVEL OF PARTICIPATION				
	Never	Rarely (few times a year)	Periodically (few times a month)	Regularly (several times a week)	Frequently (several times a day)
34. Losing work related materials	0	1	2	3	4
35. Encouraging others	0	1	2	3	4
36. Eating junk food	0	1	2	3	4
37. Engaging in outdoor nature activities	0	1	2	3	4
38. Exercising more than twice a day	0	1	2	3	4
39. Reading course/professionally related materials	0	1	2	3	4
40. Reprimanding others	0	1	2	3	4
41. Doing stretching exercises	0	1	2	3	4
42. Engaging in a hobby not otherwise listed in this questionnaire	0	1	2	3	4
43. Stopping a mugging	0	1	2	3	4
44. Failing to meet deadlines	0	1	2	3	4
45. Showing affection toward others	0	1	2	3	4
46. Gulping meals	0	1	2	3	4
47. Dancing	0	1	2	3	4

APPENDIX F

HASSLES SCALE

Directions: Hassles are irritants than can range from minor annoyances to fairly major pressures, problems, or difficulties. They can occur few or many times.

Listed in the center of the following pages are a number of ways in which a person can feel hassled. First, circle the hassles that have happened to you in the past month. Then look at the numbers on the right of the items you circled. Indicate by circling a 1, 2, or 3 how SEVERE each of the circled hassles has been for you in the past month. If a hassle did not occur in the last month do NOT circle it.

HASSLES

SEVERITY

1. Somewhat severe
2. Moderately severe
3. Extremely severe

(1) Misplacing or losing things.....	1	2	3
(2) Troublesome neighbors.....	1	2	3
(3) Social obligations.....	1	2	3
(4) Inconsiderate smokers.....	1	2	3
(5) Troubling thoughts about your future.....	1	2	3
(6) Thoughts about death.....	1	2	3
(7) Health of a family member.....	1	2	3
(8) Not enough money for clothing.....	1	2	3
(9) Not enough money for housing.....	1	2	3
(10) Concerns about owing money.....	1	2	3
(11) Concerns about getting credit.....	1	2	3

HASSLES**SEVERITY**

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(12)	Concerns about money for emergencies.....	1	2	3
(13)	Someone owes you money.....	1	2	3
(14)	Financial responsibility for someone who doesn't live with you.....	1	2	3
(15)	Cutting down on electricity, water, etc.....	1	2	3
(16)	Smoking too much.....	1	2	3
(17)	Use of alcohol.....	1	2	3
(18)	Personal use of drugs.....	1	2	3
(19)	Too many responsibilities.....	1	2	3
(20)	Decisions about having children.....	1	2	3
(21)	Non-family members living in your house.....	1	2	3
(22)	Care for pet.....	1	2	3
(23)	Planning meals.....	1	2	3
(24)	Concerned about the meaning of life.....	1	2	3
(25)	Trouble relaxing.....	1	2	3
(26)	Trouble making decisions.....	1	2	3
(27)	Problems getting along with fellow workers.....	1	2	3
(28)	Customers or clients give you a hard time.....	1	2	3
(29)	Home maintenance (inside).....	1	2	3
(30)	Concerns about job security.....	1	2	3
(31)	Concerns about retirement.....	1	2	3

HASSLES**SEVERITY**

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(32)	Laid-off or out of work.....	1	2	3
(33)	Don't like current work duties.....	1	2	3
(34)	Don't like fellow workers.....	1	2	3
(35)	Not enough money for basic necessities.....	1	2	3
(36)	Not enough money for food.....	1	2	3
(37)	Too many interruptions.....	1	2	3
(38)	Unexpected company.....	1	2	3
(39)	Too much time on hands.....	1	2	3
(40)	Having to wait.....	1	2	3
(41)	Concerns about accidents.....	1	2	3
(42)	Being lonely.....	1	2	3
(43)	Not enough money for health care.....	1	2	3
(44)	Fear of confrontation.....	1	2	3
(45)	Financial security.....	1	2	3
(46)	Silly practical mistakes.....	1	2	3
(47)	Inability to express yourself.....	1	2	3
(48)	Physical illness.....	1	2	3
(49)	Side effects of medication.....	1	2	3
(50)	Concerns about medical treatment.....	1	2	3
(51)	Physical appearance.....	1	2	3
(52)	Fear of rejection.....	1	2	3

HASSLES**SEVERITY**

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(53)	Difficulties with getting pregnant.....	1	2	3
(54)	Sexual problems that result from physical problems.....	1	2	3
(55)	Sexual problems other than those resulting from physical problems.....	1	2	3
(56)	Concerns about health in general.....	1	2	3
(57)	Not seeing enough people.....	1	2	3
(58)	Friends or relatives too far away.....	1	2	3
(59)	Preparing meals.....	1	2	3
(60)	Wasting time.....	1	2	3
(61)	Auto maintenance.....	1	2	3
(62)	Filling out forms.....	1	2	3
(63)	Neighborhood deterioration.....	1	2	3
(64)	Financing children's education.....	1	2	3
(65)	Problems with employees.....	1	2	3
(66)	Problems on job due to being a woman or a man.....	1	2	3
(67)	Declining physical abilities.....	1	2	3
(68)	Being exploited.....	1	2	3
(69)	Concerns about bodily functions.....	1	2	3
(70)	Rising prices of common goods.....	1	2	3
(71)	Not getting enough rest.....	1	2	3

HASSLES

SEVERITY

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(72)	Not getting enough sleep.....	1	2	3
(73)	Problems with aging parents.....	1	2	3
(74)	Problems with your children.....	1	2	3
(75)	Problems with persons younger than yourself.....	1	2	3
(76)	Problems with your lover.....	1	2	3
(77)	Difficulties seeing or hearing.....	1	2	3
(78)	Overloaded with family responsibilities.....	1	2	3
(79)	Too many things to do.....	1	2	3
(80)	Unchallenging work.....	1	2	3
(81)	Concerns about meeting high standards.....	1	2	3
(82)	Financial dealings with friends or acquaintances..	1	2	3
(83)	Job dissatisfactions.....	1	2	3
(84)	Worries about decisions to change jobs.....	1	2	3
(85)	Trouble with reading, writing, or spelling abilities.....	1	2	3
(86)	Too many meetings.....	1	2	3
(87)	Problems with divorce or separation.....	1	2	3
(88)	Trouble with arithmetic skills.....	1	2	3
(89)	Gossip.....	1	2	3
(90)	Legal problems.....	1	2	3
(91)	Concerns about weight.....	1	2	3

HASSLES

SEVERITY

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(92) Not enough time to do the things you need to do...	1	2	3
(93) Television.....	1	2	3
(94) Not enough personal energy.....	1	2	3
(95) Concerns about inner conflicts.....	1	2	3
(96) Feel conflicted over what to do.....	1	2	3
(97) Regrets over past decisions.....	1	2	3
(98) Menstrual (period) problems.....	1	2	3
(99) The weather.....	1	2	3
(100) Nightmares.....	1	2	3
(101) Concerns about getting ahead.....	1	2	3
(102) Hassles from boss or supervisor.....	1	2	3
(103) Difficulties with friends.....	1	2	3
(104) Not enough time for family.....	1	2	3
(105) Transportation problems.....	1	2	3
(106) Not enough money for transportation.....	1	2	3
(107) Not enough money for entertainment and recreation.....	1	2	3
(108) Shopping.....	1	2	3
(109) Prejudice and discrimination.....	1	2	3
(110) Property, investments or taxes.....	1	2	3
(111) Not enough time for entertainment and recreation.....	1	2	3

HASSLES**SEVERITY**

1. Somewhat Severe
2. Moderately Severe
3. Extremely Severe

(112) Yardwork or outside home maintenance.....	1	2	3
(113) Concerns about news events.....	1	2	3
(114) Noise.....	1	2	3
(115) Crime.....	1	2	3
(116) Traffic.....	1	2	3
(117) Pollution.....	1	2	3

HAVE WE MISSED ANY OF YOUR HASSLES? IF SO, WRITE
THEM IN BELOW:

(118) _____	1	2	3
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ONE MORE THING: HAS THERE BEEN A CHANGE IN YOUR
LIFE THAT AFFECTED HOW YOU ANSWERED THIS SCALE?

IF SO, TELL US WHAT IS WAS:

APPENDIX G

I.D.# _____

SOCIAL SUPPORT QUESTIONNAIRE

INSTRUCTIONS

The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the person's initials and their relationship to you (see example). Do not list more than one person next to each of the letters beneath the question. For the second part, circle how satisfied you are with the overall support you have. If you have no support for a question, check the words "No one," but still rate your level of satisfaction. Do not list more than nine persons per question. Please answer all questions as best you can. All your responses will be kept confidential.

EXAMPLE

Ex) Who do you know whom you can trust with information that could get you in trouble?

_____ No one	1) T.N. (brother)	4) T.N. (father)	7)
	2) L.M. (friend)	5) L.M. (employer)	8)
	3) R.S. (friend)	6)	9)

How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

1. Whom can you really count on to listen to you when you need to talk?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

2. How satisfied?

6-very 5-fairly 4-a little 3-a little 2-fairly 1-very
 satisfied satisfied satisfied dissatisfied dissatisfied dissatisfied

3. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

4. How satisfied?

6-very 5-fairly 4-a little 3-a little 2-fairly 1-very
 satisfied satisfied satisfied dissatisfied dissatisfied dissatisfied

5. Whose lives do you feel that you are an important part of?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

6. How satisfied?

6-very 5-fairly 4-a little 3-a little 2-fairly 1-very
 satisfied satisfied satisfied dissatisfied dissatisfied dissatisfied

7. Whom do you feel would help you if you were married and had just separated from your spouse?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

8. How satisfied?

6-very 5-fairly 4-a little 3-a little 2-fairly 1-very
 satisfied satisfied satisfied dissatisfied dissatisfied dissatisfied

9. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

10. How satisfied?

6-very 5-fairly 4-a little 3-a little 2-fairly 1-very
 satisfied satisfied satisfied dissatisfied dissatisfied dissatisfied

11. Whom can you talk with frankly, without having to watch what you say?

____ No one 1) 4) 7)
 2) 5) 8)
 3) 6) 9)

12. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

13. Who helps you feel that you truly have something positive to contribute to others?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

14. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

15. Whom can you really count on to distract you from your worries when you feel under stress?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

16. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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17. Whom can you really count on to be dependable when you need help?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

18. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

19. Whom could you really count on to help you out if you had just been fired from your job or expelled from school?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

20. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

21. With whom can you totally be yourself?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

22. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

23. Whom do you feel really appreciates you as a person?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

24. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

25. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

26. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

27. Whom can you count on to listen openly and uncritically to your innermost feelings?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

28. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

29. Who will comfort you when you need it by holding you in their arms?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

30. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

31. Whom do you feel would help if a good friend of yours had been in a car accident and was hospitalized in serious condition?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

32. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

33. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

34. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

35. Whom do you feel would help if a family member very close to you died?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

36. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

37. Who accepts you totally, including both your worst and your best points?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

38. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
---------------------	-----------------------	-------------------------	----------------------------	--------------------------	------------------------

39. Whom can you really count on to care about you, regardless of what is happening to you?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

40. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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41. Whom can you really count on to listen to you when you are very angry at someone else?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

42. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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43. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

44. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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45. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

46. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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47. Whom do you feel truly loves you deeply?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

48. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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49. Whom can you count on to console you when you are very upset?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

50. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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51. Whom can you really count on to support you in major decisions you make?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

52. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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53. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?

_____ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

54. How satisfied?

6-very satisfied	5-fairly satisfied	4-a little satisfied	3-a little dissatisfied	2-fairly dissatisfied	1-very dissatisfied
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APPENDIX H

I.D. No. _____

ESCA Scale

This form assesses a variety of health attitudes and personal behaviors. For each item, please circle the number indicating how characteristic of you the attitude or behavior is.

	Very Characteristic	Somewhat Characteristic	No Opinion	Somewhat Uncharacteristic	Very Uncharacteristic
1. I would gladly give up some of my set ways if it meant improving my health.	4	3	2	1	0
2. I like myself.	4	3	2	1	0
3. I often feel that I lack the energy to care for my health needs the way I would like to.	4	3	2	1	0
4. I know how to get the facts I need when my health feels weakened.	4	3	2	1	0
5. I take pride in doing the things I need to do in order to remain healthy.	4	3	2	1	0
6. I tend to neglect my personal needs.	4	3	2	1	0
7. I know my strong and weak points.	4	3	2	1	0
8. I seek help when unable to care for myself.	4	3	2	1	0
9. I enjoy starting new projects.	4	3	2	1	0
10. I often put off doing things that I know would be good for me.	4	3	2	1	0
11. I usually try home remedies that have worked in the past rather than going to see a doctor or nurse for help.	4	3	2	1	0
12. I make my own decisions.	4	3	2	1	0
13. I perform certain activities to keep from getting sick.	4	3	2	1	0
14. I strive to better myself.	4	3	2	1	0
15. I eat a balanced diet.	4	3	2	1	0
16. I complain a lot about the things that bother me without doing much about them.	4	3	2	1	0
17. I look for better ways to look after my health.	4	3	2	1	0

	Very Characteristic	Somewhat Characteristic	No Opinion	Somewhat Uncharacteristic	Very Uncharacteristic
18. I expect to reach my peak wellness.	4	3	2	1	0
19. When I have a problem, I usually want an expert to tell me what to do.	4	3	2	1	0
20. I deserve all the time and care it takes to maintain my health.	4	3	2	1	0
21. I follow through on my decisions.	4	3	2	1	0
22. I have no interest in learning about my body and how it functions.	4	3	2	1	0
23. If I am not good to myself, I believe I cannot be good for anyone else.	4	3	2	1	0
24. I understand my body and how it functions.	4	3	2	1	0
25. I rarely carry out the resolutions I make concerning my health.	4	3	2	1	0
26. I am a good friend to myself.	4	3	2	1	0
27. I take good care of myself.	4	3	2	1	0
28. Health promotion is a chance thing for me.	4	3	2	1	0
29. I have a planned program for rest and exercise.	4	3	2	1	0
30. I am interested in learning about various disease processes and how they affect me.	4	3	2	1	0
31. Life is a joy.	4	3	2	1	0
32. I do not contribute to my family's functioning.	4	3	2	1	0
33. I take responsibility for my own actions.	4	3	2	1	0
34. I have little to contribute to others.	4	3	2	1	0
35. I can usually tell that I am coming down with something days before I get sick.	4	3	2	1	0
36. Over the years I have noticed the things to do that make me feel better.	4	3	2	1	0
37. I know what foods to eat and keep me healthy.	4	3	2	1	0
38. I am interested in learning all that I can about my body and the way it functions.	4	3	2	1	0

	Very Characteristic	Somewhat Characteristic	No Opinion	Somewhat Uncharacteristic	Very Uncharacteristic
39. Sometimes when I feel sick I ignore the feeling and hope it goes away.	4	3	2	1	0
40. I seek information to care for myself.	4	3	2	1	0
41. I feel I am a valuable member of my family.	4	3	2	1	0
42. I remember when I had my last health check and return on time for my next one.	4	3	2	1	0
43. I understand myself and my needs pretty well.	4	3	2	1	0

APPENDIX I

ID No. _____

Demographic Survey

The following questions are designed to give us some basic information on persons taking our survey. Please circle the number corresponding to the answer most descriptive of you, or fill in the blank. Please answer all questions. Thank you.

- A. What is your sex?
1. Female
 2. Male
- B. What is your age? _____
- C. What is your height? _____
- D. What is your weight? _____
- E. What is your marital status?
1. never married
 2. married
 3. divorced/separated
 4. widowed
- F. What is your educational level?
Circle the number of years of formal education.
1. Less than high school -
1 2 3 4 5 6 7 8 9 10 11 years
 2. High school graduate/GED -
12 years
 3. Technical/vocational school or
some college - 13 14 15 years
 4. College graduate - 16 years
 5. Graduate school (master's or
doctoral study) - 17 18 19 20
21 22 over 22 years
- G. What is your employment status?
1. not presently employed
 2. employed full-time
 3. employed part-time
- H. What is your annual household income? _____
- I. What is your occupation? _____
- J. What is your race?
1. White American, Caucasian
 2. Black American, Negro
 3. Native American, Indian
 4. Spanish Surnamed American,
Chicano, Puerto Rican
 5. Oriental American, Asian
 6. Other
- K. What is your level of religious involvement?
1. none, no belief in a higher power
 2. belief in higher power but no church involvement
 3. belief in higher power, some church involvement
 4. belief in higher power, regular church involvement
- L. Which of the following conditions do you have? (Circle all which are applicable to you)
1. Ulcers
 2. Chronic lung disease
 3. High blood pressure
 4. Heart disease
 5. Diabetes
 6. Kidney disease
 7. Arthritis
 8. Cancer
 9. Liver disease
 10. Allergies
 11. None of the above
 12. Other (please specify:) _____
- M. During the past year, how many days were you ill? (In answering this question, consider "illness" to mean a disruption in your usual physical and social functioning; i.e., you were unable to work or perform your customary activities at the usual level) _____

- N. During the past year, have you had any surgical procedures (operations)? If so, please specify: _____

- O. During the past year, have you taken any prescription medications? If so, please specify: _____

- P. During the past year, have you taken any over-the-counter (non-prescription) medications? If so, specify: _____

- Q. During the past year, how many times were you hospitalized?

- R. During the past year, how many times did you visit your physician? _____
- S. During the past year, have you followed any kind of special diet (such as low calorie, low cholesterol, low salt)? If so, what kind of diet? _____

- T. For women only:
Have you experienced the menopause (Change of life) yet?

yes _____ no _____

If your answer was yes, go on to the next question:

Please list any physical or emotional symptoms you have had while going through the menopause:

VITA

Sandra Paul Thomas was born in Moline, Illinois and received her early education in public schools in Illinois and Memphis, Tennessee. She is a graduate of St. Mary's Memorial Hospital School of Nursing and received the Bachelor's and Master's Degrees in Education from The University of Tennessee, Knoxville. In August, 1983 she earned a Ph.D. in Educational and Counseling Psychology, also from The University of Tennessee.

She has over thirteen years of experience in clinical nursing and taught Psychiatric/Mental Health Nursing at East Tennessee Baptist Hospital School of Nursing for six years. She is presently an Assistant Professor in the College of Nursing at The University of Tennessee, Knoxville, and serves as Project Director, Kellogg Grant for Graduate Education of Associate Degree Nursing Faculty.

She has authored ten publications and has made numerous presentations at local, regional, and national conventions, including the American Psychological Association, the American Educational Research Association, and Sigma Theta Tau. Her dissertation research was presented at an international Sigma Theta Tau research conference in Madrid, Spain. She is a member of the American Nurses Association and District Two, Tennessee Nurses Association, and has served as District Two President as well as serving in other elected offices and committee chairmanships.

Other professional memberships include American Psychological Association, Society of Behavioral Medicine, American Association of University Women, American Educational Research Association, and Gamma Chi Chapter of Sigma Theta Tau.

Sandra has served on the Board of Directors of the East Tennessee League for Nursing and on the Governing Board of the East Tennessee Health Improvement Council. She served on the Grant Planning Committee for a series of continuing education programs on aging and mental health funded by the National Institute of Mental Health. She is a member of the Mental Health Association of Knox County.

Honors and awards include Outstanding Dissertation Award, College of Education, 1983-84; Outstanding Doctoral Student, Department of Educational and Counseling Psychology, 1983; Jessie Harris Award for Exceptional Performance as a Graduate Student; Florence McIntyre Award for Academic Excellence; third place, Beta Sigma Phi International Short Story Contest; first place winner, American Hospital Association Assembly of Hospital Schools of Nursing Writing Contest; Nurse of the Year, District Two, Tennessee Nurses Association; and being named to Outstanding Young Women of America. Honorary societies include Alpha Lambda Delta, Phi Kappa Phi, Kappa Delta Pi, Pi Lambda Theta and Sigma Theta Tau. Sandra was the recipient of a National Institute of Education Fellowship and a Hilton Smith Fellowship during her doctoral program.