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Burden in spousal caregivers: A correlational study of the effect and interaction of stressors, vulnerability, psychological resources and social supports on the development of burden in spousal caregivers of the chronically ill

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Crossen-Powell, Sheila Marie, Ed.D.

The College of William and Mary, 1993

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BURDEN IN SPOUSAL CAREGIVERS:
A CORRELATIONAL STUDY OF THE EFFECT AND INTERACTION OF STRESSORS, VULNERABILITY, PSYCHOLOGICAL RESOURCES AND SOCIAL SUPPORTS ON THE DEVELOPMENT OF BURDEN IN SPOUSAL CAREGIVERS OF THE CHRONICALLY ILL

A Dissertation
Presented to the
Faculty of the School of Education
The College of William and Mary

In Partial Fulfillment
of the Requirement for the Degree of
Doctor of Education

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by
Sheila Marie Crossen-Powell
April, 1993

BURDEN IN SPOUSAL CAREGIVERS:
A Correlational Study of the Effect and Interaction of Stressors, Vulnerability, Psychological Resources, and Social Supports on the Development of Burden in Spousal Caregivers of the Chronically Ill

by

Sheila Marie Crossen-Powell

Approved April 1993 by

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Chair of Doctoral Committee

Fred [illegible] Adair
Fred Adair, Ph.D.

George Bass
George Bass, Ph.D.

This study is dedicated to
the three men in my life,
without whose love and support,
I could not have finished this paper,
and who have taught me more than school
ever could:
Dwight Baden Powell,
who holds my heart;
Dr. Richard William Crossen,
the best daddy ever;
and
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who deigns to love me.

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BURDEN IN SPOUSAL CAREGIVERS:
A Correlational Study of the Effect and Interaction of Stressors, Vulnerability, Psychological Resources and Social Supports on the Development of Burden in Spousal Caregivers of the Chronically Ill

ABSTRACT

This study investigated burden in a convenience, nonrandom sample of 120 spousal caregivers of cardiac patients, who resided at home in the Richmond, VA area, had health insurance, and received medical care from private providers. Using Vitaliano's theory that burden is a function of stressors and personal vulnerability moderated by psychological resources and social supports, the study investigated the relationships between those five constructs.

Burden was measured by the Brief Symptom Inventory, which examined psychological symptoms, and Montgomery's Scales of Objective and Subjective Burden, which measured objective and subjective burden respectively. The Hassles and Uplifts Scales was used to measure stressors; demographic data and the Self control, Responsibility, Socialization, Psychological Mindedness, Tolerance, Flexibility, Self acceptance, and Achievement via conformance scales of the CPI, to measure personal vulnerability; the Ways of Coping Questionnaire, psychological resources; Vaux's SS-B, the availability of social supports; and ORIENT, the willingness to utilize social supports.

Caregiver burden was investigated due to concerns reported in the medical, psychological, and social work literature. Professionals working with the population argued that caregivers needed to be helped to cope with their caregiving responsibilities in order to keep the system of home and family caregiving from disintegrating. No concrete plan for providing assistance could be made, however, since little understanding existed of how burden developed.

Four research hypotheses based on Vitaliano's theory were investigated. Although the data conclusively appeared to support only one, i.e., that low vulnerability scores would have positive correlations with high scores on social support, they did appear to support a multicausal explanation for the development of burden. Variables within each of the constructs were found to have practical and statistical significance in correlation with the burden variables. Significant relationships appeared to exist between the three burden measures and certain variables: the appraised severity of the stressors; age, education, and income; the personality traits of responsibility, self-acceptance, flexibility, self control and psychological mindedness, as measured by those CPI scales; the use of escape/avoidance and/or planful problem solving as coping styles; the availability of social supports; and the willingness to use those supports. It also appeared that personal vulnerability had a significant relationship with how stressed individuals used their social supports. The data also suggested that the three types of burden were affected in different ways by the variables. One unexpected finding was that frequency of hassles had a weak, but significant, negative relationship with burden. Despite that finding, it was concluded that the biopsychosocial model offered a valid explanation

for the development of burden.

Further study is needed to determine if the same relationships between variables apply to caregivers of spouses with other chronic illnesses, who reside in nursing or adult homes, who receive their treatment at public facilities, or who have no insurance. In addition, other studies are needed to investigate the differences between male and female burden responses, and if burden development in persons with low income is affected differently by the variables than burden development in the middle class.

BURDEN IN SPOUSAL CAREGIVERS:

A Correlational Study of the Effect and Interaction of Stressors, Vulnerability, Psychological Resources, and Social Supports on the Development of Burden in Spousal Caregivers of the Chronically Ill

Chapter 1

Introduction

Statement of the Problem.

What were the effects of and interactions between stressors, vulnerability, psychological resources, and social supports in the development of burden in spousal caregivers of the chronically ill?

Justification for the Study.

Within the last twenty five years, there has been a growing awareness that "health" has psychological, behavioral, and social, as well as physiological dimensions, and that how one copes with stress impacts on all four levels (Folkman & Lazarus, 1980; Matheny et al, 1986). The research has suggested that chronically sustained, high levels of stress could have a major, negative impact on the human organism. It could generate anxiety, the affective side of stress, which could become self-destructive, and which could pave the way for diseases and problems associated with unsuccessful coping mechanisms (Mathey, et al, 1986; Lopez-Ibor, 1987).

One of the populations in which the problems related to stress were observed was the caregivers of the chronically ill. Doctors had begun to label the caretakers of these groups as "hidden patients," and to warn that caretakers, when they did not care for themselves, faced "increased caretaker morbidity." Unfortunately, however, doctors working with such caregivers frequently found that the caregivers ignored their own physical and mental needs, and blamed themselves if they were unable to cope. As a result, caregivers faced the possibility of weakened immune systems and increased disease risks, which, the evidence suggested, were produced by stress and anxiety (Woller, 1987).

Physical disorders affecting caregivers ran the gamut from direct physical responses to the caregiving, i.e., pulled muscles and back injuries, to the aggravation of existing conditions, i.e., hypertension and arthritis, to heart disease. The most common psychological disorders were depression and anxiety, which usually were caused by overwhelming responsibilities and the emotional loss of the ill person, and by the caretaker's fears about his/her own future. Studies also suggested that caretakers were two to three times more likely to use psychotropic drugs (George & Gwyther, 1986). In addition, the researchers recognized that the issues of loss, if not dealt with, could precipitate "emotional firestorms," (Wabreck, 1986), which might result in higher percentages of

divorce among the chronically ill and their caregivers (Strong, 1988).

And these problems were not insignificant: by 1987, there were 2.2 million caregivers in the U.S., providing assistance to roughly 6.6 million people (Engel, May, 1987). They provided housing and care for a substantial segment of the population, and their own needs highlighted a potential problem for our society as a whole: If caregivers are not cared for themselves, and are not helped to cope with the stressors placed upon them, they will not be able to do as good a job, and the entire system of caring for the chronically ill may break apart (Woller, 1987).

It has been difficult to answer the question of what can be done to best care for caretakers, however, because there has been no clear understanding of how a sense of burden/distress associated with caregiving developed. Although, within the last twenty years, researchers (Nuckolls et al, 1972; Cassell, 1976; Cobb & Kasl, 1987; Eaton, 1978; Gore, 1978; House & Wells, 1978; Berkman & Syme, 1979; Blazer, 1982; Norbech & Tilden, 1983) noted the ability of social support to buffer the impact of stress on health, many of these studies had methodological limitations (LaRocco, House, & French, 1980; Berkman, 1985) and their findings were inconsistent (Lin et al, 1979; Berkman, 1985). The general consensus was that the deleterious effects of psychosocial stress on health might be lessened or even be eliminated by the presence of social support, while remaining strong for individuals with little or no support (LaRocco, House & French, 1980).

Syme (1984) suggested that socio-cultural support was only one of several elements necessary in understanding illness. He maintained that research needed to consider psychological and behavioral dimensions as well as the biological and the social components of stress related illness. As a result, unicausal explanations vied with multicausal ones, despite the realization that single causes might have multiple effects, and multiple causes might result in a single effect (Warnes & Blustein, 1987). Different personality types were suggested to be more susceptible to disease (Gentry, 1984), and different coping styles were suggested as more effective in combating the negative results of stress (Headey & Wearing, 1988; Witmer, 1986).

Lydeard and Jones (1989) suggested that physical, social, personality and coping factors might play a contributory and/or necessary role in causing and reducing stress related illness. Moreover, they proposed that additional research:

> into the factors involved in successful adjustment to stress could lead to better ways of identifying vulnerable patients, of knowing when the stresses of everyday life are likely to cause health problems, and most importantly, how we can usefully intervene to attempt to forestall their damaging effects (p. 313).

This current study examined a multicausal explanation for the development of burden. If burden existed, the reaction to stressors, the caregiver's personal vulnerability, his/her coping ability and style, plus the social supports available, and the caregiver's willingness to utilize these supports, all were examined. The aim of this examination was an increase in information regarding how burden developed, and how different variables contributed to or hindered that development.

Theoretical Rationale

This study was based on the work of Peter Vitaliano (1989), who developed a "multivariate risk profile", which combined stressful events, individual vulnerability, and social and psychological resources, and which allowed the simultaneous examination of each of these four variables in order to isolate the relative contribution of each to distress. Simply put, Vitaliano proposed that:

$$\text{burden or biobehavioral distress} = \frac{\text{exposure to stressors + vulnerability}}{\text{psychological resources + social resources}}.$$

Vitaliano, Mauiro, Bolton and Armsdem (1987), colleagues at the University of Washington, defined distress as a biopsychosocial response to "exposure to stressors as well as moderating factors" (p. 103), which might include the psychological concept of perceived burden, depression, and/or anxiety, as well as immune and/or cardivascular reactions. In this model, the individual might reduce his/her distress either by lessening the undesirable factors noted in the numerator, or by increasing the desirable ones in the demominator (Vitaliano, 1989). Vitaliano, Maiuro, Bolton, and Armsden (1987), however, warned that the above formula was symbolic, rather than mathematical, and that much research still was required, before any true algebraic equation could be formulated.

Despite this warning, however, Vitaliano, Mauiro, Russo, Mitchell, Carr, and Van Citters (1988) suggested that, while distress was not defined solely by the formula's variables, it was the function of an individual's vulnerablity, resources and stressors. According to the model, distress was "positively related to stressful life events and vulnerability (personality characateristics, demographic variables, and biological/health factors" (p. 313), and "negatively related to quality of social supports (perceived helpfulness and satisfaction) and specific coping strategies (problem-focused coping, seeking social supports)" (p. 313). Moreover, these authors contended that this biopsychosocial model explained "more distress variance than any variable used alone" (p. 313).

Vitaliano (1990), therefore, argued that caregiver research, which examines the relationship between physical and mental well-being and social supports, required such a theoretical base. He criticized much of the existing work on caregivers and their issues as lacking in a theoretical direction. He further suggested that the majority of the previous work had resulted in "associations," and had not succeeded in identifying specific variables which might impact the caregiver/cared for relationship. He also hypothesized that "such variables may be hidden in the dynamic processes that exist between social supports and mental and physical health" (p. 438), and that "vulnerability variables," i.e., personality and medical history, might impact forcefully on how the "stressed" individual used his/her psychological/coping and social resources.

Vitaliano (1990) believed that the variables in the denominator, psychological and social resources, might not be "the powerful correlates of distress that they appear to be in isolation" (p. 438), when vulnerability variables also were considered. He suggested that personality variables might influence the use of social resources, and thus, "the degree to which they were effective in thwarting health problems" (p. 438). Moreover, he postulated that individual coping processes might affect social supports. For example, an independent person might be less inclined to request help, or to accept it if it is offered.

Vitaliano (1989) suggested that his model offered two advantages: (1) reviews of the development of the concept of distress (Hinkle, 1974; Kahn, 1970) supported the hypothesis that vulnerability and resources were important in either confounding or modifying the relationship between stressful occurrences and distress; and (2) the requirement that vulnerability and resources be stratified improved the probability of detecting any existing relationship between the exposure to stressors and burden. He also thought that his model was useful in multidisciplinary research, since it recognized that distress could have both psychosocial and biological results, and he hypothesized that these results offered a "more systematic picture of a caregiver's burden than either set of variables alone" (pp. 270-271).

Vitaliano et al (1988) cited Deese (1972) in noting that a model's purpose is "to state the essence of something without the encumbrance of all the details that make understanding difficult. The ultimate value of any theoretical model must be judged by its conceptual clarity and methodological feasibility" (p. 325). Vitaliano's model appeared to have the former, but it did offer methodological problems: Vitaliano warned that the quality of instrumentation needed to be high and to be consistent across the variables. Moreover, due to the very nature of the model, vulnerability measurements needed to consider accurate medical information, which the individual might not possess. In addition, due to the relationship between the vulnerability and psychological resources/coping variables, there might be confounding and circularity in their measurement (Lazarus, DeLongis, Folkman & Gruen, 1985).

The purpose of this study was to investigate the development of "burden or biobehavioral distress" in married individuals, who were the caregivers of chronically ill spouses. Previous studies had examined one or two of the variables present in Vitaliano's formula, but this work explored all four, plus the construct of "burden." In doing so, it examined the impact, both positive and negative, of each factor in the development of "burden," and determined if "burden" existed, and for whom. Specifically, each variable was examined to determine its contribution to the caregiver's sense of burden, and/or its ability to ameliorate or prevent that same development.

Definition of Terms

Burden. Burden was defined as biobehavioral distress, which had somatic, psychosomatic, objective and subjective components. It included illness and injury related to the caregiving role, feelings of anxiety, irritation, and depression, phobias, difficulty sleeping, plus somatic symptoms. Objective burden was "disruptions or changes in various aspects of the caregiver's life and household because of caregiving," i.e., lack of personal time and freedom, etc. Subjective burden was the attitude held by or the emotional reactions of the caregiver toward "the caregiving experience" (Robinson, 1990, p. 790).

While it was recognized that burden could be defined either as a stressor impacting the caring person, or as an outcome "reflecting the caregiver's response to stressors and outcomes" (Miller, McFall, and Montgomery, 1991, s10), for this study, it was interpreted as an outcome variable.

Chronic Illness. For the purposes of this study, chronic illness was defined as and limited to cardiovascular disease.

Coping. Coping was defined as the cognitive and behavioral efforts made to tolerate, handle and/or reduce both external and internal demands, and the conflicts between those demands. Coping efforts served two main functions: problem focused coping which attempted to manage the person-environment relationship, which was the

source of stress; and emotion focused coping, which attempted to
regulate stressful emotions (Folkman & Lazarus, 1980).

Distress. Distress was defined as a relationship between a person and his/her environment which that person perceived as taxing and/or exceeding his/her resources, and which, therefore, endangered his/her well-being (Lazarus & Folkman, 1984).

Psychological Resources. Psychological resources were defined as the individual's cognitive and psychological styles, which included coping, attitude, and expectations, and his/her behavioral responses.

Social Support. Social support included three components: (1) social network, i.e., the structure and the sources of an individual's relationships; (2) social integration, i.e., the number, strength, "density and range of relationships available" to the individual (Gallo, 1990, p. 431); and (3) orientation, i.e., one's willingness to utilize his/her existing supports, and his/her perception of those supports (Vaux et al, 1986).

Spousal caregivers. Spousal caregivers were the husbands/wives of chronically ill patients. They lived with their spouses in the home, and assumed a role in meeting the ill spouses' normal maintenance needs, plus the needed supportive health related requirements, which did not demand professional care.

Stressors. Stressors were life events and changes; regularly occuring hassles, which included daily household chores, medical concerns, time pressures, financial worries, inner concerns, i.e., fears and loneliness; environmental factors; work difficulties; and concerns for the futrue (Lazarus, DeLongis, Folkman, & Gruen, 1985).

Vulnerability. Vulnerability was defined as the "characteristics in subject or the environment that make him/her more susceptible to stressful experiences and distress," and which included personality and demographic variables.

The Research Question

What were the effects of and interactions between stressors, vulnerability, psychological resources, and social supports in the development of burden in spousal caregivers of the chronically ill?

Research Hypotheses

There were four directional hypotheses for this study:

(1). The interaction between stressor and vulnerability variables, i.e., personality and demographic factors, would have greater effect on the development of burden than would the interaction between social supports and psychological resources.

(2). The vulnerability variables of the caregiver, i.e., personality and demographic factors, would be the determining factor in the interaction between stressors, vulnerability, psychological resources, and social support, which led to the development or alleviation of burden.

(3). Vulnerability variables, i.e., personality and demographic factors, would have greater effect on the development of burden than would psychological resource variables.

(4). Vulnerability variables, i.e., personality and demographic factors, would have a greater effect on the development of burden than social support variables would.

The operationalization of these constructs with specific measuring instruments is listed in Chapter 3, pages 70 through 88.

Sample Description and Data Gathering

The sample for this study consisted of 120 spouses, who were the caregivers of their chronically ill husbands or wives, with chronic illness operationalized as cardiovascular disease for the purposes of this study. Due to the demands made upon the subjects, and the ethical constraints upon the researcher, a non-random sample was drawn from volunteers, who were referred by private cardiologists in the Richmond, VA area.

Participants in the study were asked to answer demographic questions on race, gender, age, education and social-economic status, and to complete seven (7), self-report, paper and pencil tests. These were: The Brief Symptom Inventory; Montgomery's Measures of Objective and Subjective Burden; the Hassles and Uplifts Scale; eight scales of the California Psychological Inventory-Revised: self-acceptance, responsibility, socialization, self-control, tolerance, achievement via conformance, psychological mindedness, and flexibility; The Ways of Coping Questionnaire; Vaux's Social Support

Behaviors Scale; and Vaux's Network Orientation Scale. In order to facilitate the subjects' taking of these tests, all subjects received the test packet with tests in the following order: the demographic questions; Montgomery's Measures; the BSI; Hassles and Uplifts: WOC Questionnaire; Vaux's SS-B; and Vaux's Network Orientation Scale. The CPI-R scales was the last test in all of the packets, since it was the longest and most complicated instrument. The time and the place of the testing was arranged at the convenience of the participant, with testing time averaging slightly over one (1) hour.

Limitations of the Study

Several limitations existed for this study. First, due to the restriction of chronic illness to cardiovascular disease, caution must be used in any attempt to generalize the findings to all caregivers dealing with a different chronic illness.

Second, since only spouses participated in the study, findings about the development of burden cannot be assumed to be the same for non-spousal caregivers.

Third, although the private cardiologists, who referred subjects, serve populations with a wide ethnic, racial, and age range, they do require insurance coverage or direct payment. As a result, low SES persons were underrepresented in the study's sample.

Fourth, gender bias existed, since the great majority, 75 per cent, of the subjects were female.

A fifth limitation also was a possibility. Despite the study's design and its efforts to insure confidentiality and encourage candor, there may have been caregivers who were reluctant to answer all of the questions openly and honestly. Some respondents may have "faked good," if they were influenced by what they perceived to be societal expectations, and if they felt uncomfortable admitting negative feelings about caring for an ill spouse. In addition, Dillehay and Sandys (1990) suggested that males may be less willing to admit to burden, and that the males' answers may have reflected that unwillingness.

Chapter 2
Review of the Literature

Development of the Theory

Stress and its relationship to illness have been discussed in the medical literature since 1935 (Cannon, 1935), but from the beginning, there have been semantic difficulties regarding the word, "stress" itself. Selye (1946) and Wolff (1949), who first applied the word as scientific terminology, identified stressas a bodily function or state, not as an external factor, with Wolff (1973) defining it, "as a dynamic state within the organism; . . . not a stimulus assualt, load symbol, burden, or any aspect of the environment, internal, external, social or otherwise" (p. 43). Wolff (1953) also explained that stress was not only very complex, but interpreted very differently by each individual.

Wolff (1953) proposed that stress was "the interaction between external environment and organism, with the past experiences of the organism as a major factor' (p. v), and that strain was the change which resulted due to that interaction. When the strain became too extreme, unless the organism had great strength, a "break" resulted, with disruption of the organism. He also suggested that individuals, when confronted by noxious stimuli, which they perceived as threats, especially to personal goals and values, initiated protective responses, which might prove to be inappropriate in both kind and magnitude. These responses then could lead to danger or destruction of the individual. Wolff, as a practicing physician, however, believed that stress, as he defined it, led only to physiological disease: indeed, he hypothesized that certain stress consistently led to specific disease outcomes.

Despite Wolff's definition, however, many researchers still used the term, "stress," to refer to stimuli. In response, Cassel (1974) suggested that "stressor" be used to describe the stimuli, and "stress state" or "stress disease," the consequences of exposure to the stimuli (p. 472). He also suggested that stress was a multifactored concept, which included the physiological, the psychological, and the social. He noted that each of these factors could have either a positive or a negative effect on the host individual, and might cushion "the individual from the physiologic or psychologic consequences of exposure to the stressor" (p. 474). He, therefore, argued that certain life situations, which might normally be considered stressors, actually were idiosyncratic, and would affect each individual differently according to his/her assessment of the event, his/her personality, and his/her social and environmental supports. Cassel, consequently, contended that these variables could not be considered unidimensionally, but had to be considered in relationship to each other.

Studies (Husiani, 1982) based on Cassel's theory, however, while showing the "independent effect of these variables on distress" (p. 291), showed inconsistent evidence for the cushioning effect. Husaini questioned if this was due to methodological problems, or because Cassel's model assumed that support and stressors both were causal antecedents of distress, and failed to recognize any reciprocal ralationship between them. He also suggested that Cassel's model equated the availability of social supports and their use, an equation which Vitaliano (1990) challenged.

Cobb (1973) constructed a metatheoretical model to explain the interactions and interventions which occured when life events impacted the individual. He hypothesized that such events created "objective stress," "subjective stress," and "strain," which taken together could lead to "illness" and "illness behavior" (p. 153), although he left the "objective stress" panel of his model empty, since he viewed such stress as largely subjective. Cobb also identified "personal characteristics," i.e., psychological defenses and genetic factors, and "social situation" as control variables, which he theorized were responsible for creating "interaction effects" (p. 155). He, however, believed that life events should be studied singly, in order to understand the stress dimensions which each produced. Moreover, he posited, as did Wolff, that each life event was specific in its outcome. In addition, Cobb warned that the "bias of denial" (p. 151) was highly likely with his model, and that such a bias increased the possibility of spurious correlations.

Lazarus, DeLongis, Folkman, and Gruen (1985) suggested a stress rubric, in which the complexity of stress and its short- and long-term effects were addressed. Although these authors acknowledged that, "No issue in the psychology of health is of greater interest and importance than whether and how stress influences adaptational outcomes such as well-being, social functioning, and somatic health" (p. 776), they also contended that stress and distress were not the same thing, despite the similarity and overlap between the two. Instead, they theorized that stress might have either positive or negative effects, and they asserted that these effects were determined by sundry variables and processes, which were reflected in how each individual decided if his/her resources were sufficient to meet the demands of his/her environment. Stress was neither the environmental demand nor the variable, but rather the relationship between the person, the variable, the process, the environment, and the individual's appraisal of that relationship. If the results of this relationship were negative, then stress became distress.

Lazarus and his colleagues, however, were criticized (Dohrenwend, Dohrenwend, Dodson, and Shrout, 1984), because they did not use truly objective measures, which resulted in confounded measures. Lazarus et al (1985) responded by noting that any environmental impact could only be interpreted as a stressor if it was so defined by the person whom it influenced. It was this definition which Lazarus identified as appraisal, which, "integrates person variables, such as values and commitments, with the environmental conditions being faced, and provided the basis of individual differences in reaction" (p. 777). It was appraisal which shaped the individual's coping process, which "in turn affects the immediate outcome of the encounter, and probably also the long-term adaptational outcomes of multiple encounters" (p. 777). It was suggested that the difficulty with this model was that coping could be organized into any number of classifications and divisions, with the result that the relationships "between variables of very different levels of abstraction (social, psychological, and physiological)" could be overlooked too easily (Lydeard and Jones, 1989).

In contrast to the medical doctors who contended that stress led to physical disease, Albee (1978; 1980) suggested that stress could lead to emotional problems, although he challenged the concept that such difficulties should be classified as illnesses. Instead, he maintained that society itself not only failed to prepare the individual adequately for stress, but then also provided the stressors. He postulated that emotional problems were the result of the interaction between environmental stressors and the individual's "learned ability to cope with stress (competence)" (1980, p. 216). Moreover, he provided a formula:

$$\text{incidence of emotional disturbance} = \frac{\text{organic cause and stress}}{\text{esteem and social support systems}},$$

which defined emotional distress as the interaction between stress and the organic causes impacting the individual, and his/her social support systems and feelings of personal esteem. In doing so, Albee challenged the traditional disease/defect model, and in its place supported a primary prevention/competency model, in which the host individual's emotional state could be improved by either increasing his/her own supports, or by decreasing the undesirable variables.

Albee, however, laid the majority of blame for any incompetence the individual might exhibit on capitalism. He expressed the belief that competent people were made less so, due to economic and social forces over which they had no control. In addition, he maintained that "free-enterprise industrialization" was "Evil," and that it could be blamed for dehumanizing and damaging people (1980, p. 234). As a result, there was little study of his formula, although others (Vitaliano, 1987; Swift, 1980) did cite it, without referencing his political views.

Vitaliano and his University of Washington colleagues (1987) borrowed Albee's theoretical model, and modified it to make it their own. As a result, the formula was made more generalizable to stress and to research purposes. "Emotional disturbance" became general "distress," and "organic causes" was expanded to encompass psychological and physical vulnerability, while "esteem" was replaced by psychological resources, which included the concept of coping. In effect, Vitaliano enlarged Albee's paradigm, and defined stress/distress as a biopsychosocial response to:

$$\frac{\text{exposure to stressors + vulnerability}}{\text{psychological resources + social resources}}.$$

(p. 103).

This formula subsequently was reformulated to provide specific theoretical bases for studies on stress and disasters, medical students, epidemics, and caregivers. Vitaliano produced a formula which was applicable to the development of distress in response to any number of stressors, but which also took into consideration the individual's vulnerability and his/her resources. The formula was valuable in that it examined all of the psychological and socioenvironmental variables which interacted to produce, or to ameliorate distress, and that it was capable of investigating individual inputs into the process. It looked beyond the purely medical model, explored more than just the effect of coping processes, examined the individual's contributions, as well as the environmental factors, and provided a method of identifying at risk individuals. In short, it offered a valid biopsychosocial model with which to investigate stress, and, more specifically, the biobehavioral distress associated with caregiving. Moreover, this model offered "conceptual clarity and methodological feasibility" (Vitaliano, 1987, p. 109), which allowed effective organization of the variables, and more control over extraneous factors.

Critique.

While Vitaliano's model offered several advantages for the purposes of this study, it also presented some difficulties. The studies done using his less than five year old theory had all been conducted by Vitaliano and his colleagues at the University of Washington Medical School, a factor which might have introduced bias. Even Vitaliano himself argued that few theoretically based studies had been done on caregiver distress, and only one, done by him, had utilized his theory. Indeed, his studies had been on distress in medical students (1989; 1988), in those affected by natural disasters (1987), and in caregivers of DAT (Alzheimer's) patients (1989). This latter study did address burden in caregivers, but its focus was on patients with the mentally dehabiliating disease of Alzheimer's. In contrast, this study focused on spousal caregivers of the chronically physically ill, who because of the nature of their husband/wife's illness, did not face the particular problems, "posed by patients with dementia (i.e., getting lost, paranoia, repeating the same question, etc.)" (Vitaliano, 1990, p. 437). As a result, the spousal caregivers in this study were expected to be able to maintain a level of marital intimacy and communication, which Vitaliano (1989) noted was not available with mentally/neurologically impaired DAT patients, and a level of social support, which might serve to moderate the development of burden.

Moreover, although Vitaliano (1990) defined personality as the major variable in the vulnerability construct, and even suggested that the personality/vulnerability variable might be <u>the</u> determining factor in whether distress developed, he provided little data to substantiate his contention. He did cite one study done at the University of Washington Medical School, but the actual article (Vitaliano, Russo, Young, & Mauiro, 1989) was an abbreviated statement about Vitaliano's <u>The Appraised Burden Scale</u>, and provided no research data at all. Only in his commentary about depression on caregivers did he report that anger suppression and anger expression were related to higher subjective burden scores. In that article, he also contended that anger affected both perceived burden and one's satisfaction with one's social supports, but again he provided no research data (1990). This study, therefore, examined the impact of personality variables on burden, and their impact on satisfaction with social supports. In addition, this study investigated if one's personality affected one's willingness to utilize such supports, a theory which was suggested by several studies (Husaini, Neff, Newbrough & Moore, 1982; LaRocco, House & French, 1980; Andrews, Tennant, Hewson, & Vaillant, 1978) on the effectiveness of social supports in ameliorating stress.

Vitaliano did examine personality using the variables of "Type A and anger expression" (Vitaliano et al, 1989: Vitaliano, 1989). He justified this selection by noting that these variables were "important correlates in psychological distress," (Vitaliano, 1988, p. 315), and that his studies on medical students indicated that medical students frequently tended to be Type A personalities (Vitaliano et al, 1989). He also suggested that depression might mask anger (Vitaliano, 1990). This study, however, while acknowledging the reality of the anger/depression dyad, questioned if most caregivers are Type A personalities: unlike medical students, it is suspected that circumstances rather than choice led to the caregiver role. As a result, an examination of Type A factors appeared nonproductive for most caregivers. Instead, this study examined a broader concept of personality in order to identify other factors which might influence the caregiver's vulnerability in the development of burden.

Vitaliano's theory has been refined and reoperationalized since its inception, with the result that it effectively drew together the earlier interrelational models into a biopsychosocial model, which enabled a broader study of distress and its development. It synthesized the medical defect models of Wolff and Cobb and the emotional disturbance/competency model of Albee, with the result that distress was recognized as having biological, psychological, and social components, which acknowledged the individual's strengths and weaknesses. It was the aim of this study to investigate these components, to determine what role each played in the formation of burden, how each component acted to either ameliorate or to intensify distress, and the role of the individual's personality in the utilization of each variable.

The Theoretical Constructs

Vitaliano's model required the operationalization of all five of his constructs: burden; exposure to stressors; vulnerability; psychological resources; and social supports. The variables inherent within each construct had to be identified, and their role in their construct(s) had to be explained. Vitaliano (1989) himself offered the variables he would use in a study of caregivers of DAT patients, but while the current study borrowed from his list, it also modified that list to reflect this study's interest in the impact of personality on Vitaliano's model.

As Kessler, Price and Wortman (1985) pointed out, there is clear evidence that most people, who are exposed to stressful life experiences, do not develop distress.

Instead, as Haan (1982) suggested, there is a great deal of evidence which indicates that for most people stressors may promote growth and the development of coping skills. For these reasons, it was important to identify the variables, especially the vulnerability factors, which might explain the variations in stressor responsiveness.

Burden

Burden, which Vitaliano (1990) also called biobehavioral distress, was defined as a biopsychosocial entity, which had psychosocial, somatic, and psychosomatic components. Because of its multidisciplinary elements, this definition provided a systematic picture of caregiver burden, which was not available from the investigation of any single variable. Unlike Vitaliano's study, however, this study did not utilize cardivascular problems, hyperlipidemia readings or immune systems' problems, which would require intrusive medical tests in order to be measured. Instead, it concentrated on two separate variables: 1). the individual's perception of his/her psychological and somatic state; and 2). the individual's perceived objective and subjective burden.

According to Link and Dohrenwend (1980), the assessment of one's psychological and somatic state was necessary to recognize the existence of both clinically significant mood disorders and subclinical levels of distress or demoralization. Such distress might result from prolonged adversity or the accumulation of life event stressors (Andrews, Tennant, Hewson and Vaillant, 1978); however, as Andrews et al noted, only a small percentage of the general population showed a relationship between stressors and neurotic symptoms, which suggested that distress may be compensated for, or at least "moderated by, other mediating intrapersonal and social factors" (pp. 307-08). While some studies (Chenoweth & Spencer, 1986; Corbin & Strauss, 1988; Croog & Fitzgerald, 1978; Flor, Turk, & Scholz, 1987) found caregiving to be a burden, others (Gwyther & George, 1986) found that some individuals find the role of caregiver to be satisfying.

Montgomery, Gonyea, and Hooyman (1985) also found that different factors were related to objective and subjective burden in caregivers. While Grad and Sainsbury (1963) defined burden as any cost to the family in which the patient is a member, and Thompson and Doll (1982) identified it as the arousal of either fear or shame due to the presence of an ill patient in the home, Hoenig and Hamilton (1967) and Platt and Hirsch (1981) suggested that events, activities, and specific happenings need to be separated from emotions, feelings and attitudes associated with caregiving. Montgomery et al (1985) cited this dichotomy as the "major contribution " in the "conceptual and operational development of the concept of burden" (p. 20).

Montgomery et al (1985) in their study of the relationships between caregiving and burden defined the two components of caregiving: objective burden was the "extent of disruptions or changes in various aspects of the caregivers' life and household" (p.21); subjective burden was the "respondents' attitudes toward or emotional reactions to the caregiving experience" (p. 21). Their data supported Thompson and Doll's (1982) suggestion that the factors contributing to each type of burden were different. Objective burden correlates included specific caregiving behaviors and the presence of a support system, while subjective burden's correlates tended to be characteristics of the caregiving individual. Moreover, neither type of burden appeared as related to the illness characteristics of the patient as it was to the "characteristics of the caregiving context" (Gwyther and George, 1986).

Critique.

George and Gwyther (1986) questioned if one can accurately assess "the relative burden that caregiving imposes" (p.253), due to the problem posed by instrumentation in previous caregiver studies. They argued that such measures cannot be used with noncaregivers, due to their explicit focus, and as a result cannot determine if a caregiver was any worse off than any other individual who faced unusual responsibilities. They also contended that the existing measures created "an unwelcome kind of confounding," (p.254), due to their requirement that respondents had to relate caregiving to its impact. The result was the intertwining of the stressor and its outcome, so that no independent relationship could be recognized between cause and effect. In addition, since existing measures generated only total scale scores, the multiple dimensions of well-being which could be impacted might not be recognized. As a result, George and Gwyther suggested that these various dimensions of well-being needed to be investigated using measures designed for the general population. This study, although it measured burden instead of well-being, however, attempted to circumvent this measurement difficulty by examining the four other constructs in addition to burden. By using measurements suitable to the general population for variables such as social supports, demographics, psychological resources, i.e., coping, stressors, and personality attributes, the problem of confounding hopefully was overcome.

The Numerators

Exposure to Stressors

Vitaliano et al (1989) suggested that an objective definition of stress exposure was an epidemiologic definition: Caregivers were "exposed," while noncaregivers were "not exposed," although they had the potential to become exposed in the future. Using his own definition, Vitaliano identified "having a DAT spouse" (1985), experiencing a natural disaster (1987), and "life events" while in medical school (1989; 1988) as stressors. The proposed study, therefore, utilized this definition in determining its first "stressor" variable: there was a chronically ill spouse, with the definition of chronic illness being limited to cardivascular disease.

The second variable which was investigated was "small life events," or hassles and uplifts.

Hinkle's (1960) life chart was one of the first systematic methods of measuring life events, but this was replaced by Holmes and Rahe's (1967) Social Readjustment Scale. That instrument, the SRE, was the result of research on 5,000 patients and the life events which occurred near the time that each developed his/her illness. These events were narrowed to 43, using factor analysis, with each item being given a weight, which indicated the amount of readjustment required to deal with the event. Since that time, studies havae been done investigating the connection between such major life events and cardivascular disease (Theorell & Rahe, 1972; Theorell & Rahe, 1971; Ulf, 1975), and depression and caregiving burden (Dura, Stukenberg & Kiecolt-Glaser, 1990). It was recognized, however, that life events as reported by the SRE might be biased due to the case-control designs of the studies involved and by the role of personality variables in the individuals tested (Wells, 1985), and by changes in cultural conditions. Wells (1985), also suggested that problems existed with the internal validity of the SRE instrument, and with the external validity of the studies done. Moreover, he strongly criticized the "unidemensionality" which occured when a "single summary score" was assigned to an individual's recent life experiences.

Danish, Smyer, and Nowak (1980), in their discussion of critical life events and the development of strategies to prevent these or of interventions to help counteract their impact, argued that the timing of an event, its duration, its sequence, its cohort specificity, contextual purity and the probabiltiy of its occurrece all need to be considered. Moreover, they also classified life events as being either cultural or individual, and explained that a life event crisis should not be considered as pathological, but instead as an imbalance which preceded growth, and which made growth possible. They suggested that such crises could have either a positive or a negative result, and that intervention, therefore, should be designed to enhance the individual's functioning and growth, rather than to prevent critical life events.

Brim and Ryff (1980) also warned against "the tendency to attribute cause to a single event" (p. 386), and suggested that crisis theory might have been derived from clinical studies, rather from community samples. In their study of how life events function within life span development, they provided definitional categories, and suggested that researchers tended to focus on "normative, predictable events," and to neglect other event types, which might be equally important. They recommended that research on life events as causes needed to consider four things:

> (a) the need to look behind the attention grabbing vivid event for the experiences that really matter in launching personality change; (b) the most influential event may not be the most recent; (c) some personality changes result from the cumulation of various minor events over a period of time rather than from one big event; and (d) the potential for interaction effects of

> biological, social, and physical classes of
> life events (pp. 386-87).

Moos (1986, 1984) also warned that while stress could have a negative impact, that most people are able to find acceptable resolutions to the most difficult situations, and that some used such situations to grow as individuals. He also suggested that stressful life situations are much more than major life events. He recognized that they could be specific, short term events, sequential combinations of events, and/or chronic stressors. Indeed, Billings and Moos (1984), in a study of middle-aged persons being treated for depression, found that chronic strains had stronger relationships with the depression, than had life events.

Theorell (1992), in a review of the research on coping with life changes, found that a strong sense of coherence characterized the people who successfully coped. In addition, he suggested that "eventlessness." i.e., the absence of life events, could be as stressful as the life events themselves, and as indicative of risk for illness. His findings tended to support those of Danish, Smyer and Nowak (1980) who earlier had found that an absence of events would be a deviation from the expected life experience, and offered a complex example of an event experienced by only a small number of people.

As a result of the theoretical and methodological criticism of life event research, recent studies focused on "minor but frequently occurring stressors (hassles)" (Weinberger, Hiner, & Tierney, 1987, p. 27). Kanner, Coyne, Schaefer and Lazarus (1981) defined hassles as the "irritating, frustrating, distressing demands that to some degree characteriize everyday transactions with the environment. They included annoying practical problems such as losing things . . . as well as arguments, disappointments and financial and family concerns" (p.3). These researchers also suggested that these day to day events acted cumulatively, and without positive experiences to act as buffers, might be strong stress sources. These authors, therefore, conducted a study on effect of hassles in order to determine how hassles and life events compared "in their ability to predict adaptational outcome, psychological symptoms," and if hassles bore "a relation to psychological symptoms" that was "independent of life events" (p.6).

Kanner et al (1981), in a twelve month study of stress and coping among a community sample of middle aged adults in Alameda County, California, also assessed the impact of uplifts, which they defined as "the positive experiences . . . derived from manifestations of love, relief at hearing good news, and the pleasure of a good night's rest, and so on")p. 6). Basing their study on Lowenthal and Chiriboga's contention that the combined resources and deficits of an individual "predict adaptation better than either alone" (p. 6), they argued that measuring only hassles might result in a distorted view of the relationship between illness and stress. In addition, they addressed the individual's emotional response to each experience, and "the transaction with the environment which generated the emotion in the first place" (p. 7).

Kanner et al (1981) found that while "major life events had little effect independent of daily hassles,"

hassles did "contribute to symptoms independent of major life events" (p. 20). In addition, for women, uplifts had a positive relationship to life events, and reduced psychological symptoms and negative affect.

Lazarus, DeLongis, Folkman and Gruen (1985), in a response to Dohrenwend and Shrout's (1985) criticism that their use of subjective hassles and uplifts caused cofounding, suggested that such criticism overlooked the reality that there are "no environmental stressors without vulnerable people" (p. 776), and that stress was a relationship between person and stimulus, not the stimulus itself. They further argued that it was the individual's appraisal which integrated his/her personal variables with his/her environmental factors, thus providing the base for different individual reactions.

Using a different measurement than Lazarus and his colleagues, Zautra, Guarnacia and Dohrenwend (1986) studied "small events," which might either increase life stress or ameliorate it. Although their study was done using a sample of college level psychology students, the results did indicate that negative small events were related to negative psychological outcomes; positive events, to positive perceptions and affect.

Kinney and Stephens (1989), however, in a study of the hassles connected to providing care to DAT patients, chose not to investigate uplifts, since they maintained that these were not related significantly to well being, and they looked only at the hassles, which had occurred during the previous week. Although some of their data appeared only to be related to the care-recepients' dementia related behavior, these authors did find that hassles resulted in distress for the caregiver. Moreover, they found that social network responses and caregivers' appraisals of these networks, if positive, could function as a buffer to the effects of negative hassles.

The impact of small events on the mood and health of middle aged, middle income, married couples was examined by DeLongis, Folkman, and Lazarus (1988) in a study which investigated the mediating effects of psychological and social resources. The data indicated a relationship between "daily stress and the occurrence of both concurrent and subsequent health problems," (p. 486) e.g., flu, headaches, and back pains; however, mood tended to be limited to one day with a marked improvement in negative affect on the second day. Moreover, high self-esteem and social support appeared to buffer the effects of stressful occurrences, while individuals with few psychosocial resources were found to be vulnerable to mood disturbances and illness, when faced with increased stress levels, even if they normally experienced little stress.

Because the early research on hassles utilized samples of predominately white, middle class people, Weinberger, Hiner, and Tierney (1987) sought to investigate the impact of hassles on low SES, elderly persons, who had osteoarthritis. Not only did they find that hassles scales were appropriate for this sample, they also successfully replicated Kanner
et al's findings: hassles served as better predictors of one's health than major life events did. Moreover, while life change events influenced health only indirectly,

they could increase the individual's appraisal of hassles, which in turn could negatively effect one's health.

Gruen, Folkman and Lazarus (1988) also suggested that hassles, which were "central," had a greater impact. They defined "central" as those hassles which reflected "important ongoing themes as problems" in the person's life (p. 743), and they conducted a study of eighty-five married couples, which found that central hassles varied in content from individual to individual, and that these hassles dealt more with personal needs and coping deficits, than did "noncentral" hassles. Furthermore, these researchers found that centrality played a significant role in predicting psychological symptoms, despite problems with confounding and methodology.

Critique.

As noted above, Dohrenwend and Shrout (1985) questioned if the investigation of hassles and uplifts introduced confounding due to its reliance on individual appraisal. Lazarus et al (1985) attempted to rebut that argument, but even they admitted that hassles could not be a "clean" variable. Instead, they contended that there was no way to separate the environmental stimulus and the person appraising that stimulus, and that an additional research step needed to be taken in examining the individual differences and vulnerabilities which effected appraisal.

Aldwin, Levinson, Spiro and Bosse' (1989) also questioned if a hassles scale was adequate to measure one's life stressors. While admitting that hassles probably were better predictors of health than were

SRE's, these authors also pointed out that hassles might "reflect rather than cause mental health problems" (p.618). They also noted that certain personality traits, such as hostility and neuroticism, appeared to make an individual more susceptible to the effects of stress. As a result, they suggested that better understanding of the development of distress might require more than one assesment tool.

A study done by Reich, Parrella and Felstead (1988), however, suggested that a careful distinction between the number of hassles reported, and the intensity of these hassles, could undo the confounding possible with most hassles' scales. Using data from a study of substance abusers, these authors contended that Lazarus's Hassles Scale not only could assess the number of external stressors, but also the strength of internal reactions to these stressors, with the result that these two components could be independently and jointly associated with contributions to psychological distress. As a result, they disagreed with Dohrenwend and Shrout (1985), and believed that "both objective and subjective aspects of stress" (p.247) could be assessed by using the Hassles Scale, and they also challenged Lazarus et al's contention that the external and internal aspects of hassles should not be separated.

An additional criticism was that methodological weaknesses existed in the Hassles Scale (and also in the SRE). Flannery's (1986) study of hassles and major life events found that neither made "the distinction between experiencing an event versus reacting to it adversely" (p. 487), or recognized that subjective events might be the result of underlying pathology rather than its cause. Flannery, therefore, suggested that additional information was needed before the relationship between a hassle and subsequent problems could be established definitely.

The major criticism of hassles as an operationalized variable of the "stressor" construct was that it alone was insufficient to understand the development of distress. The research did indicate that the Hassles Scale was a useful tool in predicting health outcomes, but also suggested that personality variables, social supports, and coping skills and appraisals needed to be considered too. Since Vitaliano's model required the investigation of these additional variables, it circumvented the main hassles' criticism, while allowing hassles to remain as an important factor in the distress equation.

Vulnerability

Vitaliano et al (1989) suggested that personality and demographics were the major variables in the vulnerability construct. Borrowing from two complimentary areas of vulnerability research, they focused on (1) "vulnerability as a genetically inherited trait" and as "propensities acquired through experience" (p. 269), and (2) demographic variables, such as age, residence, SES and marital status, as predictors of possible distress.

George (1980) agreed with Vitaliano et al's basic assessment. In his study on family resources, he found that finances, education--which he contended contributed to the cognitive ability necessary to realistically appraise stress, and to the development of problem solving skills--health and personality, helped individuals view stressful events as less problematic. Ferguson and Horwood (1987) in their New Zealand study of women with small children, also found that the SES and the neuroticism level of their subjects were the major determinants of vulnerability to life events' stress, while Cantor (1983), in her study of caregivers in New York City, found that older spousal caregivers were at high risk due to low income and greater disposition to poor health.

Personality characteristics, however, were the variables which Vitaliano _et at_ (1989) believed had the most impact on burden in the caregiver. They cited research done by others which indicated that Type A personality and anger not only had a number of biological correlates, but also played a role in the modification of stress-response cardiovascular risk. They also admitted, however, that there was no firm evidence that Type A was a vulnerability factor in the elderly, and in their own study of DAT caregivers, Type A showed no independent contribution to the development of burden. This same study, however, found that anger expression contributed independently to burden, and that anger, as that study measured it, was "not a mere byproduct of distress, but rather a dispositional mode of behavior" (p. 282).

The body of research which examined anger and its impact did suggest that anger can contribute to distress.

Early studies (Holt, 1970; Lewis, 1963; Meadow, 1971) found that individuals, who repeatedly suppressed anger, might develop psychosomatic symptoms, while other studies (Holt, 1970; L'Abate, 1977; Mace, 1971) suggested that misdirected hostility and/or suppressed hostility could endanger intimacy. In addition, Bayatzis (1975) found that alcohol drinkers, who reacted aggressively, scored lower on the self-control, responsibility, and socialization variables of the California Psychological Inventory (CPI). These results also were confirmed by Biaggio (1980), who studied the relationships between personality variables and anger arousal using the CPI, with high anger arousal subjects. She found that the subjects who experienced high anger arousal scored lower on flexibility, psychological mindedness, socialization, self-control, and tolerance, while low anger arousal subjects scored lower on self-acceptance. The low anger arousal group also had higher scores on responsibility and impression.

Smith and Frohrum (1985) also found that hostility was correlated with the reporting of stress, particularly stress caused by hassles, and Vachon (1987), in her study of medical professionals who cared for the critically ill, also found that anger played an important role in doctors', nurses', and social workers' psychological manifestations of stress.

Andrews et al (1978) also noted that low self-esteem contributed to an increase in psychological and somatic problems in response to stress. In addition, Chan (1977) suggested that low self-esteem might function to augment arousal in response to a stressful stimuli, particularly in individuals with poor coping skills. DeLongis et al (1988) also found in their study on the mediating effect of psychological and social resources on stress, that some people actually improved in health and mood after increases in stress, with the study's data explaining this response as the result of high self-esteem.

As a result of these findings, it appeared that several variables associated with anger, both suppressed and expressed, and with self-esteem needed to be investigated in this study. The decision, therefore, was made to utilize eight scales from the CPI-R, the 1975 version of which was used by both Bayatzis (1975) and by Biaggio (1980). These scales were those measuring self acceptance, responsibility, socialization, self-control, tolerance, achievement via conformance, psychological mindedness, and flexibility, since these were those utilized by the above researchers in their anger studies, as well as self-acceptance and achievement via conformity, which were used to measure capable, industrious, and stable functioning (Gough, 1975).

Critique.

Circularity has been identified as a problem with personality and stress: it is difficult to know which influences the other, and in what order. Banks and Gannon (1988) suggested that some people have "hardy" personalities, which are less reactive to stress, and which may reduce the relationship between stress and psychosomatic symptoms. On the other hand, Vachon (1987) contended that for some individuals, personality changes occur due to chronic and taxing stressors, which the individuals find overwhelming.

Other personality variables were mentioned for their possible effect .on how one reacted to stress also. Zuroff and Mongrain's (1987) study suggested that "dependent," "self-critical" and "controlling" personality characteristics should be investigated as vulnerability factors, while Vassend (1987) utilized "emotionally," "introversion," "sensitivity," and "sociability" in his study of personality and somatic complaints. Aldwin, Levenson, Spiro, and Bosse' (1989) also studied stress and its relationship to emotionality, defining emotionality as neuroticism.

The decision, however, to use the CPI-R's scales was based on a comment by Watson and Kendall (1983). After they discussed the MMPI, they reminded the reader that that instrument had been designed as a measure of psychopathology, rather than of the normal range personality. They then recommended the CPI as an instrument to be used with a nonpathological population.

It was an assumption of this study that, by and large, the caregivers of the chronically ill are nonpathological. Moreover, unlike medical students, doctors, and other medical professionals, it was assumed that most caregivers do not select that responsibility, but rather have it come to them. It could not be presumed, therefore, that Type A personalities were typical of this population; however, it did appear plausible that anger, due to the added responsibilities and possible loss of socialization associated with caregiving, was a variable which might be common to caregiving, and therefore, in need of investigation.

The Denominator

Psychologial Resources

According to Hirsch (1980), the cognitive styles and behavioral responses of individuals interacted with their social supports to determine how they handled major life changes. It also was suggested by Pearlin and Schooler (1978) that one's coping style might influence one's ability to use his/her social resources. Vitaliano, Maiuro, Russo, Deaton, DeWolfe and Hall (1990) also found in a study, which compared the coping styles of psychiatric patients, of patients with physical problems, of people who were caring for DAT patients, and of people in stressful work situations, that the different categories had different coping styles, while those in the same categories utilized similar coping methods. They also discovered that individuals with caregiving responsibilities were the least frequent users of self-blame, but did use problem focused coping and wishful thinking the most. This study, therefore, examined the coping profiles of a similar group, the caregivers of the chronically ill, with "coping profiles" being defined as "an individual's relative reliance on some coping strategies and the disemphasis of others" (p. 349).

According to Rabkin and Streuning (1976), two factors served to mediate between stress and illness: an individual's ability to cope with stress and the social resources available to that person. Lader (1972) also pointed out the probable interaction between coping style, anxiety and environmental stressors in defining his model of anxiety. Studies done by Fontana et al (1976) and Vaillant (1976) also supported that interaction: Fontana's study of outpatient psychiatric patients found that those who learned realistic copings skills were better adjusted; Vaillant found that knowledge of the maturity of the ego-defensive coping style which one used to handle environmental crises could be used to predict long term psychological health.

Andrews, Tennant, Hewson, and Vaillant (1978), in a study of life stress on a middle class, surburban Australian sample, also found that psychological impairment varied according to one's life stressors, crisis support and coping style. However, their data also suggested that no specific interactive effect was present: "that is, good crisis support and good coping did not exert their effect because of their ability to detoxify the effects of high life event stress, but rather because crisis support and coping style were independently related to neurosis" (p. 312).

Moos (1988; 1986) suggested that in investigating the impact of stressors on the individual that an integrated perspective was needed. He maintained that a person's situation and his/her resources needed to be understood. As a result, he recommended that coping responses be divided into ten categories which reflected the emotion-focused, problem-focused, and appraisal focused domains of the individual's coping style. He further suggested that the investigation of those domains would allow the study of the relationships between coping, health, and well being and life context.

In "Coping with Chronic Disease: Definitions and Issues," Burish and Bradley (1983) pointed out that defining coping was not easy, and that some researchers, including Moos, who edited the first volume dealing with coping and physical illness, chose not to provide a definition. Others, such as Haan, tried to distinguish between defense mechanisms and coping patterns, defining defense mechanisms as rigid patterns of possibly maladaptive behavior; coping, as flexible and adaptive. Burish and Bradley, however, suggested that the coping behaviors of individuals with chronic illnesses should not be considered as equivalent to the same behavior in physically well people. They, therefore, adopted the definition of coping offered by Lazarus and Launier (1978): "efforts, both action oriented and intraphysic, to manage (i.e. master, tolerate, reduce, minimize) environmental and internal demands, and conflicts among them, which tax or exceed a person's resources (p. 311). Coping, therefore, was assumed to be exhibited by and in intentional and purposeful actions.

Holroyd and Lazarus (1986) suggested that there are four ways in which coping can affect health. First, they noted that coping could influence the intensity and frequency of neuroendocrine stress responses, with possible damaging effects. Second, they contended that illness behavior and/or physical symptoms could serve coping functions and, therefore, could influence health outcomes. Third, coping behaviors might result in life style changes which could impact health outcomes; and fourth, an individual's mode of coping with the demands of an illness over time might impact the course of the illness itself.

Folkman and Lazarus, (1980) also posited that the coping process had both problem- and emotion-focused functions, and that both of these elements were used in almost all stressful occurrences. In a study done on 1,332 coping episodes, only in 2% was only one type utilized. They, therefore, contended that both types of coping needed to be examined, and that coping patterns should be defined as the "combined proportion of problem- and emotion-focused coping used in a specific episode' (p. 227). They also noted, however, that in studies examining coping and health problems, that an increase in emotion-focused coping occurred, and in situations where the individual's appraisal indicated few possibilities for beneficial change, that emotion-focused coping predominated. If, however, the appraisal of the situation suggested that improvement could occur, or if the problem was work related, problem-focused coping was used.

Since the care of a chronically ill person appears to offer a mixture of these characteristics, i.e., there might be few possibilities for improvement, the caregiver's health might be involved also, and caregiving could appear to be work/responsibility related, both variables of problem-focused and emotion-focused coping needed to be examined.

Critique.

Vitaliano et al (1989) suggested that relative scores as well as raw scores needed to be considered when coping processes were investigated. They contended that the relative scores provided greater insight into the relationships and the interplay between coping and distress. In a study which utilized multiple samples, they found that relative scores yielded a quite different perspective, and they, therefore, argued that the use of relative scores revealed a clearer relationship, without statistical blurring by the effects "of other coping strategies" (p. 14). They, therefore, recommended that the "use of relative scores held promise for delineating the relations between ways of coping and health related behavior" (p. 17).

Vitaliano et al (1990) also pointed out several methodological limitations in the existing coping research. They warned that important but uncontrolled variables could affect results: persons in treatment for their distress might have confounding in their scores. Personality traits and disorders also might need to be controlled, because they had the potential to affect coping. Vitaliano et al suggested that such issues needed to be clarified.

Vitaliano et al (1990) also contended that without longitudinal studies it was impossible to determine if coping was more affected by stress or vice versa, since causal stress questions might experience feedback loops between the two variables. Only one study (Felten and Revenson, 1984) had been done to isolate the relative importance and position of the variables in causality, and that research had inconclusive results; therefore, Vitaliano et al concurred with Folkman, Schaefer and Lazarus's earlier finding that the "pathways of coping and distress are relative to one's point of entry into the process" (p. 370).

The current study's point of entry was after the stressor of having a chronically ill spouse had happened, and, therefore, the point of entry was controlled. In addition, the relative coping scores were examined, as well as the raw scores. Moreover, with the investigation of the stressors, of personality and of social supports, other variables were controlled, and their influences assessed.

Social Resources

The role of the social network and its potential ability to alleviate the effects of stress have generated both empirical and theoretical studies which examined three main questions: (1) what is social support?; (2) what types of social networks offer individuals support during times of stress?; and (3) how and when does social support function as a mediator of stress (McCubbin, Joy, Cauble, Comeau, Patterson, & Needle, 1980). Cobb (1976) defined social support as intrapersonal information which provides: (1) emotional support, which causes an individual to feel that s/he is loved; (2) esteem support, which causes the individual to believe that s/he is valued; and (3) network support, which causes people to believe that they belong to a network, which involves feelings of mutual obligation and understanding. In addition, Cobb suggested that service agencies, such as churches and public agencies, which offer tangible services, such as financial assistance and emergency housing, also provide social support.

According to Berkman (1985), one common factor in groups at increased risk for coronary heart disease was their lack of social contact and resources. She found that "people in such groups . . . . uniformly become unattached or untied from intimate or community resources" (p. 51-52). She also discovered, however, that "the groups found to be at generally decreased risk are notable for their cohesive and well integrated communities" (p.52), and she credited the personal linkages within these communities, rather than the characteristics of the individual members, as the factor responsible. McCubbin, et al also suggested that neighborhoods, families, relatives, friends, and mutual self-help groups could offer support to stressed individuals, although they acknowledged that the amount of support available could vary greatly.

The answer to when social support acts as a stress mediator was less clear. While Nuckolls et al (1972) showed that it acted as a protective factor in childbirth and pregnancy, Baekland and Lundwall (1975) found that it positively influenced the obtaining of recommended medical care, and Caplan (1977) found that it promoted recovery from family crisis caused by psychiatric illness. Berkman (1985),however, suggested that the evidence might be conflicting. While she admitted that "inadequate networks are capable of directly and independently influencing health outcomes even in the absence of major life changes" (p. 52), she also warned that life events and social supports "are not mutually exclusive conditions" (p. 52). She noted that the life events most regularly associated with poor health tended to be actual breaks in social connections, i.e., the loss of a friend or a spouse, or the ongoing deterioration of a social relationship.

Blazer (1982) raised a fourth question about the mediating effect of social support. In a controlled, mortality study of men and women over 65, he found that the perception of social support was a more important variable than either attachments available or frequency of interaction, despite the fact that such perception was a subjective appraisal, rather than an objective assessment of one's social network. Gilhooly (1984), in a study of the impact of caregiving for Alzheimer's patients, confirmed that finding. She also found that the frequency of contact with friends and relatives, and the availability of social resources were not correlated with the morale and/or mental health of the caregivers; however, the caregivers' satisfaction with the help they received was significant. Dissatisfaction with help received was directly associated with poor mental health and low morale.

A 1988 study of the responses of elderly spousal carers tended to confirm the above findings. A sense of abandonment by the caregiver's family was tied directly to the perception by the caregiver that there was a lack of affective and tangible support. At the same time, however, the caregivers also complained that more assistance negatively impacted on the time the caregiver had for his/her own self, raising questions about the role which such assistance really played (Given, Stommel, Collins, King & Given, 1990). In addition, a study by Vaux (1985) found that some individuals were not willing to utilize their social supports, because they believed that such use would be futile, inappropriate, and perhaps even dangerous. Vaux characterized these beliefs as negative network orientation, and suggested that they reflected the individual's appraisal, rather than the availability of the support.

The current study examined both the availability of social supports and the individual's perception of these supports. Vitaliano et al (1989) suggested that social support had been found to have both a direct effect and an interaction effect on distress. Vaux (1987; 1985) and others (Blazer, 1982; Gilhooly, 1984; Vaux & Athanassopulou, 1987) also found that the individual's perceptions of and willingness to use available social supports also had to be considered in understanding the effectiveness of such supports. This study, therefore, examined both components of support.

Critique.

While there has been an accumulation of literature on the effect of social support, much of the accompanying research was marked by measures which lacked demonstrated validity and reliability, and by conceptual confusion. As a result, Vaux and Athanassopulou (1987) suggested that the usefulness of clinical assessments of support had been undermined, and the development of support-based interventions hindered. They, therefore, suggested that the field needed to examine not only social support networks, but also the individual's perceptions of the support involved. They also contended that more needed to be done in order to recognize social support characteristics associated with positive support appraisals, "especially those characteristics that might be modifiable through social intervention" (p. 538).

Husaini (1982) also contended that research on stressful life events and health outcomes, and the buffering effect of social supports was inconsistent in its findings. He explained that the buffering model assumed that support and stressors both were "causal antecedents of distress without any reciprocal relationship" (p. 291), and that this assumption excluded the possibility that current stress and support actually might depend upon an earlier distress level. He suggested, as a result, that the interplay between support and personality needed to be investigated.

This suggestion also was supported by Gannon and Pardie (1989), who pointed out that, "various personality traits have been found to interact with stress in predicting symptoms, and a common factor among these traits is control" (p. 359). They also contended that in their study of the number of stressors, and controllability, and chronicity, that although the "number of stressors was the best single predictor of symptoms," that for women, chronicity and controllability" accounted for a significant amount of variance" (p. 366). They found that social support was not able to ameliorate the examined stress-illness relationships, although they also did find that a greater willingness to use social support was particularly associated with lower depression levels. They, therefore, recommended that personal control, which they defined as being reflected in one's personality characteristics, and situational control needed to be assessed when examining the stress-distress relationship.

The current study attempted to avoid the problems noted by Vaux, Gannon and Pardee, and Husiani by utilizing Vaux's two measures: (1) the Social Support Behaviors Scales, which was designed to examine the availability and usefulness of one's social supports; and (2) the Negative Orientation Scale, designed to assess the individual's appraisal of his/her support system, and his/her willingness to utilize it. In addition, the analysis of personality characteristics, measured under vulnerability, enabled the investigation of the interplay between personality, stressors, and social supports.

Population

Caregivers

The lay caregiver, usually a family member, has a role which is older than that of the medical/ professional care provider. People always have had the belief that they should care for their own, and society still tends to favor that belief, and the in-home care, which often accompanies it. Many patients also resist institutionalization, which can place pressure on family members to keep the ill person at home. And many family caregivers are concerned that long-term facilities are inadequately staffed, and fail to provide a comfortable, home like atmosphere (Golodetz, Evans, Heinritz & Gobson, 1969; Lubkin, 1986). As a result, the lay caregiver is a vital link in meeting the needs of the ill person, and in keeping that person in the community.

In a Crossman and Kaljian (1984) study, a number of factors impacted the decision of the caregiver to assume that role. These included not only the functional limitations of the patient, but also the caregiver's response to these limitations, plus his/her family's historical response to crises and its normal interactions. In addition, the ability of the caregiver, his/her values and attitudes about accepting such a responsibility, and his/her sense of social support all contributed to the decision. Horowitz and Shindelman (1981) also found that there existed three strong motivators for taking on the role of caregiver. In their study, they discovered that 58% of caregivers assumed that responsibility because of familial obligation; 51%, because of affection; and 17%, because of a sense of reciprocity.

This responsibility, despite its acceptance, however, often brought problems. Crossman, London, and Barry (1981) found that role ambiguity could result, since both male and female caregivers might have to take on unfamiliar roles. Family relationships also might change, with confusion and conflict arising as a result. In their study of wives caring for disabled spouses, they found that 66% of the women complained of severe emotional strain, including feelings of isolation, guilt, frustration, resentment and anxiety: 47%, of physical strain; and 31% of financial strain.

The literature suggested that these results were not unique. The early research by Grad and Sainsbury (1963; 1968) on the caregivers of psychiatric patients found 63%

of the caregivers reporting adverse effects on their mental health; and 58%, on their physical health. Over 50% also said that their leisure and social activities were disrupted, and 19% reported a reduction in income. Moreover, the caregiving arrangement uniformly resulted in the alteration of domestic routines, and the straining of intrafamily relationships. More recently, an Australian study of Brown, Holmes, and Mitchell (1991) revealed the disruption that chronic illness could have on typical family behavior. Intrafamily relationships and patterns of behavior were changed, with the stress of caring for the sick person hampering the family's ability to overcome the negative effects of the change. Family attitudes were changed, and as noted earlier by Crossman, Lunden, and Barry (1981), household/family responsibilities frequently had to be reassigned. Yalom (1987) even suggested that the strain associated with caregiving could cause a state of disequilibrium, which might be potentially detrimental to the family system.

Lezak (1978) found that caregivers for irreparably brain injured patients experienced the breakups of friendships and the lessening of outside social activities, with the result that the caregivers often became guilty, bitter, frightened and frustrated. These feelings frequently led to depression and to an increased vulnerability to alcohol and drug abuse.

Cantor's (1983) study of the relationship between type of caregiver and the quality of caregiving also found that while most caregivers sought to protect the patient, their families and their work, if employed, this protection frequently was at considerable cost to themselves. The caregivers' emotional sphere was heavily impacted by the forced and/or voluntary surrender of personal desires, socialization and individuality in order to meet the demands of the patient. Ware and Carper (1982) also found that the demands of the patient caused excessive anger, frustration, and stress for the caregivers of Alzheimers' patients, largely because the caregivers had to neglect their own interests, activities, and psychological needs. Guilt resulted from the feelings of anger, which accompanied the caregivers' personal sacrifice, while depression accompanied the feelings of loss the caregivers experienced. Moreover, Tennstedt, Vsggrtsys, and Sullivan (1992), in a study of physically impaired elderly persons, found that one third of the 415 caregivers interviewed reported symptoms of depression. They noted that this percentage was lower than that reported by caregivers of dementia patients, but was still twice the rate seen in the general population.

Rabins, Mace, and Lucas (1982) also suggested that fatigue was a factor in addition to depression and anger. In their study of caregiving for dementing patients, they found that 87% of the caregivers reported chronic fatigue, depression and anger, while over 50% said that family conflict and the loss of friends and interests presented as problems. Chenoweth and Spencer (1986) in their study of family caregivers for dementia patients found similar results: some 23% of their respondents found care to be emotionally and physically exhausting; 20% felt isolated socially; and 60% said that their interpersonal relationships had been affected negatively.

Indeed, Gwyther and George (1986) and Pratt, Schmall, Wright and Cleland (1985) suggested that it was these feelings, and the accompanying characteristics of the caregivers, which had more to do with the decision to institutionalize, than did the symptoms and behaviors of the patient. McFall and Miller's (1992) examination of the data from the National Long Term Care Survey done from 1982 to 1984, also found that caregiver burden contributed to an increased risk of the institutionalization of the care receiver.

Litvin (1992) also discovered that conflict between the caregiver and the care receiver was associated with the care receiver's decision to limit social participation with his/her family and friends. Such a decision tended to socially isolate the caregiver also, and to cause changes in the dyadic relationship between the caregiver and receiver, changes which then added to the already existing conflict.

Skaff and Pearlin (1992) also found that caregivers were at risk for "loss of self." They defined that condition as the loss of identity which resulted from an engulfment in the caring role, and found that it was more common among female and spousal caregivers. They also suggested that limited socialization and the reduction of the carer's social roles contributed to the loss. Moreover, they discovered that loss to be associated with more symptoms of depression, and with lower self-esteem.

In addition, there appeared to be physical problems associated with caregiving. In a study in a Cleveland medical facility, 39% of the caregivers complained that their health had been worsened by the caregiving experience; 20% reported being sick more often; and 56% said that they had lower energy levels. A 1986-87 University of Bridgeport, CT, study also found that caregivers were under doctors' care more often, and reported more frequent headaches, while a Wayne State University Medical School study recognized the connection between caregiver "burnout," and the deterioration of the caregiver's overall health.

Siegel, Raevis, Mar and Houts (1991), in a study of spousal caregivers, found that objective burden, rather than subjective, had a greater impact on the physical health of the caregiver, and that wives experienced more burden than did husbands. Patrick, Padgett, Schlesinger, Cohen and Burns (1992), however, found that the subjective stress related to the hospitalization of a chronically ill family member had a negative impact on all family members for up to three years.

Spouses

The research literature also indicated that spousal caregivers were at particular risk in the caregiving role, and that they, therefore, needed to be studied separately from children, siblings, and friends who provided care. Klein, Dean and Bogodonoff (1967) noted in their study on the impact of illness on the spouse that spouses experienced more strains and difficulties, and Golodetz et al (1969) described the problem for female spouses:

> She is not trained for her job, _a priori_.
> She may have little choice about doing the

> job. She belongs to no union or guild, works no fixed maximum of hours. She lacks formal compensation . . . bears a heavy emotional load, but has no colleagues or supervisor or education to help her handle this. Her own life and its needs compete constantly with her work requirements. She may be limited in her performance by her own ailments (p. 473).

These authors also suggested that only wives provided the commitment and sympathy, which many patients needed, but also warned that many wives often were as needy as the recognized patients, and that these caregivers, therefore, needed special attention if they were to function in that role, especially since some research had found that it was the elderly spouse, who was most likely to assume the caregiver role (Cohler, Borden, Groves, & Lazarus, 1989).

Miller, McFall and Montgomery (1991), using data from the 1982 National Long Term Care Survey, also found that spousal caregivers differed from adult child caregivers in that they experienced a greater level of involvement with the care receiver and greater interpersonal burden. Fengler and Goodrich (1979) in their study of the "hidden patients," the wives of elderly, disabled men, suggested that the presence of a wife allowed the handicapped man, who might otherwise be institutionalized, to remain in the home, but at a definite cost to the wife: They found that the wives had problems with health, income and role overload. In addition, the sense of marital intimacy and companionship often was damaged, and the wives might feel socially isolated and very lonely. Groves (1988) also indicated that spouses were particularly vulnerable to the demands of this role due to their own aging, their concerns about the illness, and about their own possible widowhood. In addition, Fengler and Goodrich (1979) suggested that intrafamily relationships were affected, especially with adult children. Although the number of contacts between parents and children were not reduced, the direction of the contacts tended to change: neither parent, including the caregiving spouse, might be able to reciprocate visits, which led to a sense of imposition by the "well" spouse, when she had to ask for favors, transportation or respite.

Cantor (1983) criticized much of the research on caregiving due to its homogenization of variables such as relationship, gender, health, age, and employment. She maintained that the various caregiving groups needed to be studied independently, if the research was going to provide information and interventions, which would assist individuals to assume caregiving responsibilities. In her study of caregivers of the frail elderly in New York City, she found that spouses, who comprised 33% of the study's caregivers, and half of whom were male, seemed to be the group at greatest risk. These caregivers tended to be old themselves, and to have low and fixed incomes. She reasoned that their increased age predisposed them to more health problems, and 84% did perceive their health to be fair to poor, and did report the highest level of physical strain. Moreover, spouses, both male and female, were found to provide more personal care, housework, shopping, and cooking than any other caregiver group. They also worried more about finances and about the patients' morale.

Harper and Lund (1990) also critized the reseach tendency to treat all caregivers as a heterogenous group. In their nationwide dementia study, they, therefore, identified several homogenous groups according to gender of the caregiver, relationship with the patient, and the residence of the patient. They found that both men and women experienced real or perceived lack of social support to be stressful, but that only women found life satisfaction to be a main contributor to their sense of burden. Important differences also were noted between the findings for wives and daughters, with wives more negatively influenced by the affect of their spouse and the problems of daily living. Daughters, however, were impacted by more diverse factors, which depended on whether they lived with the patient.

The quality of the relationship between spousal caregivers and their patients also differed from those between other caregiver/care recepient dyads. Although 73% of the spouses reported feeling "very close" to the patients, only 60% believed they got along well with the cared for person. And spouses tended to feel that they treated the patient better than they were treated in return (Cantor, 1983). As Hess and Soldo (1985) pointed out, the very qualities of the marriage, which had created the increased sense of caring, also appeared to exacerbate the problems associated with caregiving. Cantor's (1983) data also suggested that the "closer the bond, the more stressful the caregiving role . . . In addition, the amount of continual, day to day, involvement" compounded the impact on the caregiver (p. 603), especially spousal caregivers who frequently were the primary providers of personal care and housekeeping, and who often experienced role reversals as a result.

Chenoweth and Spencer's (1986) study of the family caregivers of DAT patients had similar results. Thirty-two of 33 caregivers who became ill were spouses, with those caregivers in their 60's and 70's at greatest risk. George and Gwyther (1986) also looked at spousal caregivers of DAT patients, and found that these spouses had lower levels of well-being in all four of the health dimensions assessed by their study. Spouses reported more stress related symptoms, less satisfaction with their lives, and the use of more psychotropic drugs. Their participation in social activities also was less than other caregiving types, and their perceived health, and their economic status was slightly lower than that of the other group members.

Schott and Bandura (1988), who examined the stress experienced by wives of heart attack victims, suggested that myocardial infarction was the beginning of a long period of spousal stress and adjustment. Not only did the problems specific to the illness have to be addressed, but the wives also had to handle their everyday difficulties, which, combined with their social supports and personal resources, functioned as the major determinants of their ability to successfully cope with their husbands' conditions. Moreover, these authors contended that the husbands' heart attacks operated as a major "life event," with serious social and psychological ramifications for the wives, due to the infarctions' ability to negatively impact the women's quality of life and psychological health.

In a study of 69 spousal caregivers, with 69 SES matched controls, Kiecolt-Glaser, Dura, Speicher, Trask, and Glaser (1991) also found that caregiving for a dementia patient had a profound, negative impact on the caregiver's life. The caregivers showed reductions on three measures of cellular immunity, and reported more upper respiratory tract infections. They also had a much higher incidence of depression, with the caregivers reporting lower social support being the most distressed.

Schott and Bandura (1988) found that the illness frequently led to a reorganization of family life, and also to a crisis in the marital relationship. More than half of their study's respondents reported that they had undertaken more familial responsibilities, with 35% feeling that the husbands had become more demanding. In addition, 33% accepted some blame for their husband's heart condition, although these women tended to be those with greater feelings of lack of control and helplessness.

That feelings of lack of control and/or powerlessness might impact the caregiving spouse also was observed by Daniels and Irwin (1989) and Fitting et al (1986), in their studies of DAT caregivers. These authors contended that such feelings were more predominant in women than men, and reflected a demoralized state, which might accompany the caregiver's inability to impact the spouse's illness.

The data collected by Hafstrom and Schram (1984) in their study of chronic illness, also suggested that husbands and wives might respond differently to the presence of an ill spouse. They found that women became less satisfied with the marital relationship, while men experienced little change in their level of satisfaction. Flor, Turk, and Scholz (1987), in a study which examined only wives, also found that female spouses underwent considerable change in their level of sexual and marital satisfaction, if their husband suffered with chronic pain; however, marital adjustment was positively related to the wife's mood, which in turn was associated with the wife's sense of life control. On the other hand, Gregory, Peters and Cameron (1990) reported that while male caregivers tended to be less depressed than female caretakers, that the men indicated problems with maintaining their own health, and had higher scores on scales of hostility and anxiety when compared with standardized norms.

Critique.

Several issues need to be considered in the critique of spousal caregivers as the research population. As Toseland and Rossiter (1989) pointed out, most studies focused either on caregivers of DAT patients or of related organic brain syndromes. In addition, in less than 25% of the studies examined by those authors were the issues of specific subgroups considered, despite the evidence cited by Fitting and Rabin (1985) that spouses and women experienced caregiving differently than other caregiver groups. Moreover, there is a lack of suitable comparisons between caregiving and non-caregiving spouses, who have the same demographic characteristics.

Motenko (1989) also warned that the literature failed to consider the "rewards derived from caregiving" (p. 166), and that all caregivers might not experience a sense of burden. He suggested that for some, caregiving might allow one "to express intimacy, love and other basic human emotions" (p. 166), which were vital to the maintenance of personal values, identity, and self-respect. Moreover, he contended that the caring and nurturing inherent in caregiving might help some wives to define their position within our society, and, therefore, to preserve their sense of well-being. Motenko also suggested that the spousal relationship, even if one member was in need of care, might represent one of the most critical social supports available to the caregiver.

Croog and Fitzgerald (1978) also suggested that it was not possible to "draw easy conclusions about level of severity in the husband and level of stress in wives" (p. 175). Instead, they contended that subjective stress scores had to be considered in relationship to the wives' marital happiness and emotional lability. Their data indicated that wives, who were depressed, moody, and easily angered, tended to respond more readily to stress. The effect of the illness on a husband might impact the subjective burden feelings of a wife, only to the extent that her pre-illness personality, her coping ability, and her level of pre-illness marital satisfaction allowed.

This study attempted to avoid these criticisms, first, by using the specific subgroup of spousal caregivers, and second, by investigating if a sense of burden had developed among the caregivers. Personality factors, social supports, and coping abilities of the spousal cargivers also were examined for their role in the development or amelioration of that sense.

Chapter 3
Collection of the Data

Sample Population

The population of this study was composed of men and women, who were the caregivers for their chronically ill spouses, with chronic illness being defined for the purposes of the study, as cardiovascular disease. A total of 141 spouses were contacted through the offices of private cardiologists and cardiac treatment centers in the Richmond, VA, metropolitan area. These centers/doctors were providing treatment to the subject's spouse, and asked if his/her name could be shared. Contact was made either at the referral source in small group settings or through a telephone call during which the testing was arranged so as to be convenient to the subject. Once face to face contact was established, the study was explained in detail, and the consent form and the test packet provided. After the consent form was signed, the researcher remained available to the subject(s) during the entire testing period in order to answer questions or to clarify directions. The average testing time was one hour and 16 minutes.

Of the 141 subjects contacted, 126 signed the consent form. Eleven declined to participate after learning of the time involved and examining the tests, and did not sign. Four subjects signed, but then withdrew during testing: one because of difficulty understanding the Likert scales used in several of the tests; three because of the test questions on the CPI scales.

While all participants were volunteers, with spouses receiving either direct medical or supportive treatment for a cardiac condition, they did present some cultural and socioeconomic diversity. There was some gender bias since 90 subjects were female and only 30 were male, but there were ethnic/racial differences: 92 of the subjects were white; 22, Afro-American; 3, Hispanic; 2, Asian American; and 1, bi-racial. Nine of the subjects had not completed high school; 40 had a high school diploma; 35, some college; 11, an Associate degree; 14, a college degree; 9, some graduate work; and 2, a graduate degree. Due to the population involved, there were limited age ranges. Only 3 were in the 35 to 45 year old group, although 26 were between 45 and 55, and 55 were between 55 and 65. An additional 28 fell in the 66 to 75 year old range, and 8 subjects were over 75.

Income also exhibited a wide range, although most of the subjects were middle and upper middle class. Twenty subjects had annual incomes below $15,000. Thirty-four had incomes between $15,000 and $25,000; 38, between $26,000 and $40,000; 19 subjects, between $41,000 and $60,000; and 6 subjects, between $61,000 and $75,000. Only two had incomes over $75,000 per year.

Instrumentation

This study required instrumentation for all five of its constructs: burden; stressors; vulnerability;

psychological resources; and social supports. Drawing from Vitaliano et al's (1989) prior research, this study examined two components of burden. First, somatic/psychosomatic complaints, which have been found to accompany stress, was assessed using the Brief Symptom Inventory, and second, the objective and subjective feelings of individual burden were investigated with Montgomery's Measures of Objective and Subjective Burden. The Hassles and Uplifts Scale was used to measure the impact of both hassles and uplifts as stressors, while eight California Psychological Inventory-Revised scales were used to investigate the personality variables of vulnerability. These scales were: self acceptance (Sa); responsibility (Re); socialization (So); self-control (Sc); tolerance (To); achievement via conformance (Ac); psychological mindednes (Py); and flexibility (Fx). Demographic data also was utilized for this purpose.

Psychological resources were examined using the the Ways of Coping Questionnaire, and social support was investigated with two unpublished instruments designed by Vaux: the Social Support Behaviors Scale (SS-B), which examined the availability and usefulness of individual social supports; and the Network Orientation Scale (ORIENT), which assessed the individual's appraisal of his/her support systems, and his/her willingness to utilize such supports.

In addition, the first stressor, upon which the study was based, was the presence of a chronically ill spouse. This presence, however, did not require a specific measure, since referrals from the three referring facilities screened for that criterion.

Demographics.

Drawing from the research literature (Cantor, 1983; Ferguson & Harwood, 1987; George, 1980; Vitaliano, 1989), which suggested that certain demographics played a role in the development of burden, each respondent was asked to identify his/her gender and race. Questions also were asked about age, education and SES, but on a scale.

The Brief Symptom Inventory (BSI).

The Brief Symptom Inventory (BSI), which was designed to investigate psychological symptomatic distress was used to assess the first component. This 53 item self report test was constructed by L.R. Derogatis, as an abbreviated from of the SCL-90-R (Sweetland & Keyser, Eds., 1990). The Ninth edition MMY (1989) described it as "designed to reflect the psychological symptom patterns of psychiatric and medical patients, as well as non-patient individuals" (p. 111), with a testing time of about 10 minutes. The BSI was used by Anthony-Bergstone, Zarit, and Gatz (1988) in their study of psychological distress in 184 caregivers of dementia patients. That study found that both male and female caregivers scored higher than age-matched norms on the Hostility subscale, and that older and younger women had elevated Anxiety scores. These scales also strongly correlated with a Burden Interview conducted by the researchers.

According to Cundick's (1989) review of the BSI in the

Ninth Edition MMY, the internal consistency reliabilities of the BSI were "very acceptable, ranging from an low of .71 on Psychoticism to a high of .83 on Obsessive-Compulsive" (p. 111), and the test-retest reliabilities also were acceptable, with a range from .68 to .91 on the various scales. In addition, alternate form reliability obtained by a correlation with the SCL-90 ranged from .92 to .99. Cundick, therefore, posited that "the effort to represent reliability is thorough and establishes the fact that the scores on the BSI are very acceptable," and that the "instrument is an adequate substitute for the SCL-90" (p. 111).

While predictive and construct validity have not been established for the BSI, concurrent validity was shown through correlations with the Wiggins and Tyron scales of the MMPI. These correlations varied from .30 to .72, "with the most relevant average score correlations averaging above .5" (Cundick, 1989, p. 111).

While the norms for the BSI were fully described, Cundick (1989) suggested that they might not be representative of the U.S. population. Moreover, he also questioned the lack of validity scores. And he suggested that faking, limited reading abilities, and confusion might produce misleading individual profiles. Nonetheless, he found the BSI to be a technically sound instrument, with definite usefulness as a screening measure.

Peterson (1989) also suggested that, "there is every reason to believe that this test will work as promised" (p.112). He contended that the "psychometric underpinnings" were "impressive" (p. 112); that internal consistency was good; and that test-retest reliability was excellent. He did believe that additional information was needed on the "state" and the "trait" scales, and did question the underresearching of predictive validity, but noted that both of those problems frequently were seen in tests covered by the MMY.

Montgomery's Measures of Objective and Subjective Burden.

The second instrument, which was used to assess burden, was the two part scale developed by Montgomery, Gonyea and Hooyman (1985): part 1 being the "Measurement of Objective Burden"; part 2, the "Measurement of Subjective Burden". This instrument was chosen to investigate the impact both of happenings and events, and of emotions and attitudes. The Objective Burden Scale was designed to measure the former, while the Subjective scale was utilized in measuring the latter. Specifically, objective burden was "defined as the extent of disruptions or changes in various aspects of the caregivers' life and household" (p. 21), whereas subjective burden was characterized as the caregivers' emotional reactions to and feelings about the caregiving experience.

The Objective Burden Scale consisted of a nine item inventory, which asked caregivers questions about "the extent to which . . . caregiving behaviors had changed nine areas of their lives" (Montgomery, Gonyea & Hooyman, 1985, p. 21), with responses being made on a Likert scale ranging from 1, a lot more, to 5, a lot less. These nine areas were drawn from prior research, which had identified the areas of change in the caregivers' lives created by the caregiving experience. Montgomery et al (1985) used a Chronbach's alpha to assess their instrument's reliability, and reported an alpha of .85.

The Subjective Burden Scale consisted of a 13 item inventory, with a Likert rating scale measuring how often an item was experienced. These items, which related to feelings and attitudes, were drawn from an earlier burden inventory by Zarit. Montgomery et al (1985) reported an alpha of .86 for this scale.

Robinson (1990), who used this instrument in a study of the relationships between social supports and skills, and esteem in the development of burden in adult caregivers, reported that Montgomery et al had found that objective and subjective burden "were correlated (r = 0.34), but shared only 12% common variance" (p. 790).

Montgomery and Borgatta (1989) also utilized these two measures in their study on the effects of alternative support strategies for caregivers. However, their reported reliability differed from that reported in the Montgomery, Gonyea, and Hooyman study. Instead, the reliability coefficient for the objective measure, which was achieved by the summing of the 5 item scales and then by using a Cronbach alpha, was greater, at .94; the subjective scales' coefficient was lower, at .73.

Although this was an unpublished instrument with no manual, and only minimal research conducted on/with it, it did address the emotional reactions associated with caregiving. Although no within-scale validity correlations were reported, the scales' items were drawn from prior research and instrumentation, which suggested content validity. The reported reliability also appeared to be quite acceptable. This instrument, therefore, was an appropriate tool for measuring both objective and subjective burden.

The Hassles and Uplifts Scales.

The "Hassles and Uplifts Scales: Research Edition" by Richard Lazarus and Susan Folkman was used as a measure of stressors and uplifts. According to the authors, these scales had three purposes: (1) to identify stress sources; (2) to help in the development of coping strategies for every day problems; and (3) to provide a positive focus on the aspects of everyday life, which could help counteract the negative aspects of stress (CPP, 1991).

Although three separate scales, Hassles, Uplifts, and the Combined Scales exist, this study utilized the Combined Scales, which allowed for an experience to be rated as either an uplift, a hassle, or both. This 53 item test offered normative data based on a sample of elderly individuals and adults from age 65 to 74. Scores of intensity and frequency were available in the Manual (CPP, 1991). The items on the scale covered a broad spectrum of stressors. These included finances, marital and family problems, plus work related difficulties (Gruen, Folkman, & Lazarus, 1988). Although this test was untimed, it took an average of 20 minutes to complete (CPP, 1991).

The present scale, a revision of the initial scale constructed by Kanner, Coyne, Schaefer, and Lazarus (1981) was redone in 1985 for the purposes of greater clarity and greater research effectiveness. The modified scale eliminated redundant items, and avoided the use of words and items which might suggest psychological and/or somatic symptoms. The revision also was partially in response to criticism of confounding (Dohrenwend & Shrout, 1985), within the original version, and due to methodological problems, which could "artifically inflate correlation coefficients" (Weinberger, Hiner, & Tierney, 1987, p. 23). In addition, the format was altered to provide a four point Likert scale which ranged from "0--(none or not applicable) to 3--(a great deal)" (DeLongis, Folkman & Lazarus, 1988, p. 488).

In the longitudinal study on married couples in which the revised hassles scale first was used, autocorrelations (test-retest reliablities) were high, ranging from .77 for day to day, to .82 from month to month. Between the first and the last month, the correlation was .72.

Dohrenwend and Shrout (1985) questioned if the examination of hassles was adequate to the understanding of the development of stress. They pointed out that the underlying theme in stress was an understanding of the processes involved, and that this understanding depended upon the personal dispositions, social circumstances and coping ways and appraisals of the individual involved. They also warned that hassles needed to be broken into "events and reactions to events" (p. 785), if queries about hassles and their role in the development of distress were to be answered.

Lazarus, DeLongis, Folkman and Gruen (1985) in turn challenged Dohrenwend and Shrout's contentions. They countered that the appraisal process of hassles not only could not be, but should not be, removed from the measurement of psychological stress, and that stress lay in "the person's appraisal of the _relationship_" (p. 770) between his/her environmental input, and the environment's demands, plus the person's own beliefs, goals, and abilities to meet those demands. They also conducted a factor analysis of the Scales which clearly showed that any confounding within the Scales did not affect the "stress-symptoms relationship" (p. 772).

A study of pain and its relationship to hassles was conducted by the Bristol-Meyers Company, using a modified version of the original Hassles Scales. The results showed that individuals with high scores were more likely to have experienced each type of pain--headaches, backaches, msucle pains, joint pains, stomach pains, menstrual pains, and dental pains--at least once during the previous year, and to have experienced the pain more frequently than individuals with low scores. Hassles also were found to have a greater impact on Blacks and Hispanics, those with low SES, and younger adults. In short, there appeared to be a close relationship between hassles and stress on all of the study's pain and demographic variables (Sternbach, 1986).

The California Psychological Inventory-Revised.

The California Psycholocial Inventory-Revised (CPI-R) scales for Self-acceptance, Responsibility, Socialization, Self-control, Tolerance, Achievement via Conformance, Psychological-mindedness, and Flexibility were used to investigate the personality characteristics of the caregiver. As noted above, Watson and Kendall (1983) suggested that the 1975 version of this instrument was particularly useful in examining a nonpathological population, and both Boyatzis (1975) and Biaggo (1980) found it useful in studying anger, a characteristic which Vitaliano et al (1989) theorized was important in the development of burden. The 1991 Catalog (CPP) also noted that this instrument was useful in understanding maladjustments, and in evaluating problems such as vulnerability to physical illness.

The Catalog (1991) also described the CPI as " a multipurpose questionnaire designed to assess normal personality characteristics important in everyday life" (p. 32). Self-administered and containing 462 items, the entire CPI-R requires an average of 45 to 60 minutes, although the eight scales used in this study averaged roughly 20 minutes of testing.

Including 20 folk concept scales, the CPI-R was designed to move "from the more interactional, socially observable qualities . . . through . . . scales assessing internal values and control mechanisms, . . . ending with measures of broadly stylistic variables related to different functional modes" (Gough, 1987, p.5). The Manual suggested that these scales had only two fundamental aims:

"(1) to predict what people will say and do in specified contexts, and

(2) to identify individuals who will be evaluated and described in particular and interpersonally significant ways" (Gough, 1987, p.4).

The Manual also contended that the scales did not represent psychometric psychological traits, but rather carried "classificatory and predictive impact" (Gough, 1987, p.4).

In addition, the CPI-R added three structured scales which serve as "markers," and which can be inferred from clustering within the 20 scales. These scales, v.1, v.2, and v.3, measure in order: the introversion-exterversion axis; norm-favoring versus norm-doubting tendencies; and self-realization. A cuboid model then allows for an examination of the levels of interaction between these scales, and of the potential attached to each level (Gough, 1987).

The norms for the CPI-R were drawn from two samples: 1000 males and 1000 females, "with minor reductions of the initially observed standard deviations for DO, Cs, Sp, and Sa, so as to enhance similarities of the new profile configurations with those previously established for the" 1975 CPI (Gough, 1987, p. 90), the norms for which were developed from samples of 6,200 and 7,150 subjects respectively. The 1987 version's subjects represented a wide age and educational range, from 17 to 70 plus, and from grade school to doctorate level. Moreover, the SES range extended from the unemployed, underprivileged to the wealthy, while ethnic groups included whites, Afro-Americans, Asian-Americans, Hispanics, Native Americans, Samoans and others. It was noted, however, that all ethnic/racial groups, except whites, were "somewhat underrepresented" according to population statistics, and that the sample subjects did not represent a true random sample of the U.S. population (Gough, 1987, p.50).

The CPI-R Manual did offer test-retest reliabilities, which ranged from .49 on "Flexibility" to .87 on "Tolerance," for prison males; from .44 on "Communality to .77 on "Intellectual Efficiency," for high school girls; and from .38 on "Communalilty," to .75 on"Intellectual Efficiency," for high school males (Gough, 1987).

Gough (1975) suggested that validity was more difficult to assess than reliability, but that cross-validational studies of the 1975 CPI presented evidence of adequate validity. In addition, Baucom (1985) contended that "many of the correlations between individual CPI scales and relevant external criteria fell in the .2 to .5 range" (p. 251). These correlations, he believed, were acceptable, since such low relationships were "typical in personality research (p. 251), and showed moderate and respectable relationships to wide criterion range.

According to Piotrowski and Keller (1984), the CPI was one of the 5 objective personality measures with which PhD candidates in clinical psychology needed to be familiar, since only the MMPI has more clinical endorsements. Baucom (1985) also reported that the CPI was the second most frequently used instrument in adolescent research from 1969 to 1973, and suggested that it was a popular research tool, which had the respect of many psychologists. Although it was criticized by Eyseneck (1985) for its lack of factorial logic, the CPI appeared, according to Baucom (1985), to be the "most superior instrument" (p. 252), for measuring the constructs which it presented. It was popular because respondents easily understood its items, and found its "folk concepts" appealing. Moreover, the research, of which there was over 1200 studies using the 1975 version, indicated that the "scales generally measure what their scales suggest"(p. 252), and that the CPI-R was an utilitarian instrument (p.252).

Ways of Coping Questionnaire.

The coping profiles of the caregivers were examined using Folkman and Lazarus's Ways of Coping Questionnaire (WOC), which measured the behaviors and thinking processes of individuals coping with everyday stressors. Its scales included: positive reappraisal; accepting responsibility; planful problem solving; seeking social supports; and confrontive coping. The WOC was designed for high school students and adults (CPP, 1991), and averaged about 10 minutes to take.

Folkman and Lazarus (1980) described the WOC as a 68 item checklist, which provided a "broad range of behavioral and cognitive coping strategies which an individual might use in a specific stressful episode" (p. 224), with these strategies being drawn from the coping strategies suggested earlier by Lazarus's conceptual coping framework, and from the research literature on coping. Items were classified into two categories: problem- and emotion-focused. The former included items which described "cognitive problem-solving efforts and behavioral strategies for altering or managing the source of the problem" (p. 224); the latter, items which described behaviors and cognitiions "directed at reducing or managing emotional distress" (p. 225).

Folkman and Lazarus (1980) assessed internal consistency of the WOC using four methods. One interdisciplinary group familiar with the project identified each item as either emotion- or problem-focused with a 91% agreement rate. And a group of undergraduates identified 78% of the items according to their assigned scales (a .05 level of significance). The third method, in which factor analysis was used, found that 78% of the problem-focused, and 68% of the emotion-focused items correlated with their assigned factor. Finally, a Cronbach's alpha found an alpha coefficient of .80 for the problem-focused and .81 for the emotion-focused items. Folkman and Lazarus (1980) also discovered a .44 correlation between the two scales, which they believed to be acceptable due to the dual nature of normal coping.

Vitaliano, Russo, Carr, Mauiro and Becker (1985), in an article which presented a revised WOC, assessed the construct validity of both their revised scale and the original. Using statistical analysis, they examined the relationships between the source of stress and the coping used to handle that stress in three different samples, with the result that they reported good construct validity. They also suggested that their data indicated acceptable concurrent validity.

Internal consistency reliabilities were reported for four of the original's scales also using all three samples. These reliabilities ranged from .82 (in two samples) to .76 for problem-focused; .86 for all three samples on wishful thinking; .78, .60, and .60 on "seeks social support;" and .78, .80, and .76 on "blames self." For all four scales the reliabilities were quite acceptable.

Vitaliano, Maiuro, Russo and Becker (1987) criticized the WCC for its methodological limitations. Primarily, they were concerned because it was developed "by factor analyzing 68 items on only 100 subjects" (p. 2.), and because some of its items appeared to lack good face validity. Nonetheless, they also admitted that the instrument represented "a major advance in research on coping." It, therefore, was selected for this study, although its scores were reported as both raw and relative scores, which Vitaliano et al (1987) suggested improved the understanding of the interplay between the various strategies which constitute coping.

Social Support Behaviors Scale (SS-B).

The SS-B, a self-report measure designed to "tap five modes of supportive behavior" (Vaux, Riedel, & Stewart, 1987, p. 209), emotional; socializing; practical assistance; financial assistance; and advice/guidance was used in this study. This 45 statements scale was designed to indicate various types of support, "such as 'would comfort me if I was upset' and 'would pay for my lunch if I was broke'" (Gannon & Pardie, 1989, p. 362). Each item was rated on a scale from 1 to 5, with 1 representing "no one would do this;" and 5, "most family member/friends would certainly do this." Items were rated twice, for both friends and relatives, with each group's scores "generated by summing item ratings" (p. 362).

Vaux and Stewart (1986) in a study on the social networks, perceptions and behaviors of white and Afro-American college students found an internal consistency (alpha .85) for the SS-B. Vaux and Wood (1985) also used path analysis to show the predicted associations with both support appraisals and with network resources. Vaux, Riedel and Stewart (1987) also used five strategies to test the SS-B as an adequate research measure. First, they examined content by asking judges to classify items. These judges, who were five psychology faculty members, eight graduate students and 25 undergraduates, and all of whom were unfamiliar with the SS-B, correctly classified a high percentage, ranging from 82 to 92%, of items to their scales. The authors, therefore, contended that the SS-B appeared to have good content validity, and that the items were assigned to the correct scales.

Vaux and his colleagues were most interested in the adequacy of the SS-B's five subscales, and a study of the "five-mode specific support variables across . . . six conditions" (Vaux, Riedel, & Stewart, 1987, p. 218) provided evidence of the SS-B's subscales' sensitivity, while a third study, using factor analysis, found significant associations between conceptually related associations in the SS-B and the Inventory of Socially Supportive Behaviors (ISSB). Yet another study provided evidence that the SS-B tapped distinctly different modes of support. And a fifth study, which utilized factor analysis, and which defined each factor "as the sum of the unit weighted items assumed to compose it" (p. 226), found internal consistency ranging from .82 to .90. Moreover, "all items loaded significantly and very highly (most >.70) on the factor they were designed to measure" (p. 227). As a result of these studies, Vaux _et at_ (1987) suggested that consistent evidence existed for the validity of the SS-B.

Negative Network Orientation (ORIENT).

The second social support scale which was used was Vaux's Negative Network Orientation (ORIENT), which measured "an individual's lack of willingness to utilize social support" (Gannon & Pardie, 1989, p. 362). This self-report measured the "perspective that it was inadvisable, useless or risky to seek help from others" (Vaux, 1985, p. 1182). Twenty items, such as "some things are too personal to talk to anyone about," were rated on a Likert scale, with 1 being "strongly agree;" 4, "strongly disagree." The scores for negative items were reversed and the scores summed, with high scores reflecting a negative network orientation.

Vaux (1985) examined the structure of his ORIENT scale using factor analysis. Using Cattell's scree test, he extracted three factors, advisability/ independence, history, and mistrust, and then subjected them to "an orthogonal rotation" (p. 1181). Vaux found that all three "factors were interpretable, with all items loading (> .40)" (p. 1181). He, therefore, suggested "that independence and help-seeking norms, history with help-seeking, and mistrust" were "the major components of a negative network orientation" (p. 1182).

Vaux, Burda and Stewart (1986) also used the data from five samples (four of whom were composed of students; one of community adults) to assess the reliability and the validity of ORIENT. Item homogenity reliabilities were investigated with the authors finding that "coefficient alpha was high for most of the samples" (p. 163), ranging from a high of .88 to a low of .60. They, therefore contended that the reliability of the scale was "more than adequate" (p. 165).

Test-retest reliability showed somewhat different results, however, with coefficients ranging from .18 to .85. Vaux et al (1986), however, suggested that these differences might be due to the populations sampled.

Vaux et al (1986) also assessed validity using "social support characteristics, coping and self-disclosure, and personal characteristics" (p. 166) as the criteria for testing. The authors found that "network orientation was related consistently and significantly to the availability of specific supportive behaviors" (p. 166), and that a negative orientation was reflected in a "lower availability of socially supportive behaviors" (p. 166), and with the perception of lessened family support.

While the results of interpersonal coping presented relationships in the predicted direction, these relationships were not significant. Moreover, the authors found self-disclosures' results disappointing, although for self-disclosure interview measures, the inverse relationship in the case of duration did achieve significance, and intimacy and number of feeling statements did show small to moderate relationships (Vaux et al, 1986).

Personality characteristics did achieve better results for the researchers (Vaux et al, 1986). "Most but not all of the predicted relationships with network orientation were supported" (p. 167), with autonomy and aggression--the former a surprise; the latter predicted--as the exceptions.

In short, Vaux et al's (1986) research showed that ORIENT had "good reliability in terms of internal consistency, and under some circumstances, stability over time" (p. 168). Content validity, while somewhat weak with respect to coping and self-disclosure also was found to be acceptable with respect to personality and social support.

Specific Research Hypotheses

Four research hypotheses were considered in this study.

1. High burden scores, as measured by the Brief Symptom (BSI) and by Montgomery's Measures of Subjective and Objective Burden, will have:
   a. positive correlations with high stressor scores,

as measured by the Hassles component of the Hassles and Uplifts Scale, and positive correlations with high vulnerability scores, as measured by older age and lower SES, as measured by the demographic data, and by high hostility scores, as measured by the CPI's variables of self-control, responsibility, socialization, flexibility, psychological mindedness and tolerance, and by low self-esteem scores, as measured by the CPI's self-acceptance and achievement via conformance scores; and will have a positive correlation with the unwillingness to utilize existing social supports, as measured by Vaux's Network Orientation Scale (ORIENT);

b.and negative correlations with Uplifts scores as measured by the Hassles and Uplifts Scale; and negative correlations with high psychological resource scores, as measured by the Ways of Coping Questionnaire, and with high social support availability, as measured by Vaux's SS-B.

2. The correlations between burden, as measured by Montgomery's Measures of Subjective and Objective Burden and by the BSI, and

a.vulnerability, as measured by the CPI's scales of self-control, responsibility, socialization, flexibility, psychological mindedness, tolerance, self-acceptance, and achievement via conformance, and by the demographic data of age and income; and the unwillingness to utilize existing social support, as measured by ORIENT;

will be greater than the correlations between burden and

b. stressors, as measured by the Hassles Scales of the Hassles and Uplifts Scales; and psychological resources, as measured by the Ways of Coping Questionnaire; and social support, as measured by Vaux's SS-B.

3. High vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological mindedness, socialization, and achievement via conformance, will have a positive correlation with low scores on psychological resources, as measured by the Ways of Coping Questionnaire.

4. Low vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological mindedness, socialization, and achievement via conformance, will have:

a. positive correlations with high scores on social support, as measured by the SS-B; and

b. negative correlations with high scores on the unwillingness to use these social supports, as measured by the ORIENT.

Research Design

The design of this study was correlational, since the study tried to discover the relationships between stressors, vulnerability, psychological resources, and social support in the development or the alleviation of burden. The correlational method allowed for the analysis, individually and in combination, of the variables identified for each construct, and thus permitted the effect, which the variables had on "a particular pattern of behavior," to be studied. In addition, the correlational method yielded information concerning the degree of relationship between the variables. It provided "a measure of degree of relationship over the entire range" of the factors, or within each (Borg & Gall, 1989, p. 576). And as Borg and Gall noted (1989), it was an appropriate design due to the numerous variables in the study.

Statistical Analysis

Since, according to McMillan and Schumacher (1984), correlation "is technically a form of descriptive research" (p. 26), descriptive statistics were obtained for each variable within each measurement instrument, and for the Ways of Coping Questionnaire, using both raw and relative scores. Analysis of the data obtained for the BSI and Montgomery's Measures allowed the respondents to be grouped according to score clusters. Multivariate analysis of variance (MANOVA) then was done to determine how each of these clusters differed on the stressor, vulnerability, psychological resources and social support variables contained within the constructs; and to assess the correlates of burden and the sets of variables which best predicted burden. As noted by Harper and Lund (1990), multivariate analysis enabled the researcher "to allow for the fact that the effect of a particular variable depends on the level of influence" of the other variables. Additionally, the Pillais, Hotellings, and Wilks Multivariate tests for significance were used to examine for significant F values.

Univariate analysis of variance also was conducted, with the burden groups functioning as the dependent variables, and the scores for the Hassles and Uplifts Scales, the CPI, the demographic data, the Ways of Coping Questionnaire, Vaux's SS-B and ORIENT as the independent variables. A univariate F-test was used to determine what group differences accounted for significant F values. For the purposes of this study, a probability level of .05 was utilized to establish significance between the relationships.

Multivariate analysis techniques also were used to determine the correlations between the variables within each instrument, and within the entire study. The primary tool was a regression model, which used the scores of the stressor, vulnerability, psychological resource and social support variables in determining their correlation with the burden variables, and the Pearson Correlation, which examined variables specific to the hypotheses.

Chapter 4

Analysis of Results

The Subjects

The population of this study was composed of men and women who were the caregivers for their chronically ill spouses, with chronic illness being limited to cardiovascular disease for the purposes of this study. A total of 141 spouses were contacted through the offices of private cardiologists and clinics in the Richmond, VA metropolitan area. Contact was made with the subjects, either in their homes or in the referring sources' offices.

One hundred and twenty subjects completed all eight measures in this study. The subjects were predominately white, female, between 56 and 65, with some college. In addition, over half fell in an income range between $15,000 to $40,000 per year.

The subject group was not totally homogeneous, however. Over 10 percent of the subjects were African-Americans; one-fourth were male; and the educational level ranged from those not having a high school education, to those with post-graduate degrees. Moreover, the age range extended from "35 to 45" years old to "above 75" (Table 1).

TABLE 1: DEMOGRAPHICS

- GENDER:
  - MALE = 39
  - FEMALE = 89
- RACE/ETHNICITY:
  - WHITE= 94
  - AFRICAN-AMERICAN = 21
  - ASIAN-AMERICAN = 2
  - HISPANIC = 3
  - OTHER = 1
- AGE:
  - BELOW 35 = 0
  - 35-45 = 3
  - 46-55 = 26
  - 56-65 = 54
  - 66-75 = 29
  - ABOVE 75 = 8
- EDUCATIONAL LEVELS:
  - NO HIGH SCHOOL DEGREE = 9
  - HIGH SCHOOL = 37
  - SOME COLLEGE = 38
  - ASSOCIATE DEGREE = 10
  - BACHELOR'S DEGREE = 15
  - SOME GRADUATE WORK = 9
  - GRADUATE DEGREE = 2
- SES LEVELS:
  - BELOW $15,000 = 20
  - 15,001-25,000 = 35
  - 25,001-40,000 = 39
  - 40,001-60,000 = 18
  - 60,001-75,000 = 6
  - ABOVE 75,000 = 2

Burden.

Analysis of the data obtained from the BSI and from Montgomery's Scales of Objective and Subjective Burden was performed in order to group the 120 subjects according to three scoring clusters: high; moderate; and low burden.

The BSI's nine primary symptom dimensions were scored for each subject, and these scores were transferred to the "B--non-patient" score profile appropriate to each subjects's gender. Using the raw scores on the scoring profile, the appropriate T scores of each subject's symptom dimensions were identified. In this manner, T scores were obtained for the following symptom dimensions: somatization; obsessive-compulsive; interpersonal sensitivity; depression; anxiety; hostility; phobic anxiety; paranoid ideation; and psychoticism. The T scores below 40 and above 60 were considered outside of the normal range, and the above 60 percentile scores were considered to suggest symptomology within the effected dimension.

Montgomery's Scales were scored according to directions supplied by Montgomery and Borgatta (1986).

These authors, in a factor analysis of the original scales, identified five principal variables for objective burden: time for oneself; personal privacy; recreational time; vacation time; and time for friends and relatives. Responses to queries on these variables were scored using values from +2 to -2. Four variables related to subjective burden also were identified: nervousness/depression; stress in the relationship; manipulation; and excessive demands. The responses to the statements related to these variables were scored using a reversed scale from -2 to +2.

High burden was defined as existing if any of the BSI T scores exceeded the 71 percentile; if 2 or more T scores ranged from the 61 to 70 percentile; if one T score fell within the 61 to 70 percentile range, and there was a combined Montgomery's scales' score of 11 or above; or if the combined Montgomery's score was 14 or above.

Moderate burden was defined as: 1 BSI T score which ranged from the 61 to 70 percentile, with a Montgomery's score of 10 or below; 5 or more BSI T scores ranging from 51 to 60; or 5 or more T scores in the 41 to 50 percentile range, with a Montgomery's score between 7 and 13.

Low burden was defined as existing if there were 5 or more BSI T scores below the 50 percentile, and Montgomery's combined score was 6 or below.

Under this scoring plan, 56 subjects were found to have high burden; 39, moderate burden; and 25, low burden (TABLE 2).

TABLE 2: DISTRIBUTION OF BURDEN IN SPOUSAL CAREGIVER SUBJECTS

HIGH	MODERATE	LOW
56	39	25

Analysis of Variance

Multivariate analysis of variance (MANOVA) was done to determine if the "High," "Moderate," and "Low" Burden groups differed on more than one independent variable. Each subject had scores on 31 independent variables, which were drawn from the Daily Hassles and Uplift Scales, the eight scales of the CPI, the relative scores of the Ways of Coping Questionnaire, the SS-B, and ORIENT, and which were grouped into 20 clusters which included related variables. These cluster scores were represented by a vector score, and a mean vector score, a centroid, was calculated for each Burden group. The default function for the Manova was listwise deletion for the missing values.

Although MANOVA's are robust, a Multivariate test for Homogeneity of Dispersion was run. The matrices were: Boxes M = 950.15768; F With (420,17973) DF = 1.60884, P = .000 (Approx.); Chi-square with 420 DF = 697.91659, P = .000(Approx.). Three Multivariate tests of Significance were used to test the statistical significances: Pillais; Hotellings; and Wilks. While only the F statistic for Wilk's Lambda was exact, 5.88606, all three tests had significant F's (Table 3).

TABLE 3

Multivariate tests of Significance (S=2, M=8 1/2, N=47 1/2)

test	Value	Approx. F	Hypoth. DF	Error DF	Sig. of R
Pillais	.95907	4.51469	40.0	196.00	.000
Hotellings	3.10066	7.44158	40.0	192.00	.000
Wilks	.20408	5.88606	40.00	194.00	.000

Note. . F statistic for WILK'S Lambda is exact.

In addition, three additional Manova's were done using the demographic data. These data were not included in the initial Manova due to the confounding which the groupings of age and SES might have caused. Multivariate tests of significance were run on both age and SES, and on the effect of age by SES. All of the variables had significant F's (Table 4).

TABLE 4

TEST NAME	VALUE	APPROX. F	HYPOTH. DF	ERROR DF	SIG. F
AGE--Multivariate tests of Significance (S =3, M = 0, N = 46 1/2)					
PILLAIS	.15052	1.28098	12.00	291.00	.229
HOTELLINGS	.17225	1.34452	12.00	281.00	.193
WILKS	.85141	1.31450	12.00	251.64	.210
SES--(S = 3, M =1/2, N = 46 1/2)					
PILLAIS	.31383	2.26653	15.00	291.00	.005
HOTELLINGS	.36651	2.288868	15.00	281.00	.005
WILKS	.71278	2.28485	15.00	262.65	.005
AGE BY SES--(S = 3, M = 4, N = 46 1/2)					
PILLAIS	.43143	1.35771	36.00	291.00	.091
HOTELLINGS	.52557	1.36747	36.00	281.00	.086
WILKS	.62191	1.36326	36.00	281.42	.089

Univariate tests also were done on the twenty clustered variables in order to determine which of these variables were statistically significant, and contributed to the Manova F. All twenty had significant F's (Table 5).

TABLE 5

Univariate F-tests with (2, 117) D.F.

Variable	Hypoth. SS	Error SS	Hypoth. MS	ERR.MS	F	Sig. of F
USEV	2.61698	12.09157	1.30849	.10414	12.55296	.000
HSEV	6.96426	9.89342	3.48213	.08529	40.82785	.000
SA	3751.26194	9647.29268	1875.63097	83.16632	22.55277	.000
RE	3882.90122	3667.73744	1941.45061	31.61843	61.40251	.000
SOC	2863.06080	6339.81315	1431.53040	54.65356	26.19281	.000
SC	2950.95606	6228.89268	1475.47803	53.69735	27.47767	.000
TO	2917.84178	8615.03217	1458.92089	74.26752	19.64413	.000
AC	1249.40373	8130.52904	624.70186	70.09077	8.91276	.000
PY	3305.93247	4980.05072	1652.96624	42.93147	38.50244	.000
FX	5368.22079	6757.24140	2684.11039	58.25208	46.07750	.000
CON	79.39442	973.88289	39.69721	8.39554	4.72837	.011
DIS	163.38681	1432.57958	81.69340	12.34982	6.61494	.002
SEL	247.68265	2971.81315	123.84133	25.61908	4.83395	.010
SEEK	304.42471	2711.50807	152.21235	23.37507	6.51174	.002
ACC	31.89423	532.74443	15.94711	4.59262	3.47233	.034
ESC	479.40529	2166.44345	239.70264	18.67624	12.83463	.000
PLAN	230.14302	800.78135	115.07151	6.90329	16.66909	.000
POS	102.62243	1476.01622	51.31122	12.72428	4.03254	.020
SSB	35132.17804	1455637.51944	17566.08902	1255.49586	13.99136	.000
NEG	5716.38447	9148.77520	2858.19223	78.86875	36.23986	.000

Univariate tests then were done on the demographic data used in the three other Manova's. The three had significant F's for all of the variables (Table 6).

Table 6

AGE--Univariate F-tests with (4, 97) D. F.

VARIABLE	HYPOTH. SS	ERROR SS	HYPOTH. MS	ERR. MS	F	SIG OF F
OBJ	25.21225	505.61230	6.30306	5.21250	1.20922	.312
SUBJ	11.10516	789.69921	2.77629	8.14123	.34102	.850
GSI	3838.19671	27893.74556	959.54918	287.56439	3.33682	.013
SES--WITH (5, 97) D.F.						
OBJ	106.84779	505.61230	21.36956	5.21250	4.09968	.002
SUBJ	107.58632	789.69921	21.51726	8.14123	2.64300	.028
GSI	4141.11786	27893.74556	828.22357	287.56439	2.88013	.018
AGE BY SES--WITH (12, 97) D.F.						
OBJ	69.32476	505.61230	5.77706	5.21250	1.10831	.362
SUBJ	131.90958	789.69921	10.99247	8.14123	1.35022	.204
GSI	5165.09160	27893.74556	430.42430	287.56439	1.49679	.138

Multiple Regression.

Three criterion variables were identified: 1. Symptom Severity; 2. Objective Burden; and 3. Subjective Burden. Symptom Severity was assessed by using the General Severity Index (GSI) of the BSI. This index was chosen because it is the most sensitive of the three BSI Global scales, and because it provided a summary value of the nine BSI symptom dimensions.

Objective Burden was assessed by the total score on the Objective component of Montgomery's Scales. All five measures, with scores ranging from +2 to -2 were summed to determine the degree of objective burden in each subject. Subjective Burden was assessed using the total score from the subjective component of Montgomery's test. The four statements, with scores ranging from -2 to +2, were summed to determine the amount of subjective burden.

All variables were tested for tolerance prior to entry into the equations. Since no entry method was specified, the trial criteria for entry was used. The probability of F to enter was = .05, and the probability of F to remove was .10.

Three multiple regressions analyses were done, one for each of the criterion variables. For each, the subjects' scores on all of the 36 influence-effect measures were used (Table 7 for independent variables; Appendix IV for Summary Tables). Pearson product-moments then were done to determine the correlation coefficients specific to each hypothesis.

TABLE 7

THE INDEPENDENT VARIABLES FOR MULTIPLE REGRESSIONS

1 GENDER
2 RACE
3 AGE
4 EDUCATION
5 SES
6 NUMBER OF UPLIFTS
7 SEVERITY OF UPLIFTS
8 NUMBER OF HASSLES
9 SEVERITY OF HASSLES
10 SELF ACCEPTANCE
11 RESPONSIBILITY
12 SOCIALIZATION
13 SELF CONTROL
14 TOLERANCE
15 ACCOMPLISHMENTS/CONFORMITY
16 PSYCHOLOGICAL MINDEDNESS
17 FLEXIBILITY
18 CONFRONTATIVE COPING--RAW
19 DISTANCING--RAW
20 SELF CONTROLLING--RAW
21 SEEKING SOCIAL SUPPORT--RAW
22 ACCEPTING RESPONSIBILITY--RAW
23 ESCAPE\AVOIDANCE--RAW
24 PLANFUL PROBLEM SOLVING--RAW
25 POSITION REAPPRAISAL--RAW
26 CONFRONTATIVE--REL
27 DISTANCING--REL
28 SELF CONT--REL
29 SEEKING SOC. SUP--REL
30 ACCEPTING RESP--REL
31 ESCAPE/AVOIDANCE--REL
32 PLANFUL PROB. SOLV--REL
33 POSITION REAPPRAISAL--REL
34 SS-B FAMILY
35 SS-B FRIENDS
36 ORIENT

Please note...Raw is designated by 1 in the analysis

The Specific Research Hypotheses

Hypothesis No. 1.

1. High burden scores, as measured by the BSI and by Montgomery's Measures of Subjective and Objective Burden, will have:

a. positive correlations with high stressor scores, as measured by the Hassles component of the Hassles and Uplifts Scale; and positive correlations with high vulnerability scores, as measured by older age and lower SES, as measured by the demographic data, and by high hostility scores, as measured by the CPI's variables of self-control, responsibility, socialization, flexibility, psychological mindedness, and tolerance, and by low self-esteem scores, as measured by the CPI's self-acceptance and achievement via conformance scores; and positive correlations with the unwillingness to utilize existing social supports, as measured by Vaux's Network Orientation Scales (ORIENT);

b. and negative correlations with uplifts, as measured by the Uplifts component of the Hassles and Uplifts Scales; and negative correlations with high psychological resource scores, as measured by the Ways of Coping Questionnaire (WOC), and with high social support availability, as measured by Vaux's SS-B scales.

Analysis of variance was used to examine low, moderate, and high burden in relationship with "Uplift severity" and "Hassles severity." Severity of uplifts was found to decrease as burden level decreased; severity of hassles increased as burden level increased (Table 8).

TABLE 8

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==========================================================================================
                       ANALYSIS OF VARIANCE--HASSLES AND UPLIFTS
------------------------------------------------------------------------------------------
--
VARIABLE . . .UPLIFTS--SEV.
   FACTOR       CODE     MEAN         STD. DEV     N        95 PERCENT CONF. INT.
    GROUP        1       1.937         .312        25        1.808   2.066
    GROUP        2       1.723          .307       39        1.623   1.822
    GROUP        3       1.552         .338        56        1.461   1.643
FOR ENTIRE SAMPLE             1.689          .353  120       1.625   1.753
        1 = LOW BURDEN   2 = MODERATE BURDEN     3 = HIGH BURDEN
----------------------------------------------------------------------------------------
VARIABLE . . .HASSLES--SEV.
   FACTOR       CODE     MEAN         STD. DEV     N        95 PERCENT CONF. INT.
    GROUP        1       1.285         .236        25        1.187   1.382
    GROUP        2       1.590          .3331      39        1.483   1.697
    GROUP        3       1.904         .285        56        1.827   1.981
FOR ENTIRE SAMPLE             1.671          .378  120       1.602   1.740
        1 = LOW BURDEN   2 = MODERATE BURDEN     3 = HIGH BURDEN
==========================================================================================
```

A significant, positive correlation at the .01 level was found, using the Pearsons' Correlation Coefficient, for the relationship between Hassles-severity and GSI, Objective and Subjective burden, and a significant, negative correlation at the .01 level for the relationship between Uplift-severity and GSI, Objective and Subjective burden. It also, however, found a significant, negative correlation at the .01 level in the relationship between hassles-frequency and GSI; and a significant, negative correlation at the .05 level for hassles-frequency and Objective burden. The correlation between hassles-frequency and Subjective burden also was negative, but was not statistically significant.

Uplifts-frequency had a .01 level of statistical significance in its correlation with both GSI and Objective burden, but had only .05 level of negative correlation with Subjective burden (Table 9).

TABLE 9

CORRELATION COEFFICIENTS---HASSLES AND UPLIFTS

	UFRQ	HFRQ	USEV	HSEV
GSI	-.4943**	-.2826**	-.3681**	.7198**
OBJ	-.3755**	-.1875*	-.3416**	.6416**
SUBJ	-.2083*	-.0591	-.3884**	.4843**

* - SIGNIF. LE. 05 ** - SIGNIF. LE. 01 (2-TAILED)

A separate Manova was performed to investigate the relationship of age and of SES with the development of burden. Twenty-two cells were accepted for each of the dependent variables. The results showed a tendency for objective burden to decrease as income increased for all five age levels, with four exceptions. The mean score for the age 46 to 55 group making over $25,001 was .75 higher than for the $15,001 SES level for that age group. The age group between 56 and 65 also had two unexpected mean scores, but these may have been influenced by the small cell numbers--one had only one member, the other four. In addition, for the age group between 66 and 75, the mean score of the one subject making over $75,000, was the highest score for that age range (Appendix V.).

Subjective Burden had results which were less consistent, as did GSI; however, there was a tendency for GSI to decrease as income increased. Multivariate tests of significance on the effect of AGE by SES, however, found the results to be statistically significant (Table 4). Univariate F-tests also found significance (Table 6).

A Pearson's correlation was run to determine the magnitude and the direction of the correlations between the three dependent variables, GSI, objective burden, and subjective burden, and the two independent variables, age and SES. The six resulting correlation coefficients were significant to the .01 level. The correlation between burden components and age were positive; those between the burden components and SES, negative (Table 10).

TABLE 10

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==========================================================================================
                        CORRELATION COEFFICIENTS---DEMOGRAPHICS
------------------------------------------------------------------------------------------
--
                     AGE                              SES
      GSI            .3459**                          -.4446**
      OBJ            .2791**                          -.4717**
      SUBJ           .2625**                          -.4404**

* Signif. LE .05      ** Signif. LE .01    (2-tailed)
==========================================================================================
```

Analysis of variance was done to determine if the high, moderate, and low burden groups differed on the CPI scales variables. The MANOVA showed that for all eight scales that as burden increased, that the mean scale scores decreased (Appendix VI). High hostility scores, therefore, were defined by low scores on the CPI variables of self-control, responsibility, socialization, flexibility, psychological mindedness, and tolerance. Low self-esteem was defined by low scores on the CPI self-acceptance and achievement via conformance variables. A negative correlation was expected due to these definitions, and the direction was reversed in considering whether to accept or reject the hypothesis.

The Pearsons' Correlation Coefficient of all six of the CPI "hostility" scales was negative, and statistically significant at the .01 level when correlated with the three burden components. The two CPI "self-esteem" scales were statistically significant in a negative direction, at the .01 level, with GSI, Objective and Subjective burden (Table 11).

TABLE 11

CORRELATION COEFFICIENTS---CPI SCALES

	SC	RE	SOC	FX	PY	TO	SA	AC
GSI	-.5388**	-.6375**	-.5429**	-.5763**	-.5870**	-.4960**	-.5440**	-.2905**
OBJ	-.4713**	-.5471**	-.4844**	-.5323**	-.4814**	-.4003**	-.4773**	-.2509**
SUBJ	-.5374**	-.5696**	-.4389**	-.4614**	-.4265**	-.3561**	-.4043**	-.2875**

* - SIGNIF. LE .05 ** - SIGNIF. LE .01 (2-TAILED)

Analysis of variance was used to examine low, moderate and high burden in relationship with all eight relative scales of the Ways of Coping Questionnaire. While the mean scores for confrontive coping and accepting responsibility had no real pattern, the other scales revealed two patterns. As the mean scores increased, the burden level increased for distancing and escape/avoidance. As the mean scores decreased, the burden level increased for self-controlling, seeking social support, planful problem solving, and positive reappraisal (Appendix VI).

Low psychological resources, therefore, were defined as high dependence on distancing and escape/avoidance; and as low dependence on self-controlling, seeking social support, planful problem solving, and positive reappraisal. High dependence on confrontive coping also was considered a marker for low psychological resources, since the high burden group's mean score was higher than that of the low burden group. In addition, low dependence upon accepting responsibility was considered indicative of low psychological resources, since the low burden group had a higher mean score than did the high burden group. Postive correlations, therefore, were expected with the confrontive, distancing and escape/avoidance variables; negative correlations with the self-controlling, seeking social support, planful problem solving, and positive reappraisal variables.

The burden variables of GSI, Objective and Subjective burden were correlated with the WOC's eight modes of coping. Confrontive coping was statistically significant only in relationship with Subjective burden. Distancing was significant at the .01 level with GSI and Objective burden, and at the .05 level with Subjective burden. "Escape/avoidance" was statistically significant at the .01 level with all three burden components. "Planful problem solving" was the only other coping variable significant to the .01 level in correlation to GSI, Objective and Subjective burden. "Seeking social support," however, was correlated to the .01 level with Objective burden, and to the .05 level with both GSI and Subjective burden. "Positive reappraisal" and "self-controlling" were related to Subjective burden at the .01 level of statistical significance, and with Objective burden at the .05 level; however, "postive reappraisal" was related to GSI at the .05 level, while "self-controlling's" relationship with GSI was not significant (Table 12).

TABLE 12

CORRELATION COEFFICIENTS---WOC

	CON	DIS	SEL	SEEK	ACC	ESC	PLAN	POS
GSI	.0717	.2440**	-.1156	-.2197*	-.0449	.4435**	-.4387**	-.1972*
OBJ	.1377	.2538**	-.1999*	-.2553**	-.0208	.4003**	-.3472**	-.2031*
SUBJ	.2197*	.2038*	-.2502**	-.1858*	-.0246	.4426**	-.3616**	-.2483**

* - SIGNIF. LE. 05   ** - SIGNIF. LE .01   (2-TAILED)

Analysis of variance was done to determine if the high, moderate and low burden groups differed on the "average" SS-B variable. The MANOVA showed that as the SS-B mean scores increased, that burden decreased (Table 13).

TABLE 13

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=================================================================================
                            ANALYSIS OF VARIANCE--SS-B
---------------------------------------------------------------------------------
---
VARIABLE . . .SS-B
   FACTOR       CODE      MEAN        STD. DEV.    N        95 PERCENT CONF. INT.
    GROUP        1        175.940     40.947           25        159.038     192.842
    GROUP         2          150.731     37.090          39          138.708     162.754
    GROUP         3          131.245     31.365          56          122.766     139.725
FOR ENTIRE SAMPLE               147.021     39.140          120          139.916     154.126
---------------------------------------------------------------------------------
--
=================================================================================
```

The Pearsons' Correlation also was used to assess the associations between GSI, Objective and Subjective Burden and social support, as measured by the SS-B. Three SS-B scores were used: an averaged score; Family; and Friends. All of the resulting correlations were statistically significant at the .01 level in a negative direction (Table 14).

TABLE 14

CORRELATION COEFFICIENTS ---SS-B

	SSB	FAMILY	FRIENDS
GSI	-.4579**	-.5280**	-.4698**
OBJ	-.3979**	-.5344**	-.5193**
SUBJ	-.2988**	-.4017**	-.4570**

* - SIGNIF. LE .05 ** - SIGNIF. LE .01 (2-TAILED)

The MANOVA also was used to examine the relationships between ORIENT and high, moderate and low burden. As the mean scores increased, the level of burden also increased (Table 15).

TABLE 15

ANALYSIS OF VARIANCE--ORIENT

VARIABLE . . .ORIENT

FACTOR	CODE	MEAN	STD. DEV	N	95 PERCENT CONF. INT.	
GROUP	1	33.920	8.336	25	30.479	37.361
GROUP	2	42.897	8.789	39	40.048	45.747
GROUP	3	51 709	9.175	56	49.229	54.189
FOR ENTIRE SAMPLE		45.084	11.224	120	43.047	47.122

1 = LOW BURDEN 2 = MODERATE BURDEN 3 = HIGH BURDEN

A Pearsons' correlation was calculated to determine the degree of and the direction of the correlations between burden, as identified by GSI, Objective and Subjective burden, and subjects' unwillingness to utilize social supports, as measured by Vaux's ORIENT. All three burden variables had statistically significant, negative correlations at the .01 level with ORIENT (Table 16).

TABLE 16

```
===============================================================================
                       CORRELATION COEFFICIENTS---ORIENT
-------------------------------------------------------------------------------
---
                                   ORIENT
                     GSI           .5670**
                     OBJ           .5157**
                     SUBJ           .4360**
       * - SIGNIF. LE .05     ** - SIGNIF. LE .01      (2-TAILED)
===============================================================================
```

Although most, but not all, of the predictions could be supported by the data, the first hypothesis could not be accepted for this study. Hassles-frequency was negatively correlated with all three burden criterion variables, and the components of psychological resources, as measured by the WOC, were not all related in a statistically significant manner with the burden components.

Hypothesis No. 2.

2. The correlations between burden, as measured by the BSI and Montgomery's Objective and Subjective Burden, and

a. vulnerability, as measured by the CPI's scales of Self-control, Responsibility, Socialization, Flexibility, Psychological Mindedness, Tolerance, Self-acceptance, and Achievement via conformance, and by the demographic data of age and income; and the unwillingness to utilize existing social support, as measured by ORIENT;

will be greater than the correlations between burden and

b. stressors, as measured by the Hassles component of the Hassles and Uplifts Scales; and psychological resources, as measured by the Ways of Coping Questionnaire; and social support, as measured by Vaux's Social Supports-Behaviors Scales (SS-B).

The Pearson Correlation was used to investigate the degree of correlation between the three components of burden, i.e., the GSI, and the Objective and Subjective Scales, and personal vulnerability. All eight CPI scales were statistically significant in a negative direction with the three burden variables (Table 11). Given the above definition that low CPI scale scores determined high personal vulnerability, that direction was expected.

A Pearson's correlation was run to determine the magnitude and the direction of the correlations between the three dependent variables, GSI, Objective Burden, and Subjective Burden, and the two independent variables of age and SES. The six resulting correlation coefficients were significant at the .01 level. The correlation between burden components and age were positive; those between the burden components and SES, negative (Table 10).

Pearsons' Correlations also were used to investigate the relationship between the three criterion variables of GSI, Objective and Subjective Burden and unwillingness to utilize social supports, as measured by Vaux's ORIENT. All three burden variables had statistically significant, negative correlations at the .01 level with ORIENT (Table 16).

In addition, Pearsons' Correlations were run to determine the correlations between burden, as measured by the GSI and Montgomery's Scales of Objective and Subjective Burden, and stressors and uplifts, as measured by the Hassles and Uplifts Scales (Table 8); and psychological resources, as measured by the Ways of Coping Questionnaire (Table 12); and social support, as measured by Vaux's SS-B (Table 13).

The correlation between Hassles-Severity and GSI (.7198) was the highest correlation found in the study; between Objective Burden and Hassles-Severity, the second highest (6416). The correlation between Responsibility and the GSI was the third highest correlation (-.6375) found in the data. The correlations between the CPI variables and the criterion variables (>-.3561), however, were larger for all but the Achievement via conformance correlations when compared with the correlations between the burden variables and Hassles-frequency (<-.2826), Uplifts-severity (<-3416)., and Uplifts-frequency (<-.2083). The correlations for ORIENT and the burden variables repeated this pattern.

The correlations between all three burden variables and age were higher than those between the Ways of Coping scales and the criterion variables, with two exceptions: the correlations between escape/avoidance (.4426) and planful problem solving (.3616) and Subjective Burden were greater than between age and Subjective Burden.

Most but not all of the predictions regarding the SES correlations with burden were supported. The correlation between avoidance and Subjective Burden (.4426), was greater than that between SES and Subjective

Burden (-.4404)

The predictions regarding SS-B and age were not supported. The correlation between SES and Objective Burden (-.4717) was greater than that between SS-B "averaged" and Objective Burden (-.3979); between SES and Subjective Burden (-.4404), greater than SS-B "averaged" and Subjective Burden (-.2988). The correlation between SS-B "averaged" and GSI (-.4579), however, was greater than the correlation between SES and GSI (-.4446). In addition, all of the correlations between SS-B-friends and the burden variables (>-.4570) were greater than those between SES and the criterion variables (-.4404). Moreover, the correlations between SS-B-family and GSI (-.5280), and SS-B-family and Objective Burden (-.5193) were greater than those between SES and GSI (-.4446), and SES and Objective Burden respectively (-.4717).

When compared with the correlations between the Ways of Coping scales and the burden variables, the CPI/burden correlations generally were higher. There were notable exceptions, however. The escape/avoidance correlation with Subjective Burden (.4426) was higher than the correlations between both socialization and Subjective

Burden (-.4389), and psychological mindedness and Subjective Burden (-.4265). The correlations between escape/avoidance by Objective Burden (.4003) and Tolerance by Objective burden (.4003) were equal, while escape/avoidance by Subjective Burden (.4426) correlation was greater than the Tolerance by Subjective Burden correlation (-3561). The correlation between planful problem solving and Subjective Burden (-.3616) also was higher than that of Tolerance by Subjective Burden (-.3561).

The escape/avoidance by Subjective Burden correlation (.4426) also was greater than the correlation between self-acceptance and Subjective Burden (-.4043). Moreover, all three correlations between escape/avoidance and the burden variables were greater than the Achievement via conformance by burden correlations. The planful problem solving correlations with burden criterion also were higher than the three Achievement via conformance by burden correlations.

The correlations between all three components of burden and seven of the eight CPI variables used to measure vulnerability were higher than the correlation between burden and social support, when the averaged SS-

B score was used. The Achievement via conformance variable, however, had a lower correlation for all three burden components, than did the SS-B "averaged." In addition, when the Family and Friend scores were used, there was no uniformity in the correlational pattern.

The correlations between ORIENT and the three burden variables were higher than the correlations between Hassles-frequency, Uplifts-severity, and Uplifts-frequency and the criterion variables; however, all three Hassles-severity by burden correlations were greater than the three ORIENT and burden correlations.

The correlations between all of the ORIENT by burden variables were greater than the Ways of Coping scales by burden correlations, with one exception: escape/avoidance's correlation with Subjective Burden (.4426) was higher than the correlation between ORIENT and Subjective Burden (4360).

The Multivariate analysis of variance showed that as burden increased, that the SS-B scores decreased (Table 13), and the ORIENT scores increased (Table 15).

The Univariate F-tests with (2, 117) D. F. also showed statistical significance (Table 5).

Pearsons' Correlation coefficients of the SS-B's three components (averaged, Family, and Friend) found that in relationship to the GSI, Objective and Subjective, that all nine components showed significance at the .01 level (Table 12). In addition, ORIENT had significant, positive correlations with all three burden components (Table 16).

Moreover, the Pearsons' Correlation showed that the correlations between burden, as measured by the BSI, using the GSI, and by Montgomery's Measures, and the unwillingness to utilize social supports (Table 16), as measured by ORIENT, were greater than the correlations between burden and the availability of social supports, when the "averaged" SS-B scores were used. When Family and Friend scores were examined, however, the correlations were no longer greater for all components (Table 14).

The second hypothesis was not supported by the data: (1) the correlations between Hassles-Severity and GSI and Objective burden were higher than any of the CPI scales/burden correlations; (2) the correlations between Hassles-Severity and GSI and Objective burden were higher than any of the ORIENT/burden correlations; (3) the correlation between escape/avoidance and Subjective burden was higher than several CPI/burden correlations; (4) the correlations between planful problem solving and the burden variables also repeated that pattern; (5) the Achievement via conformance variable's correlations with the burden criterion variables were lower than the SS-B's relationship with all three of these variables; (6) "Family" scores had higher correlations for: Self control, Objective burden; Socialization, Objective burden; Flexibility, Objective burden; Psychological mindedness, Objective burden; Tolerance, GSI; Tolerance, Objective burden; Tolerance, Subjective burden; Self acceptance, Objective burden; and all three Achievement via conformance correlations; and all three SES/burden correlations; (7) "Friend" scores had higher correlations for Self control, Objective burden; Self control, Subjective burden; Socialization, Objective burden; Socialization, Subjective burden; Psychological mindedness, Objective burden; Psychological mindedness, Subjective burden; Tolerance, Objective burden; Tolerance, Subjective burden; Self acceptance, Objective burden; Self acceptance, Subjective burden; and all three Achievement via conformance/burden correlations; and (8) the correlations between ORIENT and the burden variables were not greater than all of the correlations between the "Family" and burden criterion, nor greater than those between the "Friends" and burden variables.

Hypothesis No. 3.

3. High vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological mindedness, socialization, and achievement via conformance, will have positive correlations with low scores on psychological resources, as measured by the Ways of Coping Questionnaire.

In order to evaluate this hypothesis, high vulnerability scores and low scores on psychological resources had to be defined. Based on the above analysis of variance results for the CPI scales, high vulnerability scores were considered to exist if the eight CPI scales had low scores. Low psychological resources were associated with high scores on three of the Ways Of Coping scales: confrontive coping, distancing, and escape/avoidance; and with low scores on five of the Ways Of Coping scales: self-controlling, seeking social support, accepting responsibility, planful problem solving, and positive reappraisal.

The Pearsons' Correlation Coefficient showed significance between the majority of the CPI and the Ways Of Coping variables. Confrontive coping's correlations were statistically significant in a negative direction on four of the eight CPI scales; distancing, on all eight; and escape/avoidance, on all eight. Self-controlling was positively significant with three of the eight; seeking social support, with four of the eight; planful problem solving, with all eight; and positive reappraisal, with six. Accepting responsibility, however, had only one significant correlation, with Socialization, and that was in a negative direction (-.1875) (Table 17).

TABLE 17

CORRELATION COEFFICIENTS---CPI BY WOC

	CON	DIS	SEL	SEE	ACC	ESC	PLAN	POS
SC	-.2629**	-.2941**	.2121*	.1226	-.0073	-.3680**	.3782**	.2145*
TO	-.1254	-.4495**	.1467	.3115**	-.0172	-.3987**	.4987**	.3077**
FX	-.2421**	-.3926**	.1954*	.3242**	.0731	-.4105**	.4714**	.2334*
RE	-.2722**	-.3367**	.0670	.1314	.0255	-.4570**	.3388**	.1893*
PY	-.2064*	-.4113**	.1013	.3061**	-.0021	-.4872**	.5042**	.2050*
SOC	-.1552	-.3680**	.0411	.1231	-.1875*	-.3454**	.3009**	.2329*
SA	-.0578	-.2986**	.2150*	.3220**	.0578	-.3129**	.4009**	.1141
AC	-.1771	-.2640**	.0351	.0757	.0410	-.2646**	.1893*	.1518

* - SIGNIF. LE .05 ** - SIGNIF. LE .01 (2-TAILED)

The third hypothesis, therefore, could not be accepted for this study. The Ways of Coping's Confrontive coping was not statistically significant with the CPI's scales of Tolerance, Socialization, Self acceptance, and Achievement via conformance; nor was self-controlling, with the Tolerance, Responsibility, Psychological mindedness, Socialization, and Achievement via conformance scales of the CPI. seeking social support was not statistically significantly related with the CPI's Self control, Responsibility, Socialization, and Achievement via conformance scales. Positive reappraisal did not have a statistically significant correlation with the CPI's Self acceptance and Achievement. And accepting responsibility was statistically significant with only one CPI variable, Socialization, but that was in a negative, rather than in the expected positive direction.

Hypothesis No. 4.

4. Low vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological mindedness, socialization, and achievement via conformance, will have:

a. positive correlations with high scores on social support, as measured by the SS-B; and

b. negative correlations with high scores on the unwillingness to use these supports, as measured by ORIENT.

Analysis of variance was done to determine if the high, moderate, and low burden groups differed on the CPI scales variables. The MANOVA showed that for all eight scales that as burden increased, that the mean scale scores decreased (Appendix VI). Low vulnerability scores, therefore, were defined as high scores on the eight CPI scales.

The Pearsons' Correlation found a significant, positive correlation at the .01 level between the averaged SS-B scores and seven of the eight CPI scales. There was a .05 level significance for the correlation between SS-B and achievement via conformance (Table 17). A significant, negative correlation at the .01 level existed between all eight CPI variables and ORIENT (Table 18).

TABLE 18

CORRELATION COEFFICIENTS--CPI AND SS-B

	SS-B
SC	.4149**
TO	.3153**
RE	.4621**
SOC	.4825**
FX	.3959**
PY	.4200**
SA	.4100**
AC	.2298*

* = .05 ** = .01 (2 tailed)

TABLE 19

CORRELATION COEFFICIENTS--CPI AND ORIENT

	ORIENT
SC	-.4058**
TO	-.4946**
RE	-.4898**
SOC	-.5032**
FX	-.5562**
PY	-.5312**
SA	-.5293**
AC	-.2575**

* = .05 ** = .01 (2 tailed)

A statistical analysis of the data for this study supported the fourth hypothesis.

Chapter 5

Discussion of the Research

Study Overview

This correlational study investigated the influence of stressors, personal vulnerability, psychological resources, and social support on the development of a sense of burden in spousal caregivers of the chronically ill. Chronic illness was restricted to cardiovascular disease for the purposes of the study.

A non-random, convenience sample of 120 subjects was obtained from private cardiologists and cardiovascular clinics within the greater Richmond, VA area. The sample was predominantly white and middle class, and the majority of the subjects had a high school or above education. All of the subjects had some type of health insurance.

The investigator met with all of the subjects either individually in their homes, or in small groups at the referring facilities in order to explain the purpose of the testing and to instruct the subjects in how to complete the instruments. The testing began in June, 1992 and ended in January, 1993.

The theoretical rational for the study was from the work of Dr. Peter Vitaliano, a medical researcher at the University of Washington Medical School. He proposed that:

$$\text{Burden} = \frac{\text{stressors + personal vulnerability}}{\text{psychological resources + social support.}}$$

In order to investigate this theory, each construct in it was operationalized. Burden was determined using the Brief Symptom Inventory (BSI), and Montgomery's Scales of Objective and Subjective Burden. Stressors were measured with the Uplifts and Hassles Scales; personal vulnerability, with the Self control (Sc), Responsibility (Re), Socialization (So), Flexibility (Fx), Psychological Mindedness (Py), Tolerance (To), Self Acceptance (Sa), and Achievement via conformance (Ac) scales of the California Psychological Inventory (CPI); psychological resources, with the eight scales of the Ways of Coping Questionnaire (WOC); and social support, with Vaux's Social Support Behaviors Scale (SS-B). In addition, negative orientation toward utilizing available social support was measured by Vaux's Negative Orientation Network Scale (ORIENT).

Stepwise multiple regressions were run using three aspects of burden as the criterion variables: the General Severity Index (GSI) of the BSI, which was considered to be the most sensitive of the BSI's three global scales, and which provided a summary value of the nine BSI symptom dimensions; Objective Burden, as measured by Montgomery's Objective Scale; and Subjective Burden, as measured by Montgomery's Subjective Scale.

Pearsons' Correlation Coefficients also were utilized to evaluate the correlations between specific independent variables and the dependent variables, and between independent variables, whose relationships also had been hypothesized.

Univariate analysis of variance also was done to determine means and standard deviations of independent variables in high, moderate, and low burden groupings.

Discussion of the Theory and Hypotheses

Vitaliano et al (1988) suggested that burden was related positively "to stressful life events and vulnerability (personality characteristics, demographic variables" (p. 313), and related negatively "to quality of social supports (perceived helpfulness and satisfaction) and specific coping strategies (problem focused coping, seeking social supports)" (p.313). This study investigated that suggestion using four specific research hypotheses.

1. High burden scores, as measured by the Brief Symptom (BSI) and by Montgomery's Measures of Subjective and Objective Burden, will have:

a. positive correlations with high stressor scores, as measured by the Hassles component of the Hassles and Uplifts Scale; and positive correlations with high vulnerability scores, as measured by older age and lower SES, as measured by the demographic data, and by high hostility scores, as measured by the CPI's variables of self-control, responsibility, socialization, flexibility, psychological mindedness and tolerance, and by low self-esteem scores, as measured by the CPI's self-acceptance and achievement via conformance scores; and positive correlations with the unwillingness to utilize existing social supports, as measured by Vaux's Network Orientation Scale (ORIENT);

b. and negative correlations with Uplifts scores as measured by the Hassles and Uplifts Scale; and will have negative correlations with high psychological resource scores, as measured by the Ways of Coping Questionnaire, and with high social support availability, as measured by Vaux's SS-B.

Although most of the predictions were supported by the data, not all were; therefore, the statistical analysis of the data from this study did not support this hypothesis.

2. The correlations between burden, as measured by Montgomery's Measures of Subjective and Objective Burden and by the BSI, and

a. vulnerability, as measured by the CPI's scales of self-control, responsibility, socialization, flexibility, psychological mindedness, tolerance, self-acceptance, and achievement via conformance, and by the demographic data of age and income; and the unwillingness to utilize existing social support, as measured by ORIENT;

will be greater than the correlations between burden and:

b. stressors, as measured by the Hassles Scales of the Hassles and Uplifts Scales; and psychological resources, as measured by the Ways of Coping Questionnaire; and social support, as measured by Vaux's SS-B.

The statistical analysis of the data of this study did not support this hypothesis.

3. High vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological mindedness, socialization, and achievement via conformance, will have a positive correlation with low scores on psychological resources, as measured by the Ways of Coping Questionnaire.

The statistical analysis of the data from the study did not support this hypothesis.

4. Low vulnerability scores, as measured by the CPI's scales of self-control, tolerance, flexibility, responsibility, self-acceptance, psychological

mindedness, socialization, and achievement via conformance, will have:

a. positive correlations with high scores on social support, as measured by the SS-B; and

b. negative correlations with high scores on the unwillingness to use these social supports, as measured by the ORIENT.

The data from the study did support this hypothesis.

Despite the inability of the data to support all of the hypotheses, the data did offer some support for Vitaliano's theory. Variables within each of the constructs did appear to have a role in the development of burden.

Stressors.

Hassles-severity had the highest correlations of all of the variables examined with both GSI (.7198) and Objective Burden (.6416), and the third highest with Subjective Burden (.4843). Uplifts-severity, although it also was statistically significant to the .01 level with all three burden components, and met Borg and Gall's

(1989) criteria for practical significance for relationship research (> -.34), had much lower correlations with all three burden variables.

Hassles-frequency and Uplifts-frequency, moreover, proved to have even smaller correlations with burden, and Hassles-frequency unexpectedly had negative correlations with all three burden components. While these negative correlations were not expected prior to the data collection, the finding that "severity" had a greater degree of correlation with burden than did "frequency," reflected the arguments of Lazarus, DeLongis, Folkman and Gruen (1985). They maintained that it was the individual's appraisal of a hassle and/or uplift which determined its effect, and that stress was the relationship between a person and a stimulus, rather than the stimulus itself.

Although Dohrenwend and Shrout (1985) criticized the investigation of hassles and uplifts because these variables might introduce confounding due to their reliance on individual appraisal, it appeared that it was this very appraisal which was the key in determining "severity." Moreover, Reich, Parrella and Felstead (1988) suggested that confounding could be undone by distinguishing between the number of hassles and their intensity. They maintained that the Hassles scale could be used effectively to measure both the "objective and subjective aspects of stress" (p. 247). This study's data suggested that it was this subjective appraisal which was most closely related to the ability of hassles to impact the development of burden.

In addition, although the negative correlations of hassles-frequency with GSI, Objective and Subjective Burden cannot be explained definitively, some interpretations can be offered. Due to the very nature of the hassles themselves, they may have represented a sense of the familiar to the subjects. Since living with an ill person, and with the knowledge that person's health may deteriorate further, were stressors for the caregivers, a sense of normalcy may have functioned as a positive for the subjects.

The data did appear to suggest a definite relationship between the severity of hassles as perceived by the subjects and the subjects' development of burden. The severity of uplifts also did appear to have some degree of relationship (>-.34) with the moderation of burden, although that degree appeared only practically significant for relationship research, given the .20 to .40 coefficient range designated by Borg and Gall (1989) as determining practical significance in relationship research.

Personal Vulnerability.

Vitaliano et al (1989) indicated that personal vulnerability's most important variables were demographics and personality. These two variables, therefore, were examined in relationship to the development of burden.

It was hypothesized that increased age and lower income (SES) both would have statistically significant correlations with burden, and the data from this study supported that hypothesis. In addition, the multiple regressions indicated that education was significantly correlated in a negative direction with Objective and Subjective Burden and GSI. Although none of these correlations were high--from .2625 for age by Subjective, to .4717 for SES by Objective--they had practical significance in a relationship study, using Borg and Gall's (1989) guidelines for significance.

These findings supported George's (1980) suggestion that educational level and income, due to their contribution to the cognitive ability needed to realistically assess stress and to develop problem solving skills, aided people in viewing stressful events as less problematic. The data also concurred with Cantor's (1983) findings that older spousal caregivers were at greater risk due to age and lower SES.

Vitaliano et al (1989) contended that personality was the factor which had the most influence on the development of burden. They argued that anger expression contributed to the degree of burden, a contribution which other researchers (Holt, 1970; L'Abate, 1977; Mace, 1971) recognized also. In addition, Bayatzis (1975), in earlier research, had found that aggressive, alcohol drinkers scored lower on the Self control, Responsibility, and Socialization scales of the CPI. Moreover, Biaggio (1980) had found that high anger arousal subjects had lower scores on Flexibility, Psychological mindedness, Socialization, Self control and Tolerance; low anger subjects, higher scores on Responsibility.

Self-esteem also was considered to be an important consideration in the development of burden. Andrews et al (1978) found that low self-esteem contributed to increased psychological and somatic problems in response to stress. Chan (1977) thought that low self-esteem might lead to arousal increase in response to stressful stimuli, and DeLongis et al (1988) found that increased self-esteem might positively mediate the impact of increased stress.

The CPI scales were scored using T scores, which fell on the bell-shaped, normal curve. High scores indicated a stronger presence of the investigated personality trait, and for this study according to the mean scores of the MANOVA, high scores on all of the examined scales were indicative of lower personal vulnerability; low scores, of higher personal vulnerability.

The analysis of variance on the CPI scales showed that as burden increased the scale scores of all eight CPI scales dropped. All of the means, however, with the exception of the "high" burden group's mean scores on Tolerance, Psychological mindedness, and Flexibility, were within the 40 to 60 percentile "normal range." Even the three exceptions had mean scores of 39, with standard deviations in the four to five point range. This data tended to support this study's assumption that the study's caregivers were a nonpathological group.

The eight scales were statistically significant with GSI, Objective and Subjective Burden. All correlations were negative as predicted by the operational definition of vulnerability. Responsibility (Re), however, had the strongest correlations (>-.54) and relationship with all three burden variables, which suggested support for Biaggio's (1980) work.

Despite that suggestion, however, it was interesting to this investigator that Responsibility had the strongest correlations with burden. Was it possible that in this era of frequent divorce, that the subjects were less burdened by a ill spouse because they had married for "better or for worse"? This finding suggested that Strong's (1988) concerns about an increased divorce rate among couples with a chronically ill member might be unfounded. It also supported Motenko's (1989) contention that the caring and nurturing inherent in the caregiving role helped some wives to define their role in society, and to preserve their own sense of well-being.

Self-control (Sc) had the second strongest correlation with Subjective Burden (-.5388), while Tolerance (To) uniformly had the seventh strongest correlations (>-.35) with all three burden variables. The correlations between the CPI scales and all of the criterion variables, however, were strong enough to be of practical significance in relationship research, which supported Biaggio's (1980) and Bayatzis' (1975) findings about anger and aggression.

Since the correlations between Self acceptance (Sa) and the burden variables were statistically and practically significant also (>-.40), that data seemed to lend credence to Andrews et al 's (1978) conclusions linking self-esteem and psychological and somatic problems.

The correlation between Self control (Sc) and Subjective Burden (-.5394) also was noteworthy, although not unexpected. It reflected the difference between Objective and Subjective Burden as defined by Montgomery et al (1985). Self-control was found to have a stronger relationship with a subject's "attitudes towards an emotional reaction to the caregiving experience" (p. 21), than with the "extent of disruptions or changes in various aspects of the caregiver's life" (p. 21). The study data, therefore, tended to support Thompson and Doll's (1982) contention that different factors contribute to different burden types.

Psychological Resources.

For this study, psychological resources were defined as how a person coped with his/her environment and situation. Hirsh (1980) suggested that behavioral responses and cognitive styles interacted with individuals' social supports to determine how major life changes were handled. Pearlin and Schooler (1978) also theorized that coping styles might affect how one used his/her social resources. Moreover, Vitaliano et al (1990) found that different categories of people had different coping styles, while same category people showed similar styles. In addition, Headey and Wearing (1988) and Witmer (1986) theorized that different coping styles were more effective in combating the negative effects of stress.

Folkman and Lazarus (1980) suggested that coping had both problem and emotion focused components, and that generally people used both types when handling stressful events. They found, however, that emotion focused coping predominated in situations where there appeared to be few opportunities for positive change, while problem focused coping predominated for work related problems.

Vitaliano et al (1989) recommended that relative scores, i.e., the percentage that a certain coping style was used, needed to be considered along with raw scores, which measured the frequency of use. They argued that relative scores yielded a clearer relationship without statistical blurring. This study, therefore, for the multiple regressions, utilized both relative and raw scores of the Ways of Coping Questionnaire (WOC), which Vitaliano et al used in their research.

Based on the results of the analysis of variance, low coping resources were defined as high scores on three Ways of Coping scales: confrontive coping, escape/avoidance, and distancing. High coping resources were defined as low scores on five Ways of Coping scales: self-controlling, seeking social support, accepting responsibility, planful problem solving, and positive reappraisal. Positive correlations with the burden variables were predicted for the first three scales; negative correlations, for the latter five.

The results, however, were somewhat mixed.

The Pearsons' Correlation Coefficients showed that escape/avoidance was statistically significant at the .01 level for all three burden variables. Since all three correlations were above .40, they were considered of practical significance in this relationship study. Distancing also was statistically significant, and according to Borg and Gall (1989), its correlations with the three criterion variables were of practical significance, since they all were above .20. Confrontive coping, however, was statistically significant at the .05 level only with Subjective Burden (.2197). That significance was not unexpected due to the emotionally loaded definition of that burden variable.

Accepting responsibility, using both the relative and raw scores, was not significant for any burden variable (<-.04). That was somewhat unexpected given Schott and Bandura's (1988) study which found that women at times accepted some blame for their spouses' condition.

As Vitaliano et al (1989) suggested, however, planful problem solving was statistically significant in correlation with all three criterion variables

(>-.34), with the strongest negative correlation being with GSI (-.4387). This finding tended to support Holroyd and Lazarus's (1986) suggestion that realistic, pragmatic coping behaviors might result in life style changes, which, in turn, could affect health outcomes.

As with the CPI's Self control, self controlling-relative coping had the highest correlation with Subjective Burden (-.2502). Positive reappraisal also had its highest correlation with Subjective Burden (-.2483). As noted above, these two correlations probably reflected the definition of the criterion variable, Subjective Burden.

Seeking social support was statistically significant with all three burden variables (>-.18); however, it was significant at the .01 level only for Objective Burden (-.2553). The Subjective Burden correlation was only -.1858, below the .20 to .40 coefficient range designated by Borg and Gall (1989) as determining practical significance in relationship research.

This finding was somewhat unexpected given Vitaliano et al's (1989) mention of that coping style as being important as a psychological resource. The finding, however, may have reflected the warning of Andrews, Tennant, Hawson, and Vaillant (1978) that "crisis support and coping style were independently related" (p. 312).

When the raw Ways of Coping scores were examined in relationship to the burden variables, they followed the general pattern of the relative scores. Escape/avoidance and planful problem solving had the highest correlations with all three burden variables. Distancing's correlations, however, all were under .20, with the correlation between distancing and Subjective Burden being only .0933. Seeking social support also had all three correlations with the burden variables below .19. Positive reappraisal-raw had lower correlations with the burden variables than did positive reappraisal-relative, but the positive reappraisal-raw correlation with Subjective Burden was above .20.

The fact that the strongest correlations were found for escape/avoidance (>.40), which was defined as an emotion focused style, and for planful problem solving (>-.34), which was defined as a problem focused style, tended to support the contention of Folkman and Lazarus (1980) that a combination of the two styles generally were used in handling stressful events. These data also suggested that these two components, escape/avoidance and planful problem solving, of psychological resources may have had a major effect on and a relationship with the development of burden in this study's subjects.

In investigating the third hypothesis, the definitions given above for personal vulnerability and for psychological resources were used. The resulting data again reflected the apparent importance of escape/ avoidance and planful problem solving in the development of burden. Both scales had correlations which were statistically significant, in a negative direction, with all eight CPI scales, although the significance level for the correlation between Achievement via conformance (Ac) and planful problem solving was only at the .05 level. This lower level of significance was somewhat unexpected given the study's reason for including the Achievement via conformance scale: to measure capable, industrious, and stable functioning (Gough, 1991).

The Ways of Coping's distancing scale also was negatively correlated and statistically significant (> -.26) with all of the CPI scales. Confrontive coping, however, had significant correlations with only Self control, Flexibility, and Responsibility, at the .01

level, and with Psychological mindedness, at the .05 level. The other CPI variables had mixed results, although positive reappraisal and seeking social support had .3077 and .3115 correlations respectively with Tolerance. Seeking social support also had a .3242 correlation with Flexibility, and a .3061 correlation with Psychological mindedness. All of these correlations were in the range given by Borg and Gall (1989) for practical significance in relationship research.

Although no definitive conclusions could be drawn from the data, they did suggest that escape/avoidance and distancing might allow subjects the opportunity to "tolerate, reduce, minimize environmental and internal demands . . . which tax or exceed" their resources, while planful problem solving might offer a way in which subjects could master those same demands. This suggestion would agree with Lazarus and Launier's definition of coping (1978, p.311).

Social Support.

Vitaliano et al (1989) contended that social support had a direct and an interactional effect on distress.

Vaux and Athanassapulou (1987) also suggested that research on social support required the examination of subjects' perception of and willingness to utilize social supports. Two aspects of social support, therefore, were examined in this study. The first, which utilized the SS-B, examined the subjects' beliefs about the availability of family members and/or friends to provide financial, emotional, and material assistance. An averaged score was used for the analysis of variance, but scores for "average," "family," and "friends" were used for the multiple regression.

As expected, the correlations between the average, family, and friends scores and the GSI, Objective and Subjective Burden variables were statistically significant (> -.29), in a negative direction, at the .01 level. These findings tended to confirm Blazer's (1982) position that a person's subjective appraisal of social support availability was more important than either the actual availability of attachments or the frequency of interaction.

They also agreed with Gilhooly's (1984) study, which found that caregivers' feelings of satisfaction with the support they received was directly associated with their mental health and morale. Moreover, the data also seemed to support the findings of Given, Stommel, Collins, King and Given (1990) that a caregiver's sense of abandonment was directly related to his/her perception of affection and tangible support, and to bolster Harper and Lund's (1990) contention that caregiving spouses experience both perceived and real lack of social support to be stressful.

The data also supported the findings of numerous researchers (Berkman & Syme, 1979; Cassell, 1976; Cobb & Kasl, 1977; Eaton, 1978; Gore, 1978; House & Wills, 1978; La Rocco, House, & French, 1980; Norbeck & Tilden, 1983), who suggested that the negative effects of psychosocial stress on mental and physical health might be buffered by the presence of social supports.

The second aspect of social support examined was the individual's willingness to utilize the social supports available to him/her. Vitaliano (1990) had warned that an individual's coping styles and/or personality might influence his/her use of social supports. ORIENT, therefore, was used to assess the individual's willingness to utilize the available support network.

As predicted, there were statistically significant correlations (> .43) between the burden variables and ORIENT. These findings tended to agree with Vaux's (1985) findings about negative networks, and how such beliefs prevent the utilization of social supports. The data also supported Litvin's (1992) findings that the decision by a caregiver to limit his/her social contact with family and friends increased the conflict between the caregiver and his/her spouse, and therefore, contributed to the development of burden.

The SS-B and ORIENT data also supported Skaff and Pearlin's (1992) findings that limited socialization and a reduction in a caregiver's social roles contributed to the caretaker's engulfment in the caring role. Moreover, they also seemed to lend credence to Fengler and Goodrich's (1979) and Chenoweth and Spenser's (1986) contention that the caregiving role itself might cause spouses to become socially isolated and lonely.

The correlations between ORIENT and the burden variables were greater than the correlations between the average SS-B scores and all three criterion variables. The ORIENT by GSI correlation also was larger than for Family by GSI and Friends by GSI; however, it was lower than for Friends by Objective Burden, for Friends by Subjective Burden, and for Family by Objective Burden.

These mixed correlations were somewhat unexpected, but may have reflected several issues. As Groves noted (1988), spouses were particularly vulnerable to the demands of their caregiving roles, and often had concerns about their own health. Due to these concerns, and the more tangible problems associated with caregiving, the caregiver may have recognized the need to depend on family members for more concrete assistance. At the same time, as suggested by Fengler and Goodrich (1979), the caregiver's relationship with adult children might be altered due to the responsibilities inherent in the caregiver's role. Direction of family contacts might change, and the caregiver might feel a sense of imposition, which could reduce the willingness of the caregiver to utilize family resources.

This study also investigated the relationship between vulnerability and social supports, since Vitaliano et al (1989) had named vulnerability as the key variable in their burden equation.

As predicted, the data found statistically significant, at the .01 level, correlations (> .31) for the SS-B and Self control, Tolerance, Responsibility, Socialization, Flexibility, Psychological mindedness, and Self acceptance. The Achievement via conformance by SS-B score was significant to the .05 level (.2298). All eight CPI variables were negatively correlated (>-.2575) at the .01 level with ORIENT. These findings suggested support for Vitaliano's (1990) hypothesis that vulnerability might have a major impact on and relationship with how stressed individuals used their social resources. The data also bolstered Husaini's (1982) contention that future research on stressful life events needed to include an investigation of the interplay between personality/vulnerability and social support.

The Theory.

Although the study data could not support three of the four research hypotheses, Vitaliano's theory, nonetheless, appears to have credibility and usefulness. It provided the theoretical framework for the investigation of four constructs in the development of burden, a relationship investigation which found statistical and practical significance for variables within each construct in its relationship with burden development. Although this study's data leaves several unanswered questions, they also showed a definite relationship between all four constructs and burden. In particular, the appraisal of the severity of daily hassles, the personality variable of responsibility, a negative orientation toward utilizing social supports, age and income, and whether one coped by using escape/avoidance or planful problem solving appeared to influence and to interact in that development.

It is this investigator's opinion that one of the difficulties in obtaining the data necessary to support the hypotheses arose due to the instrumentation. The BSI and Montgomery's Objective and Subjective Scales were found to be very useful in identifying the types of burden and their severity, while the CPI was a valuable tool in determining the relationship between various personality traits and burden. Vaux's ORIENT also was useful in examining the caregiver's willingness to utilize available social supports, and his SS-B appeared to offer a valid assessment of the subject's perceptions regarding the availibility of family and friends to assist. The Hassles and Uplifts Scales, however, might be replaced by a hassles scale which measured frequency, severity and centrality, as suggested by Gruen, Folkman and Lazarus (1988).

In addition, the Ways of Coping Questionnaire, although it was used by Vitaliano et al (1989) in their research, perhaps needs to be replaced by an instrument with broader scales. A test which would measure Moos's (1986) three coping styles of appraisal-focused, problem-focused, and emotion-focused, or the problem focused and emotion focused coping of Folkman and Lazarus (1980) might provide clearer understanding of the relationship between burden and coping styles. Since Folkman and Lazarus were the authors of the Ways of Coping Questionnaire, finding such a test might be difficult. Moos's (1990) Coping Response Inventory, which organizes coping efforts according to their focus (approach or avoidance) and method (cognition or behavioral), however, might be useful.

The theory also might be better served, however, by looking at coping resources, rather than ways of coping.

In retrospect, an instrument such as Hammer and Marting's Coping Resources Inventory, which measures the strengths used by a person in coping with stress might be a better instrument in examining psychological resources.

Validity of Results

A total of 141 subjects were referred to this investigator by their spouses' cardiologists and/or treatment centers. One hundred and twenty-six agreed to participate in the study. Four subjects, however, withdrew during testing due to difficulty with the test instruments: one subject did not understand the concept of the Likert scale; and three subjects found the CPI questions either too time consuming or irrelevant to their situations. In addition, two test packets were excluded from the study data after the Consulting Psychologist Press reported that it could not score the Ways of Coping answer sheets due to the number of missing items. The results of 120 subjects, therefore, were considered.

The test packets were assigned numbers from 1 through 150, and given to the subjects in a random manner. Only the individual subject knew his/her number, so confidentiality was assured. Each subject was informed of confidentiality, and since all of the tests were self-administered, and age and income grouped by level, concern about how the investigator would view the individual's answers should have been minimized.

The test format was long and somewhat tedious, with testing taking an average of one hour and sixteen minutes. The investigator was present during all testing sessions to explain each instrument, and to answer any procedural questions which arose.

Every effort was made to avoid biasing the subjects' responses. The investigator believes that meeting with the subjects and having them complete the tests during one sitting provided more accurate responses for two reasons: (1) the subjects were focused on the task at hand with procedural assistance immediately available to them; and (2) different instruments were not completed during different moods. It has to be noted, however, that due to the testing time, that some of the subjects might have become fatigued by the time they began the CPI scales, and that their scores might have been affected. Since the mean scores of these scales tended to fall within the "normal" range, however, the effect of the fatigue factor was considered to be minimal.

The subjects were volunteers, and generally appeared highly motivated to participate in the study. They may have been influenced by the fact that they had been referred by their spouses' physicians. In addition, the physicians may have referred individuals whom they believed to be burdened by the caregiving role, and who required some recognition of that fact. As Borg and Gall (1989) pointed out, motivation is an important variable in research; however, this research, was not designed to explore the motivating factors for the subjects.

Generalization of the Study

Certain restrictions were noted from the onset of this study. Chronic illness was defined as and restricted to cardiovascular disease, and the ill spouse had to reside with his/her husband/wife in the couple's home. Only spouses were considered for the study, since the literature (Cantor, 1983; Golodetz et al, 1969; Groves, 1988; Harper and Lund, 1990; Klein, Dean and Bogodonoff, 1967; Miller, McFall and Montgomery, 1991) strongly suggested that other relatives experienced the caring role differently.

All of the subjects' spouses had some type of health insurance, and all received treatment from private physicians or clinics. It, therefore, cannot be concluded that persons whose spouses had no insurance, or who had to rely on public clinics and teaching hospitals would present with similar data. Moreover, since lower SES persons were under-represented, it cannot be concluded that persons with few financial resources would provide similar data.

In addition, since only one fourth of the subjects were male, gender bias may have existed. Although the multiple regressions showed only small correlations between gender and burden, only additional research, which examined husbands and wives as separate groups for burden development, can determine if gender directly affects burden's development. Such a study also might be able to screen for Dillehay and Sandys' (1990) hypothesized greater reluctance of males to admit burden.

In summary, it appears reasonable to make the following statements about generalization:

(1) The results apply specifically to spousal caregivers of cardiovascular patients, who reside at home, who have health insurance, and who are under treatment by private doctors or clinics. There is no reason to believe that the geographical location of the couples or of the medical treatment facilities would affect the relationships between the variables.

2. It is possible that the same relationships between variables might apply to caregivers of spouses who have other less "visible" chronic illnesses, i.e., diabetes, some pulmonary diseases, etc. Only further study, however, could confirm this hypothesis.

3. It is possible that the same relationships between variables might apply to non-married caregivers, who have a live-in relationship with a cardiovascular patient, meeting the conditions above.
Only further study, however, could confirm this speculation.

4. No generalization can be made to caregivers of the terminally ill; to caregivers of ill spouses who have

extremely visible, physically demanding illnesses, such as Muscular Dystrophy; to caregivers whose spouses have a dementia related disease; to caregivers whose ill spouses have no medical insurance; and to caregivers whose ill spouses must receive their medical treatment at a public facility. In addition, no generalization can be made to caregivers whose ill spouses are either hospitalized or in an adult or nursing home setting.

Theoretical Implications of and Practical Applications of This Study

This study examined a multicausal explanation for the development of distress. Specifically, five constructs were examined in the context of Vitaliano's theory: the existence of burden; the caregiver's reaction to stressors; the caregiver's personal vulnerability; the coping style used by the caregiver in handling burden; the availability of social supports to the caregiver, and his/her willingness to utilize those supports. The purpose of this examination was two-fold: an increase in information about how burden developed and how the different constructs' variables contributed to that development.

The need for this investigation was engendered by medical, psychological, and social work literature (Gentry, 1984; George & Gwyther, 1986; Lopez-Ibor, 1987; Mathey et al, 1986; Syme, 1984), which reported that problems related to stress were being observed in the caregivers of the chronically ill. Woller (1987) reported that caregivers were ignoring their own physical and mental health needs, and blaming themselves for their inability to handle the responsibilities associated with the caregiving role. In addition, physical disorders were being reported, as well as depression and anxiety in many caregivers. Caregivers also were found to be using psychotropic drugs more frequently than their non-caregiving counterparts (George & Gwyther, 1986), and to be experiencing more loss issues and "emotional firestorms" (Wabrek, 1986).

The problem was complicated by its numbers: by 1987, there already were 2.2 million caregivers in the United States, with that number expected to increase as the population aged (Engel, May, 1987). As Woller (1987) pointed out, if the caregivers themselves were not helped to cope with the stressors associated with their caregiving role, the entire system of caregiving for the chronically ill might fall apart.

The early studies about caregiver stress/distress, however, tended to focus on only one contributing variable, since there was no clear understanding of how burden developed. Numerous researchers (Berkman & Syme, 1979; Blazer, 1982; Cassell, 1976; Cobb & Kasl, 1977; Eaton, 1978; Gore, 1978; House & Wells, 1978; Norbeck & Tilden, 1983) examined the role of social support in the development of burden, although gradually it was understood that support was only one critical element in that formation (Syme, 1984). Warnes and Blustein (1987) suggested that there also could be behavioral and psychological components, and Gentry (1984) theorized that different personalities might be more susceptible to stress related/caused conditions. In addition, Witmer (1986) and Headey and Wearing (1988) suggested that certain coping styles might be more effective in fighting stress's negative results.

Lydeard and Jones (1989) and Vitaliano et al (1989) then theorized that distress had numerous factors contributing to its development. As noted above, Vitaliano (1990) specifically identified the four constructs which were examined in this study, and maintained, with Mauiro, Russo, Mitchell, Carr and Van Citters (1988), that the biopsychosocial model explained "more distress variance than any variable used alone" (p.313).

This study found that Vitaliano's theory indeed did have merit. Variables within each of the constructs were found to have practical significance with burden development. The concept of a biopsychosocial model for the development of burden was supported by at least some of this study's data.

Vitaliano (1990) hypothesized that burden was the function of stressors and personal vulnerability, moderated by psychological resources and social supports. Although he also maintained that personal vulnerability was the key element in his hypothesis, and the data from this study did not support that contention, his combination of stressors and personal vulnerability did appear to have a definite relationship with the development of burden. In addition, the data also supported the idea that the psychological resources of planful problem solving could moderate burden, while the coping style of escape/avoidance appeared to have some influence in burden's development. As suggested by the early researchers (Berkman & Syme; Blazer, 1982; Cassell, 1976; Cobb & Kasl, 1977; Eaton, 1978; Gore, 1978; House & Wells, 1978; Norbeck & Tilden, 1983), social support also appeared to have a role in the amelioration of burden, although one's unwillingness to utilize such support could counter its influence.

While the current study suggested significant relationships between the constructs identified by Vitaliano et al (1989) and the development of burden, it also raises a number of issues. The most critical area is the applicability of the results, although care has been taken not to overgeneralize or to imply any causality. The correlations had a direct bearing on a fairly discrete group of spousal caregivers, whose husbands/wives had cardiovascular disease, and whose spouses were receiving medical treatment from private providers. Nonetheless, the practical applications of these results do appear to extend beyond that group.

This study suggests several other research questions:

1. To what extent will caregivers, whose spouses have chronic illness other than cardiovascular disease,

present the same relationships between the variables;

2. To what extent will caregivers, whose chronically ill spouses are not in the home, but who are residing in nursing or adult homes, present with the same relationships between the variables;

3. To what extent will caregivers, whose chronically ill spouses are receiving their treatment at public hospitals and clinics, present with the same relationships between the variables; and

4. To what extent will caregivers, whose chronically ill spouses have no health insurance, present with the same relationships between the variables.

Two additional concerns are the possible differences between male and female burden responses, and between a low SES and a middle class sample:

1. To what extent does gender affect the development of burden, and is there a reluctance on the part of male caregivers of admit burden;

2. Is burden development in persons with low SES affected differently by the variables than burden development in the middle class? Would burden development be affected differently within different

ethnic groups? Moreover, would cultural bias affect the choice of instrumentation in such a study?

An additional question would be if the instrumentation should be changed in order to obtain more reliable data. The investigator believes that the utilization of an instrument designed to measure coping resources,i.e., Coping Resources Inventory, rather than one designed to measure modes of coping, might provide a better understanding of a subject's psychological resources.

In addition, this study raises several practical questions.

If a counselor knows how caregiver burden develops and what variables help to moderate it, can s/he intervene with the caregiver to ameliorate the condition?

More specifically, can a counselor assist a caregiver to reappraise the severity of his/her hassles in order to reduce the effect of hassles in burden development? Can a counselor help a caregiver develop a more positive coping style? And can a counselor assist a caregiver to develop positive approaches toward asking for and in utilizing his/her supports.

On the basis on this study, it appears likely that there are certain things which counselors can do to help caregivers moderate their sense of burden. First, and perhaps foremost, caregivers need to be asked how they are feeling about the caregiving experience. Attention needs to be paid to their needs, as well as the needs of their spouses. The counselor can help them reappraise the severity of the events in their daily lives, so that these events are less stressful. The counselor also can help them look at the availability of their supports, and help them overcome any reluctance to use these supports. In addition, the data suggests that teaching a caregiver to use planful problem solving would work to ameliorate his/her sense of burden.

While case studies might be utilized to answer the above " counselor" questions, the first six questions would have to be considered by a much larger study. The subjects possibly could be drawn from referrals from medical specialists, who treat various chronic illnesses, from private and public medical facilities, and from nursing and adult homes. More variables would have to be considered: the different types of illness; the type of care; the placement of the ill person; ethnicity; and

the relationship of the caregiver. Additional instrumentation also would be needed to assess gender's effect. A much larger sample would be required, and it probably would require stratification, according to gender, SES, the presenting disease, treatment location, and ethnicity. In addition, since this would be a large project, it should be undertaken using several investigators working as a team,
in order to conduct the testing and to gather the data.

Conclusion

This study focused on 120 spousal caregivers, whose husbands/wives had cardiovascular disease, resided at home with the spouse, had health insurance, and were receiving treatment from a private cardiologist or cardiac clinic. There were 90 women and 30 men, and the subjects were predominantly white, between 56 and 65, with some college education. Over half had incomes between $15,000 to $40,000 per year.

This study supported a multicausal explanation for the development of burden, as suggested by the theory of

Peter Vitaliano et al (1989). Significant relationships appeared to exist between burden and certain variables: the appraised severity of stressors; certain personality traits, i.e., Responsibility, Self-acceptance, Flexibility, Self control and psychological mindedness; the use of escape/avoidance and/or planful problem solving as coping styles; the availability of social supports; and the willingness to use those supports.

Given the number of caregivers already within our society, the number of persons to whom they provide assistance, and the range of the services which they provide, it is clear that these caregivers provide inestimable emotional, financial, and material support, and create considerable savings for the country's health care system. Moreover, the number of caregivers and of persons requiring their services is expected to increase as the population ages and becomes at risk for the chronic impairments/illnesses associated with aging (Wilson, 1990).

Many of the caregivers themselves are elderly, but even younger caregivers have presented with psychological and physical problems related to stress. Labeled as "hidden patients" by their physicians, caregivers often ignore their own needs and blame themselves when they cannot cope with the caregiving role, despite related physical problems, depression, anxiety, guilt and anger (George & Gwyther, 1986; Robins, Mace & Lucas, 1982; Tennstedt, Vsggrtsys & Sullivan, 1992; Wobreck, 1986; Woller, 1987).

It is theorized that unless counselors and others working with this population understand how burden develops, that no workable plan can be formulated for reducing that distress. In order to care for the caregivers, it is necessary for those working with them to know how burden develops and the variables which influence it. Suggestions for treatment are without value unless what is being treated is understood, and without viable treatment it is feared that the personal caregiver's systems within this country may deteriorate under the weight of the caregivers' distress.

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APPENDIX I:

The Consent Form

THE DEVELOPMENT OF BURDEN IN SPOUSAL CAREGIVERS OF THE CHRONICALLY ILL:
A Study of the Effect of and the Interaction between Stressors, Vulnerability, Psycholocial and Social Resources

CONSENT FORM

The purpose of this form is to request your voluntary participation in a study, and to insure that you understand the purposes of the study. Please read the following information carefully, then sign your name in the section marked, "Informed and Voluntary Consent to Participate," if you are willing to cooperate in the study.

Purpose of the Research

The purpose of this study is to investigate the development of the feelings of burden and distress in the spousal caregivers of chronically ill patients. According to Dr. Peter Vitaliano, distress develops due to a combination of factors, which include one's being stressed, one's personal vulnerability, plus one's social and psychological resources. This study plans to examine how each of these factors contributes to or alleviates the sense of burden in spouses caring for their husbands or wives.

Amount of Time Involved for Subjects

Participants will be asked to take seven (7) tests, which are used to measure aspects of burden, stress, personality, social support and coping, and to answer five demographic questions. The tests will include: The Brief Symptom Inventory; Montgomery's Scales of Objective Burden and of Subjective Burden; the Hassles and Uplifts Scales; eight scales of the California Psychological Inventory; the Ways of Coping Questionnaire; the Social Support Behaviors Scale; and the Network Orientation Scale.

The demographic questions will determine one's gender; race; age, within a 10 year span; education; and one's socio-economic status, as determined by a range.

Testing time will take about one (1) hour, and will be arranged at a time and a location convenient to the participant.

Assurance of Confidentiality

All data collected in the study will be kept in confidence. In order to assure anonymity, each test packet will be assigned a number for scoring purposes, with all of the instruments in each packet having that same number. The packets then will be distributed randomly, with only the test taker knowing his/her number. No data will be used for any purpose except that expressly specified in this study.

Assurance of Voluntary Participation

Participation in this study is strictly voluntary. You have the right to decline to participate, or to withdraw in part or in whole at any time.

Availability of Results

A written summary of the results of this study will be available upon request from:

Sheila M. Crossen, Researcher
106 Country Club Court
Ashland, Virginia 23005
(804) 746-7389
or
Dr. Kevin Geoffroy, Sponsor
Professor of Education
Department of Counseling, School of Education
College of William and Mary
Williamsburg, Virginia 23185

Either of the above individuals is available to speak with you, if any questions, comments or concerns about the study arise.

Availability of Follow-up Services

If any distress is caused by the tests or the summary, the researcher and or sponsor will assist the participant to establish contact with an appropriate counseling and/ or support service.

Informed Voluntary Consent to Participate

I have been fully informed and hereby consent to participate in the study described above. My right to decline to participate, or to withdraw in whole or part at any time, has been guaranteed.

______________________ ____________
Subject's signature date

______________________ ____________
Researcher's signature date

APPENDIX II:

Montgomery's Scales and Correspondence

Objective and Subjective Scales

Permission to Use

CREATION OF BURDEN SCALES

R.J.V. Montgomery
E.F. Borgatta
University of Washington

The following ten-item inventory has been developed to measure objective and subjective burden. Objective burden is defined by concrete events, happenings, and activities associated with caregiving. Subjective burden is defined by feelings, attitudes, and emotions expressed about the caregiving experience.

Now I'd like to know whether assisting and having other contact with your (RELATIVE) has affected your life. As I read through this list, I would like you to use these response categories **(SHOW RESPONDENT CATEGORIES).**

Please tell me whether the amount of each of these aspects in your life has changed from that you experienced a year ago.

Do you have:
a lot less
a little less
the same
a little more
or **a lot more?**

	A lot less	A little less	The same	A little more	A lot more
Time you have to yourself					
Stress in your relationship with your (relative)					
Personal privacy					
Attempts by your (relative) to manipulate you					
Time you have to spend in recreational activities					
Vacation activities and trips you take					
Nervousness and depression you have concerning your relationship with your (relative)					
Time you have to do your own work and daily chores					
Demands made by your (relative) that are over and above what s/he needs					
Time you have for friends and other relatives					

Wayne State University

Memorandum

To: Sheila M. Crossen

From: Rhonda J.V. Montgomery, Ph.D. R.J.V.M

Ext.

Subject: Request for "Burden"

Date: May 1, 1991

I recently received your letter of April 22, 1991 requesting information on "Burden Scales". Unfortunately, "Burden Scales" have not been published as of yet. However, I am enclosing a copy of my chapter, "Creation of Burden Scales". I hope that it helps you with your research.

APPENDIX III:

Vaux's Measures and Correspondence

The SS-B

ORIENT

Permission to Use

People help each other out in a lot of different ways. Suppose you had some kind of problem (were upset about something, needed help with a practical problem, were broke, or needed some advice or guidance), *how likely* would (a) memebers of your *family,* and (b) your *friends* be to help you out in each of the specific ways listed below. We realize you may rarely need this kind of help, but *if you did* would family and friends help in the ways indicated. Try to base your answers on your past experience with these people. Use the scale below, and circle one number under family, and one under friends, in each row.

1 *no one* would do this
2 *someone might* do this
3 *some* family member/friend would *probably* do this
4 *some* family member/friend would *certainly* do this
5 *most* family members/friends would *certainly* do this

	(a) Family	(b) Friends
1. Would suggest doing something, just to take my mind off my problems . . .	1 2 3 4 5	1 2 3 4 5
2. Would visit with me, or invite me over	1 2 3 4 5	1 2 3 4 5
3. Would comfort me if I was upset . . .	1 2 3 4 5	1 2 3 4 5
4. Would give me a ride if I needed one .	1 2 3 4 5	1 2 3 4 5
5. Would have lunch or dinner with me .	1 2 3 4 5	1 2 3 4 5
6. Would look after my belongings (house, pets, etc.) for a while	1 2 3 4 5	1 2 3 4 5
7. Would loan me a car if I needed one .	1 2 3 4 5	1 2 3 4 5
8. Would joke around or suggest doing something to cheer me up	1 2 3 4 5	1 2 3 4 5
9. Would go to a movie or concert with me	1 2 3 4 5	1 2 3 4 5

10. Would suggest how I could find out more about a situation	1 2 3 4 5	1 2 3 4 5
11. Would help me out with a move or other big chore	1 2 3 4 5	1 2 3 4 5
12. Would listen, if I needed to talk about my feelings	1 2 3 4 5	1 2 3 4 5
13. Would have a good time with me . . .	1 2 3 4 5	1 2 3 4 5
14. Would pay for my lunch if I was broke	1 2 3 4 5	1 2 3 4 5
15. Would suggest a way I might do something	1 2 3 4 5	1 2 3 4 5
16. Would give me encouragement to do something difficult	1 2 3 4 5	1 2 3 4 5
17. Would give me advice about what to do	1 2 3 4 5	1 2 3 4 5
18. Would chat with me	1 2 3 4 5	1 2 3 4 5
19. Would help me figure out what I wanted to do	1 2 3 4 5	1 2 3 4 5
20. Would show me that they understood how I was feeling	1 2 3 4 5	1 2 3 4 5
21. Would buy me a drink if I was short of money	1 2 3 4 5	1 2 3 4 5
22. Would help me decide what to do	1 2 3 4 5	1 2 3 4 5
23. Would give me a hug, or otherwise show me I was cared about	1 2 3 4 5	1 2 3 4 5
24. Would call me just to see how I was doing	1 2 3 4 5	1 2 3 4 5
25. Would help me figure out what was going on	1 2 3 4 5	1 2 3 4 5

26. Would help me out with some necessary purchase	1 2 3 4 5	1 2 3 4 5
27. Would not pass judgment on me	1 2 3 4 5	1 2 3 4 5
28. Would tell me who to talk to for help . .	1 2 3 4 5	1 2 3 4 5
29. Would loan me money for an indefinite period	1 2 3 4 5	1 2 3 4 5
30. Would be sympathetic if I was upset . . .	1 2 3 4 5	1 2 3 4 5
31. Would stick by me in a crunch	1 2 3 4 5	1 2 3 4 5
32. Would buy me clothes if I was short of money	1 2 3 4 5	1 2 3 4 5
33. Would tell me about the available choices and options	1 2 3 4 5	1 2 3 4 5
34. Would loan me tools, equipment, or appliances if I needed them	1 2 3 4 5	1 2 3 4 5
35. Would give me reasons why I should or should not do something	1 2 3 4 5	1 2 3 4 5
36. Would show affection for me	1 2 3 4 5	1 2 3 4 5
37. Would show me how to do something I didn't know how to do	1 2 3 4 5	1 2 3 4 5
38. Would bring me little presents of things I needed.	1 2 3 4 5	1 2 3 4 5
39. Would tell me the best way to get something done	1 2 3 4 5	1 2 3 4 5
40. Would talk to other people, to arrange something for me	1 2 3 4 5	1 2 3 4 5
41. Would loan me money and want to "forget about it".	1 2 3 4 5	1 2 3 4 5

42. Would tell me what to do	1 2 3 4 5	1 2 3 4 5
43. Would offer me a place to stay for awhile	1 2 3 4 5	1 2 3 4 5
44. Would help me think about a problem	1 2 3 4 5	1 2 3 4 5
45. Would loan me a fairly large sum of money (say the equivalent of a month's rent or mortgage)	1 2 3 4 5	1 2 3 4 5

NETWORK ORIENTATION SCALE

Please respond to each question by circling the number which corresponds to your feelings about the statement.

Agree	Agree Somewhat	Disagree Somewhat	Disagree
1	2	3	4

1	2	3	4	1. Sometimes it is necessary to talk to some one about your problems.
1	2	3	4	2. Friends often have good advice to give.
1	2	3	4	3. You have to be careful who you tell personal things to.
1	2	3	4	4. I often get useful information from other people.
1	2	3	4	5. People should keep their problems to themselves.
1	2	3	4	6. It's easy for me to talk about personal and private matters.
1	2	3	4	7. In the past, friends have really helped me out when I've had a problems.
1	2	3	4	8. You can never trust people to keep a secret.
1	2	3	4	9. When a person gets upset they should talk it over with a friend.
1	2	3	4	10. Other people never understand my problems.
1	2	3	4	11. Almost everyone knows someone they can trust with a personal secret.
1	2	3	4	12. If you can't figure out your problems, noone can.
1	2	3	4	13. In the past, I have rarely found other peoples' opinions helpful when I have a problem.
1	2	3	4	14. It really helps when you are angry to tell a friend what happened.
1	2	3	4	15. Some things are too personal to talk to anyone about.
1	2	3	4	16. It's fairly easy to tell who you can trust, and who you can't.
1	2	3	4	17. In the past, I have been hurt by people I confided in.
1	2	3	4	18. If you confide in other people, they will take advantage of you.
1	2	3	4	19. It's okay to ask favors of people.
1	2	3	4	20. Even if I need something, I would hesitate to borrow it from someone.

Southern Illinois University at Carbondale
Carbondale, Illinois 62901-6502

Department of Psychology
618-536-2301

June 12, 1991

Ms. Sheila M. Crossen
6310 Blacksmith Drive
Mechanicsville, VA 23111

Dear Ms. Crossen:

Please find enclosed information and articles on my social support measures. Thank you for your interest. I would be very pleased to learn of your findings when you complete your research.

Sincerely,

A. Vaux

Alan Vaux, Ph.D.
A[illegible]iate Professor of Psychology

AV/kr

Enc.

APPENDIX IV:

Analysis of Variance

```
09:00:49    VCU DEC 5500/ULTRIX  SPSS      DEC 5500          ULTRIX 4.1                                              1

* * * * * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E * * * * * * * * * * * * * * * * *

      119 cases accepted.
        0 cases rejected because of out-of-range factor values.
        0 cases rejected because of missing data.
        3 non-empty cells.

        1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
             CELL NUMBER          1) LOW
               1    2    3
Variable                          2) MOD
  GROUP        1    2    3
                                  3) HIGH
Cell Means and Standard Deviations
Variable .. USEV           Uplifts Severity
     FACTOR           CODE                   Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                  1                   1.937       .312         25     1.808      2.066
 GROUP                  2                   1.723       .307         39     1.623      1.822
 GROUP                  3                   1.552       .338         56     1.461      1.643
For entire sample                           1.689       .353        120     1.625      1.753

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. HSEV           Hassles Severity
     FACTOR           CODE                   Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                  1                   1.285       .236         25     1.187      1.382
 GROUP                  2                   1.590       .331         39     1.483      1.697
 GROUP                  3                   1.904       .285         56     1.827      1.981
For entire sample                           1.671       .378        120     1.602      1.740

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. SA             CPI-sa
     FACTOR           CODE                   Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                  1                  57.920      7.466         25    54.838     61.002
 GROUP                  2                  50.487     10.990         39    46.925     54.050
 GROUP                  3                  43.473      8.300         56    41.229     45.716
For entire sample                          48.807     10.656        120    46.872     50.741

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. RE             CPI-re
     FACTOR           CODE                   Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                  1                  58.120      5.239         25    55.958     60.282
 GROUP                  2                  51.282      6.720         39    49.104     53.460
 GROUP                  3                  43.600      4.894         56    42.277     44.923
For entire sample                          49.168      7.999        120    47.716     50.620
```

#7

1

2

```
* * * * * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E -- DESIGN   1 * * * * * * * * * * * * * * * * *

Cell Means and Standard Deviations  (Cont.)
Variable .. SOC                 CPI-soc
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval
                                                                                                      3
 GROUP                     1                 53.360      9.447        25     49.461     57.259
 GROUP                     2                 45.308      8.386        39     42.589     48.026
 GROUP                     3                 40.491      5.316        56     39.054     41.928
For entire sample                            44.773      8.831       120     43.170     46.376

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. SC                  CPI-sc
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                     1                 54.320      7.256        25     51.325     57.315      4
 GROUP                     2                 47.821      8.834        39     44.957     50.684
 GROUP                     3                 41.527      6.085        56     39.882     43.172
For entire sample                            46.277      8.820       120     44.676     47.878

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. QTO                 CPI-to
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                     1                 52.800     11.572        25     48.023     57.577      5
 GROUP                     2                 45.231     10.409        39     41.857     48.605
 GROUP                     3                 39.873      4.876        56     38.554     41.191
For entire sample                            44.345      9.886       120     42.550     46.139

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. AC                  CPI-ac
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval
                                                                                                      6
 GROUP                     1                 55.320      8.117        25     51.969     58.671
 GROUP                     2                 48.487     10.115        39     45.208     51.766
 GROUP                     3                 46.891      7.020        56     44.993     48.789
For entire sample                            49.185      8.916       120     47.566     50.803

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Variable .. PY                  CPI-py
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                     1                 52.880      6.126        25     50.351     55.409      7
 GROUP                     2                 46.026      8.308        39     43.332     48.719
 GROUP                     3                 39.345      5.193        56     37.941     40.749
For entire sample                            44.378      8.380       120     42.857     45.899
Variable .. FX                  CPI-fx
     FACTOR              CODE                  Mean  Std. Dev.         N   95 percent Conf. Interval

 GROUP                     1                 56.680      9.218        25     52.875     60.485      8
 GROUP                     2                 47.462      9.976        39     44.228     50.695
 GROUP                     3                 39.327      4.164        56     38.202     40.453
For entire sample                            45.639     10.137       120     43.798     47.479
```

```
* * * * * * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E -- DESIGN   1 * * * * * * * * * * * * * * * * * *

 Cell Means and Standard Deviations  (Cont.)
 Variable .. FX                  CPI-fx
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval


 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. CON                 Ways of Coping-Confrontive
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval

  GROUP                  1                  5.880      1.691         25      5.182      6.578            1
  GROUP                  2                  8.051      2.695         39      7.178      8.925            3
  GROUP                  3                  7.709      3.414         56      6.786      8.632            2
 For entire sample                          7.437      2.988        120      6.895      7.979

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. DIS                 Ways of Coping-Distancing
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval   ✓

  GROUP                  1                  6.960      2.979         25      5.730      8.190            1
  GROUP                  2                  8.462      3.597         39      7.295      9.628            2
  GROUP                  3                  9.964      3.672         56      8.971     10.956            3
 For entire sample                          8.840      3.678        120      8.173      9.508

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. SEL                 Ways of Coping-Self-Controlling
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval

  GROUP                  1                 14.440      7.832         25     11.207     17.673            1
  GROUP                  2                 11.308      3.657         39     10.122     12.493            2
  GROUP                  3                 10.709      4.285         56      9.551     11.867            3
 For entire sample                         11.689      5.223        120     10.741     12.637

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. SEEK                Ways of Coping-Seeking Social Support
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval   ✓

  GROUP                  1                 11.720      8.648         25      8.150     15.290            1
  GROUP                  2                  9.872      3.533         39      8.726     11.017            2
  GROUP                  3                  7.673      2.861         56      6.899      8.446            3
 For entire sample                          9.244      5.056        120      8.326     10.161

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. ACC                 Ways of Coping-Accepting Responsibility
      FACTOR            CODE                 Mean  Std. Dev.          N   95 percent Conf. Interval

  GROUP                  1                  5.120      1.716         25      4.412      5.828            2
  GROUP                  2                  5.872      2.028         39      5.214      6.529            1
  GROUP                  3                  4.691      2.379         56      4.048      5.334
 For entire sample                          5.168      2.187        120      4.771      5.565            3
```

```
* * * * * * * * * * * * * * * * * A N A L Y S I S   O F   V A R I A N C E -- DESIGN   1 * * * * * * * * * * * * * * * * *

 Cell Means and Standard Deviations  (Cont.)
 Variable .. ESC                Ways of Coping-Escape/Avoidance
      FACTOR            CODE                Mean  Std. Dev.         N   95 percent Conf. Interval

  GROUP                   1                7.760      2.650        25      6.666      8.854          1
  GROUP                   2                8.641      4.202        39      7.279     10.003          2
  GROUP                   3               12.273      4.957        56     10.933     13.613
 For entire sample                        10.134      4.735       120      9.275     10.994          3

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. PLAN               Ways of Coping-Planful Problem Solving
      FACTOR            CODE                Mean  Std. Dev.         N   95 percent Conf. Interval

  GROUP                   1                9.600      2.723        25      8.476     10.724           1
  GROUP                   2                8.590      3.298        39      7.521      9.659           2
  GROUP                   3                6.291      1.969        56      5.759      6.823
 For entire sample                         7.739      2.956       120      7.203      8.276           3

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. POS                Ways of Coping-Positive Reappraisal
      FACTOR            CODE                Mean  Std. Dev.         N   95 percent Conf. Interval

  GROUP                   1                9.720      3.781        25      8.159     11.281          1
  GROUP                   2                8.385      3.689        39      7.189      9.581          2
  GROUP                   3                7.309      3.377        56      6.396      8.222
 For entire sample                         8.168      3.658       120      7.504      8.832          3

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. SSB
      FACTOR            CODE                Mean  Std. Dev.         N   95 percent Conf. Interval

  GROUP                   1              175.940     40.947        25    159.038    192.842
  GROUP                   2              150.731     37.090        39    138.708    162.754                     #5
  GROUP                   3              131.245     31.365        56    122.766    139.725
 For entire sample                       147.021     39.140       120    139.916    154.126

 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 Variable .. NEG
      FACTOR            CODE                Mean  Std. Dev.         N   95 percent Conf. Interval

  GROUP                   1               33.920      8.336        25     30.479     37.361
  GROUP                   2               42.897      8.789        39     40.048     45.747
  GROUP                   3               51.709      9.175        56     49.229     54.189
 For entire sample                        45.084     11.224       120     43.047     47.122
```

APPENDIX V:

Cell Means and Standard Deviations

Age by SES

CELL MEANS AND STANDARD DEVIATIONS
VARIABLE--OBJECTIVE

```
=======================================
====================================================================================
===
VARIABLE CODE            MEAN            STD. DEV.        N        95 PERCENT CONF. INTERVAL
AGE     35 TO 45
  SES    BELOW $15       8.000              .000            1
          $15,001         7.000            .000              1
          $25,001                           .000            1
AGE    46 TO 55
  SES     BELOW $15        5.000           .000             1
           15,001          4.500           2.204            8        2.658    6.342
           25,001          5.250           3.454            8        2.363    8.137
           40,001          3.714           2.360            7        1.531    5.897
           60,001          2.000           2.828            2        -23.412  27.412
AGE     56 TO 65
  SES    BELOW $15        7.333           1.155            3        4.465    10.202
          $15,001          5.800           1.474            15       4.984    6.616
          $25,001          3.500           2.739            22       2.286    4.714
          $40,001          2.625           1.996            8         .957    4.293
          $60,001          3.250           1.258            4        1.248    5.252
          ABOVE 75           4.000            .000            1
AGE
     SES    66 TO 75
             BELOW $15      7.889           1.054            9        7.079    8.699
             15,001       4.889           2.421            10       3.028    6.750
             25,001       4.429           3.309            7        1.368    7.489
             40,001       3.667            .577            3        2.232    5.101
             ABOVE 75       9.000            .000            1
 AGE       ABOVE 75
   SES      BELOW $15      8.333            .516            6        7.791    8.875
             15,001       8.000           .000             1
             25,001       4.000           .000              1
FOR ENTIRE SAMPLE         4.882           2.722            120      4.388    5.376
------------------------------------------------------------------------------------
----
```

```
                                      VARIABLE--SUBJECTIVE
================================================================================================

VARIABLE CODE           MEAN                STD. DEV.        N        95 PERCENT CONF. INTERVAL
AGE      35 TO 45
  SES     BELOW $15    -5.000                 .000            1
          $15,001       6.000                .000            1
          $25,001      -1.00                  .000               1
AGE      46 TO 55
  SES     BELOW $15     4.000                .000            1
          15,001       3.125               2.900            8        .700    5.550
          25,001        3.125              2.900            8        .700    5.550
          40,001        .143               3.761            7       -3.335   3.621
          60,001       1.000                4.243           2        -37.119 39.119
AGE      56 TO 65
  SES    BELOW $15      5.333                .577            3       3.899    6.768
         $15,001       5.800                1.474           15       4.056    5.410
         $25,001       3.500                2.739           22        .526    3.474
         $40,001       2.625                1.996           8-         -2.072      .572
         $60,001       3.250                 1.258          4       -4.931   7.931
         ABOVE 75       4.000                .000            1
AGE
 SES     66 TO 75
          BELOW $15     5.778                .972            9       5.031    6.525
          15,001       3.444                3.046           10       1.103    5.786
          25,001       1.429                4.650           7       -2.872   5.729
          40,001       1.333                3.786           3       -8.072   10.738
          ABOVE 75      5.000                 .000           1
 AGE     ABOVE 75
          BELOW $15     6.167                1.329           6       4.772    7.562
          15,001      6.000                .000             1
          25,001       .000                .000              1
FOR ENTIRE SAMPLE       2.815                3.352           120      2.207    3.424
-----------------------------------------------------------------------------------------------
----
```

```
                                          VARIABLE--GSI
==================================================================================
VARIABLECODE         MEAN                  STD. DEV.       N       95 PERCENT CONF. INTERVAL
AGE     35 TO 45
  SES     BELOW $15    98.000                .000           1
          $15,001      76.000              .000            1
          $25,001     48.000                .000           1
 AGE    46 TO 55
SES       BELOW $15    72.000                .000           1
          15,001      62.000             13.918            8        50.364  73.636
          25,001       69.125           21.040             8         51.535    86.715
         40,001       44.714             27.518            7        19.265    70.164
          60,001       45.000              42.426           2        -336.186    426.186
AGE     56 TO 65
   SES   BELOW $15    84.000              6.928            3          66.789      101.211
          $15,001     67.733              9.565            15         62.436       73.030
          $25,001     55.091             18.733            22       46.785      63.397
          $40,001      42.500              12.130          8          32.359      52.641
          $60,001     66.500            19.841              4       34.929    98.071
          ABOVE 75     40.000             .000             1
AGE
  SES   66 TO 75
           BELOW $15    79.667           5.612             9       75.353  83.981
           15,001     75.000            12.560             10      65.346  84.654
           25,001     65.143            21.575             7       85.096  5.729
           40,001     70.000            24.576             3        8.948  131.052
           ABOVE 75    98.000             .000             1
 AGE    ABOVE 75
           BELOW $15   91.167           11.161             6       79.454  102.879
           15,001      98.000               .000           1
           25,001     68.000              .000              1
FOR ENTIRE SAMPLE      65.050              20.703          120     61.292     68.809
--------------------------------------------------------------------------------------
----
```

APPENDIX VI:

Multiple Regression Summary Tables

GSI

Objective Burden

Subjective Burden

```
                        * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 1    Dependent Variable..   GSI


Variable(s) Entered on Step Number  5..    Q2        Race
                                    6..    ACC       Ways of Coping-Accepting Responsibility
                                    7..    POS1
                                    8..    AC        CPI-ac
                                    9..    CON1
                                   10..    HFRQ      Hassles Frequency
                                   11..    SEL1
                                   12..    Q3        Age
                                   13..    PLN1
                                   14..    Q1        Gender
                                   15..    Q4        Education
                                   16..    USEV      Uplifts Severity
                                   17..    SA        CPI-sa
                                   18..    QTO       CPI-to
                                   19..    ESC1
                                   20..    SC        CPI-sc
                                   21..    FX        CPI-fx
                                   22..    SEK1
                                   23..    SOC       CPI-soc
                                   24..    FAM       SSB-Family
                                   25..    DIS       Ways of Coping-Distancing
                                   26..    Q5        Income
                                   27..    PY        CPI-py
                                   28..    FRI       SSB-Friends
                                   29..    SEEK      Ways of Coping-Seeking Social Support
                                   30..    UFRQ      Uplifts Frequency
                                   31..    CON       Ways of Coping-Confrontive
                                   32..    ACC1
                                   33..    ESC       Ways of Coping-Escape/Avoidance
                                   34..    PLAN      Ways of Coping-Planful Problem Solving
                                   35..    POS       Ways of Coping-Positive Reappraisal
                                   36..    SEL       Ways of Coping-Self-Controlling

Multiple R           .88287                                 Analysis of Variance
R Square             .77946      R Square Change   .07859                         DF      Sum of Squares      Mean Square
Adjusted R Square    .68264      F Change          .91318   Regression            36         39421.91375       1095.05316
Standard Error     11.66284      Signif F Change   .6031    Residual              82         11153.78373        136.02175

                                                            F =       8.05057       Signif F =  .0000


AIC             614.30886
PC                 .41956
CP               37.00000
SBC             717.13643
```

```
                         * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 1    Dependent Variable..   GSI


----------- in ------------

Variable            T  Sig T

HSEV            3.669  .0004
RE             -2.902  .0048
DIS1            -.515  .6081
NEG            -1.629  .1072
Q2              -.431  .6676
ACC            -1.434  .1555
POS1             .039  .9687
AC              -.282  .7783
CON1             .348  .7285
HFRQ           -1.279  .2044
SEL1             .339  .7357
Q3               .066  .9476
PLN1           -1.146  .2551
Q1             -1.752  .0835
Q4              -.926  .3572
USEV            -.914  .3633
SA             -1.089  .2795
QTO             -.855  .3950
ESC1             .334  .7395
SC              -.685  .4953
FX              -.481  .6320
SEK1           -1.619  .1092
SOC             -.208  .8360
FAM             -.329  .7432
DIS             -.358  .7212
Q5              -.363  .7178
PY               .205  .8383
FRI             -.996  .3222
SEEK            -.806  .4224
UFRQ           -2.080  .0406
CON             -.687  .4939
ACC1            -.996  .3222
ESC             -.121  .9038
PLAN            -.915  .3628
POS              .269  .7889
SEL             -.213  .8316
(Constant)      2.383  .0195
```

```
                     * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 1    Dependent Variable..   GSI

                                                 Summary table
                                                 -------------

Step   MultR     Rsq  AdjRsq    F(Eqn)  SigF   RsqCh      FCh SigCh       Variable  BetaIn   Correl
   1   .7198   .5181   .5140   125.804  .000   .5181  125.804  .000  In:  HSEV       .7198    .7198   Hassles Severity
   2   .8187   .6702   .6645   117.879  .000   .1521   53.501  .000  In:  RE       -.4227   -.6375   CPI-re
   3   .8299   .6887   .6805    84.789  .000   .0184    6.807  .010  In:  DIS1     -.1461    .1742   distancing
   4   .8372   .7009   .6904    66.777  .000   .0122    4.656  .033  In:  NEG       .1376    .5670   anger
   5                                                                 In:  Q2        .0258    .0393   Race
   6                                                                 In:  ACC       .0499   -.0449   Ways of Coping-Accepting Resp
   7                                                                 In:  POS1      .0297   -.1724   positive reappraisal.
   8                                                                 In:  AC       -.0251   -.2905   CPI-ac
   9                                                                 In:  CON1     -.0623    .1141   confrontive
  10                                                                 In:  HFRQ     -.0250   -.2826   Hassles Frequency –
  11                                                                 In:  SEL1      .0351   -.1096   self control
  12                                                                 In:  Q3        .0348    .3459   Age
  13                                                                 In:  PLN1     -.1233   -.3690   planful
  14                                                                 In:  Q1       -.0805   -.1695   Gender
  15                                                                 In:  Q4        .0937   -.3669   Education
  16                                                                 In:  USEV     -.0989   -.3681   Uplifts Severity
  17                                                                 In:  SA       -.0489   -.5440   CPI-sa
  18                                                                 In:  QTO      -.0686   -.4960   CPI-to
  19                                                                 In:  ESC1     -.0036    .4464   escape/avoidance
  20                                                                 In:  SC       -.1113   -.5388   CPI-sc
  21                                                                 In:  FX        .0062   -.5763   CPI-fx
  22                                                                 In:  SEK1      .1516   -.1643   seeking soc support
  23                                                                 In:  SOC      -.0067   -.5429   CPI-soc
  24                                                                 In:  FAM      -.0493   -.5280   SSB-Family
  25                                                                 In:  DIS       .0950    .2440   Ways of Coping-Distancing
  26                                                                 In:  Q5       -.0280   -.4446   Income
  27                                                                 In:  PY        .0511   -.5870   CPI-py
  28                                                                 In:  FRI       .2128   -.4698   SSB-Friends
  29                                                                 In:  SEEK      .0299   -.2197   Ways of Coping-Seeking Social
  30                                                                 In:  UFRQ     -.2859   -.4943   Uplifts Frequency
  31                                                                 In:  CON      -.0889    .0717   Ways of Coping-Confrontive
  32                                                                 In:  ACC1     -.1668   -.0734   accepting respons.
  33                                                                 In:  ESC      -.0448    .4435   Ways of Coping-Escape/Avoidan
  34                                                                 In:  PLAN      .3114   -.4387   Ways of Coping-Planful Proble
  35                                                                 In:  POS       .0928   -.1972   Ways of Coping-Positive Reapp
  36   .8829   .7795   .6826     8.051  .000   .0786     .913  .603  In:  SEL      -.0808   -.1156   Ways of Coping-Self-Controlli
```

```
                    * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 3    Dependent Variable..   OBJ   Objective

Block Number  2.  Method:  Enter


Variable(s) Entered on Step Number  7..    Q2        Race
                                    8..    ACC1
                                    9..    AC        CPI-ac
                                   10..    SEL1
                                   11..    POS1
                                   12..    HFRQ      Hassles Frequency
                                   13..    CON       Ways of Coping-Confrontive
                                   14..    DIS       Ways of Coping-Distancing
                                   15..    Q3        Age
                                   16..    ESC1
                                   17..    PLAN      Ways of Coping-Planful Problem Solving
                                   18..    USEV      Uplifts Severity
                                   19..    QTO       CPI-to
                                   20..    SC        CPI-sc
                                   21..    SA        CPI-sa
                                   22..    FX        CPI-fx
                                   23..    DIS1
                                   24..    NEG
                                   25..    SOC       CPI-soc
                                   26..    SEK1
                                   27..    PY        CPI-py
                                   28..    FRI       SSB-Friends
                                   29..    UFRQ      Uplifts Frequency
                                   30..    PLN1
                                   31..    CON1
                                   32..    ACC       Ways of Coping-Accepting Responsibility
                                   33..    ESC       Ways of Coping-Escape/Avoidance
                                   34..    SEEK      Ways of Coping-Seeking Social Support
                                   35..    POS       Ways of Coping-Positive Reappraisal
                                   36..    SEL       Ways of Coping-Self-Controlling

Multiple R           .81735                                   Analysis of Variance
R Square             .66806      R Square Change    .06926                          DF      Sum of Squares      Mean Square
Adjusted R Square    .52233      F Change           .57035    Regression            36           584.12052         16.22557
Standard Error      1.88133      Signif F Change    .9573     Residual              82           290.23242          3.53942

                                                              F =       4.58425       Signif F =  .0000


AIC             180.09547
PC                 .63149
CP               37.00000
SBC             282.92304
```

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                    * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 3    Dependent Variable..   OBJ    Objective

----------- in ------------

Variable            T  Sig T

HSEV            3.035  .0032
RB             -3.059  .0030
FAM            -1.967  .0525
Q1              2.432  .0172
Q4              2.988  .0037
Q5             -1.414  .1611
Q2               .107  .9150
ACC1           -1.067  .2890
AC               .472  .6380
SEL1             .557  .5792
POS1           -1.558  .1230
HFRQ             .741  .4609
CON             -.850  .3976
DIS              .098  .9221
Q3             -1.802  .0754
ESC1             .102  .9191
PLAN            -.931  .3546
USEV            1.534  .1289
QTO              .163  .8709
SC              -.113  .9105
SA             -1.097  .2757
PX             -1.403  .1643
DIS1            -.343  .7323
NEG              .794  .4292
SOC              .078  .9378
SEK1            -.457  .6492
PY             -1.266  .2093
FRI             -.546  .5863
UFRQ            -.246  .8060
PLN1            -.972  .3341
CON1             .796  .4284
ACC             1.465  .1467
ESC              .072  .9429
SEEK             .581  .5628
POS             1.603  .1129
SEL            -1.139  .2580
(Constant)      -.071  .9436
```

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                        * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 3    Dependent Variable..   OBJ   Objective


                                               Summary table
                                               -------------

Step  MultR    Rsq  AdjRsq    F(Eqn)  SigF   RsqCh      FCh SigCh      Variable  BetaIn  Correl
   1  .6416  .4116  .4066    81.860  .000   .4116   81.860  .000  In:  HSEV      .6416   .6416   Hassles Severity
   2  .7191  .5171  .5088    62.106  .000   .1054   25.329  .000  In:  RE       -.3520  -.5471   CPI-re
   3  .7369  .5431  .5311    45.558  .000   .0260    6.534  .012  In:  FAM      -.1951  -.5344   SSB-Family
   4  .7519  .5654  .5502    37.082  .000   .0224    5.868  .017  In:  Q1        .1593   .0042   Gender
   5  .7633  .5826  .5642    31.548  .000   .0172    4.657  .033  In:  Q4        .1641  -.3134   Education
   6  .7738  .5988  .5773    27.860  .000   .0162    4.514  .036  In:  Q5       -.2209  -.4717   Income
   7                                                                In:  Q2        .0090   .0505   Race
   8                                                                In:  ACC1      .0499  -.0422
   9                                                                In:  AC        .0108  -.2509   CPI-ac
  10                                                                In:  SEL1     -.0933  -.1977
  11                                                                In:  POS1     -.0301  -.1822
  12                                                                In:  HFRQ      .0273  -.1875   Hassles Frequency
  13                                                                In:  CON       .0434   .1377   Ways of Coping-Confrontive
  14                                                                In:  DIS      -.0682   .2538   Ways of Coping-Distancing
  15                                                                In:  Q3        .1142   .2791   Age
  16                                                                In:  ESC1      .0271   .3880
  17                                                                In:  PLAN      .0272  -.3472   Ways of Coping-Planful Proble
  18                                                                In:  USEV      .0861  -.3416   Uplifts Severity
  19                                                                In:  QTO       .0032  -.4003   CPI-to
  20                                                                In:  SC       -.0494  -.4713   CPI-sc
  21                                                                In:  SA        .0765  -.4773   CPI-sa
  22                                                                In:  FX       -.0911  -.5323   CPI-fx
  23                                                                In:  DIS1      .0196   .1850
  24                                                                In:  NEG       .0766   .5157
  25                                                                In:  SOC       .0384  -.4844   CPI-soc
  26                                                                In:  SEK1      .0191  -.1893
  27                                                                In:  PY        .1954  -.4814   CPI-py
  28                                                                In:  FRI      -.0212  -.5193   SSB-Friends
  29                                                                In:  UFRQ     -.0033  -.3755   Uplifts Frequency
  30                                                                In:  PLN1     -.0156  -.2558
  31                                                                In:  CON1      .1194   .1779
  32                                                                In:  ACC       .2458  -.0208   Ways of Coping-Accepting Resp
  33                                                                In:  ESC       .0840   .4003   Ways of Coping-Escape/Avoidan
  34                                                                In:  SEEK      .2252  -.2553   Ways of Coping-Seeking Social
  35                                                                In:  POS       .6745  -.2031   Ways of Coping-Positive Reapp
  36  .8173  .6681  .5223     4.584  .000   .0693     .570  .957  In:  SEL      -.5292  -.1999   Ways of Coping-Self-Controlli
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                                        * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 2    Dependent Variable..   SUBJ    Subjective

Block Number  2.  Method:  Enter


Variable(s) Entered on Step Number  7..     Q2         Race
                                    8..     POS1
                                    9..     ACC        Ways of Coping-Accepting Responsibility
                                   10..     AC         CPI-ac
                                   11..     CON1
                                   12..     Q3         Age
                                   13..     DIS1
                                   14..     Q1         Gender
                                   15..     Q4         Education
                                   16..     USEV       Uplifts Severity
                                   17..     SA         CPI-sa
                                   18..     PLAN       Ways of Coping-Planful Problem Solving
                                   19..     SOC        CPI-soc
                                   20..     FX         CPI-fx
                                   21..     QTO        CPI-to
                                   22..     NEG
                                   23..     SC         CPI-sc
                                   24..     FAM        SSB-Family
                                   25..     DIS        Ways of Coping-Distancing
                                   26..     Q5         Income
                                   27..     PY         CPI-py
                                   28..     FRI        SSB-Friends
                                   29..     SEK1
                                   30..     UFRQ       Uplifts Frequency
                                   31..     CON        Ways of Coping-Confrontive
                                   32..     ACC1
                                   33..     ESC        Ways of Coping-Escape/Avoidance
                                   34..     PLN1
                                   35..     POS        Ways of Coping-Positive Reappraisal
                                   36..     SEL        Ways of Coping-Self-Controlling


Multiple R           .80474                                  Analysis of Variance
R Square             .64760       R Square Change    .14005                    DF      Sum of Squares      Mean Square
Adjusted R Square    .49289       F Change          1.08628    Regression      36           858.67909         23.85220
Standard Error      2.38709       Signif F Change    .3739     Residual        82           467.25368          5.69822

                                                               F =       4.18591       Signif F =  .0000


AIC             236.76211
PC                 .67041
CP               37.00000
SBC             339.58968
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                       * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 2    Dependent Variable..   SUBJ   Subjective


----------- in ------------

Variable            T  Sig T

RE             -2.538  .0130
HSEV            1.612  .1109
SEL1            2.020  .0467
ESC1            -.932  .3542
SEEK             .313  .7549
HFRQ            1.072  .2867
Q2             -2.069  .0417
POS1             .565  .5738
ACC             1.840  .0694
AC               .171  .8645
CON1             .255  .7993
Q3              1.922  .0581
DIS1           -1.692  .0945
Q1              1.502  .1369
Q4              1.304  .1960
USEV             .291  .7716
SA               .384  .7023
PLAN             .703  .4840
SOC              .428  .6698
PX             -1.699  .0932
QTO              .059  .9533
NEG              .572  .5688
SC             -1.421  .1590
FAM              .637  .5258
DIS              .645  .5205
Q5             -1.208  .2304
PY              1.592  .1153
FRI            -1.689  .0950
SEK1             .313  .7553
UFRQ             .110  .9130
CON             -.199  .8424
ACC1           -1.675  .0978
ESC             1.507  .1357
PLN1            -.791  .4312
POS             -.548  .5854
SEL            -2.246  .0274
(Constant)       .140  .8887
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                       * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 2    Dependent Variable..   SUBJ   Subjective

                                         Summary table
                                         -------------

Step  MultR    Rsq  AdjRsq    F(Eqn)  SigF   RsqCh      FCh SigCh      Variable  BetaIn   Correl
  1   .5696  .3245   .3187    56.193  .000   .3245   56.193  .000  In:  RE        -.5696  -.5696   CPI-re
  2   .6377  .4067   .3965    39.756  .000   .0822   16.077  .000  In:  HSEV       .3108   .4843   Hassles Severity
  3   .6649  .4422   .4276    30.384  .000   .0355    7.313  .008  In:  SEL1     -.1893  -.2481   self control
  4   .6839  .4677   .4490    25.039  .000   .0255    5.465  .021  In:  ESC1      .1838   .4431   escape
  5   .7000  .4900   .4674    21.711  .000   .0223    4.938  .028  In:  SEEK      .2298  -.1858   Ways of Coping-Seeking Social
  6   .7124  .5076   .4812    19.239  .000   .0176    4.001  .048  In:  HFRQ      .1472  -.0591   Hassles Frequency
  7                                                                In:  Q2       -.1251  -.1537   Race
  8                                                                In:  POS1     -.0395  -.2211   positive reappraisal
  9                                                                In:  ACC       .0337  -.0246   Ways of Coping-Accepting Resp
 10                                                                In:  AC       -.0294  -.2875   CPI-ac
 11                                                                In:  CON1      .0037   .2392   confrontive
 12                                                                In:  Q3        .0738   .2625   Age
 13                                                                In:  DIS1     -.1422   .0933   distancing
 14                                                                In:  Q1        .1125  -.0608   Gender
 15                                                                In:  Q4        .0226  -.2974   Education
 16                                                                In:  USEV     -.0903  -.3884   Uplifts Severity
 17                                                                In:  SA       -.0450  -.4043   CPI-sa
 18                                                                In:  PLAN     -.0332  -.3616   Ways of Coping-Planful Proble
 19                                                                In:  SOC      -.0407  -.4389   CPI-soc
 20                                                                In:  FX       -.0531  -.4614   CPI-fx
 21                                                                In:  QTO       .0786  -.3561   CPI-to
 22                                                                In:  NEG       .1593   .4360   Overall
 23                                                                In:  SC       -.1539  -.5374   CPI-sc
 24                                                                In:  FAM       .0043  -.4017   SSB-Family
 25                                                                In:  DIS      -.0318   .2038   Ways of Coping-Distancing
 26                                                                In:  Q5       -.2328  -.4404   Income
 27                                                                In:  PY        .2468  -.4265   CPI-py
 28                                                                In:  FRI      -.2656  -.4570   SSB-Friends
 29                                                                In:  SEK1      .1827  -.1104   Seeking Social Sup
 30                                                                In:  UFRQ     -.0150  -.2083   Uplifts Frequency
 31                                                                In:  CON      -.0087   .2197   Ways of Coping-Confrontive
 32                                                                In:  ACC1     -.2215  -.0475   ~~[illegible]~~ Accepting Resp
 33                                                                In:  ESC       .1250   .4426   Ways of Coping-Escape/Avoidan
 34                                                                In:  PLN1     -.0935  -.2996   Planful
 35                                                                In:  POS      -.1484  -.2483   Ways of Coping-Positive Reapp
 36   .8047  .6476   .4929     4.186  .000   .1400    1.086  .374  In:  SEL     -1.0754  -.2502   Ways of Coping-Self-Controlli
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Vita

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