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WELL-BEING OF ELDERLY WOMEN:
RURAL - URBAN DIFFERENCES

by

Betty J. Gale, M.S., RN

A dissertation presented to the
FACULTY OF THE PHILIP Y. HAHN SCHOOL OF NURSING
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree
DOCTOR OF NURSING SCIENCE

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Abstract

Using a stress-coping theoretical framework, this path analytic study examined the effects of hardiness, self-esteem, social support, and stress on coping, service utilization, and well-being of elderly women. Fifty-five rural and fifty-five urban females living in the community comprised the sample whose mean age was 75 years. The overall level of well-being of these women was high. Hardiness was associated with greater social support and well-being. Self-esteem was related to lower stress. Hardiness and self-esteem were also associated with decreased use of emotion-focused coping. Stress had a positive relationship with service utilization and a negative relationship with well-being. Problem-focused coping was positively associated with well-being. The causal model applied to each subgroup showed a higher number of relationships among selected variables in the urban sample as compared to the rural sample. In both samples a lower level of well-being was associated with greater stress. The urban sample also reported significantly more stress and utilized more services while the rural sample reported a significantly greater level of well-being. The results of the study imply that psychosocial factors contribute to the well-being of elderly women and that there are some differences between urban and rural women. Nurses need to reconceptualize their practice when working with elderly in the community. A psychosocial approach is at

least as important as the medical approach in helping people adjust to their functional limitations. Community health nurses must place more emphasis on those factors which help aged people to remain as independent as possible in their advanced years.

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Dedication

To my husband, Dick, for his many years
of love, support, and encouragement

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CHAPTER ONE

Introduction

Background

The number of older Americans is rapidly increasing. The aging of the baby boom generation, the decreasing mortality rate, and the increasing number of chronic illnesses among the elderly are leading to a greater need for long-term care assistance (Kane & Kane, 1987; Rivlin & Weiner, 1988). Most of this assistance takes place in the community and in the home. Such assistance has encompassed much more than the medical approach of disease repair because the elderly are also struggling to manage their functional impairments and to remain independent (Hughes, 1985; Weissert, 1985). Therefore, the psychosocial aspects of their health problems are a critical requirement in the management of their lives (Strauss & Corbin, 1988).

For the first time in history, then, there is a new cohort of individuals that requires a new kind of health care (Weissert, 1985). What factors may be relevant, in this new community-based health care, that will help maintain the well-being of the elderly as they live longer and longer lives? Some of the psychosocial factors that have been identified as making a critical contribution to elderly well-being are social support needs, coping

efforts, and the coordination of formal services (Ward, 1985). Related to those contributions are hardiness (Kobasa, Maddi, & Kahn, 1982), self-esteem (Bengston, Reedy, & Gordon, 1985), and stressful life events (Dohrenwend & Dohrenwend, 1984). Antonovsky (1979) suggested that hardiness allows persons to mobilize their support systems during times of stress while Chiriboga (1982) suggested that personal characteristics of people may predispose greater susceptibility to stress.

Although utilization of home care services by the elderly has been shown to be beneficial, little research has been done in this area. There has been insufficient causal study (Hughes, 1985; Weissert, 1985). Specifying outcomes is complex due to the necessary intermingling of the medical, functional, and social needs of clients. However, an analysis of the characteristics of chronic care populations and their use of services is critical (Hughes, 1985; Shaughnessy, 1985). An additional area requiring study is that of rural health. Rural elderly have not had the same access to services as have the urban elderly, and not as much is known about their needs and community support systems (Bender & Hart, 1987; Nofz, 1986; Windley & Scheidt, 1983).

Elderly women, both rural and urban, have been identified as having special needs. These needs are related to their low income and the lack of awareness of their social status as either a salient research or social

issue (George, Fillenbaum, & Palmore, 1984; Gratton & Haug, 1983; Szinovacz, 1982). Clearly, these women deserve more attention in policy decisions and funding appropriations.

Purpose of Study

While important links among this collection of psychosocial variables have been established in previous research, there is a paucity of studies that examine their causal relationships at a time when an understanding of them is so crucial. Therefore, the first purpose of this study was to identify the causal flow and to examine the interrelationships among the six variables of hardiness, self-esteem, social support, stress, coping, and service utilization, and their impact on well-being of elderly women. Not only is the understanding of these variables crucial for urban populations but it is also crucial for rural populations. There is a greater proportion of elderly persons residing in rural areas than there is in urban areas. Such elderly are more likely to be without a regular source of health care, yet coping with more chronic conditions (Norton & McManus, 1989). Therefore, the second purpose of this study was to test the application of the model to both urban and rural populations. For clinical relevance, the third purpose of this study was to identify group differences in the variables.

Theoretical Framework and Assumptions

The theoretical framework for this study is the transactional cognitive-phenomenological theory of stress (Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus, DeLongis, Folkman, Gruen, 1985). The person and the environment are seen in a continuous process of interaction that has a reciprocal nature, each affecting the other (Folkman & Lazarus, 1980). The cognitive process that occurs within the person involves the use of appraisal. Appraisal is the determination of what is happening (primary appraisal) or the determination of the meaning of the happening for the individual (secondary appraisal). The meaning/appraisal may be conscious or unconscious and it will vary between individuals. Appraisal also helps people to distinguish between beneficial and harmful situations (Lazarus & Folkman, 1984). Harmful situations or events are those that lead to stress.

Stress can be defined either as a life event (Chiriboga, 1982) or as an organizing concept for understanding a wide variety of phenomena that play a major role in human adaptation (Lazarus, 1966). Both conceptualizations are utilized in this study. Stress as a rubric is the basis of the conceptual framework while the perception of stress related to life events is one of the variables. Coping with stress, which is an inevitable fact of life, determines adaptability or well-being in

humans. This view emphasizes the relationship between the person and the environment and parallels the current medical orientation to disease. That is, disease is not caused only by an external agent but also by the susceptibility of the host (Antonovsky, 1979; Lazarus & Folkman, 1984).

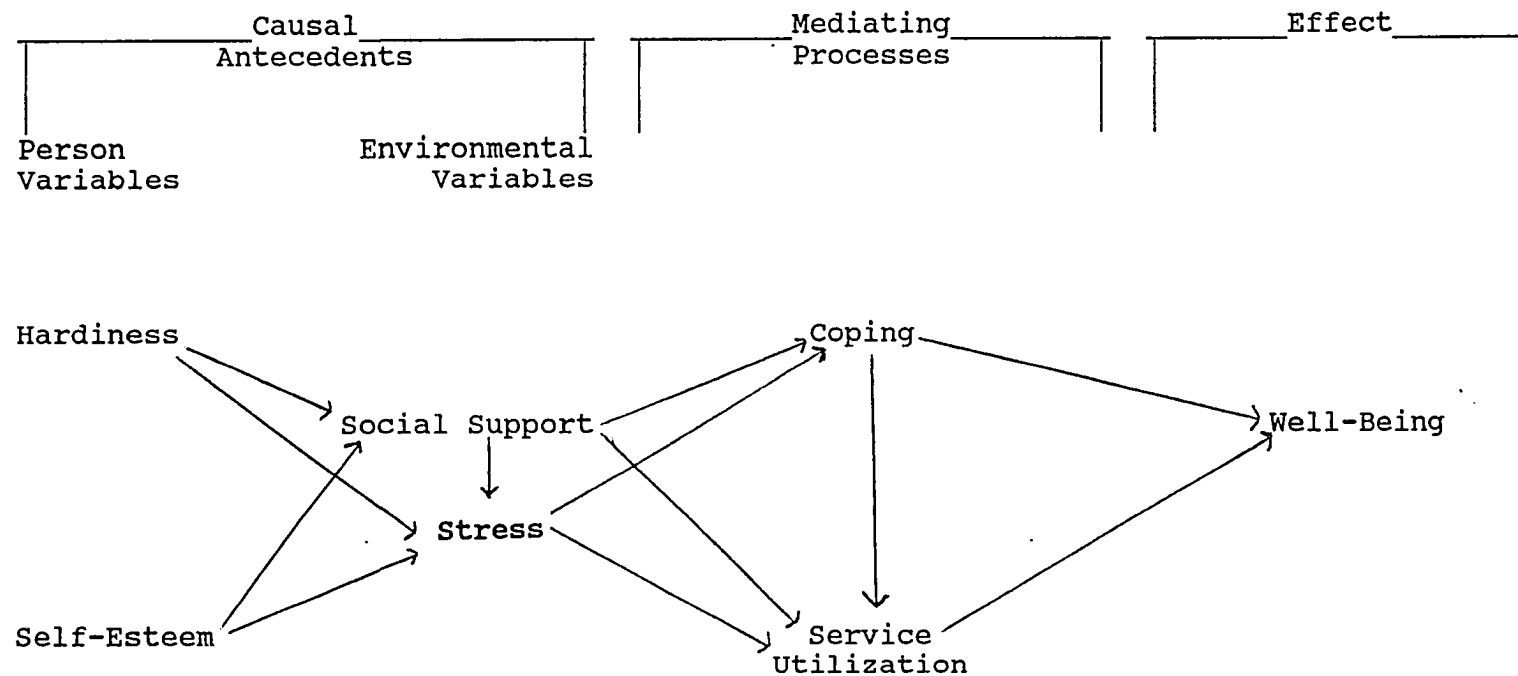
A person's well-being rests on his/her ability to make evaluative perceptions and the desire to understand what is happening. The interaction between what people desire and what the environment consists of yields both a subjective and an objective appraisal. Uncertainty about the situation (ambiguity) and/or uncertainty within the person (confusion) can cause stress. For this reason, both person factors and situation factors are theoretically interdependent in the relationship. They are antecedents of the appraisal process in terms of demands and resources in the person, in the environment, or between the two (Lazarus & Folkman, 1984). Person and situation factors provide the basis for the mediating or coping processes that in turn effect the immediate outcome, such as in a specific encounter or in a long term outcome (i.e. adaptation or well-being) (Lazarus et al., 1985).

Three assumptions are relevant in relationship to the theoretical framework. The first assumption is that elderly females are more vulnerable to health-related stressors than the general population. A second

assumption is that individuals want to know what is happening to them and that they are aware of stress. A third assumption is that appraisal is an inherent part of the stress process.

For this study, what the elderly do when they are experiencing stress was examined within the stress rubric of antecedent, mediating, and outcome variables (Lazarus et al., 1985). As illustrated in Figure 1, the antecedent variables are hardiness and self-esteem (personal factors) and social support and stress (situational or environmental factors). The mediating variables are coping and service utilization. The outcome or effect variable is well-being. This conceptual framework allows an examination of elderly women's personalities and experiences, as perceived and appraised by them, and the resulting effect on their well-being.

Since the impact and the causal effect of these relevant variables cannot be determined from existing studies, a causal model (Figure 2) in which analyses of the variables' influences on each other and on well-being was used. The causal model allowed for the selection of variables having a potential for explanation and prediction. A time ordered, recursive, causal model was utilized.



* Lazarus et. al. (1985).

Figure 1. Theoretical* and empirical frameworks

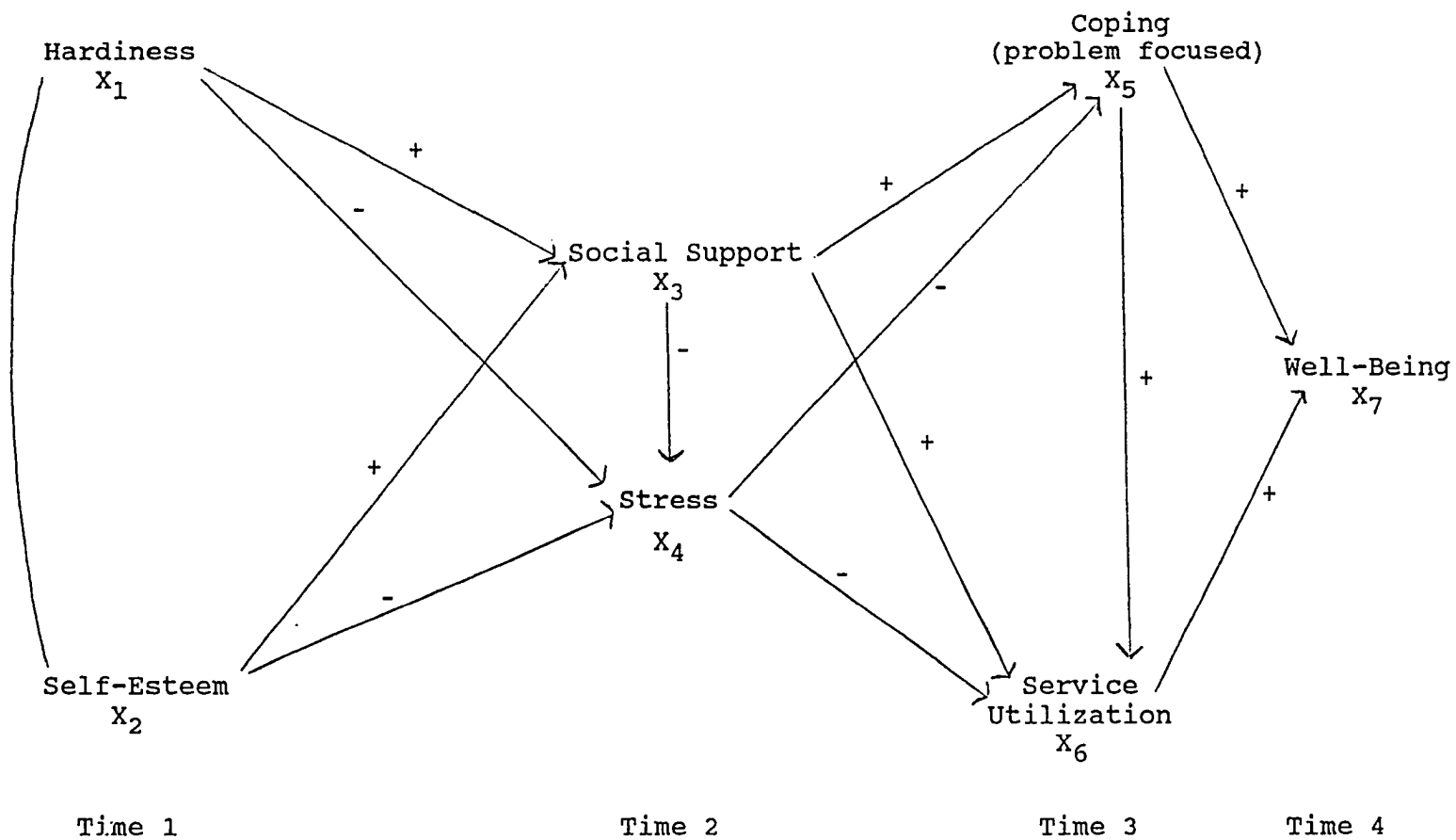


Figure 2. Causal model.

Definitions and Hypotheses

Hardiness is defined by Kobasa (1979) as the personality characteristics of control, commitment, and challenge. Rosenberg (1979) defined self-esteem as a person's self-worth, consisting of reflected appraisal, social comparison, self-attribution, and psychological centrality. Resources provided by other people, including the availability and amount of contact with friends, the availability of close support, and the adequacy of contacts, provides the definition of social support (Fillenbaum, 1988).

Stress is defined as life events which are important experiences, which have occurred in the past three years, and which have required cognitive reflection (Quayhagen, 1978; Quayhagen & Bendik, 1989). Coping is considered to be a transactional process that operates in the context of stress and has both an emotion-focused form and a problem-focused form. Problem-focused dimensions include problem-solving, help-seeking, and existential growth. Emotion-focused dimensions include minimization of threat, religiosity, fantasy, and blame (Lazarus & Folkman, 1984; Pearlin & Schooler, 1978; Quayhagen & Quayhagen, 1982, 1988).

Service utilization involves the scope of formal and informal services employed by the elderly (Fillenbaum, 1988). Dimensions of service include current utilization or utilization within the past six months, identification

of the provider, and the perceived need for services. Well-being is defined as perceived health status as reflected in the three dimensions of physical health, psychosocial health, and an independent category. Independent behaviors include sleeping, eating, recreation, work, and home management (Bergner et al., 1981).

Seven direct and four indirect hypotheses are implied by the causal model under examination and are applicable to both subsamples. The direct hypotheses include

- H1 Hardiness and self-esteem directly and positively effect social support;
- H2 Hardiness and self-esteem directly and negatively effect stress;
- H3 Social support directly and positively effects coping (problem-focused) and service utilization;
- H4 Social support directly and negatively effects stress;
- H5 Stress events directly and negatively effect coping and service utilization;
- H6 Coping directly and positively effects service utilization and well-being;
- H7 Service utilization positively effects well-being.

The indirect hypotheses include

- H8 Hardiness, self-esteem, social support, and

stress indirectly effect well-being
through coping and service utilization;

H9 Hardiness and self-esteem indirectly effect
coping and service utilization through social
support and stress;

H10 Social support indirectly effects well-being
through stress and service utilization;

H11 Coping indirectly effects well-being through
service utilization.

Significance of the Problem for Nursing

The current long-term care health system is plagued by severe problems which nursing can help resolve. The rapid growth of the old "old" yields a cohort that is prone to increasing debilitation causing special health care needs (Strumpf, 1985). Providing the nursing care for these special needs will more frequently be taking place in the community. In the future, nurses need to move beyond their usual boundaries and become the leaders for this specialized care (Courtney, 1987; Donley, 1988).

The boundaries of acute care and medical technology are not sufficient to help the elderly manage their functional limitations and their day-to-day activities (Strauss & Corbin, 1988). Research has shown that 67% to 75% of the disabled elderly are cared for in their homes (Vladeck, 1985) and that aged women significantly outnumber aged men (Szinovacz, 1982). Nursing interventions aimed at supporting not only the medical

needs but also the psychosocial needs are most important aspects when viewing the total health care system in this country.

To identify the psychosocial needs, nurses must understand the dynamics and processes that are involved. Norbeck (1981) stated that assessments of both the properties of the person and the properties of the situation are needed to determine whether the structure and function of the support needs to be changed or if direct support needs to be provided. The nurse's role ranges from the exploration of the influence of supportive others to becoming a supportive therapist for a time (Roberts, 1988). Therefore, nurses need systematic methods for assessing antecedent and mediating variables in the stressful and/or supportive environment (Norbeck, 1981; Roberts, 1988).

Researchers are in agreement that it is now time to focus in on the intervening mechanisms of well-being (Mitchell, Billings, & Moos, 1982; Roberts, 1988; Ward, 1985). Nurses must provide, study, and report on the assessment and intervention strategies that are effective in health care. Before that is possible, the relationships of relevant variables must be clarified.

Nursing is at the center of health care in the home and in the community, and consumers have shown that they prefer this type of care (Donley, 1988; Maraldo, 1989). Nurses will manage the long-term care services of the

future, and they must be prepared for this role. The results of this study will assist in the preparation of community-based, long-term care nurses.

CHAPTER TWO

Literature Review

The review of the literature is presented by empirical linkages between paired variables of interest. Theoretical data are occasionally presented. The linkage between hardiness and self-esteem is viewed as correlational in this study and a brief description of these correlates initiates the literature review. A discussion of selectively related concepts that are relevant to the study variables concludes the literature review.

Hardiness and Self-Esteem

In a theoretical discussion of self-esteem, Crouch and Straub (1983) viewed self-esteem as an intrapsychic phenomenon with locus of control as a key factor. These authors correlated the two variables by suggesting that adults with low self-esteem are more likely to attribute power and influence over their lives to external, rather than internal, forces.

Other authors have utilized words such as sense of competence, self-confidence, ego-strength, standard setter, feelings, and aspirations to describe the concept of self-esteem (Rosenberg, 1965; Taft, 1985; Wells & Marwell, 1976). Hardiness has been described as

authenticity, a sense of coherence, commitment, self-reflection, self-discipline, control, and challenge (Kobasa & Pucetti, 1983; Lambert & Lambert, 1987). Many of these descriptors are similar.

McRae and Costa (1988) examined age, personality, and the self-concept in two studies of adult men and women. In both studies, personality traits were more important in relationship to self-concept than was age. The researchers concluded that individuals' overall sense of worth depends on personality characteristics such as stability and optimism. In an earlier study of optimism among elderly adults (Guarnera & Williams, 1987), it was found that control was also a positive correlate of self-esteem.

Morgan et al. (1984) correlated a low self-esteem with external locus of control in their study of 102 volunteers, 65% female, with a mean age of 72 years. These personality measures were viewed as encompassing a range of unique, individual characteristics.

Control and self-esteem also were correlated in a self-help study conducted by Berkowitz, Waxman, and Yaffee (1988). Self-help participants scored higher on the two correlates than did the comparison group.

In this section, theoretical and empirical data support the correlational nature of hardiness and self-esteem. In the next section, data are presented which

support a positive relationship between hardiness and social support.

Hardiness and Social Support

Holahan and Moos (1985) studied the factors of hardiness and social support as they relate to the negative effects of life stress on health. Their sample was comprised of 267 randomly selected families in which both adult partners participated in the study. The mean age was 44 years for men and 42 years for women. These researchers opined that traditional sex roles influence men and women to use different aspects of hardiness and social support when dealing with stress. For example, self-confidence in men was more strongly associated with family support while an easy going personality in women was more strongly associated with family support.

Lambert, Lambert, Klipple, and Mewshaw (1989) assessed social support, hardiness, and well-being in 122 arthritic women with a mean age of 57 years. Eighty-two percent of the women were caucasians. Social support and hardiness both were reported as valuable factors in helping women cope with their disease, regardless of its severity.

In a group of 170 business executives, Kobasa and Pucetti (1983) examined the relationship of personality hardiness to both family and work support. The purpose of the study was to determine if these factors plus social assets moderate the effects of stressful events on illness

occurrence. Executives who were high in hardiness and high in boss support were not at risk for illness. Kobasa and Pucetti concluded that personality and social support cannot completely explain health and that other social and psychological factors must be considered.

Turner and Noh (1983) focused on social support and personal control in studying the relationship between psychological distress and class position. Their sample included 312 postpartum women with an average age of 27 years. The results indicated a positive relationship between social support and personal control, with both of these factors serving to buffer the effects of stress. Opposing results were reported by Murphy (1987) who examined the relationship of self-efficacy and social support in disaster victims. Personal control or self-reliant behaviors were utilized more heavily than help-seeking, supportive behaviors.

In a randomized community survey of 351 elderly participants, Krause (1987) studied the linkage between social support and locus of control beliefs. This longitudinal study consisted of an initial interview with 351 individuals and a second interview with 265 of the original participants, one and a half years later. Analysis showed that those participants who dropped out did not differ significantly on demographic variables. The purpose of the study was to determine if social support buffers life stress by reinforcing locus of

control beliefs. The findings confirmed the reinforcement, but only to a point. Krause stated that there is a point where increased social support begins to erode internal feelings of control.

Billings and Moos (1984) examined social support, coping, and stress in 424 depressed adults with a mean age of 40.7 years. The number and supportiveness of social resources positively related to the personality characteristic of self-confidence. This relationship was especially strong in women. In agreement with the findings of this study were the results found by Pollock (1986) in her study of hardiness and adjustment to health problems. Sixty-three percent of the subjects in this study were female. Those subjects with a more positive intrapsychic functioning also reported a more positive adaptation to chronic health problems.

Except for one study, these investigations explicate a positive relationship between hardiness and social support, thus supporting the hypothesis that hardiness directly and positively effects social support. Three studies focused on women. The one study of the elderly utilized only the control aspect of hardiness, thus there is a need for future studies of the elderly that include a more comprehensive measure of hardiness.

Hardiness and Stress

In a study of life stress and health, Holahan and Moos (1985) hypothesized that persons who show fewer

symptoms of psychological distress would be more self-confident and easy-going than those persons who show a greater number of symptoms of psychological distress. The sample for this study focused on community-residing men and women who had experienced a major amount of stress during the preceding year. The hypothesis proved correct in that those men and women who were more stress-resistant were also more hardy. This finding was supported by Rich and Rich (1987) in their study of hardiness and burnout in female staff nurses. Those nurses who were younger and low in hardiness reported the most burnout.

In a second, more recent study of hardiness and burnout in nurses (Topf, 1989), occupational stress also was assessed. The hardiness dimension of commitment accounted for 24% of the variance in three of the four measures of burnout. In relationship to stress, however, there was partial support for the claim that more hardy nurses experience less stress. However, when used as an interaction term, stress and hardiness were not predictive of burnout.

Two groups of male executives who had relatively high levels of stress during the previous three years were studied by Kobasa (1979). Those executives with fewer illnesses were more committed, more in control, and more aligned with challenge in their lives. This research was extended and its conclusions supported by a five year prospective study of 259 executives with a mean age of 48

years (Kobasa et al., 1982). Commitment, control, and challenge were shown to restrict the effects of stress, even in mounting circumstances. The researchers stated that it is indeed relevant to ask how the personality characteristic of hardiness will interact with other resistance resources in the promotion of health. For example, can sufficient discrimination be made between hardiness and social support in order to show that each of them serves to buffer stress?

Kobasa and Pucetti (1983) extended the work of stress resistance in male executives, adding the dimension of social resources. Results indicated that those executives who reported more personality hardiness also reported less symptomatology. Hardiness makes the difference between individuals who experience stress as a challenge and those who experience stress as a threat.

A concept related to hardiness, sense of mastery, was studied as a personal resource that alleviates strain by Pearlin and Schooler (1978). The purpose of their study was to delineate problematic circumstances of people, identify coping mechanisms used to deal with those circumstances, and assess the efficacy of the coping mechanisms. The sample comprised 2300 people between the ages of 18 and 65. Other personality characteristics considered in the study were self-esteem and self-denigration. All three personality characteristics weakened the impact of life strain on perceived marital,

financial, parental, and occupational stress. When compared with women, the men demonstrated higher psychological resources and a greater resistance to life strains.

Rhodewalt and Zone (1989) focused on college-educated women in their study of hardiness. Hardy women appraised 27% of life experiences as negative while less hardy women appraised 40% as negative. Similarly, hardy women reported that one-third of their adaptational demands were stressful while less hardy women reported that one-half were stressful.

Eighty-two female secretaries with a mean age of 35 years were studied in relation to hardiness, type A behavior, and stress (Schmied & Lawler, 1986). Secretaries who reported low hardiness also reported more stress, but a buffering effect of hardiness was not found. In addition, hardiness was positively associated with age, education level, and marital status. The researchers stated that the personality characteristics that constitute hardiness in men may be different from the personality characteristics that constitute hardiness in women.

Self-efficacy, a concept related to hardiness, was studied as a mediator of stress following a volcanic eruption (Murphy, 1987). The sample for this longitudinal study consisted of 155 persons the first year and 103 persons two years later. All study participants reported

moderate to high levels of self-efficacy which was shown to counterbalance rather than mediate disaster stress. Because there was a heavy use of self-reliant behaviors, Murphy suggested that not enough consideration has been given to intrapersonal resources in clinical practice.

Krause (1986) reconceptualized the role of locus of control beliefs in his study of 351 community-residing elderly with a mean age of 73.4 years. The goal of this study was to determine if elderly persons with extreme locus of control beliefs (internal or external) would be more likely to experience negative effects of life stress than those elderly persons with moderate beliefs. Elderly persons with extreme internal control were more vulnerable to negative effects of stressful events than were those persons with moderate internal control. Krause concluded by encouraging researchers to develop and test more complex models focusing on how the elderly cope with stress.

Johnson and Sarason (1978) also examined subjects' locus of control orientation as a mediator of life stress. College students ($N=124$) comprised the sample, and findings indicated that locus of control beliefs mediated the negative experience of stress. Another study of college students examined the life events, hassles, and hardiness on physical symptoms (Banks & Gannon, 1988). Those students that reported more hardiness also reported less stress.

Most of these studies indicate that personality characteristics such as hardiness can either mediate or limit the effects of stress in a variety of situations. The hypothesis that hardiness directly and negatively effects stress is thus supported. Four studies focused on young women and another study focused on the elderly. One study measured levels of personality control and contradicted a stress-limiting effect with extreme control, but agreed with the other studies with moderate control. None of the studies utilized a rural sample. Self-report measures were utilized in all of the studies and limitations were acknowledged.

Self-Esteem and Social Support

Meisenhelder (1986) studied the influence of self-esteem on perceived reflected appraisals of husbands in a random sample of 192 women, ages 25 to 45. It was indicated by the findings that homemakers were much more dependent on their husbands than were employed women. However, this researcher concluded that the support of the significant other can remain a major contributor to self-esteem, both theoretically and empirically.

In a study of 102 volunteers, ranging in age from 60 to 92 years, Morgan et al. (1984) examined the roles of health, support, and personality as related to environmental docility. Respondents that had low self-esteem plus an aversion to receiving supportive assistance

also reported a narrower range of adaptability to environmental demands.

In studying the effects of a self-help model in residences of the elderly, Berkowitz et al. (1988) assessed control, social involvement, and self-esteem. The age range for the target group (self-help environment) was 62 to 90 years, and for the comparison group (traditional environment) it was 52 to 85 years. Social involvement and self-esteem were greater for the self-help program than for the traditional setting. These researchers suggested that when elderly residents have some control over their environment, psychological well-being is significantly increased.

Utilizing a similar type sample of elderly residents in a progressive setting, Guarnera and Williams (1987) examined optimism and control in affiliation and health. The average age of the study participants was 84 years. Results indicated a positive linkage between optimism and affiliation control. The researchers warned that caution should be used in generalizing results due to the selective nature of their sample.

Satisfaction with social support as it relates to intimacy and self-esteem was studied by Hobfoll, Nadler, and Lieberman (1986) in a sample of 113 Israeli women post pregnancy. Self-esteem was positively related to satisfaction with social support three months after pregnancy outcome, but was not independent of intimacy.

When comparing women who were high and low in self-esteem there was a differential result with intimate relationships. That is, women low in self-esteem reported a lower satisfaction with family support and intimacy than women high in self-esteem. The researchers concluded that women low in self-esteem are more vulnerable to the negative aspects of social support.

In a study that investigated stress, social support, and self-esteem, Krause (1987) interviewed 351 older adults whose average age was 73.4 years. Eighteen months later, 265 of the original sample were re-interviewed. Social support at the time of the first interview was found to bolster self-esteem at the time of the second interview. Krause suggested that the effects of life stress are reduced by social support which also bolsters feelings of self-esteem. Social support also may enhance feelings of personal control and a dimension of hardiness, but this linkage needs further exploration in studies of the elderly.

In a research investigation of social support and adaptation to stress by the elderly, Cutrona, Russell, and Rose (1986) reported that reassurance of worth, nurturance, and social support were directly related to changes in physical health. These researchers suggested that elderly individuals who have supportive relationships which enhance their self-esteem are less vulnerable to deteriorating health.

Callahan and Kidd (1986) focused their study of self-esteem and job satisfaction on working women. Social aspects play a major role in job satisfaction for women and were found to be related to self-esteem. That is, those women who were socially-oriented and socially adept also experienced higher self-esteem. Similarly, the job-unsatisfied group reported feelings of inferiority and social impotence.

In reviewing the negative aspects of social support, such as stereotyping, Rodin and Langer (1980) examined the effects of aging labels on self-esteem and control. They reported that elderly persons who perceive that they are being avoided also tend to make damaging self-evaluations. These researchers warned that negative labeling affects the self-concept, and a cultural bias against aging exists as a consequence.

Brugha (1984) examined personal losses and deficiencies in social support in 50 newly referred psychiatric outpatients. Participants reported less social interaction with episodes of depression but claimed that recent changes in social interaction did not cause the depression. This finding also was supported in a study of 351 older adults, 66% of whom were women (Krause, Liang, & Yatomi, 1989). The data supported the conclusion that initial levels of depression are unrelated to changes in social support. All of these researchers suggested

that personality attributes should be investigated in relation to social supportive networks.

Arling (1987) studied emotional distress and social support in 2044 elderly, 56% of whom lived in small towns and 59% of whom were women. Results indicated that social support moderates the effect of life strain on emotional distress. Women were more likely to be vulnerable to strain and to live alone, but were no more likely than men to evidence distress. Emotional distress as an antecedent variable to social support was shown to cause individuals to be less satisfied with the social support. Arling concluded that stress and strain should not be attributed simply to the absence of social resources, but future research should also consider the subjective experiences of the individuals.

The research reports in this section all generally infer a positive relationship between self-esteem and social support. Five of the studies focused on women, three of which utilized women as their total sample. Seven of the studies utilized an elderly sample, one of which had a subsample of rural elderly persons. The hypothesis that self-esteem directly and positively effects social support is thus supported. Reflected appraisals of significant others also influences self-esteem (Adler, 1929; Meisenhelder, 1985).

Self-Esteem and Stress

Kaplan, Robbins, and Martin (1983) examined self-rejection, lack of social support, and stressful life events in a longitudinal study of 1,633 adolescents. Findings demonstrated that those adolescents who reported lower self-esteem also reported more stressful life events. Since the lower self-esteem measure came from the first wave (10 years earlier) and the distress measure came from the second wave, the researchers contended that the effect of self-esteem on distress is of major import.

In a two-phased study that examined attributional variables of self-esteem and depression in undergraduate students, Brewin and Furnham (1986) reported that internal attributions, or self-esteem, were associated with both negative and positive outcomes. However, if the cause of stress or negative outcomes was far ranging, the effect was one of a lowered self-esteem.

Using depression as an indicator of stress, Pearlin, Lieberman, Menaghan, and Mullan (1981) studied self-concept, social support, and coping as related to involuntary job disruptions. Results indicated that those persons with diminished self-esteem also experienced more stress from their job loss. These researchers stated that, as more is learned about the stress process, more will also be learned about the vulnerabilities of the self.

Revicki and May (1989) examined occupational stress and depressive symptoms in a random sample of 232 hospital nurses with an average age of 31 years. Ninety-five percent of the nurses were women. The researchers reported that occupational stress exerted a strong, direct influence on the nurses' development of depressive symptoms. As stress increased, depression also increased. Revicki and May noted that personality characteristics should be examined in future studies. An earlier study of hospital nurses found similar results. Packard and Motowidlo (1987) reported that job satisfaction is based on depression which is affected by stress and personal characteristics.

Revicki and May (1985) also studied occupational stress in physicians. They reported an increase in depression with an increase in stress. The physician sample ($N=210$) was 93% male and had an average age of 48 years. The researchers stated that future research in stress should include measures of both personality characteristics and social support.

Investigating the relationship of social roles to women's well-being, Pugliesi (1989) reported that self-esteem is higher for employed women than for unemployed women and that such self-esteem appears to reduce the level of distress. The study was conducted with a national sample of 1,234 adult women.

A longitudinal study of parent-child relationships examined self-esteem in 85 families (Coopersmith, 1967). Parents with high self-esteem were more concerned and involved with their children and were less effected by stress. That is, these parents were more likely to provide realistic interpretation of life events. When mothers appraised their children's mental health, 60% of the low self-esteem children manifested frequent distress while only 12.5% of the high self-esteem group had similar reports of distress.

In his study of adolescents and their self-image, Rosenberg (1965) reported that 80% of participants with low self-esteem scores reported a high level of depression. Rosenberg suggested that individuals with low self-esteem not only experience depression but are also more likely to verbalize unhappiness, gloom and discouragement.

Verbalization of negative self-statements were investigated by Vasta and Brockner (1979) in a sample of 33 undergraduate students. The researchers reported a negative association between self-esteem and negative self-statements. That is, those subjects high in self-esteem reported fewer negative self-evaluations.

The studies in this section indicate that individuals with low self-esteem experience higher amounts of stress, thus supporting the hypothesis that self-esteem directly and negatively effects stress. Battle (1982)

suggested that persons who possess low self-esteem generally experience greater subjective distress and tend to internalize more psychophysiologic symptoms. None of these studies utilized an elderly sample, but two studies did focus on women.

Social Support and Stress

Wethington and Kessler (1986) examined perceived support, received support, and adjustment to stressful life events in a sample of 1,269 married respondents between the ages of 21 and 65. They found that perceived support is more important than received support in buffering the effects of stress. Evidence also was identified indicating that perceived support acts independently or mediates actual network response. Wethington and Kessler suggested that personality characteristics should be considered with the measurement of social support in determining the responsiveness to stressful events.

Two surveys, administered one year apart, were used by Holahan and Moos (1981) in their study of social support and psychological distress. The mean age of the participants who completed both surveys was 46.8 years for men and 44 years for women. More psychological adjustment was needed when there were decreases in work and family social support. These researchers opined that both coping and social support should be investigated as predictive indices in future studies of stress.

Utilizing two waves of interviews, Cutrona et al. (1986) examined social support and stress in a sample of 61 (Time 1) and 50 (Time 2) elderly persons with a mean age of 70 years. Stability over time of experience with stress was reported, and those subjects who reported more negative events subsequently reported lower levels of social support. A contradictory study by Sherbourne (1988) of social support and life stress in the use of mental health services indicated that neither social contacts nor social resources buffered the impact of events on the use of services.

A longitudinal study of older adults (Norris & Murrell, 1987) also reported contradictory findings in relationship to social support and life event stress in a predominantly rural sample. Both social support and education failed to have an indirect impact on stress, either initially or at a later time. However, a direct beneficial effect of social support and education was observed on the amount of symptoms throughout the study. The female gender was also positively associated with more stress.

A study that assessed job-related strain and social support was conducted by LaRocco, House, and French (1980) with 636 men. Social support was shown to buffer general outcomes such as anxiety and depression but not the effects of job-related stress and strain. Similar findings were reported by Cohen and Hoberman (1983) in

their study of college students. Those students with more support experienced lower levels of depressive symptoms. The buffering hypothesis was supported when social support was consistent with the students' coping requirements. A contradictory study (Winnubst, Marcelissen, & Kleber, 1982) which supports the second piece of LaRocca's et al. (1980) study did not uphold the buffering hypothesis in a study of the relationship between job stress and health.

Baillie, Norbeck, and Barnes (1988) studied the interaction of caregiving stress and social support and its effect on the psychological well-being of 87 family caregivers. Psychological distress was more pronounced by those caregivers who were experiencing low levels of social support. Perceived caregiver stress and satisfaction with social support accounted for a moderate amount of the variance in psychological distress. These investigators noted that more research is needed which explores satisfaction with social support.

Viewing and assessing social networks as both a source of stress and support, Fiore, Becker, and Coppel (1983) studied this relationship in a sample of 44 caregivers of patients with Alzheimer's disease. In this chronically stressed group, it was found that the best predictor of depression was the extent of upset with the social network. Cantor (1983) also included the quality of the relationship between the caregiver and care-receiver in her study of 111 caregivers to the elderly.

Seventy percent of her sample were women. She found that the closer the supportive bond between care-receiver and caregiver, the more stress was experienced by the caregiver.

In a study that examined family support to caregivers, Scott, Roberto, and Hutton (1986) reported that a lack of social support caused a feeling of greater burden in caregivers. A similar finding by Fiore, Copper, Becker, and Cox (1986) showed that satisfaction with support was the best predictor of level of depression. That is, the higher the depression, the lower the caregiver's satisfaction with support. This study's sample of 68 caregivers had a mean age of 65.8 years and 63% were female. The purpose of the study was an examination of the relationship of four different operationalizations of social support to depression and adjustment.

The majority of these studies demonstrate the buffering mechanism of social support in a negative relationship with stress. The direct hypothesis that social support negatively effects stress is upheld. Two studies, one of older adults, showed only a beneficial direct effect. Elderly samples were utilized totally in the studies of caregiving stress, and two studies cited a large percentage of females in their sample. One of the reported samples was rural residents. Health-related

stress, such as having to assume the caregiving role, is a common life event stress experienced by the elderly.

Social Support and Coping

Social support and coping responses were measured in a study by Billings and Moos (1981) of 294 adults with a mean age of 45. In examining the interrelationship of these two concepts it was found that 50% of the variance in the criterion outcome of functioning was shared between social resources and coping, and that those individuals who use avoidance type coping have less social support. These researchers view the two concepts as one set and state that further research is limited if only one of the concepts is used to determine adequate functioning in a stressful event. Saunders & McCorkle (1987) also explored this interrelationship during an in-depth, qualitative study of six patients who had just been diagnosed with cancer. An effective coping strategy was associated with keeping family support viable.

Several contradictory findings were reported by McNett (1987) in her study of 50 wheelchair-bound participants with a mean age of 37.4 years. This study utilized a causal model to determine coping effectiveness in functionally disabled persons. Perceived social support was found to have importance as an antecedent that influences coping responses which were divided in this study into emotion-focused coping and problem-focused coping (Lazarus & Folkman, 1984). With emotion-focused

coping, the effect was negative while with problem-focused coping, the effect was positive. McNett (1987) concluded by noting that a replicated study with a larger sample is needed that utilizes more comprehensive measures of social support effectiveness.

Social support and coping were examined longitudinally during the first two years of bereavement in an elderly sample, the majority of whom were white and female (Dimond, Lund, & Caserta, 1987). Perceived coping correlated positively with quality and quantity of social support. The researchers concluded that social support has a significant role in coping with widowhood but that sources of support, such as family or friends, need to be delineated.

Support and coping dynamics of Alzheimer's families were studied by Quayhagen and Quayhagen (1988). Fifty-eight adults with a mean age of 63.7 years comprised the sample. Three subgroups within the sample, husbands, wives, and daughters, identified comparable coping strategies and sources of support. The problem-focused coping strategy of help seeking and the emotional support of blood relatives were chosen by the greatest percentage of respondents.

Mitchell, Cronkite, and Moos (1983) hypothesized in their study of 157 married couples, in which one of the spouses had recently been treated for depression, that coping responses would indirectly influence depression

through social support. Spouses of patients reported less supportive family relationships than a comparison control group but a greater use of problem-solving coping than their depressed partners. The community control couples did not differ from each other on the types of coping utilized but did show a significant positive relationship between social support and problem-solving coping. The researchers concluded that the relationship between support and coping is most likely reciprocal.

In an anthropological study of 50 older adults, mean age of 71 years and 66% female, Wentowski (1981) linked coping resources in later life to the management of personal resources in earlier life. Even though the quality of coping in old age depends upon financial and material resources, it is also contingent on the quality of relationships over time. Coping strategies were viewed as interdependent with reciprocity in social support.

In studying how college students coped during an examination, Folkman and Lazarus (1985) indicated that the use of social support is part of the emotion-focused coping process. Measures taken during three stages of the examination showed that both informational support and problem-focused coping were higher at the earlier stage. Conversely, emotional support and emotion-focused coping peaked during the later stage while the students waited for their grades. These researchers discussed the

salience of viewing social support as a coping process that changes with time and the situation.

Seeking social support was one measure of coping strategies utilized in a study of age differences in stress and coping process by Folkman, Lazarus, Pimley, and Novacek (1987). The younger sample consisted of 75 couples with mean ages of 39.6 years (females) and 41.4 years (males) respectively. The older sample consisted of 141 people with mean ages of 68.9 years (females) and 68.3 years (males) respectively. The older group used more emotion-focused coping and sought less social support than the younger group. These researchers questioned whether the differences could be attributed to contextual interpretations, cohort effects, or developmental stages.

Scott et al. (1986) studied 23 primary caregivers (mean age, 64.4 years) and 19 secondary caregivers (mean age, 42.9 years) of Alzheimer's patients. Effective coping was reported to increase as family support increased. Limitations of the sample prevented generalizability but the researchers opined that the study provides important evidence of the need of support for caregivers.

Reports from these studies demonstrate a positive relationship between social support and problem-focused coping, thus supporting the hypothesis that social support directly and positively effects coping. Four studies were conducted with elderly subjects, with at least two-thirds

of these subjects being women. There are mixed findings related to social support and emotion-focused coping. Study limitations were presented. Further research is needed which delineates emotion-focused coping from problem-focused coping and one type of social support, such as tangible, from another type of social support, such as emotional.

Social Support and Service Utilization

O'Brien and Wagner (1980) examined social interaction and use of formal agency service in 361 urban frail elderly. Higher usage of formal service was reported by those elderly who also reported lower rates of social interaction. Since elderly needs in this sample were relatively high, the researchers warned that the qualitative aspects of the social support should be more explicitly examined in relationship to both service utilization and well-being. Similar findings were reported by Wagner and Keast (1981). Greater informal aid precluded the use of formal services by the elderly in their study, and these researchers opined that self-reliance may be an important factor in securing formal assistance.

The difference between urban and rural Norwegian aged residents in the use of public services was studied by Daatland (1983). Urban residents used more services, and family support encouraged the use of those services. In the rural subsample, family support provided those

services and there was less formal service use.

Contradictory to this study, Windley and Scheidt (1983) found that the informal social support system in small towns assisted vulnerable elderly to obtain services.

Family support was part of the enabling factors assessed in a study about the use of in-home services by the elderly (Bass & Noelker, 1987). The average age of the elderly participants was 78 years. A high volume of service use was associated with the enabling factors, including both the primary and secondary support system. Bass and Noelker stated that further study is needed to explicate the relationship between family support and heightened service use.

Receipt of formal services was the dependent variable in a study of 1430 community-based elderly who were 65 years or older (Soldo, 1985). Females comprised 69% of the sample. Receipt of services was found to relate indirectly to informal support in that those with less support utilized more services. This result was supported by Chappell (1985) who also studied social support and the receipt of home services but was contradicted by McAuley and Arling (1984) who reported that elderly persons with more social resources received more services.

Scott and Roberto (1985) studied a sample of 571 rural elderly poor, 62% female, to examine the interrelationship between informal and formal sources of support. General use of formal services was low and it

was used in conjunction with family and friend assistance. However, in the poorest category, those participants who used a greater amount of services also reported less social involvement with family and friends.

Ward, Sherman, and LaGory (1984) investigated whether informal support ties facilitated or hindered the use of formal services in an elderly sample, 61% female and 96% white. There was a negative association between strong informal support ties and the knowledge of services. Since the association was small, the researchers warned that while informal support is useful, it may not be a critical factor in the use of formal services. This finding was contradictory to the finding reported by Coulton and Frost (1982). In their elderly sample, 65% of whom were women, the socially isolated respondents utilized fewer services.

Use of formal services was positively related to use of informal social support in a study of the elderly by Stoller (1989). Two-thirds of the sample was female. The purpose of this study was to determine if informal support is withdrawn when formal support is utilized. Stoller reported that the opposite is true. Elderly persons who need assistance obtain formal support as a supplement and not as a replacement. This view is in agreement with research reported by Branch and Jette (1983) in which elderly who utilized both informal and formal long-term

care assistance relied heavily on their social support systems.

All studies of the relationship between social support and service utilization involved elderly persons. About 50% of the urban studies showed a positive relationship while the same amount showed a negative relationship. Reports from rural samples were likewise split. The direct hypothesis that social support positively effects service utilization is partially supported. The majority of the studies reported a male-female ratio of one to three. Whether informal support encourages or hinders the use of formal service is an issue that needs further clarification.

Stress and Coping

Horowitz and Wilner (1980) examined stress-response syndromes after a traumatic life event experienced by clinic patients. Coping items that were reported to be helpful by at least 33% of the respondents included turning to other attitudes and activities and cognitively working through the event. Socialization items such as talking with others were reported to have the highest utility.

In a study that reported both quantitative and qualitative results, Bargagliotti and Trygstad (1987) found that nurses utilized coping strategies in response to work-related stressors. This study supported earlier findings by Pearlin et al. (1981) who also studied work-

related stressors. Longitudinal data was examined in relationship to the formation of a stress process. The stress resulting from job disruption was shown to be mediated by coping.

Focusing on life-event stressors, Wheaton (1983) proposed that appropriate coping resources would moderate the effect of stress. Findings indicated an interactive and predictive process between coping and stress. Increasing the coping resources reduced the effect of environmental stressors.

Two coping mechanisms, what people do and what people are, were studied by Pearlin and Schooler (1978) in a sample of 2300 adults. Results showed that in situations where there is little control, such as work, psychological resources are most effective. In close, interpersonal situations, the things that people do are more effective coping measures. Having a range of coping responses to life strains was the most efficacious of all, however, in protecting people from stress. Mitchell et al. (1983) also studied strain and coping. They found that spouses of depressed patients who reported high levels of strain also reported high usage of problem-focused coping.

Coping responses were proposed to mediate the effect of threat in a study of 50 wheelchair-bound individuals (McNett, 1987). The causal model was reported to fit the data but the researcher noted that the sample size was

small and that caution should be used with the interpretation.

Manfredi and Pickett (1987) examined stressors and coping strategies of the elderly, 82% of whom were women. The emotion-focused strategy of prayer was the most frequent coping response, although 56% of all the strategies were utilized. The researchers opined that perhaps the elderly have a wider range of coping strategies that have been built up throughout life. This statement supports previous work (Pearlin and Schooler, 1978) that a wider range is more efficacious. In addition, no significant differences were found between problem-focused coping and emotion-focused coping.

Quayhagen and Quayhagen (1988) examined caregiver stress and coping in 58 adults who were responsible for an Alzheimer's family member. The three groups of caregivers (husbands, wives, and daughters) identified like forms of coping. Help-seeking coping was utilized by 77% of the respondents.

Baldree, Murphy, and Powers (1982) explored the relationship between treatment associated stressors and coping behaviors in dialysis patients. No significant associations were found between stressor and coping scores. The researchers warned that the sample size ($N=35$) may have been too small to isolate variables that could influence coping responses.

In the analysis of coping in a middle-aged community sample, Folkman & Lazarus (1980) reported that health-related stressors evoked more emotion-focused coping than work or family stressors. This finding was contradicted by Billings and Moos (1981) in their examination of a nonclinical, community adult population, mean age of 45.0 for men and 43.5 for women. Illness events elicited more problem-focused coping than most other categorical events.

In summary, most studies in this section show a positive relationship between stress and coping. Health-related stressors tended to provoke more emotion-focused coping than work-related stressors. Two studies cited a limitation of small samples. Except for two samples, elderly participants were not used. The elderly studies reported more than 70% of their sample as female.

Stress and Service Utilization

Health-related stresses in older age groups tend to be more pervasive and greater in number than in younger age groups (Biegel, 1985). Because of the health-related stresses, caregiving assumes a major role and contains an additional set of stressors (Smyer, 1983). In addition, the elderly do not participate in community organizations or utilize professional services as often as younger people (Biegel, 1985; Dunlop, 1980; Hooyman, Gonyea, and Montgomery, 1985) although it is reported that the utilization could give a new perspective and promote well-being of the elder (Parsons, Cox, & Kimboko, 1989). These

combined factors demonstrate an important link between the stress of caregiving and service utilization.

Bass and Noelker (1987) examined the stress effects of caregiving and the use of in-home services by the elderly. Results demonstrated that the use of in-home services was positively associated with the amount of stress experienced by the caregiver. However, the researchers noted that the study was unable to explicate the reasons for the association.

Comparing the differences of users (70% female) and nonusers (51% female) of home care services, Chappell (1985) found that nonusers were less satisfied with all their social relationships than were users. Since a low level of social support satisfaction is a source of stress for individuals (Eckenrode & Gore, 1981; Tilden & Gaylen, 1987), it follows from this study that persons experiencing more stress (in social relationships) also do not utilize formal services. However, Chappell (1985) warned that ill health and many chronic conditions affected social support satisfaction. Extending work on service utilization by the elderly (67% female), Chappell and Blandford (1987) studied home care, physician visits, and hospital services. A social definition of need, including pathological dimensions, was found to be predictive of home care utilization. Thus, both studies demonstrated higher stress with lower usages of service.

Similar results of service utilization were reported by Noelker and Townsend (1987) in their examination of elder impairment, community supports, and adult offspring characteristics. The mean age of the offspring was 48 years and 92% were females. Those offspring who viewed the caregiving situation more negatively also had more difficulty in finding and using formal services. The researchers opined that when families wait too long to seek outside help they are too burdened with the caregiving situation to allow strangers into an already complex and stressful family situation.

Quadagno, Sims, Squier, and Walker (1987) further explicated the stress of caregiving in their study of family caregiving and long-term care community services. Results indicated that day-to-day caregiving stress can be alleviated by the utilization of formal services. The long-term caregiving stress, defined by the shrinking of one's social world, cannot be alleviated by the utilization of formal services.

The majority of the studies of caregiver stress and service utilization show a negative association, thus supporting the hypothesis that stress is directly and negatively related to service utilization. All but one study utilized elderly samples, and all studies had predominantly female subjects. The benefits of increased home care, such as reduced family caregiving stress, have

not had sufficient study and should be considered as hypotheses for future research (Dunlop, 1980).

Coping and Service Utilization

The utilization of formal services can be viewed as a problem-focused, help-seeking, coping strategy. The use of this strategy was more frequently reported than emotion-focused coping in several studies of stress and coping (Billings & Moos, 1981 & 1984). In addition, the choice of seeking in-home service providers rather than choosing other alternatives, such as institutionalization, is preferred by most family caregivers. This preference influences the elderly care-receiver to accept formal assistance (Bass & Noelker, 1987; Hess & Soldo, 1985).

Cantor (1983) studied strain among caregivers and their frail elderly family members. Findings indicated that in-home care and professional services were extremely important to both elderly spouses and younger adult children. Assessing only intrahousehold caregiving, Soldo and Myllyluoma (1983) reported that caregiving by younger adult children is the most vulnerable to disruption and would benefit the most from the use of formal services.

The help-seeking process was identified as providing a major contribution to the use of formal services in a study which examined informal networks and knowledge of services for older persons (Ward et al., 1984). Informal social supporters influenced reluctant older persons to utilize formal services. However, the elderly themselves

sought services in another study. Wagner and Keast (1981) reported that in the case of complex services, self-reliant and help-seeking behaviors were utilized by the elderly themselves who were in need of services.

In summary, the reported studies in this section demonstrate the use of a help-seeking coping strategy in securing formal assistance. The direct hypothesis that coping positively effects service utilization is thus supported. This coping strategy is used by family, friends, or the elderly person needing the assistance. Most of the studies utilized elderly samples in which a large percentage were females. A more exactly defined nature of the problem-focused coping process may be useful in understanding the relationship of these two variables.

Coping and Well-Being

To understand the effect of life events on personal functioning, Billings and Moos (1981) examined the mediating variables of coping responses and social support. The mean ages of the 194 families in the sample were 45.0 years for men and 43.5 years for women. More active-oriented coping was shown to play a major role in maintaining adequate functioning. Similar findings were reported by Quayhagen and Quayhagen (1988) in their study of Alzheimer's caregivers. The role of coping was further explicated. Well-being was associated with lower use of emotion-focused coping such as fantasy and self-blame.

In focusing on the reduction of vulnerability to stress with the use of personal coping resources, Wheaton (1983) studied inflexibility and fatalism in a random sample of 132 adults. He found that a decrease in fatalism or inflexibility (or an increase in personal coping resources) resulted in a reduction of the effect of stressors and more healthy functioning. This finding was consistent with Pearlin and Schooler's (1978) results. The style and content of coping was shown to effect the emotional well-being of the respondents. In regards to age, there was a general equality in patterns of coping.

Vitaliano, Maiuro, Russo, and Becker (1987) utilized three subsamples, psychiatric outpatients, spouses of Alzheimer's victims, and medical students, in their study of coping strategies and levels of depression. In all three subsamples, problem-focused coping was associated with less depression while emotion-focused coping was associated with more depression. In addition, psychiatric outpatients reported more emotion-focused coping than nonclinical subsamples.

Coping strategies and levels of anxiety in volunteer blood donors were assessed by Kaloupek, White, and Wong (1984). Avoidance-type coping was found to be positively associated with less anxiety. The researchers noted a limitation of the study to be that some of the coping categories were not relevant and that a more explicit coping measure should be used in the future. A

contradictory finding in hemodialysis patients was reported by Baldree et al. (1982). Those patients with a stronger sense of hope used less affective-oriented coping strategies.

Folkman and Lazarus (1980) analyzed coping in a probability sample of 100 adults residing in the community. An increase in emotion-focused coping was associated with health problems. Folkman and Lazarus opined that as sources of stress change with age and there is an increased emphasis on health-related matters, emotion-focused coping may become more predominant.

Coping strategies of depressed and nondepressed elderly persons were compared by Foster and Gallagher (1986). Depressed elderly women (81% of sample) used more emotion-focused coping than the nondepressed elderly. This study's findings were consistent with the findings in two other studies which reported that emotion-focused copers reported greater dysfunction (Billings & Moos, 1984; Holahan & Moos, 1985). Participants in the latter studies were middle-aged adults who were either depressed or had recently experienced a great degree of stress.

Preston and Mansfield (1984) explored health status and coping among rural elderly persons, 62% of whom were women. Two coping styles, keeping active and managing their own lives, were positively associated with above average health status by those elderly who also reported above average levels of stress.

Lohr, Essex, and Klein (1988) investigated coping responses, health status, and life satisfaction in 281 older women with a mean age of 69.4 years. Women with more physical problems reported using more problem-focused coping. Similarly, women using more emotion-focused coping were more likely to be negative about their health problems. The researchers concluded that the coping process will differ as women's physical conditions vary and the process is very complex.

Except for one study, the studies in this section demonstrate a negative relationship between emotion-focused coping and well-being. Problem-focused coping or general coping resources are positively associated with well-being. Thus, the direct hypothesis that coping (problem-focused) positively effects well-being is confirmed. Indicators of well-being are usually identified as greater functioning or less depression. Three studies utilized an elderly sample, one of which was rural and one of which was older women.

Service Utilization and Well-Being

Stoller and Pugliesi (1988) investigated changes of older people's health over time and changes in their network composition. As the elders' health declined, two-thirds of whom were women, the composition of their network became more formal. As needs became more excessive, the informal support was complemented by the formal service. The findings of this study are in

agreement with Windley and Scheidt's (1983) study of the well and vulnerable elderly in rural small towns. The more vulnerable elderly were assisted in obtaining services by their informal network. Eighty-five percent of the vulnerable elderly were women.

The impact of termination of in-home services on relatives of elderly (74% females) clients was examined by Hooyman et al. (1985). Loss of chore services was not associated with the caregivers' perception of burden. Burden was associated, however, with the demand for personal care tasks, which is not met with the provision of chore services. The researchers noted that a constraint of their study was that the perceptions of other family members or clients were not assessed.

McAuley and Blieszner (1985) studied what long-term care arrangements older people might select. Paid in-home care was significantly associated with people who had more emotional problems. An earlier study (Horowitz & Schindelman, 1983) had explicated the type of in-home care even further. It was found in families caring for an aged and frail elder, that medical care and homemaking services were preferred over economic support, and greater satisfaction was reported with the former services.

Noelker and Wallace (1985) interviewed 597 families who were caring for an impaired elder in their household. Sixty percent of the sample utilized at least one in-home service and 40% utilized a health-related service. These

researchers opined that elderly wives may experience the most relief of burden with respite and in-home services.

Focusing on persons who were 75 years or older, McAuley and Arling (1984) examined the hierarchy of need, the background characteristics, and the social resources of in-home service users. Those persons who reported less function in activities of daily living and those persons from urban areas used more services.

The awareness and use of health services by the elderly was examined by Snider (1980). Awareness of services was viewed as the causal factor in this study, and it was positively associated with health status. When awareness was partialled out, however, service use and self-rated health were negatively related. This was also the case in Coulton and Frost's (1982) study. Those elderly who were more psychologically distressed perceived a greater need for medical and personal care services.

Horowitz (1985) theorized that the utilization of formal services to relieve the burden of caregiver stress shows mixed results and is a relevant topic for further research. The reviewed studies are consistent with Horowitz's statement of mixed results. When well-being is defined as general health status, there is a negative relationship with use of services. When well-being is defined as being relative to emotional instability, increased frailty, or caregiver relief, however, there is a positive relationship. While both dimensions of well-

being are utilized in research studies, they elicit different results in relationship to service utilization. Overall, the effect of service utilization should be related to an increased feeling of well-being, thus supporting a positive hypothesis. These studies focused on the elderly but only one study focused on a rural population. Three of the elderly samples were comprised of more than two-thirds women.

Related Concepts

Sociodemographics. Studies of age and self-esteem are fairly evenly divided between those that show a lower self-esteem with advancing age and those that show no difference in self-esteem with advancing age (Bengston et al., 1985; McCrae & Costa, 1988; Meisenhelder, 1986). Hardiness also has shown mixed results. Kobasa et al. (1982) reported that demographic variables showed no relationship with personality dispositions while Pearlin & Schooler (1978) reported that achieved statuses, education, and income were all associated with self-esteem and mastery.

In relationship to stress and social support, Arling (1987) stated that the results of his study were consistent with previous research findings. Those elderly individuals who were economically deprived and had less education also reported less social support and symptoms of distress. Fiore et al. (1986) reported the same findings in their study. The lower the socioeconomic

status of elderly caregivers, the higher the number of physical symptoms. Increased need for social support by the elderly is frequently accompanied by declining availability (Ryan & Austin, 1989).

Billings and Moos (1984) found no consistent pattern of sex differentiation in coping but did report that women used more emotion-focused coping than men. Age and socioeconomic status showed moderate correlations with coping. Folkman et al. (1987) stated that age differences in coping were the result of both developmental and contextual changes.

Several sociodemographic factors related to service use have been identified. Living in metropolitan areas has been associated with higher use of formal services (McAuley & Arling, 1984; Soldo, 1985). Those individuals with more education and greater incomes also have been reported to utilize more services (Bass & Noelker, 1987; McAuley & Arling, 1984). In regards to race and use of services, the findings are mixed (Bass & Noelker, 1987; Scott & Roberto, 1985). Those minority elderly with low functional status and those elderly who are older tend to have a higher utilization of formal services (Horowitz & Schindelman, 1983; Stoller & Pugliesi, 1988). Rural elderly have been found to use fewer formal services than the urban elderly (Daatland, 1983; Scott & Roberto, 1985).

Rural vs. urban characteristics. In the next 30 years, the number of elderly is expected to increase by 61

percent (Rivlin & Wiener, 1988). One-fourth of the current elderly population live in rural areas (Dorfman, Kohout, & Heckert, 1985) and migration of the elderly from urban to rural areas has experienced a steady increase in the past two decades (Fuguitt & Tordella, 1980; Clifford, Heaton, Voss, & Fuguitt, 1985).

Researchers have defined rural in a variety of ways (Cordes, 1989; Krout, 1987; U.S. Department of Commerce, 1981). One definition is related to population density in that a rural area is one in which the population is 2,500 or less, or that it is not within the bounds of a standard metropolitan statistical area (U.S. Office of Management and Budget, 1975). A second definition describes characteristic occupations of people in a given area, such as farm versus non-farm (Krout, 1983). A third definition of rural is associated with values and attitudes (i.e. perceptions of ruralness) (Jordan & Hargrove, 1987; Melton & Hargrove, 1987).

Since population definitions have been relaxed and only a small fraction of the population lives on farms (Cordes, 1989; Lee & Cassidy, 1985), rural in this study is used in a generic sense to capture the rich heterogeneity of nonmetropolitan populations. Even though blurring exists between metropolitan and nonmetropolitan populations (Clifford et al., 1985), the two counties utilized in this study can generally be separated into a rural county and an urban county.

There has been little documented difference between rural and urban people when some psychosocial factors have been studied (Krout, 1988; Melton & Hargrove, 1987). For instance, there is no greater interaction between elderly parents and their children or no less participation in activities and awareness of services (Krout, 1987, 1988). Reciprocity in social interactions has been shown to be important in both rural and urban samples (Ingersoll-Dayton & Antonucci, 1988; Patterson, 1987). In a study that reported 30 years research on well-being of the elderly, Larson (1978) found no major differences between rural and elderly persons.

In other research areas, however, salient differences between rural and elderly persons are reported (Cordes, 1989; Krout, 1983). Rural persons have substantially lower incomes than urban persons (Lee & Lassey, 1980) while federal expenditures per capita for human service programs are also lower (Cordes, 1989). In addition, rural elderly report more chronic health problems than urban elderly (Norton & McManus, 1989), yet long-term care needs have not been adequately assessed (Herh & Van Hook, 1989). Comparative empirical research is lacking in most gerontological studies (Krout, 1987; Lee & Lassey, 1980) but the need for it is evident.

Older women's health. The concept of health has many meanings and changes over time and with culture (Stahl, 1982). Nightingale (1893) referred to health as an

additive process, Dubos (1959) called it a mirage, and Dever (1980) described it as multidimensional. Older women's health, for a variety of reasons, is very different from older men's health and empirically founded recommendations for health-related policies and programs are urgently needed (Szinovacz, 1982).

The majority of elderly individuals are women and are more likely to live alone (Clifford et al., 1985; Szinovacz, 1982). In the United States as a whole, every five years after the age of 65 the ratio of males to females decreases by approximately 10 with the result that in the 85 plus age group, there are 40 males for every 100 females (Aging America, 1987-88). In the state of Arizona, the ratios are very similar but additionally, the percentage of elderly population exceeds the national picture. The old-old cohort is the most rapid growing cohort and in Arizona by 1990, it is expected that 39% of the 65+ population will be over the age of 75 (Aging Arizona, 1989). In addition, rural elderly women followed by urban elderly women, have the worst survival changes when ranked by region and by gender (Gersten & Mrela, 1990).

Promoting the health of this fastest growing segment of the population presents many challenges for the health care professional. Factors such as prior employment, living arrangements, social support, and physical and mental health are all relevant.

Riddick (1985) examined life satisfaction among older female workers, retirees, and homemakers in 1,220 women with a mean age of 73 years. Income was shown to have a positive effect, and health problems were shown to have a negative effect on life satisfaction in all three subsamples. This finding is of consequence in view of the fact that large numbers of older women have not had real careers and are faced with poverty levels of income in their advancing years (O'Rand & Henretta, 1982).

Research has shown that older women's social interactions differ from men's interactions (Depner & Ingersoll, 1982; Lee & Ishii-Kuntz, 1987). Women tend to have closer and more intimate relationships and also reach out more, such as in volunteerism, than men. Affecting this process, however, is the research finding that women with health problems report lower self-esteem (Antonucci & Jackson, 1983) and higher levels of depression (Gore & Mangione, 1983) than do men. The consequence of these findings is emphasized due to the fact that older women with a health problem may not be assertive enough to seek the social support that can improve their well-being (Chang, Uman, Linn, Ware, & Kane, 1985; Magilvy, 1985). Additionally, older women who live in rural areas, may not have as many opportunities for social interaction (Kivett, 1985) or have as much awareness of available services (Krout, 1988).

Poverty among older women is concentrated in those women who live alone, and women have made slower overall gains in economic status than men (Holden, 1988). For example, in the state of Arizona, the average income of older women (65+ years) was only half that of older men (65+ years) in 1980 (Aging Arizona, 1989).

The reasons for older women's financial crisis are that females have less access to earnings and private pensions than males and that those females who have worked have earned lower salaries than their male counterparts (Warlick, 1985). These inequities coupled with the uncertain future of social security result in a very vulnerable subpopulation in American society. The rural elderly woman is perhaps the most vulnerable of all.

Conclusion

Empirical linkages have been established between paired variables of interest to the proposed study. In addition, relationships among a set of three variables also have been studied. The relationships from hardiness through social support to well-being (Lambert et al., 1989; Kobasa & Pucetti, 1983; Holahan & Moos, 1985) and from hardiness through stress to coping have been examined (Holahan & Moos, 1985; Pearlin & Schooler, 1978). Self-esteem has been reviewed as it relates to stress, social support, and coping (Kaplan et al., 1983; Krause et al., 1989). The relationship from social support through

coping to well-being (Billings & Moos, 1981; Quayhagen & Quayhagen, 1988) also has been studied.

There is a dearth of studies utilizing elderly samples that examine the relationship between self-esteem and stress and between stress and social support. Rural studies concerning the proposed variables for this study are even more scarce. The relationship of social support and service utilization was examined in two studies (Daatland, 1983; Scott & Roberto, 1985), service utilization and well-being were examined in a third study (Windley & Schiedt, 1983), self-esteem and social support also were examined in a fourth study (Arling, 1987), and coping and well-being were examined in the last study (Preston & Mansfield, 1984). None of the other linkages were assessed with a rural population.

The foregoing literature review provides an empirical foundation for the proposed study. More research must be conducted among elderly female populations, both rural and urban, which examines the unique combination of variables presented for this study.

CHAPTER THREE

Method

Design

This research project is a correlational study using a path analytic design. The exogenous variables are hardiness (X_1) and self-esteem (X_2) which will influence all subsequent variables in the model. The endogenous variables in the second time ordering are social support (X_3) and stress (X_4) which, in turn, influence coping (X_5) and service utilization (X_6). The final variable in the fourth time ordering is well-being (X_7). This design parallels the transactional cognitive-phenomenological framework (Lazarus et al., 1985) of antecedent variables (personal and environmental factors) in time 1 and 2, mediating variables in time 3, and the outcome variable in time 4. Figure 3 illustrates the theoretical framework, the causal model, and the measuring instruments.

Structural equations are utilized to show the relationships of the variables to each other. The X s are the measured variables, the P s are the unknown parameters that measure the respective weights of each variable, and the e represents an error term that comes from two sources. These sources are the effects of omitted

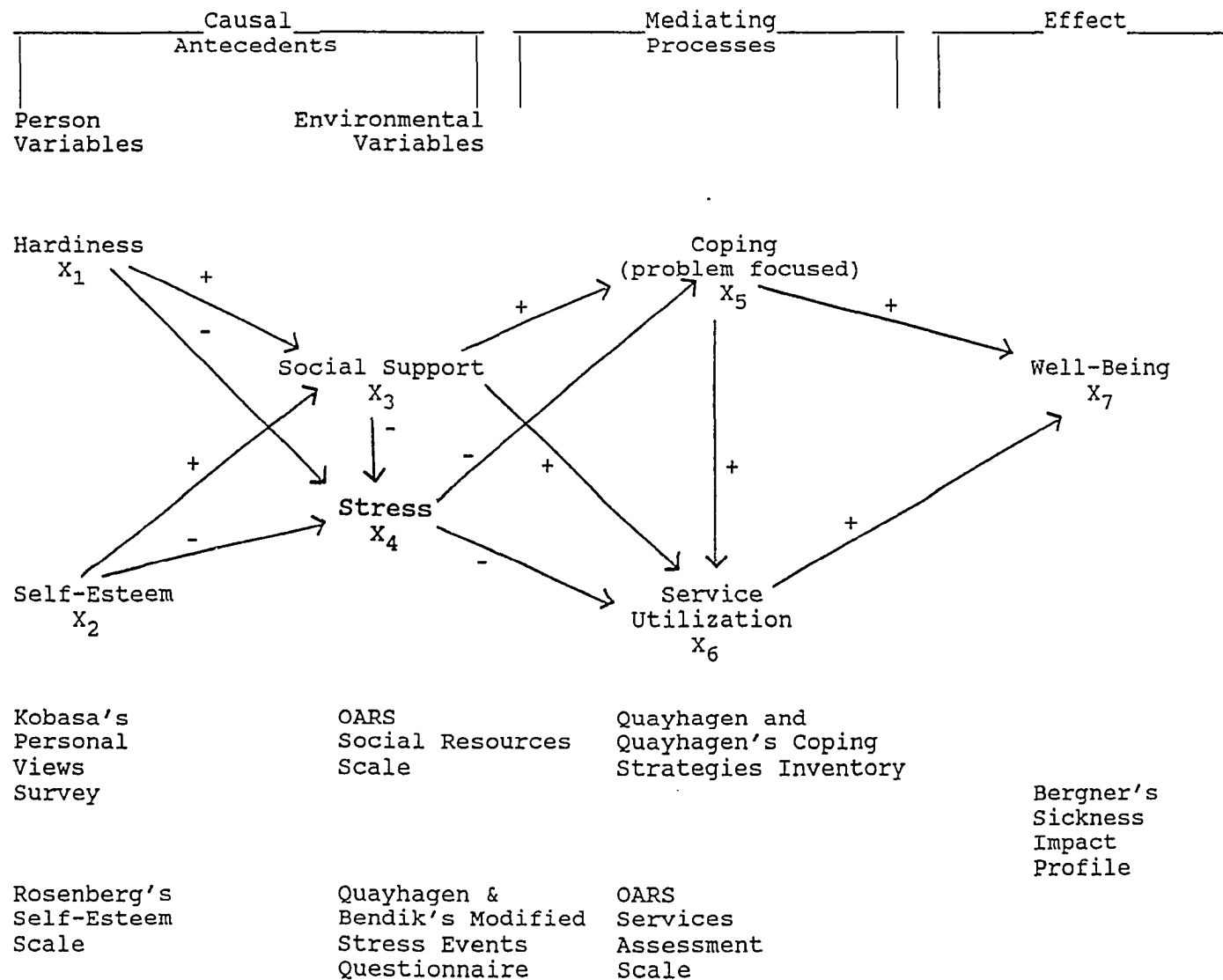


Figure 3. Theoretical framework, causal model, measuring instruments.

variables operating in different directions, each with a small effect, and the measurement error component (Asher, 1983). The pathways in this overidentified causal model and the influences on the endogenous variables are structurally represented as follows:

Hardiness

$$X_1 = e_1$$

Self-Esteem

$$X_2 = e_2$$

Social Support

$$X_3 = P_{31}X_1 + P_{32}X_2 + e_3$$

Stress

$$X_4 = P_{41}X_1 + P_{42}X_2 + P_{43}X_3 + e_4$$

Coping

$$X_5 = P_{53}X_3 + P_{54}X_4 + e_5$$

Service Utilization

$$X_6 = P_{63}X_3 + P_{64}X_4 + P_{65}X_5 + e_6$$

Well-Being

$$X_7 = P_{75}X_5 + P_{76}X_6 + e_7$$

The development of a second and third causal model appropriate to an urban and rural population, respectively, stems from the second purpose of this study.

Subjects

Subjects involved in this study were recruited from home health care agencies (2%), nursing clinics (26%), social supportive agencies (13%), and social contacts, including churches and volunteer organizations (59%). The

sample consisted of 55 urban participants and 55 rural participants, residing in the Arizona counties of Maricopa and Gila, respectively. Maricopa County contains the large metropolitan area of Phoenix and Gila county contains the small rural communities of Payson, Pine, and Strawberry. Participants had to have resided in the respective county for at least one year to qualify for the study. Urban participants averaged 22 years residency and rural participants averaged 17 years residency.

The participants were all females who were at least 70 years of age and were able to understand and speak English. The mean age of the urban sample was 76 years and the mean age of the rural sample was 74 years. Twenty-seven percent of the urban subjects were high school graduates with 35% having some college training and 15% having a university degree. Twenty-four percent of rural subjects were high school graduates with 44% having some college training and 11% having a university degree.

Other sociodemographic characteristics, as shown in Table 1, indicate that 96% of the urban sample and 100% of the rural sample was white. In relation to current income, 27% of the urban sample made under \$10,000 per year as compared to 30% of the rural sample. Except for marital status, the two samples had quite similar sociodemographic characteristics. The most notable differences in marital status were that 31% of the urban sample was married compared to 51% of the rural sample

while 18% of the urban sample was divorced compared to 4% of the rural sample. Both samples had an almost 50% widowed rate, however.

A chi square test based on a median split was performed on the sociodemographic characteristics. There was no significant difference between the two groups on age, education, residency status, ethnicity, and income. There was, however, a significant difference between married and widowed women vs. divorced and separated women in the two samples as described in the preceding paragraph.

Table 1

Sociodemographic Characteristics of Urban and Rural Samples

Variables/Characteristics	Urban		Rural	
	<u>n</u>	%	<u>n</u>	%
Age range (years)				
70-74	27	49	35	64
75-84	23	42	19	35
85+	5	9	1	2
Education				
Less than seven years	0	0	1	2
Junior High School	1	2	2	4
Partial High School	3	6	5	9
High School Graduate	15	27	13	24
Partial College Training	20	36	24	44
College or University				
Graduation	8	15	6	11
Graduate Professional				
Training	8	15	4	7

Table 1 continues

Table 1 (continued)

Variables/Characteristics	Urban		Rural	
	<u>n</u>	%	<u>n</u>	%
Residency Status (years)				
<5	4	7	5	9
5-15	20	36	27	49
>15	31	56	23	42
Ethnicity				
White	53	96	55	100
Non-white	2	4	0	0
Annual Income				
Under \$5,000	5	9	8	15
\$5,000-\$9,999	10	18	8	15
\$10,000-\$14,999	12	22	15	27
\$15,000-19,999	12	22	9	16
\$20,000-\$29,999	6	11	9	16
over \$30,000	6	11	3	6
Not answered	4	7	3	6
Marital Status				
Married	17	31	28	51
Widowed	27	49	25	45
Divorced	10	18	2	4
Separated	1	2	0	0

Measures

Seven different tools comprise the total questionnaire (Appendix A). Letters of permission for their use (Appendix B) were obtained from authors where applicable.

Hardiness. The Personal Views Survey measured the concept of hardiness (J. Greaves, personal communication, The Hardiness Institute, June 23, 1989). The Survey contains 50 total items and uses a Likert type scale

ranging from 0 (Not at all true) to 3 (Completely true). Responses relating to the concepts of challenge, commitment, and control are summed and then divided by 51, 48, and 51 respectively. For a composite score, the three ratio scores are added together, multiplied by 100, and divided by three. Thus, a maximum value would be 100. Subjects' hardiness scores in this study ranged from 27.41 to 90.03 with a mean of 68.82 and a standard deviation of 10.97.

Estimates of internal consistency have yielded coefficient alphas in the .90s for total hardiness score, and in the .70s for commitment, control, and challenge scores. Construct validity has been reported for this instrument in that major findings from earlier forms have been repeated (Fact Sheet, 1989).

Self-esteem. The Rosenberg Self-Esteem Scale (1965) consists of ten items answered on a four point scale from strongly agree to strongly disagree. This scale measures self-esteem in a unidimensional sense and more specifically, measures that aspect of self-esteem called self-acceptance (Crandall, 1973). A low self-esteem score indicates that a person experiences self-rejection, self-dissatisfaction, and self-contempt (Rosenberg, 1965). The highest self-esteem score is 40. Subjects in this study had self-esteem scores ranging from 23.00 to 40.00 with a mean of 32.71 and a standard deviation of 4.02.

The scale was originally scored as a Guttman scale and had reproducibility coefficients of .90 (Rosenberg, 1965). Silber and Tippett (1965) found a test-retest correlation over two weeks of .85 and correlations with other measures of self-esteem to be from .56 to .83. Crandall (1973) found correlations with Coopersmith's Self Esteem Inventory of .59 using the Guttman scaling procedure and .60 by scoring the entire ten items.

Social support. Social support was measured by the Social Resources Scale of the OARS Questionnaire (Fillenbaum, 1988). Seven items comprise the scale, and the three subscales correspond closely to current conceptualizations of social support (George & Fillenbaum, 1985). Reliability coefficients are as follows: Interaction, .56; dependability, .69; and, affective dimension, .71. Criterion validity has not been established because there is no external standard of comparison. However, social workers have reported that they would use the same questions to assess an individual's social resources (Fillenbaum, 1988). Nine items comprise the scale, and responses are summed. A higher total score indicates a higher level of social support with ten being the highest possible score. The scores in this study ranged from 3.00 to 10.00 with a mean of 8.04 and a standard deviation of 1.47.

Stress. Stress was measured by the Modified Stress Events Questionnaire (Quayhagen, 1978; Quayhagen &

Bendik, 1989). This questionnaire is derived from a longitudinal study of transitions and has content, ecological, and factorial validity (M. Quayhagen, personal communication, July 18, 1989). The test-retest reliability is .88 for the initial version of 40 items. Seventeen additional items have been added and reflect events found to be stressful for the elderly (Quayhagen & Bendik, 1989). The 57 items have dimensions which include personal events, events concerning work, events concerning physical environment, and interpersonal events. The first section of the scale elicits time-related information, the second section of the scale elicits Likert responses about feelings, and the third section of the scale elicits responses about how much the respondent thinks about the stressful events (i.e., thought intrusion).

A multiplicative scoring format is utilized. The recency of the event, the affectivity of the event, and the thought intrusiveness of the event are multiplied and then the products are summed. For example, a higher number indicates a more recent event, the most unhappiness experienced, or the most preoccupation with the stress. The maximum stress score is over two thousand. Subjects' scores ranged from 0.00 to 505.00 with a mean of 127.05 and a standard deviation of 104.42.

Coping Strategies Inventory. Coping was measured by a modified version of the Coping Strategies Inventory (Quayhagen & Quayhagen, 1982). The modified version

(Quayhagen & Quayhagen, 1988) contains 52 items with seven dimensions of coping. The help-seeking and problem solving dimensions focus on direct resolution of problems. Other dimensions, existential growth, religiosity, and minimization of threat, seek to control the meaning of the situation while fantasy and self-blame focus on altering the stress of the situation (Pearlin & Schooler, 1978).

The items are rated on a four point Likert scale ranging from 4 (very likely) to 1 (not at all likely). A higher overall score indicates the use of a greater variety of coping strategies. This measure has content validity and alpha coefficients (Cronbach) ranging from .57 for minimization of threat to .79 for existential growth and religion with five of the seven subscales having internal reliability over .75 (Quayhagen & Quayhagen, 1988).

Service utilization. Utilization of services was measured by the Services Assessment Scale of the OARS Questionnaire. This scale has not had reliability and validity established as yet but was developed after extensive discussion with service providers. Respondents have reported no difficulty in answering the questions (Fillenbaum, 1988). The items include information about 24 generic services and are broadly encompassing yet mutually exclusive. Current utilization or utilization within the past six months, intensity of utilization, the provider (family, friends, agency), and the perceived need

for services are measured by responses to 19 multiple items. The maximum score for present use is 39. Subjects' scores ranged from 1.00 to 12.00 with a mean of 4.81 and a standard deviation of 2.09.

Well-being. Well-being was measured by the Sickness Impact Profile (Bergner, 1977). The Sickness Impact Profile (SIP) contains 136 items, and is a behaviorally based, outcome measure of health status (Bergner et al., 1976). There is a physical dimension, a psychosocial dimension, and an independent category. The independent category has items such as sleep and eating behaviors, recreation behaviors, and work and home management behaviors (Bergner, Bobbitt, Carter, & Gilson, 1981).

Subjects are instructed to respond to only those items in the SIP that describe them or are related to their health. Based on a consensus of health care consumers, each item in the instrument is assigned a weight or scale value indicating its relative severity of dysfunction. The category scores and the dimension scores are summed for each item checked and divided by the maximum possible dysfunction score for that category. The overall score for the SIP is calculated by adding the scale values for each item checked across all categories and dividing by the maximum possible dysfunction score. For this study of well-being, the SIP scores were reversed. Thus, the most healthy person received a score of 100 rather than the person with the greatest

dysfunction. Subjects' scores ranged from 58.57 to 100.0 with a mean of 90.99 and a standard deviation of 10.09.

The reliability of the SIP can be summarized across several field trials from 1973 to 1976 (Bergner et al., 1981). The reproducibility scores ranged from .88 to .92 (overall) and from .56 to .50 (category items). The internal consistency, Cronbach's alpha, ranged from .97 to .94. Various methods of validation have been employed. From the 1976 field trial data, the correlations between the SIP score and other methods of assessment were as follows: self-assessment of dysfunction, .69; self-assessment of sickness, .63; clinician assessment of dysfunction, .50; and clinician assessment of sickness, .40. Using a multitrait-multimethod of assessment (Campbell & Fiske, 1959), low correlation scores among category scores assured minimal redundancy, and high correlation scores between the categories and the overall SIP assured the importance of each category to the total instrument (Bergner et al., 1981).

Demographic Data Profile. A profile sheet consisted of six items that collected information about age, ethnicity, length of residency in county, education, occupation, and religion. Marital status is part of the information obtained in the social support measure.

Procedure

After receiving approval from the University Human Subjects committee (Appendix C), Agency Directors were

personally contacted to see if there was interest in participating in the research project. If there was interest, a cover letter that outlined the research study (Appendix D) was mailed to the Board of Directors' President and the Executive Director of each agency. A follow-up appointment then was made to discuss further details of the research and to respond to any unique arrangements requested by the Agency. After the research was approved, a contract was signed (Appendix E) with a copy for the agency and a copy for the researcher's file.

The procedure for the rural area contacts was somewhat more informal depending on the most culturally acceptable method as suggested by a nurse practitioner in the area. All contacts were made through the nursing clinic or through personal referrals. A rural area defined for this study is any community within Gila County that has no cities with more than fifty thousand people within a fifty mile radius (U.S. Department of Commerce, 1981).

The potential participants were contacted by phone or in person so that consent for involvement could be obtained. Subsequently, an appointment was then arranged for the structured interview to take place in the home. A one-time data collection interview which took approximately 90 minutes was conducted. After the researcher or her assistant was given permission to enter the home, she explained the rights of confidentiality, the

voluntary nature and withdrawal freedom of the study, and the anonymity of the findings (use of only group data). The participant then signed the consent form (Appendix F). One copy of the consent form was left with the participant and the other copy was placed in the researcher's confidential file. For those participants who expressed interest, a summary of group data results was mailed at the conclusion of the study. There was an attempt to conduct the interview in private. The data collection took place during the months of January through May, 1990. All subjects were offered monetary compensation for the interview.

The researcher and the assistant administered the interview schedule in order to answer any questions or clarify points if necessary. As various scales were used throughout the interview, an easy-to-read card was placed in front of the participant to assist her in answering the questions (Strongly Disagree, Agree, etc.). Although there were no known risks involved in the study, the investigator assured the participants that they could end the interview at any time without penalty. In addition the investigator and assistant continually watched for signs of fatigue in the participants. All interviews were completed with just one visit. The response forms (scanning sheets) were stored in locked file drawers in the researcher's and assistant's homes.

The research assistant was a graduate nursing student. After careful examination and discussion of research interviewing techniques and the study questionnaire (Appendix D), the assistant observed the principal investigator during one complete interview. Again later, after the assistant conducted several interviews, another review of interviewing techniques was conducted. This training was deemed sufficient to assure the collection of reliable and valid responses to all the measures.

Data Analysis Techniques

A multiple regression program was used to analyze the data acquired from this research investigation. Given a sample size of 110 subjects, a power of .82 is projected for this study based on a lambda of 16.5, derived using an estimated effect size of .15 with seven independent variables (u) and 122 error degrees of freedom (v) with a probability level of .05 (Cohen, 1988).

The bivariate correlation coefficients were examined for all variables to determine if extreme multicollinearity (.8-1.0 range) existed between or among the variables. Multicollinearity existed with two instruments between the total scale and their respective subscales. The hardiness and the well-being measure were therefore used as total scales in the major regression analysis (Munro, Visintainer, & Page, 1986). For clinical

relevance, however, each well-being subdimension was also used as an outcome variable.

Residual analysis provided a way of determining if there was a stable, linear mathematical equation. The assumptions of linear models are described by Verran and Ferketich (1987) as the following; the residual mean is zero and the residual variance is equal at all points of the predicted dependent variable, the independent variables are measured without error, the residuals indicate that the independent variables have a fixed distribution and that they are normally distributed, and the residuals are independent and show no evidence of departure from linearity.

The significant Beta weights (path coefficients) were used to construct a causal model. Decomposition tables of the effects (total, direct, and indirect) as determined by regression analysis were constructed.

Interpretation of the causal model was done by the creation of a simplified model which included only linkages that had significant (.05 - .01) and/or salient (.10 - .15) path coefficients (Pedhazur, 1982). The model will be discussed, in subsequent chapters, in terms of relationships of the simplified model to the proposed model, the power or influence of the variables, the similarities and differences of findings from previous research, and the implications for further research. In addition, interpretation of the model applied to each

subsample, urban and rural, followed the above steps. A comparison of the similarities and differences between the two groups, utilizing the one-way analysis of variance test (ANOVA) was also done.

Limitations

Krathwohl (1985) described internal validity (LP) as the linking power or judged soundness that the variables truly are linked as proposed. External validity (GP) is described as the generalizing power that the relationships proposed by the study can be generalized beyond the study sample. Internal validity (LP) and external validity (GP) are considered key criteria for assessing threats to validity. Therefore, potential threats to the internal and external validity have been checked against Krathwohl's checklist. Since only two sections of the OARS questionnaire was used, the established reliability and validity may be minimally altered.

Internal Validity (LP) Threats. Because the study is grounded in a theoretical base, explanation credibility is present. However, there may have been threats to the predictability due to the size and nature of the effects.

Since the questionnaire was administered in an interview conducted by the investigator, there was some control over the testing environment. However, the subjects were in their own homes and there were a few extraneous happenings, such as a telephone call that may have influenced their answers. Another rival

explanation is related to history. The total data collection time took about six months. During that time, respondents may have been influenced by the happenings reported on the television or in journals or other media reports. Use of the instruments by the investigator or assistant also may have changed during the six months.

Mortality is also a rival explanation. There may have been different effects related to those subjects who refused to participate versus those subjects who did participate. The results would not then represent the entire group of elderly women.

External Validity (GP) Threats. Since the subjects were recruited, there is a threat to translation generality. Maturation in the subjects, such as fatigue, may also have been a threat. It is not possible to determine if the results will be generalizable to other geographic areas or to the general population of elderly women. Replication of this study may be necessary.

CHAPTER FOUR

The results are presented according to the three purposes of the study. Data reduction is presented first and is followed by the delineation of the model. The delineated model contains the simplified path model with the well-being outcome variable as well as with each of the well-being subdimensions. Model differences between the urban and rural populations are also delineated. To conclude, population or group differences are presented.

Data Reduction

Five of the seven instruments have been used extensively with gerontological populations (Bergner, 1985; Fillenbaum, 1988; George & Fillenbaum, 1985; Morgan et al., 1984; Quayhagen, 1978). As shown in Table 2, reliability estimation was performed on two of the instruments with psychometrically determined subscale dimensions: Personal Views Survey (hardiness, X_1) and Coping Strategies Inventory (coping, X_5). Mean inter-item correlations of $\geq .25$, corrected item-total correlations of $\geq .35$, and Cronbach's alpha of $\geq .70$ were the criteria of choice and were adhered to as closely as possible. Subscales were also examined for $> .60$ multicollinearity (Asher, 1983).

Personal Views Survey

Two of the Personal Views (Kobasa, 1979) subscales, challenge and commitment, met the Cronbach's alpha criterion. The third subscale, control, was close ($\bar{r}=.65$) to the expected statistical level (Table 2). In the range of Kobasa's results (Fact Sheet, 1989), the total score alpha coefficient was .87. One interscale correlation, commitment with control, met the .60 multicollinearity criterion and a second interscale correlation was close ($\bar{r}=.57$) to the same statistical criterion. Interscale correlations with the total scale were extremely high ($\leq .81$, $p=.001$) and the total scale was utilized in the regression in accord with previous work by Rich and Rich (1987) and Rhodewalt and Zone (1989).

Coping Strategies Inventory

As delineated in the solution of Latham (1990), three factors of coping resulted from reliability calculations on the CSI (Quayhagen & Quayhagen, 1982). The fantasy, self-blame, and minimization of threat subscales did not meet the prespecified criteria without deleting several items. Three items, 1, 34, and 47 were deleted from the fantasy subscale while two items were deleted from the self-blame and minimization of threat subscales. Items 12 and 51 were deleted from the self-blame subscale and items 13 and 19 were deleted from the minimization of threat subscale.

Table 2

Mean Inter-item and Item-total Correlations and Reliability Estimations for Two Scales

Name of Instrument	Name of Subscale	Mean Inter-item Correlation	Item-total Correlation Range	Standardized Alpha (Cronbach's)
Kabasa's Personal Views Survey	Challenge	.15	.08 - .53	.75
	Commitment	.17	.13 - .56	.77
	Control	.10	-.15 - .56	.65
	Total	.12	-.13 - .56	.87
Quayhagen and Quayhagen's Coping Strategies Inventory	Fantasy	.15	.17 - .38	.59
	Help-seeking	.33	.31 - .66	.80
	Problem-solving	.24	.21 - .52	.72
	Existential growth	.31	.31 - .63	.78
	Self-blame	.22	.27 - .51	.70
	Minimization of threat	.19	.13 - .53	.65
	Religiosity	.51	.35 - .76	.81

Table 3 shows a comparison of these changes. As shown in Table 4, the fantasy and self-blame met the critical .60 multicollinearity criterion. These three subscales were combined to form an emotion-focused factor which had a mean inter-item correlation of .18, an item-total correlation range of .27-.50, and a Cronbach's alpha of .79.

Three subscales, help-seeking, problem-solving, and existential growth met all of the Cronbach's alpha criteria and most of the other two criteria (Table 2). Two of the subscales met the critical .60 multicollinearity criterion (Table 4). These three subscales were combined to form a problem-focused factor which had a mean inter-item correlation of .24, an item-total correlation range of .32-.60, and a Cronbach's alpha of .88.

The last CSI subscale, religiosity, had one item that did not meet the prespecified criteria. Item number 38 was deleted due to a low item-total correlations ($r=.35$) when compared to the other item-total correlations ($r=.60$) (Table 3). This deletion resulted in a greatly improved mean inter-item correlation of .71, an item-total correlation range of .63-.85, and a Cronbach's alpha of .80 for the religiosity subscale. This subscale was retained as the third CSI factor of religious-focused coping.

Table 3

Comparison of Mean Inter-item Correlations and Reliability of Four of the Original CSI Subscales

CSI Subscale	Intact Scales: Mean Inter-items r	Deletion of Items Mean inter-item r	Intact Scales: Cronbach's Alpha	Items Deleted: Cronbach's Alpha
CSI ₁ (Fantasy)	.15	.24	.59	.61
CSI ₅ (Self-blame)	.22	.28	.70	.70
CSI ₆ (Minimization of threat)	.19	.25	.65	.67
CSI ₇ (Religiosity)	.51	.71	.81	.88

Table 4

Correlation Matrix of the Original Seven CSI Subscales (Total Sample)*

Scale	Fantasy (CSI ₁)	Help-Seeking (CSI ₂)	Problem-Solving (CSI ₃)	Existential Growth (CSI ₄)	Self-Blame (CSI ₅)	Minimization of Threat (CSI ₆)	Religiosity (CSI ₇)
CSI ₁		.28***	.29***	.24**	.67***	.43***	.30***
CSI ₂			.60***	.48***	.07	-.01	.41***
CSI ₃				.61***	.19*	.20*	.32***
CSI ₄					.17*	.15	.43***
CSI ₅						.23**	.25**
CSI ₆							.22*

Note: *p < .01
 **p < .01
 ***p < .001

Delineation of the Model

All variables to be entered into the regression were examined for $>.80$ multicollinearity (Munro et al., 1986). The correlation matrix is presented in Table 5. The religious-focused coping factor was not run in the major regressions due to its low correlation with the other variables in the model and due to the fact that it was consistently nonsignificant in early regression runs.

Statistical Assumptions

Distribution, linearity, and homogeneity of the data were examined through residual analysis. The histogram of the residuals was normally distributed about the mean. The residual mean value was zero. Normal probability plots demonstrated linearity for all the variables. This was confirmed by the lack of a curve across the zero residual line. In addition, the residuals indicated a fixed distribution and were independent and the residual variance of the dependent variable was equal at all points (Verran & Ferketich, 1987).

Path Analysis

Path analysis was used to test the hypotheses. Criteria for the inclusion of a path within the regression model included a beta weight of $\geq .10$ and a significant level of $\leq .05$ for the beta weight (Asher, 1983). Table 6 illustrates these criteria for variables included in the simplified path model.

Table 5

Correlation Matrix for All Variables within Model (Total Group)

Scale	HAR Hardiness	SE Self- Esteem	SS Social Support	STR Stress	PROB Problem Coping	EMOT Emotion Coping	SU Service Utilization	WB Well- Being
Hardiness		.47***	.25**	-.19*	-.00	-.39***	.03	.40***
Self-Esteem			.21*	.28**	.11	-.36***	.08	.34***
Social Support				-.13	.07	.22**	-.13	.24**
Stress					.10	.18*	.18*	-.55***
Problem Coping						.20**	-.09	.18*
Emotion Coping							-.16*	-.17*
Service Utilization								-.35***
Well-Being								

Note: *p < .01
 **p < .01
 ***p < .001

Table 6
Matrix of Direct Effects (Both Groups)

Variable	X ₃	X ₄	X _{5a}	X _{5b}	X ₆	X ₇
X ₁ Hardiness	.197 ⁺	-.067	-.071	-.258**	-.013	.264**
X ₂ Self-Esteem	.115	-.235*	.168	-.200*	.136	.089
X ₃ Social Support		-.067	.072	-.110	-.158	.041
X ₄ Stress Events			.144	.055	.235*	-.420***
X _{5a} Problem Coping					-.085	-.193**
X _{5b} Emotion Coping					-.172	-.033
X ₆ Service Utilization						-.266***
X ₇ Well-Being						
Adj R ² =	.07	.09	.04	.21	.11	.51
R ² =	.06	.06	.00	.18	.06	.47
F =	4.22*	3.40*	1.05	6.84***	2.11 ⁺	14.60***

Note: *p < .05
 **p < .01
 ***p < .001
 +p < .06

As shown in Table 6, there were 8 direct effects that were significant and one trend ($p \leq .06$). A decomposition table was constructed (Table 7) to analyze the indirect and total effects between each of the variables. Column A is the bivariate correlation coefficient and column B is the beta coefficient reflecting direct influences. Column C is the sum of the multiplicatives of the beta coefficients for the indirect effects. The total effect column (D) is the sum of the direct and indirect effects. The non-causal or spurious effects reported in column E are derived by subtracting the total effects (D) from the total covariance (A).

Inspection of the decomposition table demonstrated that the greatest total effects on well-being were from stress (-.396), hardiness (.293), and service utilization (-.266). The largest indirect effect on well-being was from emotion-focused coping (.046). Other large total effects occurred between problem-focused coping and self-esteem (-.243) and between emotion-focused coping and hardiness (-.233). The other large indirect effect occurred between service utilization and self-esteem (-.053).

Table 7

Decomposition Table of Effects of Variables (Total Group)

Variables	Total Covariance (A)	Direct Effects (B)	Indirect Effects (C)	Total Effects (B+C) (D)	Non-Causal Effects (A-D) (E)
Well-Being					
X ₇ X ₆	-.345***	-.266***	None	-.266	-.079
X ₇ X _{5b}	-.174*	-.033	.046	.013	-.187
X ₇ X _{5a}	.176	.193**	.023	.216	-.040
X ₇ X ₄	-.546*	-.420***	.024	-.396	-.150
X ₇ X ₃	.235	.041	.015	.056	.179
X ₇ X ₂	.344	.089	.023	.112	.232
X ₇ X ₁	.399	.264**	.029	.293	.106
Service Utilization					
X ₆ X _{5b}	-.157*	-.172	none	-.172	.015
X ₆ X _{5a}	-.092	-.085	none	-.085	-.007
X ₆ X ₄	.182*	.235*	-.021	.214	-.032
X ₆ X ₃	-.132	-.158	.014	-.144	.012
X ₆ X ₂	.084	.136	-.053	.083	.001
X ₆ X ₁	.033	-.013	.021	.008	.025
Emotion-Focused Coping					
X _{5b} X ₄	.176*	.055	none	.055	.121
X _{5b} X ₃	-.223**	-.110	-.004	-.114	-.103
X _{5b} X ₂	-.359***	-.200*	-.108	-.218	-.141
X _{5b} X ₁	-.390***	-.258**	.025	-.233	-.157

Table continues

Table 7 (continued)

Variables	Total Covariance (A)	Direct Effects (B)	Indirect Effects (C)	Total Effects (B+C) (D)	Non-Causal Effects (A-D) (E)
Problem-Focused Coping					
$X_{5a}X_4$	.101	.144	none	.144	-.043
$X_{5a}X_3$	.070	.072	-.010	.062	.008
$X_{5a}X_2$	.110	.168	-.028	.140	-.030
$X_{5a}X_1$	-.003	-.071	-.009	-.080	.077
X_4X_3	-.133	-.067	none	-.067	-.066
X_4X_2	-.280**	-.235*	-.008	-.243	-.037
X_4X_1	-.193*	-.067	-.013	-.080	-.113
Social Support					
X_3X_2	.207*	.115	none	.115	.092
X_3X_1	.251**	.197+	none	.197	.054

Note: *p < .05
 **p < .01
 ***p < .001
 +p < .06

Testing of the Hypotheses

Direct Hypotheses. The conceptual model contained seven direct hypotheses. Examination of the results by hypotheses revealed that three of the hypotheses were partially supported in the specified direction. The data also supported four new direct pathways (well-being was predicted by hardiness and stress and emotion-focused coping was predicted by hardiness and self-esteem). As shown in Figure 4, all variables remained in the simplified model.

Hypothesis 1. Hypothesis 1 was partially supported in that hardiness had a direct and positive effect on social support but self-esteem did not effect social support. The null hypothesis between hardiness and well-being was rejected as a positive relationship was noted.

Hypothesis 2. Hypothesis 2 was partially supported in that self-esteem had a direct and negative effect on stress but hardiness did not effect stress. The null hypotheses between hardiness and emotion-focused coping and between self-esteem and emotion-focused coping were rejected as a negative relationship was noted.

Hypothesis 3. Hypothesis 3 was not supported as social support did not positively effect problem-focused coping or service utilization.

Hypothesis 4. Hypothesis 4 was not supported in that social support did not effect stress.

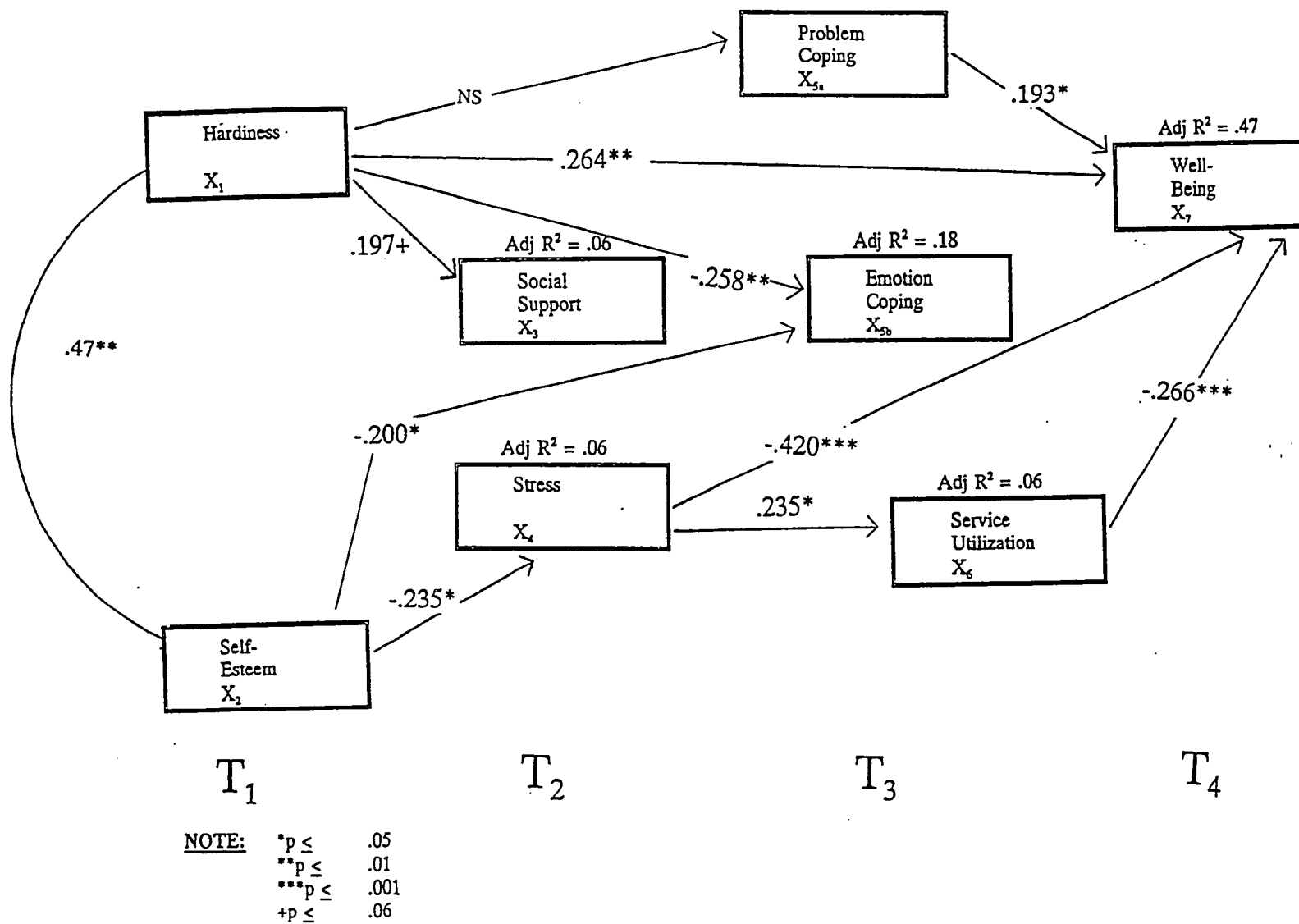


Figure 4. Simplified path model relating well-being to predictor variables (Total Group).

Hypothesis 5. Hypothesis 5 was not supported in that stress positively effected service utilization but did not effect coping. The null hypothesis between stress and well-being was rejected as a negative relationship was noted.

Hypothesis 6. Hypothesis 6 was partially supported. Problem-focused coping positively effected well-being but did not effect service utilization.

Hypothesis 7. Hypothesis 7 was not supported as service utilization negatively effected well-being.

Indirect hypothesis. The conceptual model contained four indirect hypotheses. Two of these hypotheses were partially supported. The data supported one new indirect pathway (well-being was predicted by self-esteem through stress).

Hypothesis 8. Hypothesis 8 was partially supported. Stress indirectly effected well-being through service utilization. Hardiness, self-esteem, and social support did not indirectly effect well-being through coping and service utilization. The null hypothesis between self-esteem and well-being was rejected as an indirect relationship was noted through stress but not through coping and/or service utilization.

Hypothesis 9. Hypothesis 9 was partially supported in that self-esteem indirectly effected service utilization through stress. Hardiness did not effect coping or service utilization through social

and/or stress. Self-esteem did not indirectly effect coping through social support and/or stress.

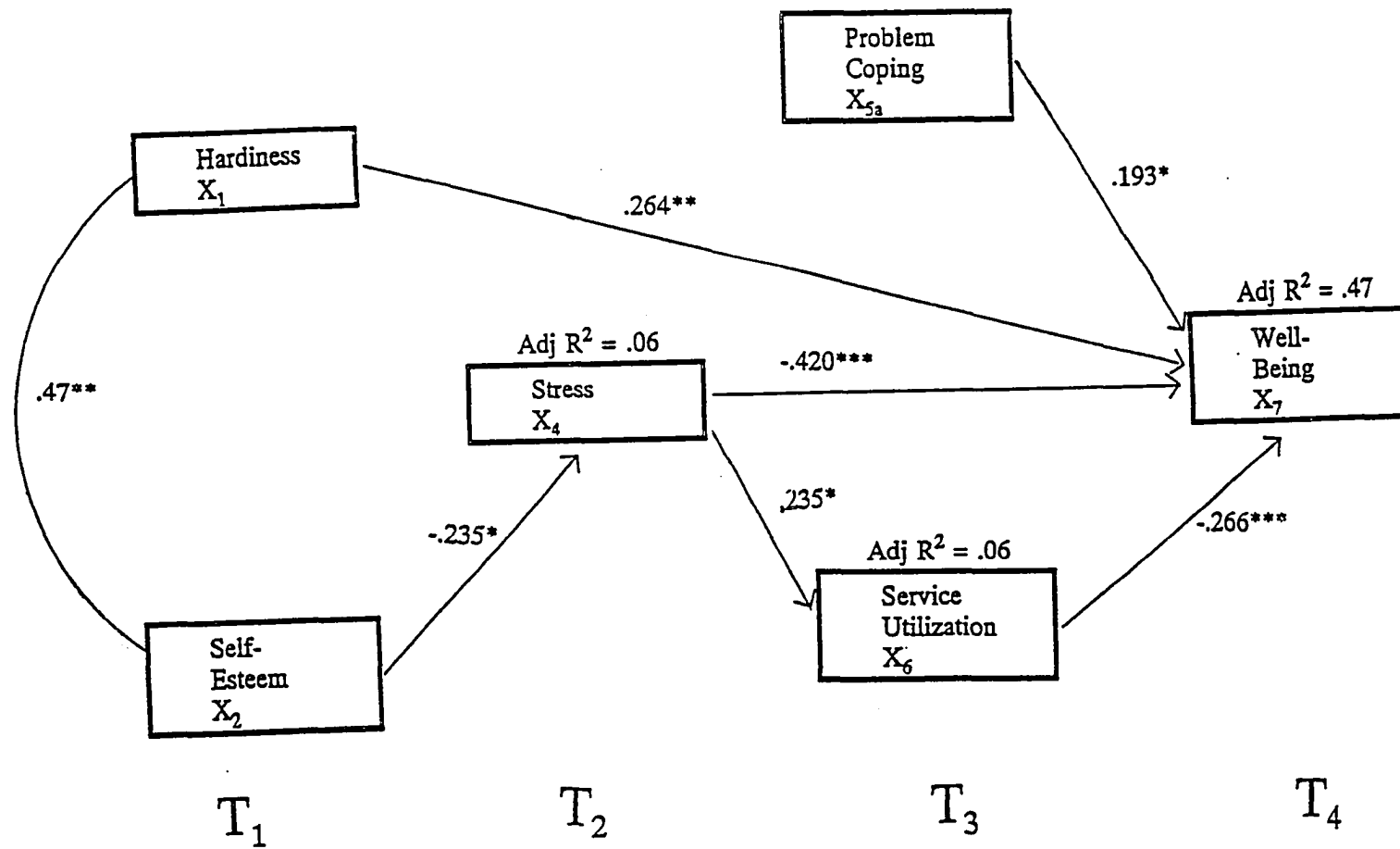
Hypothesis 10. Hypothesis 10 was not supported in that social support had no indirect path through stress to service utilization.

Hypothesis 11. Hypothesis 11 was not supported. Problem-focused coping did not effect well-being through service utilization.

Collective Model

Forty-seven percent of the variance in the outcome variable, well-being, was explained. Hardiness ($b=.264$, $p\leq .01$), stress ($b=-.420$, $p\leq .001$), problem-focused coping ($b=.193$, $p\leq .05$), and service utilization ($b=-.266$, $p\leq .001$) contributed to that variance. With the mediating variables, 18 percent of the variance of emotion-focused coping was explained by hardiness ($b=-.258$, $p\leq .01$) and self-esteem ($b=-.200$, $p\leq .05$) and 6 percent of the variance in service utilization was explained by stress ($b=.235$, $p\leq .05$). The environmental variables, social support and stress, each had 6 percent variance explained by the person variables, hardiness ($b=.197$, $p\leq .06$) and self-esteem ($b=-.235$, $p\leq .05$), respectively.

To illustrate only those variables in the simplified path model that directly or indirectly affect the outcome variable, Figure 5 is presented. The variables of social support and emotion-focused coping are deleted from the



NOTE: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$; + $p \leq .06$

Figure 5. Simplified path model illustrating predictor variables that directly or indirectly relate only to well-being (Total Group).

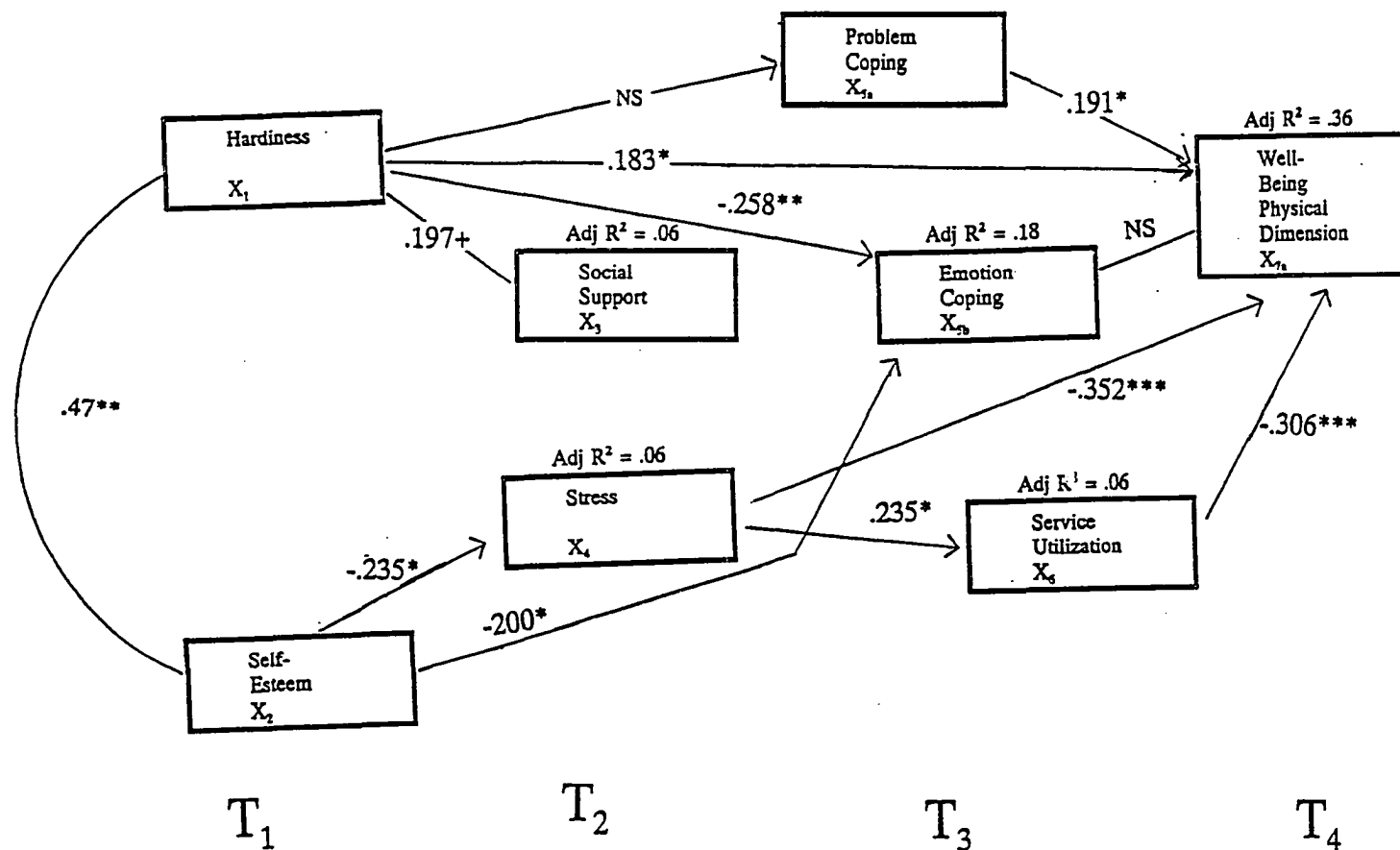
model. Hardiness, self-esteem, stress, problem-focused coping, and service utilization influence well-being.

Collective Models of Well-Being Subdimensions

For clinical relevance the well-being subdimensions of physical health, psychosocial health, and the independent category of personal/home management behaviors were each utilized as the outcome variable in the causal model. As shown in Figure 6, hardiness ($b=.183$, $p<.05$), stress ($b=-.352$, $p<.001$), problem-focused coping ($b=.191$, $p<.05$), and service utilization ($b=-.306$, $p<.001$) accounted for 36 percent of the variance in physical health. Figure 7 illustrates the variable relationships with psychosocial health. Hardiness ($b=.285$, $p<.001$), self-esteem ($b=.187$, $p<.05$), stress ($b=-.486$, $p<.001$), and problem-focused coping ($b=.158$, $p<.05$), accounted for 52 percent of the variance in the psychosocial dimension of well-being. Figure 8 shows the independent dimension of well-being as the outcome variable. Hardiness ($b=.268$, $p<.01$), stress ($b=-.334$, $p<.001$), problem-focused coping ($b=.181$, $p<.05$) and service utilization ($b=-.325$, $p<.001$), accounted for 36 percent of the variance in the independent dimension.

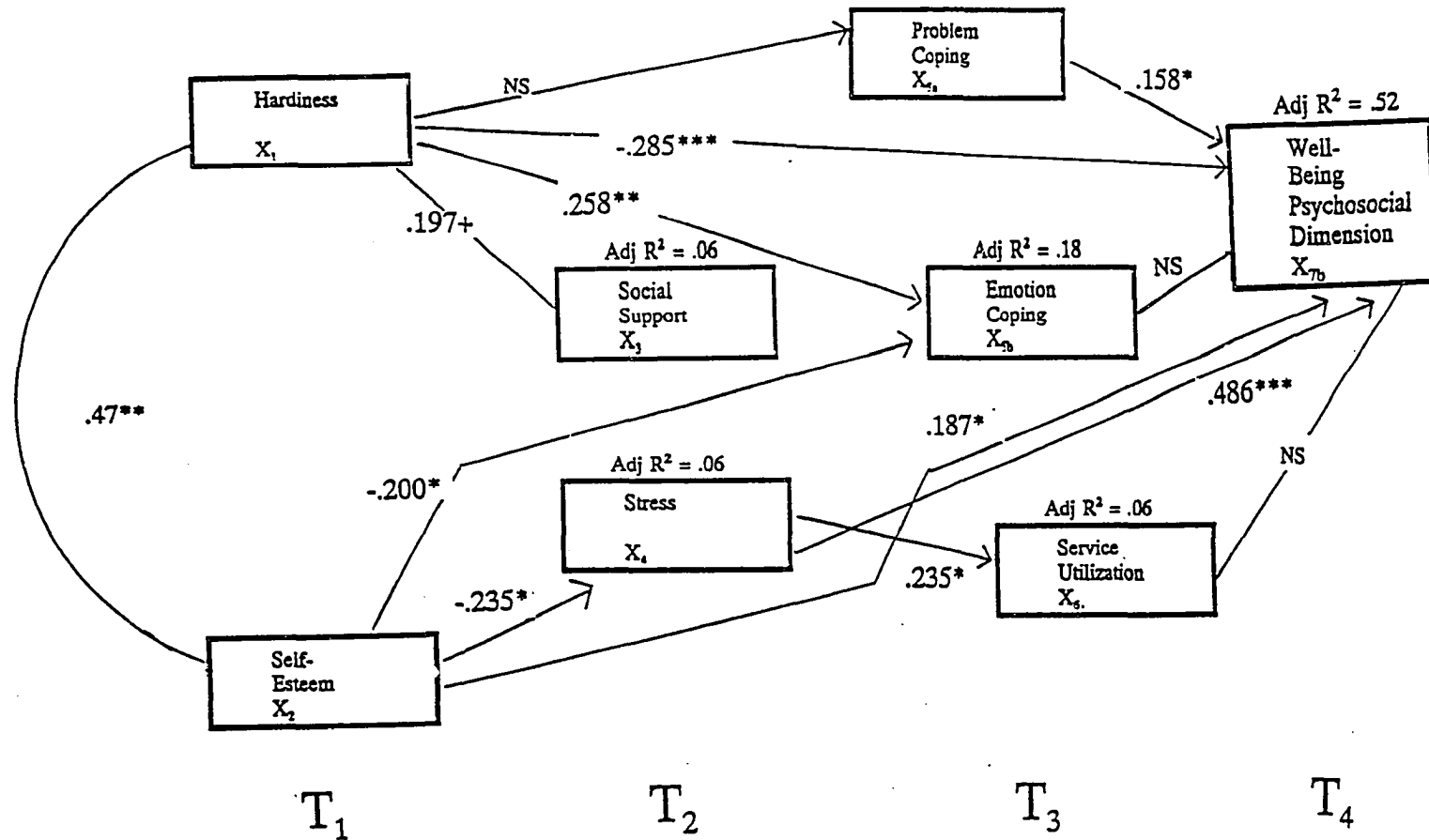
To summarize these results, the causal relationships of the variables did not change except with the outcome variable in time 4. The significant pathways with the physical dimension and the independent category are hardiness, stress, problem-focused coping, and service

utilization. With the psychosocial dimension model, the significant pathways are hardiness, self-esteem, stress, and problem-focused coping. In this model, the service utilization pathway is dropped but the self-esteem pathway is added. Thus, the common pathways for all three dimensions are hardiness, stress, and problem-focused coping.



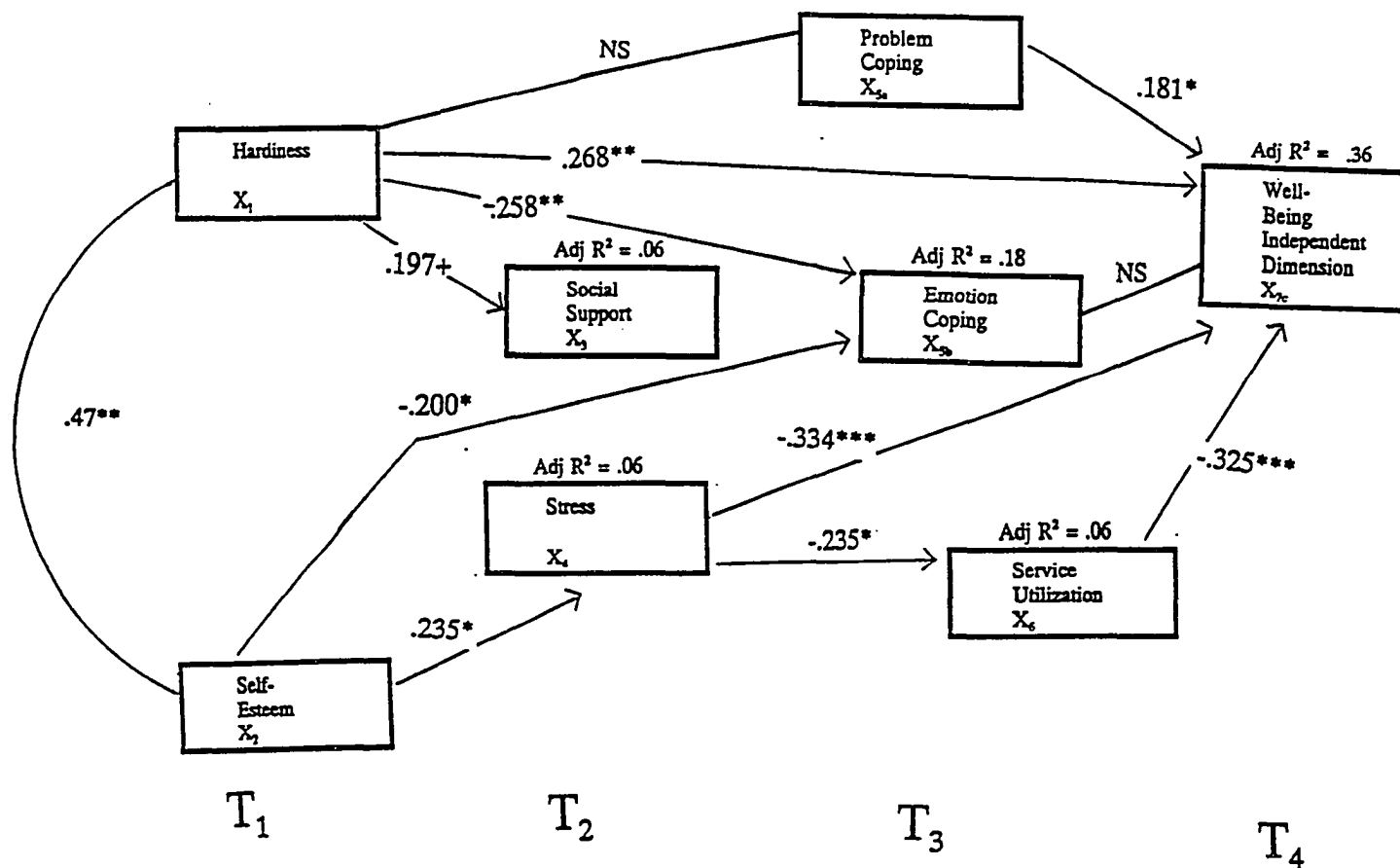
NOTE: *p ≤ .05; **p ≤ .01; ***p ≤ .001; +p ≤ .06

Figure 6. Simplified path model relating the physical dimension of well-being to predictor variables (Total Group).



NOTE: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Figure 7. Simplified path model relating the psychosocial dimension to well-being to predictor variables (Total Group).



NOTE: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Figure 8. Simplified model relating the independent dimension of well-being to predictor variables (Total Group).

Model Differences between Rural-Urban Groups

Utilizing the same criteria (see p. 87) for inclusion of variables in the regression model, there were two significant paths in the rural group (Figure 9). Hardiness ($b = -.509$, $p \leq .001$) accounted for 31 percent variance in emotion-focused coping and stress ($b = -.462$, $p \leq .001$), accounted for 22 percent variance in well-being. As illustrated in Figure 10, there were six significant paths in the urban group. Fifty-six percent of the variance in well-being was predicted by hardiness ($b = .397$, $p \leq .001$), stress ($b = -.286$, $p \leq .01$), and service utilization ($b = -.217$, $p \leq .05$). Self-esteem ($b = -.289$, $p \leq .05$) predicted 15 percent variance in stress and 12 percent variance ($b = -.353$, $p \leq .05$) in emotion-focused coping. Social support ($b = -.299$, $p \leq .05$), predicted 10 percent variance in service utilization. Thus, the one common significant pathway when the causal model is applied to each group is between stress and well-being. The limitation of a smaller sample size ($N=55$) must be considered here.

Group Differences

Group differences were examined descriptively and inferentially. Differences between the major variables and utilization of services are presented.

Major Variables

One way analysis of variance techniques were performed to examine differences between the two groups.

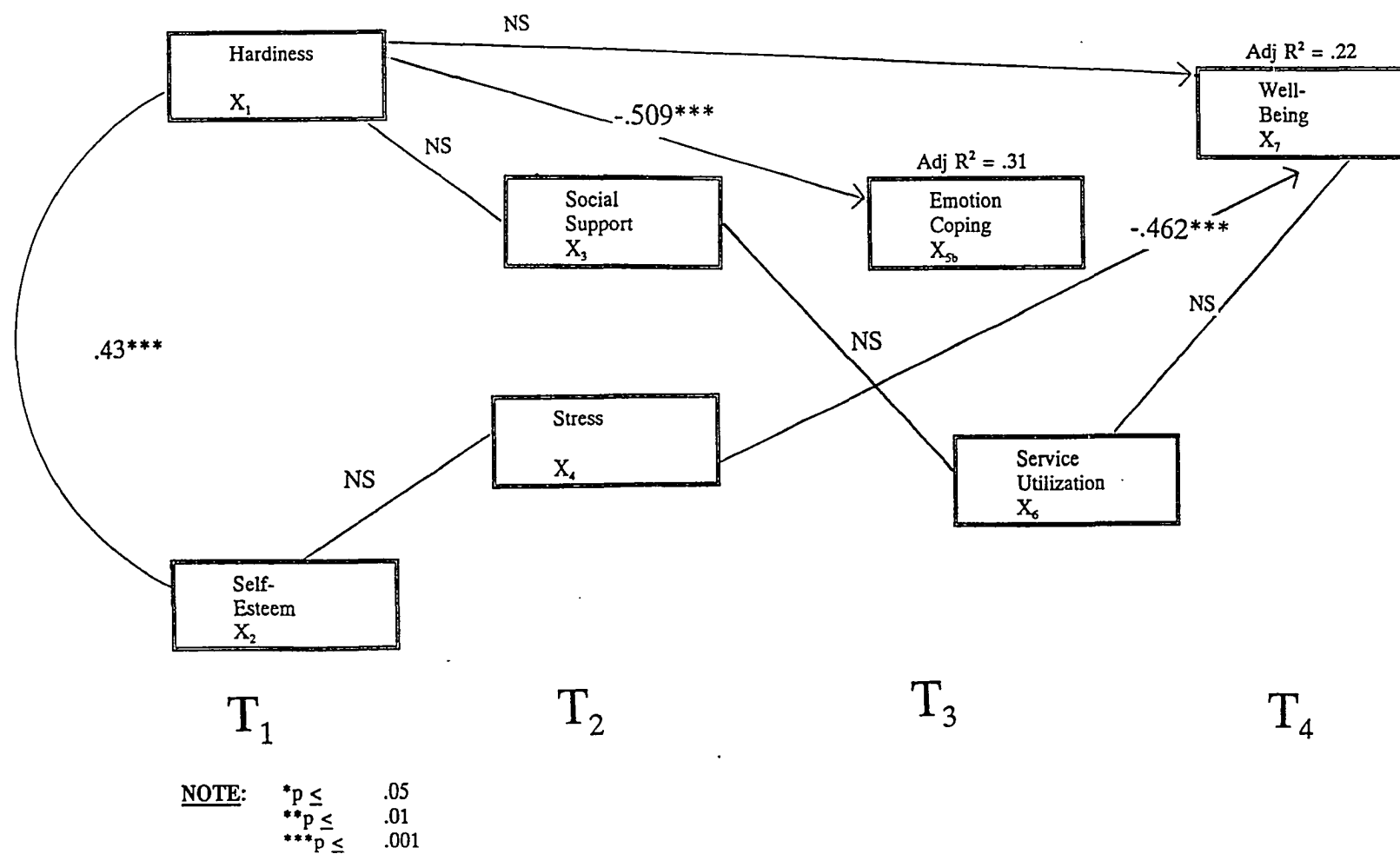


Figure 9. Simplified path model relating well-being to predictor variables (Rural Group).

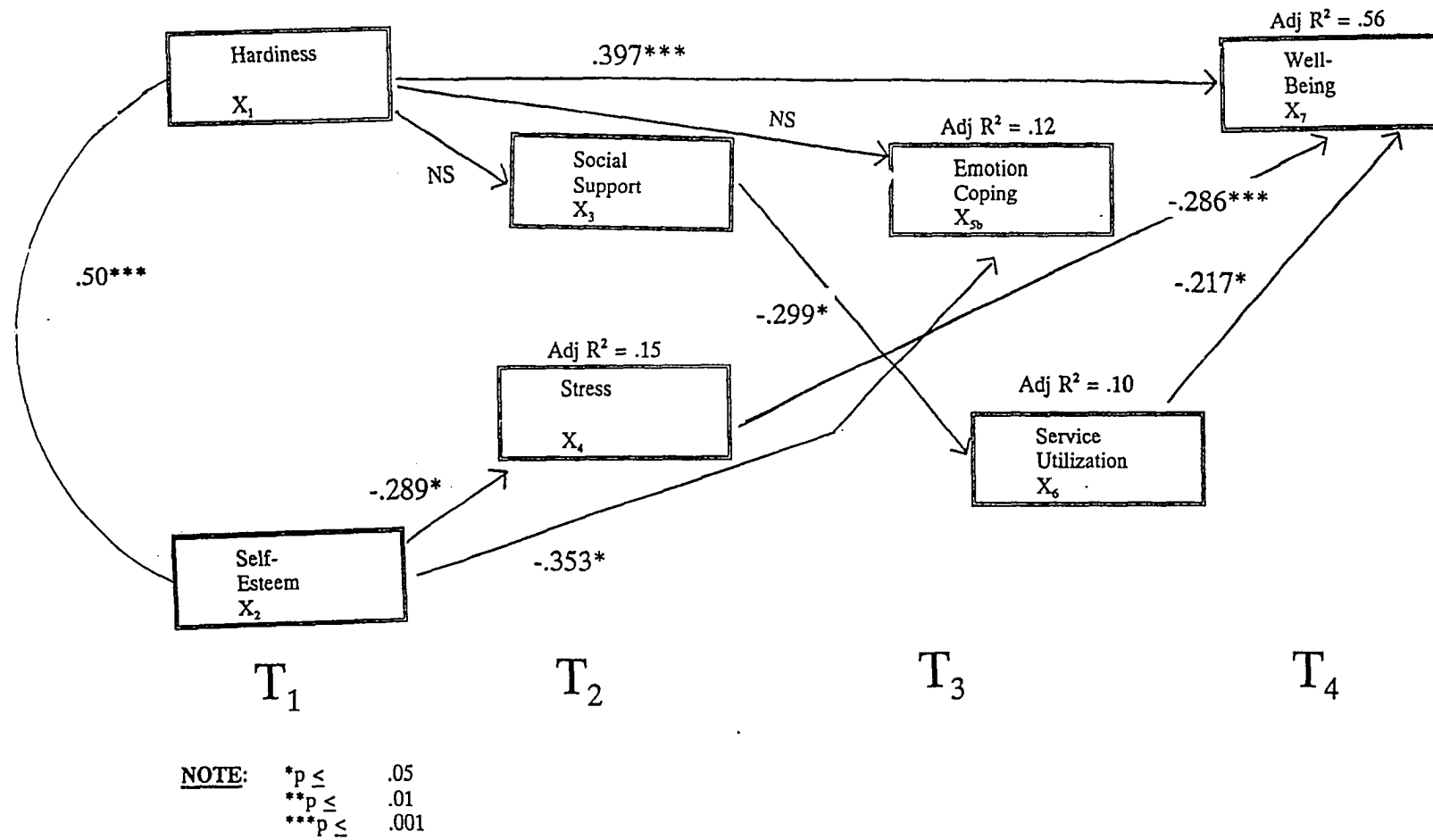


Figure 10. Simplified path model relating well-being to predictor variables (Urban Group).

Only one variable, stress, demonstrated homogeneity of variance with a nonsignificant Bartlett Box F and a significant F ratio ($p \leq .05$). In addition, Bartlett Box F tests indicated homogeneity in all but the service utilization and well-being variables. These two variables were then examined via the t -test procedure in SSPSX which yields a F ratio testing the homogeneity of variance assumptions of both pooled and separate variances. As shown in Table 8, the t -value for service utilization was significant at the $p = .009$ level and the t value for well-being was significant at the $p = .014$ level suggesting heterogeneous variance between the groups as indicated by the Bartlett Box F. Thus, the urban sample reported a higher level of stress ($\bar{X} = 147.05$ vs. 107.04) and service utilization ($\bar{X} = 5.33$ vs. 4.29) while the rural sample reported a higher level of well-being ($\bar{X} = 93.36$ vs. 88.63).

Utilization of Services

The urban-rural groups were also compared on utilization of services. A Fisher's Exact Test of the SAS program was applied to these characteristics. Several significant proportional differences between the two groups emerged. As shown in Table 9, those differences included the provision of transportation by family and by Dial-A-Ride, the past use of psychotropic drugs, and needed help with household chores and meal preparation.

Table 8

Means, Standard Deviations of Major Variables in Two Groups: Urban and Rural

Variable	Urban Mean	Urban S.D.	Rural Mean	Rural S.D.	Separate Variance t Value	2-tail Probability Level
Hardiness	69.42	10.90	68.22	11.11	0.57	.570
Self-Esteem	32.76	4.29	32.65	3.77	0.14	.888
Social Support	7.95	1.50	8.13	1.45	0.65	.519
Stress Events	147.05	113.98	107.04	90.56	2.04	.044
Problem Coping	74.09	13.33	76.71	10.77	-1.13	.260
Emotion Coping	41.00	8.57	40.04	9.07	0.57	.568
Service Utilization	5.33	2.29	4.29	1.74	2.68	.009
Well-Being	88.63	12.15	93.36	6.80	-2.52	.014

The coordination of services by a friend, as well as the need for such, also showed a significant difference.

Non-significant differences of note between the two groups included the perception of need for psychotropic drugs. Twenty-six percent of urban women compared to 18 percent of rural women felt the need for medication. The felt need for physical therapy, nursing care in the home, reassurance checking, and help with personal business was dramatically higher in the urban women than in the rural women. In both groups, however, the current use pattern was also moderate to high in those same services except for physical therapy.

Table 9

Service Utilization Characteristics

Variables/Characteristics	Urban <u>n</u>	%	Rural <u>n</u>	%	Fisher's Exact Test 2-tail Probability
Provision of Transportation					
Self	35	64	36	66	1.00
Family	18	33	29	53	.05
Friends	13	24	13	24	1.00
Public	3	6	0	0	.24
Agency	4	7	0	0	.06
Other(Dial-A-Ride)	12	22	1	2	.00
Need for transportation	5	9	5	9	1.00
Social/Recreational Services					
Past participation (6 mos.)	25	46	28	51	.70
Current participation	24	44	24	44	.36
Need for participation	29	53	34	62	.33
Employment Services Need	2	4	0	0	.50
Sheltered Employment Need	1	2	2	4	1.00
Educational Services, Employment Related Need	1	2	2	4	1.00
Basic Personal Skills Training					
Past Use (6 mos.)	1	2	0	0	1.00
Current Use	1	2	0	0	----
Need	0	0	0	0	----
Mental Health Services					
Past Use (6 mos.)					
Hospitalizations	0	0	0	0	----
Outpatient Treatment	1	2	1	2	1.00
Current Use	1	2	0	0	1.00
Need	2	4	3	6	.68
Psychotropic Drugs					
Past Use (6 mos.)	16	29	6	11	.03
Current Use	11	20	5	9	1.00
Need	14	26	10	18	.49
Provision of Personal Care					
Unpaid Family Member	5	9	4	7	1.00
Unpaid Friend	2	4	1	2	1.00
Agency Person	4	7	2	4	.64
Need for Personal Care	6	11	3	6	.49

Table continues

Table 9 (continued)

Variables/Characteristics	Urban <u>n</u>	%	Rural <u>n</u>	%	Fisher's Exact Test 2-tail Probability
Physical Therapy					
Past Use (6 mos.)	11	20	5	9	.11
Current Use	1	2	1	2	1.00
Need	13	24	9	16	.48
24-hour Continuous Supervision					
Past Use (6 mos.)					
Unpaid Family Member	5	9	1	2	1.00
Unpaid Friend	1	2	1	2	1.00
Agency Person	0	0	0	0	----
Current Use	0	0	0	0	----
Need for Continuous Supervision	1	2	0	0	.50
Nursing Care in Home					
Past Use (6 mos.)					
Unpaid Family Member	0	0	0	0	----
Unpaid Friend	0	0	0	0	----
Agency Person	9	16	2	4	----
Current Use	5	9	1	2	1.00
Need	9	16	3	6	.12
Checking Services (5 time/week)					
Unpaid Family Member	11	20	9	16	1.00
Unpaid Friend	11	20	9	16	1.00
Agency Person	2	4	2	4	1.00
Current Use	18	33	15	27	1.00
Need	18	33	10	18	.13
Need Help in Finding a New Place to Live	2	4	1	2	1.00
Help with Household Chores					
Past Use (6 mos.)					
Unpaid Family Member	9	16	4	7	1.00
Unpaid Friend	3	6	0	0	.52
Agency Person	25	46	9	16	1.00
Current Use	27	49	9	16	.47
Need	35	64	16	29	.00
Help with Meal Preparation					
Past Use (6 mos.)					
Unpaid Family Member	6	11	3	6	1.00
Unpaid Friend	1	2	1	2	.52
Agency Person	7	13	3	6	.64
Current Use	11	20	3	6	.30
Need	13	22	3	6	.02

Table continues

Table 9 (continued)

Variables/Characteristics	Urban n	%	Rural n	%	Fisher's Exact Test 2-tail Probability
Management of Personal Business (Past Use (6 mos.)					
Unpaid Family Member	5	9	5	9	1.00
Unpaid Friend	1	2	0	0	1.00
Lawyer of Agency Person	3	6	3	6	1.00
Current Use	7	13	5	9	.20
Need	12	22	6	11	.20
Caseworker-type Multi- dimensional Evaluation					
Past Use (6 mos.)	2	4	5	9	.44
Need	5	9	3	6	.72
Coordination of All Services Past Use (6 mos.)					
Unpaid Family Member	6	11	1	2	1.00
Unpaid Friend	2	4	3	6	.04
Agency Person	6	11	0	0	.13
Current Use	11	18	2	4	.57
Need	11	20	2	4	.02

The original theoretical model explained well-being in elderly women. All of the original variables, except religious-focused coping, were retained in the simplified model. Several linkages in the model did not have the predictive power that was originally proposed although the outcome variable demonstrated a large amount of variance. The demographic variables of sex and age were controlled by sampling technique. There were model differences and group differences between the rural and urban populations. The discussion and implications of the results are presented in the final chapter.

CHAPTER FIVE

Discussion

The testing of the unique combination and influence of the variables in this study of well-being served to clarify and expand the use of a stress-coping paradigm. Person factors, environmental factors, and mediating processes were used to test theory and to predict outcomes.

The Effects of Antecedent Variables

One of the person antecedents, hardiness, had an influence on one of the environmental variables, social support. The presence of the personality characteristic, hardiness, has been shown to have a positive relationship with a person's resources such as social support (Holahan & Moos, 1985; Turner & Noh, 1983). This relationship is especially strong in women (Billings & Moos, 1984). Hardiness also had a positive relationship with well-being. Another association that is especially strong in women, hardiness has been reported to be a major factor in maintaining health (Holahan & Moos, 1985; Rhodewalt & Zone, 1989).

The other person antecedent, self-esteem, had a negative relationship with the second environmental variable, stress. This negative relationship has been supported by previous literature. Persons with high self-esteem are generally able to avoid or reduce levels of

distress (Kaplan et al., 1983; Pearlin et al., 1981; Pugliesi, 1989).

The two person antecedent variables together showed a negative relationship with emotion-focused coping. This type of coping has been found to be related to hardiness and self-esteem in other studies (Holahan & Moos, 1985; Pearlin & Schooler, 1978).

The data supported the moderate correlation of hardiness and self-esteem. Their total influence on environmental variables was not as strong as was originally predicted but showed moderate strength on the mediating variable of emotion-focused coping. The results imply that in this group of elderly women hardiness was associated with greater social support but not necessarily a lesser amount of stress while high self-esteem was related to lower stress but not necessarily a greater amount of social support. Hardiness and self-esteem were associated with decreased use of emotion-focused coping which may indicate that the appraisal of the stress-coping context for this group is under control (Lazarus & Folkman, 1984).

Still in the causal antecedent portion of the model, the environmental variable, stress, had a positive relationship with service utilization. Although other research results are mixed, there is support for a positive relationship between stress and use of services (Bass & Noelker, 1987; Quadagno et al., 1987). That the relationship of stress and service utilization was positive

might be indicative of the small number of women who were caregivers ($N = 3$) in this sample with the total sample scoring very low on stress. It has been demonstrated that family caregivers experience additional stress in their lives (Quayhagen & Quayhagen, 1988).

Several hypotheses related to antecedent variables were not confirmed. For example, self-esteem did not affect social support and social support did not have any of its predicted effects. The lack of effects here may be due to a problem with both of these measures. They may not be sensitive to this population group and this issue needs further exploration.

The Effects of Mediating Variables

The findings in this study indicated that problem-focused coping had a positive effect on well-being (low level of dysfunction). These results have been found in other research studies (Billings & Moos, 1981; Folkman & Lazarus, 1980; Quayhagen & Quayhagen, 1988; Vitaliano et al., 1987). The use of services had a negative effect on well-being indicating those women with more dysfunction may tend to use more services. This finding is supported by previous research (McAuley & Arling, 1984; Snider, 1980) although results are sometimes mixed (Horowitz, 1985).

Data implied that use of more problem-focused coping was associated with a greater sense of well-being. Staying more actively involved in one's self-care may create a more positive approach to health problems

(Preston & Mansfield, 1984). Likewise, that same idea of self-care may also partially explain the results between service utilization and well-being. Women who perceived that their level of health was less also more actively sought the use of services. In addition, there may be dimensions of rurality that need to be considered. There are less services available in the rural areas (Krout, 1987) and those elderly women who have greater dysfunction but who do not live in the city also have less services from which to choose.

Several hypotheses related to mediating variables were not confirmed. One that has not been previously discussed is that problem-focused coping did not affect service utilization. An explanation for this result may be that because the stress level was low and the well-being was high in this group of women, seeking services may not have been identified as a necessary activity.

Differing Effects with Well-being Subdimensions

When using each of the well-being subdimensions, physical, psychosocial, and independent, as the outcome variable, the relationships between hardiness and well-being, between stress and well-being, and between problem-focused coping and well-being were all present. However, with the psychosocial dimension, the relationship between self-esteem and well-being emerged and the relationship between service utilization and well-being disappeared. This result is not too surprising in that the self-concept

is certainly part of one's psychological make-up (Wells & Marwell, 1976) and that women with higher self-esteem report better health (Antonucci & Jackson, 1983). In addition, use of services may not be perceived as so important with psychological problems, such as feeling nervous or restless, as they do with physical or personal functioning (independence) problems such as the inability to use stairs or to cook meals. Women may feel more vulnerable with physical or personal functioning deficits thus creating a felt need for more formal services (Stoller & Pugliesi, 1988; Windley & Scheidt, 1983.)

Differing Effects between Rural and Urban Women

When the model was applied to each group, differing effects emerged between the rural and urban women. Strong associations, as indicated by the beta weights, are noted in the rural sample even though they are few in number. In the rural women, hardiness was related to the use of less emotion-focused coping while increased stress was associated with lower levels of well-being. Rural women may tend to cope in a more pragmatic manner even when stress infers more sickness.

For the urban women hardiness correlated with greater well-being. Self-esteem was associated with less stress and use of less emotion-focused coping. Higher levels of stress and service utilization were linked with less well-being. Again the availability of services in the urban region may account for more usage. However, for the urban women a

greater amount of social support was related to lower use of services. This result has been substantiated in previous urban studies (O'Brien & Wagner, 1980; Wagner & Keast, 1981).

The data results imply that the causal model is less relevant with rural women and nothing new emerges that is different from the total sample results. With the urban women, however, the effect of social support on the use of services emerged suggesting that those metropolitan women with greater support tend to use less services as reported by Soldo (1985) and Stoller (1989). This effect was not significant in the total sample perhaps due to an opposing effect from the rural women (Daatland, 1983). In the rural and urban women a lower level of well-being was associated with greater stress, in accord with work by Bigbee (1990).

Group Differences between Rural and Urban Women

The urban women in this study reported greater stress and more use of services, a finding documented earlier that people who live in the city use more services (McAuley & Arling, 1984). Stress research related to health among elderly women has been quite limited. Older adults in more rural areas have demonstrated no adverse effects from limited episodes of stress (Norris & Murrell, 1987) although there has been some contradiction. One recent study found no significant difference in stress between rural and urban women (Bigbee, 1990).

More women in the rural sample were married and the rural women also reported a higher level of well-being than their urban counterparts. This association between social bonding and well-being has been supported by Turner (1981). In accord with work by Depner & Ingersoll-Dayton (1985), conjugal social support in later life is present with greater reciprocity and interaction.

Nursing Research Implications

Long-term care research has had several constraints in its development. These constraints include the expansiveness of its field, the lack of functionally defined outcomes, the difficulty of differentiating the normal aging process from the disease process, and the domination of physicians as decision makers while nurses and other health care professionals give the care (Cohen & Syme, 1985; Shaughnessy, 1985). The psychosocial factors examined in this study are a beginning effort to understand the "social side effects" (Strauss & Corbin, 1988, p. 16) of growing old, living with chronic illness, and being a female.

The stress rubric (Lazarus & Folkman, 1984) utilized in this study provided one way to view the effects of certain psychosocial factors on well-being. Because of the interactive and dynamic relationships of transactional theory there is always the dilemma of where to begin the analysis (Lazarus et al., 1985). For example, perhaps well-being would have more effect on hardiness, self-esteem, social support, and stress than the way the process

was studied here. One implication for future research, then, is consideration of alternative models.

A second implication for future nursing research in community-based care is more emphasis on functionally defined outcome measures. While the elderly women in this sample had relatively low measures of dysfunction, the fact still remains that the population is living longer and with older age comes greater disability (Rivlin & Weiner, 1988). In addition, women experience greater disability than men (Markides, 1990). Nurses need to utilize psychometrically determined assessment scales (Quayhagen & Roth, 1989) and develop a data base from which relevant home care interventions can be extrapolated with confidence of positive outcomes.

That the elderly women in this study used both emotion-focused coping and problem-focused coping supports other research that a variety of coping strategies is effective in reducing stress in peoples' lives (Pearlin & Schooler, 1978). The mediating processes of coping strategies, including the use of services, need more attention from nurse researchers who work in the community. The strength of the relationship between service utilization and well-being indicates the importance of community services in helping older people remain independent. The way that nurses can escape from the tunnel vision of the science of biomedical care is to have a broader knowledge base in the science of human care (Watson, 1985).

Even though other factors would need to be explored for the rural sample, the utilization of the results of this study as a baseline data set for a longitudinal study is perhaps the most important research implication of all. While the women in this study, overall, showed stability and resilience, they still remain a high-risk population group. Stress events can make a rapid and a dramatic difference in health and social needs at advanced ages. Nurses are on the front line of the battle and must direct greater research efforts towards the elderly (Califano, 1986).

Nursing Practice Implications

With community-based care of the elderly, the clinical goal is helping people to adjust to their functional limitations. This goal allows as much independence as possible and maintains the quality of the lives of older people (Duffy & MacDonald, 1990; Strauss & Corbin, 1988). This is indeed a challenging task for nurses, both urban and rural, in light of the acute care focus of the current health care system.

If nurses' roles include case management and the development of innovative delivery systems (Applebaum & Wilson, 1988; Tagg, 1984), then what is it that is needed that is so different from the current medical orientation? It is practice interventions that enhance qualities such as hardiness and self-esteem and that recognize the social support and coping strategies which will ultimately lessen the impact of stress in the lives of the aged (Crouch &

Straub, 1983; Ryan & Austin, 1989). Interventions that address diseases only overlook other problems that hinder adjustment and "obscure the functional unity" (Pearlin & Aneshensel, 1986, p. 434) of people's lives. For example, if coping strategies are to be effective, other components, such as values (including self-values) and commitments must also be congruent (Lazarus & Folkman, 1984). Thus it is salient for nurses to be able to assess and systematically document the variables of import in this study including hardiness, self-esteem, and coping mediators.

The situational context must also be considered by the community-based nurse. Rural nurses may find different types of environmental stress in women than urban nurses (Bigbee, 1990) and may need to develop different methods of interventions.

Nursing Education Implications

Nursing curricula must be developed that considers the health care problems of the times. The large numbers of very old people (still predominantly women) and the increased numbers of people with chronic illness call for a different but very intensive alteration to nursing education content and processes (Bevis & Watson, 1989). Assessment of factors that are relevant in a stress-coping paradigm can address the nonmedical variables that define the kinds of problems which are impacting the community-based elderly in America.

In future curricula, more emphasis must be placed on

courses about the aged and the particular problems they face, both for nurses and for the general public. Since community-based nurses focus on health promotion, they can play a major role in offering programs about the older phase of life in settings such as the workplace, churches, community colleges, universities, etc.

Nurse educators are challenged to teach more than routines and procedures. How to understand people's ways of coping with health and illness requires reflection and contemplation on the phenomenal field or frame of reference of another. Critique and change is needed in nursing education because the human conditions and life processes have dramatically changed (Bevis & Watson, 1989; Watson, 1985).

Nursing Policy Implications

The implications of this study are not complete without a brief discussion of nursing's role in health policy. Health care costs are skyrocketing (Califano, 1986) and nurses have shown that they can give cost effective and high quality care (Neidlinger, Scroggins, & Kennedy, 1987; Zander, 1988). Third party payers and corporations have shown that they are interested in less expensive health care packages (Fagin, 1986) and consumers are looking more and more to nurses to help control costs without sacrificing quality (Ostrander, 1986).

Nurses are in a unique position of "combined strength and emerging potential" (Moccia, 1989, p. 15). Legislative

and policy decisions must have nursing input for cost-effectiveness, equitable access, and acceptable quality. Nurses can embrace the political process (Courtney, 1987) and learn to deal with conflict. Effective and visible leadership can help nurses become major players in health care, players that are needed and valued by society (Aydelotte, 1988; Sovie, 1987). The long-term care issues of the elderly, such as easing the burden of chronic illness and functional disabilities, are the most pressing needs today (Markides, 1990; Mechanic, 1986; Strauss & Corbin, 1988). Nurses can make an impact if they have the theoretical basis and the political savvy to help them be the caring professionals and human advocates needed in today's world.

Summary

This correlational study focused on elderly women's personality characteristics, environmental situations, coping processes, and functional well-being. A causal model was developed with theoretical support from the literature. The path analytic design indicated moderate relationships among the variables. There were several significant differences between the rural women and the urban women. Generalizability is limited due to the recruited nature of the sample. Nursing implications were presented and discussed by examining the results of this study as related to the long-term care needs of elderly women.

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APPENDIX A
Questionnaire

PLEASE NOTE

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

pp. 143-187
Coping Strategies Inventory
Personal Views Survey
Self-esteem
Social Resources
Stress Events Questionnaire
Utilization of Services
Sickness Impact Profile

University Microfilms International

APPENDIX B
Letters of Permission



DUKE UNIVERSITY MEDICAL CENTER
CENTER FOR THE STUDY OF AGING AND HUMAN DEVELOPMENT

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Office of the Director

July 3, 1989

Betty J. Gale, M.S., R.N.
5624 S. Heather Drive
Tempe, Arizona 85283

Dear Ms. Gale:

You have our permission to reproduce and use the OARS/MFAQ for the purposes stated in your letter. We have one requirement and one suggestion. The requirement is that the Duke Center copyright appear on the face of all reproductions of the instrument and that any modifications of the instrument must also be noted on the face page, reported to us, and noted in publication of results.

The suggestion is that you keep in touch with us as your work progresses. There are over 150 users of the OARS/MFAQ nationwide. You may want to be in touch with other users with interest similar to your own.

The person with whom you would correspond in the future about OARS is Gerda Fillenbaum. You can write to her at Box 3003, Duke University Medical Center, Durham, NC 27710.

Sincerely,

Harvey Jay Cohen, M.D.
Professor of Medicine
Chief, Geriatrics Division
Center Director
Director, GRECC/VAMC

HJC:dp

Box 3003 • Durham, North Carolina 27710 • Telephone (919) 684-2248, 684-3176



THE JOHNS HOPKINS UNIVERSITY
School of Hygiene and Public Health

Health Services Research and
Development Center

September 21, 1989

624 North Broadway
Baltimore, Maryland 21205
Tel. (301) 955- 6546

Ms. Betty J. Gale, M.S., R.N.
Doctoral Candidate
5624 S. Heather Drive
Tempe, Arizona 85283

Dear Ms. Gale:

This letter grants you permission to use the Sickness Impact Profile (SIP) in your research to measure the outcome variable, presently called well-being. In return, I would appreciate receiving a detailed description of the research you will be doing and a final report of the results when it is completed.

Sincerely yours,

Marilyn Bergner // Ph.D.
Professor

MB:mej

Ph.D. Program in Psychology: Social-Personality Psychology / Box 325
Graduate Center: 33 West 42 Street, New York, N.Y. 10036-8099
212 642-2506

11 July, ,1989

Betty J. Gale, M.S., R.N.
5624 S. Heather Drive
Tempe, Arizona 85283

Dear Ms. Gale:

As per our conversation, I have sent the Hardiness Scale to you as well as a list of references. I hope that this has been helpful to you.

The scope of your study is very interesting and both Prof. Ouellette Kobasa and I wish you the best. If you have any further need of assistance we would be pleased to help.

Prof. Ouellette Kobasa sees no reason why you may not use the Hardiness Scale (Personal Views Survey). She would be interested in seeing your results when your work is completed. Please feel free to make any modifications in the scale to tailor it to your particular study.

Very truly yours,

Jacqueline E. Greaves
Health Projects Manager



*To answer your letter more promptly ...
we are taking the liberty of replying by
notations on your letter. We feel certain
that you will permit us this informality
which allows a faster reply.*

Princeton University Press

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OCT 25 1989

Princeton University Press
41 Williams Street
Princeton, New Jersey 08540

Dear Sir:

I am conducting a dissertation study on the long-term care needs of the community-based elderly. I would like permission to use the Rosenberg Self-Esteem Scale as one of my measures. Hardiness and self-esteem are the exogenous variables in my study. Social support, stress, coping, and service utilization are the endogenous variables and well-being is the outcome variable. I am comparing a rural and urban subsample.

I look forward to hearing from you soon. Thank You.

Sincerely,

PRINCETON UNIVERSITY PRESS:

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☐ CANNOT BE REPRODUCED WITHOUT CHARGE
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Betty J. Gale, M.S., R.N.
Doctoral Candidate

(5624 S Heather Dr.
Tempe, AZ 85283)

Appendix C

University Human Subjects Approval

Committee on the Protection of Human Subjects
University of San Diego

03 November 1989

Betty J. Gale, R.N., M.S.
5624 S. Heather Drive
Tempe, AZ 85283

Dear Ms. Gale:

I have received the revision of your research proposal entitled "Well-Being of the Elderly: Rural-Urban Differences" and find that changes recommended by the Committee in my report to you of 09 October 1989 have been made. I am therefore pleased to inform you that your project is approved.

I must to call your attention to the requirement that you submit a summary of your project to the Committee upon its completion. If the project is not completed by the anniversary of its approval by the Committee, a progress report must be submitted by that date, and on each anniversary thereafter until the final summary is submitted. Details about the contents of these reports can be found in the CPHS policies and procedures document.

Good luck in conducting your study. I hope that your project is successful.

Sincerely,

Dr. Daniel D. McBriarty
Chairman

Appendix D
Cover Letter

.

Date

Executive Director
(or Board President)
Agency
Address

Dear _____:

The purpose of this letter is to present in writing more details of my research (as discussed on the phone) and to seek your permission to administer my questionnaire to clients of your agency.

The focus of my study is the interrelationship of variables which may predict well-being in the elderly. The variable that will be measured during a face to face interview include: well-being, service utilization, coping, caregiver stress, social support, self-esteem, and hardiness.

Participation in the study is purely voluntary. I have attached a copy of the consent form which describes the protection of human rights. I will offer clients \$5.00 for participation in the study. I believe this compensation will indicate that they have something valuable to offer and that their time is important. After I receive your permission, I will work with your staff to obtain names and phone numbers of clients. This information will be kept strictly confidential. I will make appointments by telephone whenever possible.

If you would like any more details about my study, I would be glad to share them. I will call you in a week to see if you have any more questions. I have also attached a contract describing the commitment between us that will require our signatures. Each of us will keep a copy.

Thank you for your time and effort in this matter. The results of this research may provide more effective guidelines for providing nursing care to the elderly who reside in the community.

Sincerely,

Betty J. Gale, M.S., R.N.
Doctoral Candidate

Appendix E
Contract

CONTRACT

The _____ Agency has agreed to allow Betty J. Gale, M.S., R.N., Doctoral Candidate, to interview their clients after permission has been obtained from the clients. We understand that all human rights will be protected, including confidentiality. We understand that data results will be presented as group data only without any names identified. We understand that we may have a copy of the research results if requested.

Agency Executive Director

and/or

Board of Director's President

Betty J. Gale, Doctoral Candidate Date

Appendix F
Consent Form

