A STRUCTURAL ANALYSIS OF RELATIONSHIPS AMONG STRESS, SOCIAL SUPPORT, DYSFUNCTIONAL ATTITUDES, AND DEPRESSION IN OLDER ADULTS

by

Darryl Ann Hyers

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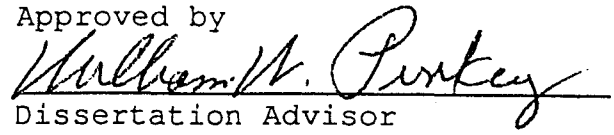

Dissertation Advisor

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Dissertation Advisor William H. Rorkey

Committee Members

William F. Fallon

Laurie Kennedy-Malone

March 1, 1995
Date of Acceptance by Committee

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Date of Final Oral Examination

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The purpose of this study was to investigate hypothesized relationships among stress, social support, dysfunctional attitudes, and depression in older persons. This was done by testing a structural path model that represents hypothesized structural relationships among these variables. The data were collected with a self-administered questionnaire containing the Geriatric Scale of Recent Life Events, two scales from the Duke Social Support Index, the Dysfunctional Attitudes Scale-Form A, the Center for Epidemiological Studies-Depression Scale, and a section for demographic information. The sample surveyed was composed of 359 female and male older (55-93) adults residing in an urban community in the southeastern United States.

Statistics were provided to describe the sample and the performance of this sample of older persons on each of the instruments. The structural path analysis revealed that (1) perceived stress predicts symptoms of depression, (2) subjectively-perceived social support moderates symptoms of depression, and (3) heightened dysfunctional thoughts are associated with heightened depression.

These findings were consistent with previous research. The results suggest several implications for counseling. Appropriate intervention strategies could enhance social

support, identify dysfunctional attitudes, and ameliorate depressive symptoms.

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CHAPTER I

INTRODUCTION

Today, more than ever before, society is looking seriously at health promotion and disease prevention. Medical, political, economic, and social concerns for the health care system are providing an impetus to reevaluate the current delivery system and to pay greater attention to potential avenues leading toward preventive measures. One of the greatest reasons for these concerns is that people are living longer.

As life expectancy continues to increase, the percentage of older Americans likewise will increase. For example, until this century, fewer than one out of ten people could expect to live past the age of 65 (Murrell, Norris, & Grote, 1988). Though statistical projections vary somewhat, approximately 80 percent of Americans can anticipate living through their 70's. Older adults represent the fastest growing segment of the population (Murrell et al., 1988). Males living in the year 2020 can expect to live until approximately 79 and females can anticipate living until age 87 (Gingold, 1992). Barberis (1981) has predicted that the proportion of the population 65 years and older will be 21% or 64.6 million people by the year 2030.

While increased life expectancy speaks highly of steady gains in health care, it also creates a population that shifts the balance of health care resources toward older adults, a group that is more likely to suffer ill health and disability (McGinnis, 1988). With the advent of antibiotics, and better diagnostic and treatment modalities, the incidence of death by infectious diseases has fallen only to be replaced by heart disease, cancer, stroke, diabetes, and other stress or life-style related problems (Dychtwald, 1986). In a summary of research, Cockerham (1989) concluded that there is strong evidence that a person's lack of ability to deal with stress and control stress-induced physiological changes in the body can increase the incidence of heart disease, hypertension, ulcers, muscular pain, compulsive vomiting, asthma, migraine headaches, and other health problems. Research involving older persons experiencing stressful life events or losses, such as the death of a loved one, has indicated a definite decline in their perceived health status (Cockerham, 1991; Fenwick & Barresi, 1981; Weinberger et al., 1986).

The need to focus on stress and depression is necessary for adequate preventive measure and efficient health care. Stress and depression have long been recognized as major health concerns in the twentieth century. Literally hundreds of studies have focused exclusively on stress. Gradually

studies of other factors coupled with stress such as physical illness, depression, and social support and hardiness have been conducted over the past thirty years (George, 1989). The majority of these studies have been on young to middle-aged populations with relatively little attention focused on populations over 55 years of age (Stokes & Gordon, 1988). The dramatic increase in the numbers of persons living to old age has prompted greater interest among researchers into investigating the sources of stress for older adults (Folkman, Lazarus, Pimley, & Novacek, 1987) and how stress experienced by older adults may differ from that experienced by younger people. A factor shown to significantly buffer or mediate the effects of stress on older persons in the same manner as for younger persons is strong social support by family and friends (Krause, 1986; George, 1989).

One theory concerning the effect of social support in terms of reducing the impact of stressful life events on health was provided by Pearlin, Lieberman, Menaghan, and Mullan (1981). The stress buffering theory suggests that social support may increase ones's self-esteem, security, and sense of control over the environment which, in turn, decreases the effects of environmental stressors (life events). Conversely, the effects of stressful life events may be more damaging to a person experiencing low support

from family and friends. Such support is usually provided in the form of love, affection, concern, and assistance with tasks. Social support has been found to have direct correlation with measures of well-being in the elderly (Handen, 1985). In a summary of the literature, Handen (1991) notes that social support seems to be significantly related to physical and mental health.

In terms of mental health, depression is one of the most common problems among the elderly today. Blazer (1990) stated,

> Although the prevalence of major depression is lower among older adults when compared with persons in mid-life and early life, major depression remains an important problem to be faced by professionals working with older adults. The potential adverse results of depression, such as suicide, the neglect of health and hygiene, and the stress of depression on physical functions, underscore the necessity of recognizing the disorder and intervening appropriately. (p. 62)

Costa, McCrae, and Locke (1990) reiterated this point when they observed, while reporting on a study of relationships between well-being, depression, personality, and age, that age itself was not a strong predictor of depression within the age range of 55-84 years. However, they found that age-related events (retirement, bereavement, diminishing social supports, physical illness, and impaired cognitive and physical functioning) may prove to be significant risk factors.

It has long been accepted that certain stressful life events precede episodes of depression. It is also known that everyone experiences stressful life events but most people remain free of depression. Beck's (1976) cognitive model of depression helps to explain why some people may be more vulnerable to depression than others. Dysfunctional thinking, according to Beck, is the most salient psychological symptom of depression. Dysfunctional attitudes, the stable and enduring thoughts that reflect the negative schemas that constitute diathesis (predisposition to certain diseases) to depression, may function as a vulnerability factor that allows greater susceptibility for depressive reaction to stress in the form of negative life events. The Dysfunctional Attitudes Scale (Weissman & Beck, 1978), derived from this theoretical perspective, detects those who are at risk for depression, subject to a precipitating life event stressor. The assessment of recent life events is a critical element in the design of any study that intends to evaluate the cognitive model of depression (Wise & Barnes, 1986).

Older persons face life events such as death of spouse, major illness, change in residence, or retirement that may be perceived as stressful. Depression is a diagnosis faced frequently by counselors working with older persons. Depression is one of the most debilitating and painful of

human experiences. In his argument for prevention of depression, Muñoz and Ying (1993) observed that suicide is a common occurrence in depressed populations and that in the United States suicide is more common than homicide. The incidence of suicide attempts is greater in the older segment of the population and more successful (Myers, 1989). Cox (1988) stated that, "One in 5 suicides in the United States is committed by a person over 65" and that "suicides are disproportionately higher among older persons" (p. 14). Such startling statistics emphasize the greater need to study depression in the elderly. Markides and Cooper (1989), concurred that research on health and stress among the elderly is still in the beginning stages but will continue to provide important insights into the effects of stress on people over the life course.

Statement of Problem

This study was an investigation of how perceived stress from life events predicts levels of depression in older persons living in the Triad area of North Carolina. A second objective of this study was to test the stress buffering effect of social support. Thirdly, the research identified the direct and indirect effects of dysfunctional attitudes on depression.

Purpose of the Study

The purpose of this study was to investigate hypothesized relationships between stress, social support, dysfunctional attitudes, and depression in older persons. This was done by testing a path model that represents hypothesized structural relationships among these variables. The variables were measured by self reports from a sample of older persons. The model proposes that the perceived level of stress associated with readjustment following stressful life events is directly related to an increase in depressive symptomatology. It further proposes that strong perception of social support decreases vulnerability to depression, while an increase in dysfunctional attitudes will increase vulnerability to depression. Path analysis was used to examine the fit of the model to data provided by older persons. This study improves on prior research in that it is the first study to explicitly examine the mediating relationships of dysfunctional attitudes and social support on the effects of stress, in older persons, on mental health in older persons.

Conceptual Model and Associated Research Questions

The model depicted in Figure 1 shows perceived stress from stressful life events as the precipitating factor that predicts level of depression, the ultimate endogenous variable. Frequency of stressful events and objective social

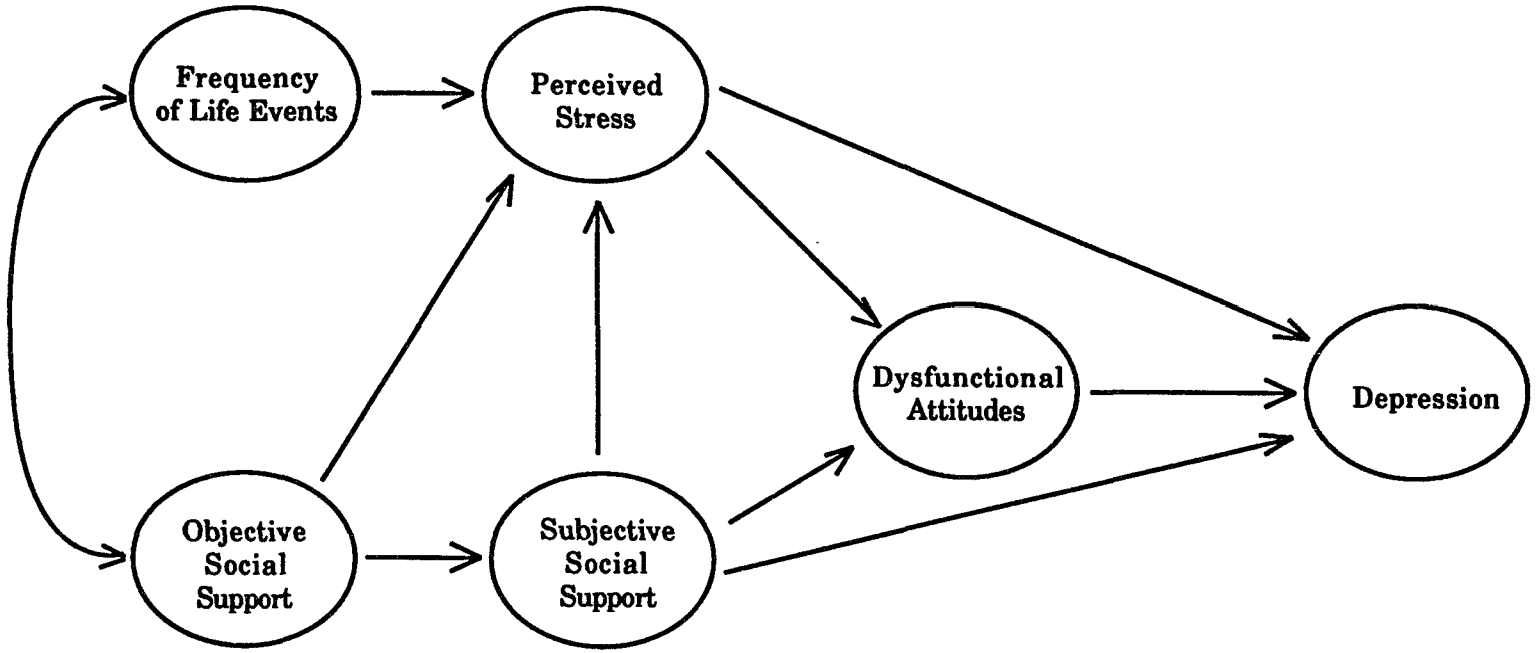

Figure 1. Hypothesized Path Model of Stress, Social Support, and Dysfunctional Attitudes on Depression

support are exogenous variables that are shown as affecting the perception of stress. Subjective social support and dysfunctional attitudes are shown as endogenous variables potentially mediating effects of the perceived stress on depression.

In the causal path model shown in Figure 1, Frequency of Life Events and Objective Social Support are posited to be correlated exogenous variables. Although related, the structure underlying this relationship was not analyzed. The degree of Objective Social Support experienced by a participant was hypothesized to have a direct causal influence on the participant's perceived social support (represented by the variable Subjective Social Support) and on the stress perceived by the participant (represented by Perceived Stress). One objective of this research was to investigate the strengths of these relationships in the context of the model shown in Figure 1.

As shown in the model, Objective Social Support was hypothesized to influence participants' Perceived Stress both directly and indirectly, through Subjective Social Support. The total effect of Objective Social Support on Perceived Stress, as well as the comparative magnitudes its direct and indirect influences on Perceived Stress were of interest in this study. It was expected that the indirect effect of

Objective Social Support on Perceived Stress would exceed its direct effect. This expectation was examined.

The model depicted in Figure 1 demonstrates the expectation that Perceived Stress is influenced directly by Frequency of Life Events, as well as by Objective Social Support and Subjective Social Support. The rationale underlying the causal path from Frequency of Life Events to Perceived Stress is grounded in the work of Holmes and Rahe (1967), and Masuda and Holmes (1989). Not all life events are presumed to be stressful for all individuals. However, the larger the number of potentially stressful life events a participant has experienced, the higher the participant's Perceived Stress is likely to be. The analyses proposed here examined the strength of that relationship.

Dysfunctional Attitudes are expected in the path model to be influenced directly by Perceived Stress and Subjective Social Support. According to Beck's Cognitive Model of Depression, increased levels of perceived stress will activate negative schemata which, in turn, will elevate the manifestations of Dysfunctional Attitudes. The Main Effect Model of social support is the structure underlying the relationship of Subjective Social Support, Dysfunctional Attitudes and Perceived Stress. It was anticipated that a strong sense of social support would hamper the activation of dysfunctional attitudes as well as suppress the level of

Perceived Stress. These anticipated effects were examined during analysis of model fit.

Figure 1 demonstrates a causal path model that reflects direct effects of Perceived Stress, Subjective Social Support, and Dysfunctional Attitudes on Depression. Based on the Life Events Approach to stress research, Perceived Stress was hypothesized to have a positive direct effect on Depression. The expectation was that as the perception of stress increased so would the level of depression. Perceived Stress is also shown to have an indirect influence on Depression through Dysfunctional Attitudes. Beck's Cognitive Model of Depression predicts persons with high levels of dysfunctional attitudes influenced by high perceptions of stress to be more vulnerable to deeper depression. Dysfunctional Attitudes were expected to have a triggering effect such that the indirect effect of Perceived Stress on Depression via Dysfunctional Attitudes would be greater than the direct effect. The total effect of Perceived Stress on Depression, as well as the comparative magnitudes of its direct and indirect effects through Dysfunctional Attitudes were of great interest in this study and were examined.

Of further interest in this model are the total, direct and indirect effects of Subjective Social Support on the on Depression. It was hypothesized that the indirect effects of Subjective Social Support would serve to mediate (by

reducing) the direct influence of Perceived Stress on Depression. This expectation was based on the main effect model of social support that supports the prediction that Social Support and Perceived Stress each have robust direct but opposite relationships on Depression. This additive model further supports the hypothesis that while Subjective Social Support would have a direct effect on Depression (with higher levels of Subjective Social Support leading to reduced levels of Depression), Subjective Social Support would have a suppressor effect on Perceived Stress and its influence on Depression. A structurally similar hypothesis was proposed for Dysfunctional Attitudes. It was expected that Dysfunctional Attitudes would have its own direct effect on Depression as well as mediating effects of Perceived Stress on Depression and of Subjective Social Support on Depression. It was anticipated that, given high stress levels and high levels of dysfunctional attitudes, a person would be vulnerable to the additive effects of these variables whereas absence or infrequent manifestation of dysfunctional attitudes would have an ameliorating effect on depression. The analyses proposed here examined the strengths of these relationships.

Definition of Terms

The variables addressed in this study were operationally defined as follows:

Depression was defined as a collection of symptomatology including: feelings of guilt, worthlessness, helplessness, and hopelessness, loss of appetite, trouble sleeping, psychomotor retardation, and depressed mood. This variable was measured by the CES-D (Radloff, 1977). This continuous variable was reported as a level of depression. Persons reporting medical or psychiatric diagnoses or medications that complicate this measure were eliminated from the study.

Dysfunctional attitudes were defined as faulty assumptions or beliefs that the depressed person has regarding him/herself, the world, or the future. These beliefs, as measured by the Dysfunctional Attitudes Scale (Weissman & Beck, 1978), allow the person to view him/herself as inadequate or unworthy. For example, a person may reject him/herself as defective if unable to live up to the belief that "unless I do a perfect job all the time, I am a failure." The greater the number of negative beliefs one has, the greater one's vulnerability to depression (Weissman & Beck, 1978).

Life Events referred to experiences that cause or threaten to cause individuals to substantially readjust their behavior or life patterns to reestablish homeostasis (Holmes & Rahe, 1967). Examples of life events include divorce, retirement, major illness, and death of a friend. The frequency of life events were measured by the Geriatric Scale of Recent Life Events (Kiyak, Liang, & Kahana, 1975).

Objective social support as measured in this study by the Instrumental Social Support scale of the Duke Social Support Index (Hughes, Blazer, & Hybels, 1990) refers to the actual receipt, from family and friends, of tangible and intangible goods and services (George, 1989).

Perceived stress refers to the amount of total readjustment assigned by the subject to the experienced life events as measured by the Geriatric Scale of Recent life Events (Kiyak et al., 1975). The range of potential readjustment is 0-220. The perceived level of stress is equivalent to the perceived level of readjustment.

Subjective social support refers to the person's sense of satisfaction in the amount or quality of assistance and comfort received from family and friends as measured by the Subjective Social Support scale of the Duke Social Support Index (Hughes et al., 1990).

Overview of Remaining Chapters

This chapter presented an introduction to the investigation, the statement of the problem, the purpose of the study, the conceptual model, the research questions addressed, and the definitions of terms. Chapter II presents a review of the literature pertaining to the study. The review covers research on stress as measured by the life event approach, social support, dysfunctional attitudes, and depression. Chapter III describes the methodology for this

study. It includes the participants, procedures, instruments, data analysis, and limitations to the study. Chapter IV reports the results of this investigation and Chapter V provides a discussion of these results.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter will present a review of the stress research literature pertinent to the population and variables of the current investigation. Because stress is the major independent variable, the review will begin with a brief discussion of stress and then describe the life events approach to measuring stress. Next, the rationale for dividing the measurement into objective and subjective components will be covered under the topic frequency vs. perception of life events. This first section will then present a review of studies of stress related to the elderly and end with a summary. The next section deals with the mediating variable of social support and includes a discussion of the two major models that provide the foundation of the stress-social support research. The second mediating variable, dysfunctional attitudes is the focus of the third section which also presents a review of Beck's Theory of Depression and related studies. Although depression, as the outcome variable of concern, is covered throughout the chapter, the chapter will conclude with a brief discussion of depression and a summary.

Stress

Since virtually any life event can be construed under the heading of stress, the potential breadth of the stress concept precludes uniformity of opinion (Monroe & Depue, 1991). Little consensus has been reached regarding the basic definition of stress (Lazarus & Folkman, 1984). It is likely that the first accepted definition of stress, which pertained more to the physiological aspects, was pronounced by Hans Selye (1976) as the nonspecific response of the body to any demand made on it. Holmes and Rahe (1967) advanced the 'nonspecific response' in their life events research to mean the amount of change or readjustment by the individual needed to return to pre-event stability. Because stress is variously defined in terms of nonspecific tendencies or behaviors, it cannot be measured directly and is usually assessed in terms of human response. One of the most common measures of stress is the number and types of life events.

Life Events Approach

The life events approach to measuring life stress has been the focus of research for several decades. Various definitions of life events have been cited in literature reviews (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978; Dohrenwend & Pearlin 1982; Thoits, 1983). Some researchers define life events according to the amount of threat, loss, or harm created (Ross & Minowski, 1979; Vinokur & Selzer,

1975). Others have investigated events that are off-time, unscheduled, undesirable, unexpected, or uncontrolled (Fairbank & Hough, 1979; Goodhart & Zautra, 1979; Hughes, Blazer, & George, 1988; Thoits, 1981; Vinokur & Seltzer, 1975). Events have also been defined in accordance to (Holmes & Rahe, 1967) the amount of readjustment necessary for the individual to recover.

Holmes and Rahe published a checklist of 43 of these life events called the Social Readjustment Rating Scale (SRRS). Holmes and Rahe (1967) sought to further the work of Adolph Meyer. Meyer was responsible for creating 'life charts' of the medical and social events in the lives of his patients up to the time of their presenting illness. The scale (SRRS) is a listing of events that "required a significant change in the ongoing life pattern of the individual" (Holmes & Rahe, 1967, p. 217). The SRRS was the first qualitative measure of positive and negative experiences related to several areas of life including marriage, family, occupation, economics, residence, social network, religion, physical health, and recreation. The 43 events were rated by a convenience sample of 394 adults and a weight, measure of readjustment, was determined for each event using a psychophysics technique known as magnitude estimation (Holmes & Rahe, 1967). These assigned weights became known as life change units and became the standard

measure of stress or change for everyone taking the test. The use of the unit weights have since become a measurement issue in stress research.

Markides and Cooper (1989) identified several major problems in the measurement of stress among older persons. One problem is many researchers use standard instruments that were originally developed and standardized on relatively young people. Several instruments have been developed for use with an older population but few received serious psychometric evaluation. Another problem is the variety of operational definitions of stress from positive vs. negative life events, daily hassles, and chronic vs. acute events. Although empirical findings suggest the usual period of depressive symptoms is about one year following the event (Murrell & Meeks, 1991), studies have used one month up to ten years as the length of time for measuring the frequency of events. George (1993) supports the one year approach because memory recall accuracy may be skewed for more remote experiences and recent life changes are likely to be closely related to current health. Markides and Cooper (1989) contend that for these and other reasons, the finding that seems generalized across studies is that older subjects experience fewer life events than the general population. Even though these events are infrequent, they do, however, experience a great deal of stress associated with such events

(Chiriboga & Dean, 1978; Hughes et al., 1988). In contrast, Murrell et al. (1988), in a review of the literature, concluded that the impact of life events on older persons is small and that aggregate events do have weak and short-term effects on mental health.

Frequency vs. Perception of Life Events

Controversy regarding the use of objective vs. subjective measurement of life events is still unresolved. Earlier work utilized weighting systems that overlooked individual responses in terms of perceived stressfulness of the experiences. Recently, however, investigators have attempted to balance the measurement of this important variable by taking into consideration individuals' assessment of change or stress associated with each experienced life event.

The frequencies of specific life events experienced in the recent past vary considerably. This, in part, is related to the content and characteristics of each event. Age differences were observed in thirteen of the sixteen events examined in the controlled analyses (Hughes et al., 1988). Most of the significant differences in frequency of experience occurred between the youngest and oldest respondents. This is not surprising considering these two groups are at the extremes of adult life. Younger adults typically acquire roles such as spouse, parent, and employee. By contrast, older adults relinquish roles such as that of

worker and active parent. They may also have an increased likelihood for serious health problems (Hughes et al., 1988). Giving up the role of worker or active parent may be controlled (perceived as personal decision) or uncontrolled (being laid-off or death of child).

French, Knox, and Gekoski (1992) concurred, that in studies of older persons, more variance in outcome measures was accounted by individual assessment of life events than by total number of events experienced. The individual's perception of the events and the impact on their lives is clearly filtered by the uniqueness of his or her personal characteristics and previous experiences (Masuda & Holmes, 1989). In studies of persons over the age of 60, life events were scored significantly lower than those of the general population (Masuda & Holmes, 1989; Wyler, Masuda, & Holmes, 1989). Research indicates elderly people tend to experience fewer numbers of life events than the general population but may have an increase in vulnerability to the effects of the stressors confronted (Lazarus & DeLongis, 1983). For the purposes of this study, a list of life events specific to the older population is used to measure the number of experiences in the past year. Since the same events do not necessarily produce the same response in each person, the level of perceived stress for each occurring event is also elicited.

Stress and Older People

Most of the stress research has sought to predict the effect of stressful life events on a variety of adaptational outcomes related to physical and mental health (Dohrenwend & Dohrenwend, 1978). Relatively little of this work has focused on the elderly.

In an early study, Bell (1977) used the Holmes and Rahe Social Readjustment Rating Scale and an 18-item coping scale in a descriptive comparison study using a control group of adults from the community and a group of thirty psychiatric inpatients. The age range was from 19 to 60. The comparison of life events revealed a score range of 8 to 881 for the experimental (inpatient) group and 12 to 458 for the control group. Bell found the difference between groups via a chi-square test to be significant (p=.0003) and concluded the inpatients had experienced more recent stressful life events than the community group.

In a related study of 36 persons (mean age=78.9, SD=6.4 years), Geis and Klein (1990) used the Holmes and Rahe (1967) Schedule of Recent Life Events and the Life Satisfaction Index A to investigate the relationship of life satisfaction to life changes (as measured by life events). Life satisfaction included measures of mood tone which was found to be significantly correlated with life change (r=-.42, p<.05).

The Geriatric Scale of Recent Life Events was utilized along with the Jenkins Activity Survey, the Framingham Type A Scale, and the Memorial University of Newfoundland Happiness Scale, in a study of 97 retired Caucasian adults between the ages of 68 and 97 (Kopac, Robertson-Tchabo, & Holt, 1988). The purpose was to examine the relations of personal characteristics, uncontrolled life events, perceived well-being, and Type A behavior among older people. Multiple regression analyses of the data suggested, among other things, that uncontrolled life events were predictive of increased illness.

Another study (Schmader, Studenski, MacMillan, Grufferman, & Cohen, 1990) using an abbreviated version of the Geriatric Scale of Recent Life Events compared a sample of 101 persons over 50 years of age with herpes zoster to a matched sample of 101 healthy people of the same age. Participants were asked to report occurrence of life events and rate each positive response in terms of a negative, neutral, or positive effect. Although both groups indicated similar experiences, the perceived level of stress was greater among those with herpes zoster.

An adaptation of the Geriatric Scale of Recent Life Events, a self-rating of health, and the Zung Self-Rating Depression Scale were administered by Farran and Popovich (1990) to 97 caucasian women over 60 years of age. Results

indicated that negative life events were significantly related to depression (r=.22, p<.05).

Summary

Past stress research has utilized a variety of approaches even within the life event approach, a variety of population samplings including mostly young and middled-aged adults, and a variety of outcomes. Because such variance exist among these studies, solid conclusions are difficult. In the above mentioned studies, cross-sectional findings involving the multiple life event (life change) measure in older persons with depressive symptoms as the result or outcome variable were reviewed. In general, life events were found to be significant, though modest predictors of depression. There have been many subsequent scales and modifications of this original scale (SRRS) used in research, seminars, and clinical practice. Several stress inventories for older populations exists, but none have achieved the status of being the standard of choice (Chiriboga, 1989).

Miller (1989) stated,

> Several methodological questions have come to the forefront of life-event research, the more notable of which include (1) the appropriate identification of events, (2) the degree of distress experienced, and (3) the measure of response of others to the impact of stressful life events on a subject population. (p. 763)

Frazier and Schauben (1994) agreed with Miller's support of the need to measure both the occurrence of the life event and

the degree of the stress experience (perceived level of stress). Frazier and Schauben devised a life event inventory with a likert scale to measure stressful life events for a study of female college students similar to the instrument adapted for this study involving the elderly.

This study strives to meet these goals by (1) utilizing a life events checklist designed specifically for the population in question, (2) subjects report their personal level of stress for each event experienced within the past year, and (3) objective and subjective measures of social support are used to measure the impact of others on the stress from life events on older persons.

Social Support

In more recent research, mediators (factors that modulate or buffer the impact of stressors on mental or physical well-being), have been receiving the most attention (Markides & Cooper, 1989). The mediators identified and currently under investigation include coping resources, personality, intelligence, and social support (Lazarus & Folkman, 1984; Pearlin, 1989; Thoits, 1983). There exists a strong body of evidence that social support has a significant direct effect on depression. Greater levels of perceived social support are correlated with lessor levels of depression (George, 1989; Krause, 1987; Norris & Murrell, 1987). Investigations of social support and its relationship

with stress and mental health outcomes have increased over the past years (George, 1989; George, 1993; Lin, 1992) but relatively few have been concerned with community-dwelling older persons (Esser & Vitaliano, 1988).

A variety of definitions of social support offered by Handen (1991) include terms and phrases like love, esteem, gratification through interactions with others, comfort, and assistance. He summarizes that similar to stress research, social support research has not been based on a single universally accepted definition or measure of social support, leaving the research results difficult to compare.

Objective Social Support

Social support measures have been quantitative or qualitative in nature. The majority of measures have been objective in measuring frequency of social interactions, contacts, tasks performed, and numbers of family members and friends. Some specific examples of objective social support include, provision of transportation and meals, assistance with shopping, and provision of physical care during times of illness. Objective and subjective measures of social support have not necessarily been correlated and that objective support may play the lesser role in protecting people from the impact of stressful life events.

Subjective Social Support

Perceived social support or subjective social support has been found to be strongly related to physical and psychological health. This qualitative measure refers to the subject's judgment of the availability and adequacy of support. An example of this type measure would include "Would your family or friends provide care for you if you were ill?" Blazer (1981) found that levels of subjective support had a stronger inverse relationship to depression than the objective levels in older persons. In 1985, Handen had similar results with 117 elderly people.

Stress Buffering and Main Effect Hypotheses

Two major hypotheses need to be considered when investigating the relationships among stress (as measured by life events), social support, and level of depression. These hypotheses are cited in the literature as the stress buffering model model and the main effect model. The stress buffering model posits that the level of social support interacts with the level of stress to effect the level of depression (Cohen & Wills, 1985). For example, in an environment of low social support, a person experiencing a high level of stress will be more vulnerable to depression (Landerman, George, Campbell, & Blazer, 1989). This interaction model also indicates that social support makes a

difference only if the person is under high stress (Cohen & Wills, 1985).

The theoretical rationale for the main effect model assumes that the effect of social support on depression will remain constant in the face of changing stress levels. Some researchers feel that social support promotes a positive effect in the subject by promoting a sense of positive self-worth that helps to counterbalance the negative effects of stress (Krause, 1987). This additive model predicts that stress and social support each have robust direct-effect relationships on depression. Other factors such as dysfunctional attitudes will have its own direct-effect on depression as well as a mediating effect of stress and social support on depression. George (1989) states "These potential mediating factors rarely have been tested in samples of older adults" (p. 255).

Stress, Social Support and Older Persons

Studies incorporating only objective social support scales have not found buffering effects (Cohen & Wills, 1985). An example of a recent investigation of life events and objective social support in elderly persons looked at immune response as the outcome variable (McIntosh, Kaplan, Kubena, & Landemann, 1993). Using an adaptation of Holmes and Rahe's life event instrument, objective social measures, psychological adjustment measures, and various blood tests,

424 older (over 58) people were found to have aspects of social support that had a direct positive impact on immune response but no mediating or buffering effects were found.

Williams, Ware, and Donald (1981) discovered, in a longitudinal study of 2,234 people ranging in age from 14 to 61 (mean=31.8) years, that over time social support predicts improvement in level of depression. Life events predicted a deepening of depression but there was no change in the effects of life events due to various amounts of social supports.

A study involving 166 elderly women over a six month longitudinal study produced similar findings (Linn, 1986). The women were asked to rate 41 items from the Holmes and Rahe (1967) Social Readjustment Rating Scale in terms of life experience, level of stress on a scale of 0-9, and rate the amount of support received from family and friends on a scale of 0-9. The Hopkin's Symptom Checklist was used to measure psychological functioning. The findings revealed high levels of stress, social support in dealing with the stress to be low, and that social support probably buffers the subject from the effects of the stress.

There is a greater correlation between life stress and depression in people with low levels of social support and therefore social support appears to help protect people from higher levels of life stress (Habif & Lashley, 1980; Murrell

et al., 1988). These studies support the hypothesis that stress and social support both play important roles in the prediction of depression.

Dysfunctional Attitudes

Beck's Theory of Depression

Aaron Beck's (1967) cognitive theory of depression evolved from his extensive clinical experience with depressed patients. Beck observed patients' expressed negative thoughts about themselves, their environment, and the future. From these and further observations, he identified three major components, the 'negative triad,' of his depression model. The first component refers to the depressed persons' negative thoughts of themselves, others, and the future. The second component consists of negative self-schemas (hypothetical cognitive structures that influences the manner in which the person processes incoming information). Cognitive errors (overgeneralization, magnification, arbitrary inference) made in information processing is the third component.

Beck's theory suggests depressed persons have systematic negative bias in their beliefs and self evaluations. Experiences are interpreted in a distorted manner (Marsella, Hirschfield, & Katz, 1987). If a stressful stimuli (experience) activates an acquired internal cognitive structure of habitual negative thinking that screens or

alters incoming stimuli, then the person is more vulnerable to depressive symptoms (Haas & Fitzgibbon, 1989). Once evoked, this negative schema will influence the stimuli such that a negative perspective of self, others, and the future is stable and consistent. For example, a person experiences an event that is perceived as rejection and the experience activates a negative schema of rejection that was established in childhood, the patient will react as if the rejection was real and respond to that conclusion regardless of evidence to the contrary. These concepts or 'schemata' are enduring, unspoken general rules, beliefs or silent assumptions that were developed from an early experience. These schemata are the foundation for screening, weighing, evaluating, and decision-making about events and the environment.

To further illustrate this process, Marsella et al. (1987) offer another example. A correction from a boss at work might set off a series of beliefs (schemata) that determines the perception of the incoming correction as negative. The correction may be evaluated as "I'm totally worthless;" or "If I fail at work, then I'm a failure as a person;" or "It is awful to be disapproved of by people important to you." These beliefs then lead to feelings of guilt and sadness. Such beliefs increase the person's vulnerability to depression. The schemata are always present

but more active during depressive episodes (Billings & Moos, 1985).

The third component of the triad, errors in logic, reflects the way depressed persons process the information. These cognitive distortions (dysfunctional attitudes) reflect the activity of the schematic responses (Sacco & Beck, 1985). Dysfunctional attitudes are considered causally related to the negative interpretations of events by depression-prone persons. Beck (1967) defines these errors as follows:

1. Arbitrary inference means drawing a conclusion in the absence of evidence to support the conclusion.

2. Selective abstraction is focusing on a detail taken out of context, while ignoring other salient features of the situation, and conceptualizing the whole experience based on this detail.

3. Overgeneralization means creating a pattern drawing a conclusion on the basis of a single incident.

4. Dichotomous thinking is the tendency to think in terms of black and white or bipolar opposites.

5. Personalization is the tendency to relate external events to the self without a basis for making such a connection.

6. Magnification and Minimization are different ways of assigning unusual weight or importance to certain aspects of

a situation and drawing an illogical conclusion from the situation.

This diathesis-stress model of psychopathology proposes that persons prone to depression have acquired, through early experiences, cognitive schemas in a negative, self-referential manner. These schemas remain latent until activated by a stressful event to which that person is sensitized. This theory also posits that these same persons may avoid depression if the experiences (events) to which they are sensitized do not occur. The negative cognitive schemas will remain dormant and the person will have fewer negative thoughts and less depression.

Dysfunctional Attitudes and Depression

Weissman and Beck (1978) developed an instrument, the Dysfunctional Attitudes Scale (DAS) to measure the negative (dysfunctional) attitudes of depressed individuals. The beliefs revolve around the need, or desire for: love, approval, autonomy, achievement, perfectionism, entitlement, and omnipotence. They found that dysfunctional attitudes were associated with depressed moods and more persistent than negative affect. Dysfunctional attitudes have since been correlated with depression in several other studies (Barrett & Gotlib, 1988; Olinger, Kuiper, & Shaw, 1987; Wise & Barnes, 1986).

Oliver and Baumgart (1985) administered the Dysfunctional Attitude Scale (DAS) and the Beck Depression Inventory (BDI) to 275 hospital employees and their spouses. The typical subject was described as white, middle class, and married. Age range, a crucial demographic, was not described in the report. The 6-week test-retest reliability coefficient of .73 and its alpha coefficient of .90 for the DAS lead the authors to recommend it for use with general adult populations. They also suggested that the correlation of .41 between the DAS and the BDI provides evidence that depressionogenic cognitions are conceptually different from depression.

Life Events, Dysfunctional Attitudes and Depression

In a study to evaluate dysfunctional attitudes as a mediator in the relationship between stressful life events and depression in both a normal and a clinical college student population, Wise and Barnes (1986) administered several instruments. The Beck Depression Inventory (BDI), Dysfunctional Attitudes Scale (DAS), and the Life Experiences Survey (LES) were given to 49 students in a class for credit and to 48 students who were patients of student mental health services. A significant interaction between dysfunctional attitudes and negative life stressors (exclusively negative experiences) was found to be consistent with the cognitive model of depression in the normal students. In the clinical

sample, both dysfunctional attitudes and life events effected the level of depression but the interaction was nonsignificant.

A similar study by Olinger et al. (1987) proposed an interactive model suggesting that depressive symptomatology results from an interaction between subject's dysfunctional attitudes and stressful life events. Olinger et al. (1987) utilized the Life Experiences Survey (LES), the Dysfunctional Attitude Scale (DAS), and the Beck Depression Inventory (BDI) with a population of 132 (mean age was 19) university students taking an introduction to psychology course. Following hierarchical multiple regression analysis, the main effect of the life event scores indicated an increase in depression level as the life event score increased. Likewise, a significant increase in depression level was found with an increase in dysfunctional attitudes. The interaction of LES and DAS substantiate the prediction that the relationship between stressful life events and depression is enhanced by the presence of high levels of dysfunctional attitudes.

Life Events, Social Support, Dysfunctional Attitudes and Depression

Barrett and Gotlib (1988) investigated the interactive effects of stressful life events, social support, and dysfunctional attitudes on symptoms of depression. In a

3-month test-retest study, 57 female undergraduates were given the Beck Depression Inventory (BDI), Dysfunctional Attitudes Scale (DAS), Life Experiences Survey (LES), General Health Questionnaire, and a social support measure called the Kaplan Scale. The interaction of cognitive vulnerability with the stressful life experience was significant in predicting level of depression whereby supporting the Beck cognitive model of depression. This conclusion is consistent with that of previous studies (Olinger et al., 1987; Wise & Barnes, 1986) which also found that people with greater dysfunctional attitudes may be at a greater risk of depressive symptoms than people with fewer dysfunctional attitudes. In the summary, Barrett and Gotlib (1988) suggest that the use of social support be more intensely measured in future research.

No studies incorporating life events, social support, dysfunctional attitudes, and their effect on depression in older persons could be found. Limitations to previous studies reported in this review include the frequent use of relatively small sample sizes, inconsistency in age groups, and wide variety of measures for comparison.

Depression

In the study of depression, stress is especially relevant due to various losses associated with life events and related issues. The onset of depression begins when the

person has an experience of loss, either real or hypothetical (Patterson, 1986). Depressed individuals see themselves as unworthy, incapable, and/or undesirable (Sacco & Beck, 1985). They anticipate failure, rejection and confirm these expectations in their perception of most experiences. Social support is important to consider due to its power to increase feelings of self-esteem, control and security . Other variables important for counselors to be aware of are personality types, coping skills, Type 'A' behavior, hardiness, and dysfunctional attitudes. In a depressive disorder, the symptomatology is affective, behavioral, somatic, and motivational. In Beck's theory of depression, these symptoms are a direct result of the 'negative triad.' In the literature review, depression has been defined as depressed mood measured as a continuous variable by scales of depressive symptoms.

There is ample evidence in the literature to support a relationship between (1) life events, (2) perceived level of stress, (3) social support, (4) dysfunctional attitudes, and (5) depression. In this study of depression in older adults, stress will be measured by the life event approach utilizing objective and subjective measures of social support, a dysfunctional attitude scale and a continuous measure of depressive symptomatology.

Summary

Research indicates that stressful life events are associated with depression, but it reveals many discrepant findings. The wide variety of measures, samples, and conceptions of life events and stress make it difficult to draw comparisons across studies. Conclusions that can be drawn from this review of the literature are that: there exists a well documented direct correlation between stressful life events and depression; older individuals experience fewer life events than the general population; older persons may be subject to narrowing support networks due to multiple losses; and, of those older persons likely to receive counseling, depression is a likely diagnosis. Almost all individuals have to cope with the loss of important relationships in their lives. Such losses increase in frequency with age and may include the loss of spouse, friends, relatives, and perhaps even children. According to Glantz (1989), of the older adults living in community settings, 25% of those aged 65-74 and 43.1% of those aged 75-84 had lost a spouse. Losses of family members and friends equate to losses of members of the social support network and therefore may increase the risk of depresive vulnerability for members of this older population.

Counselors face a continuing challenge of how best to work with depressed older persons. This research study

strives to provide some answers by testing a model that combines three theories most prevalent in the literature. This information was gained from and for the most rapidly growing segment of the population. As the stress of living in today's world continues to grow, as the older segment of the population continues to grow, so the knowledge base of professional counselors as to the variables affecting mood in older adults and the relationships thereof needs to grow.

According to Chiriboga (1993), the basic paradigm for this type research includes: stressors, mediators, and response. In this study, frequency of life events and the perceived stress from those events represent the stressors. Social support and dysfunctional attitudes are the mediators in question and the outcome or response is measured by level of depressive symptoms.

CHAPTER III

METHODOLOGY

This chapter describes the methodology for this study. The results are based on a sample of 359 older adults including 56 adults who participated in the pilot study. First, the research expectations are listed. Then the sample is described. Next, the procedures employed to collect data from this sample are described, followed by detailed descriptions of each of the instruments to be used. The manner in which the data were analyzed is presented next. Finally, in the last section, a description of the pilot study is provided.

Research Expectations

This study investigated the strengths of relationships among the six variables presented in the conceptual model. Chapter II reviewed the three theories that are the foundation for the components of the structural model. The following is a synopsis of the expectations that arise from those theories. These research expectations and the rationale underlying these expectations have been elaborated upon in a narrative description of the conceptual model and associated research questions in chapter I.

1. Objective Social Support will have a direct effect on Subjective Social Support and on Perceived Stress.

2. The indirect effect of Objective Social Support (through Subjective Social Support) on Perceived Stress will exceed its direct effect.

3. Perceived Stress will be influenced directly by the Frequency of Life Events.

4. Subjective Social Support will have a direct negative effect and Perceived Stress will have a positive direct effect on Dysfunctional Attitudes.

5. Subjective Social Support will have a negative indirect effect (through Perceived Stress) on Dysfunctional Attitudes.

6. Perceived Stress, Subjective Social Support (negative), and Dysfunctional Attitudes will each have direct effects on Depression.

7. Perceived Stress and Subjective Social Support will each have an indirect but opposite effect on Depression through Dysfunctional Attitudes.

Participants

The population sampled for this study is most concisely described as persons older than 55 years of age living in the Piedmont-Triad area of North Carolina. A convenience sample of 436 persons was obtained through various community organizations serving older citizens. Criteria for inclusion

in the study were: 55 years of age or older; ability to hear, read, and understand English; and the ability to complete the questionnaire packet. The known use of any mind-altering drugs or known diagnosis of mental disorders was cause for exclusion.

Of the 37 survey responses excluded from data analysis, 21 were unfinished. The incomplete responses were due to fatigue, frustration (based on on-site interviews), and other unknown causes. Also excluded in the initial screening of the data were 16 participants who reported the use of psychotropic drugs. The most frequently reported drugs were: Prozac, Paxil, Xanax, Amitriptyline, Zoloft, Wellbutrin, Librium, Clorazepate, and Ativan. Fifteen of these participants were women between the ages of 57 and 73. Fourteen of the women were Caucasian and one was African-American. Marital status was evenly distributed among those excluded for chemical assistance. Four of the women were divorced, six were widowed, and five were married. The only male excluded for this reason was a 68 year old, divorced African-American.

The 399 survey responses that passed the gross screening for medications and obvious missing data were subjected to further screening for missing data. To preserve validity and reliability, any survey response with more than 15% of items missing on any of the five instruments used in this study was

eliminated from the data set. Another 40 survey responses were eliminated in this manner. The subjects eliminated consisted of 31 females and 9 males. Thirty-one were Caucasian and 9 were African-American. Seventy-five percent of this subset were over 70 years of age.

The final sample consisted of 359 older persons of whom 263 (73.3%) were female and 96 (36.7%) were male. A summary of the demographic characteristics of the sample is presented in Table 1. The vast majority of respondents were Caucasian 324 (90.3%). Thirty subjects (8.4%) were African-American, three (8%) were Asian, one (3%) was American Indian, and one (3%) reported an African and Indian background.

The marital status of this sample was almost evenly divided between married and widowed. There were 160 (45%) married, 145 (40%) widowed, 34 (10%) divorced or separated, and 20 people (6%) were single. In this sample, 29 (8%) reported their age to be between 55 and 59 years, 98 (28%) were between 60 and 69 years, 132 (37%) were between 70 and 79 years, 85 (24%) were between 80 and 89 years, and 10 (3%) were between 90 and 99 years of age. Five people did not report their actual age but were from sites that would require their age be greater than 55 and therefore were retained in the study.

The subjects were asked to report their highest grade completed in school. Responses were fairly evenly

Table 1

Frequencies and Percentages of Subjects by Demographic Characteristics

Variable	Frequency n	%
Gender		
Female	263	73.3
Male	96	26.7
Ethnic Background		
Caucasian/White	324	90.3
African-American	30	8.4
Asian	3	.8
American Indian	1	.3
African and Indian	1	.3
Marital Status		
Married	160	44.6
Widowed	145	40.4
Divorced/Separated	34	9.5
Single	20	5.6
Age		
55-59	29	8.2
60-69	98	27.7
70-79	132	37.3
80-89	85	24.0
90-99	10	2.8
Level of Education		
Grades 1-8	34	9.5
Grades 9-11	59	16.5
HS Diploma	81	22.7
Some College	66	18.5
Bachelor Degree	56	15.7
Advanced Degree	61	17.1
Current Living Status		
Alone	151	42.2
With Spouse	153	42.7
With Other Family	21	5.9
Other	33	9.2
Current Health Status		
Excellent	57	16.0
Good	205	57.4
Fair	81	22.7
Poor	14	3.9

distributed, with 93 (26%) reporting some level of education up through the 11th grade, 81 (23%) graduated from high school, 66 (18%) attended some college, 56 (16%) received a Bachelor's degree, and 61 (17%) reported some graduate school.

When asked to report on their living situation, 151 (42%) reported that they lived alone, 153 (43%) live with their spouse, 21 (6%) live with another family member, and 33 (9%) marked "Other."

In this sample, only 55 (15%) of the respondents reported that they are currently employed, 281 (79%) are currently retired, 69 (19%) are currently volunteering, and 20 (6%) marked the "Other" option. Of those who chose the "other" category, some shared verbally or in writing that they were involved in golf, bridge clubs, race-walking, social clubs, and church organizations. One woman informed this researcher that "Housewives never get to retire." Only 37 (11%) of those in this sample reported that they were involved in a care-giving role. Yet they, or others sitting nearby, reported verbally that they did provide for others but did not see that activity as a special role or anything other than what is expected and therefore did not claim the role.

The participants were also given the opportunity to rate their current level of health as "excellent," "good," "fair,"

or "poor." The majority claimed to be in "good" (57%) or "excellent" (16%) health; 23% thought their health was "fair" and 4% reported they were in "poor" health.

Procedures

Recruitment of subjects occurred in two phases. In Phase 1, several seminars on stress and coping were offered on different dates through various organizations serving older persons in the Triad area. At the beginning of each seminar, the study was described verbally and subjects were asked to sign a written consent on the questionnaire cover and to complete the questionnaire. Failure to participate in the study did not preclude seminar attendance for any registrant. One-hundred thirty-six usable questionnaires were obtained in this manner.

The second phase involved requests for referrals. These requests were made to administrators of organizations involving older citizens, support groups for older persons, churches, retirement communities, and physicians. Those whose names were referred were contacted by the researcher or by the referral source and invited to participate. Referrals from churches provided 25 participants, medical services provided 52, and retirement communities provided 105 participants. Another 41 came from retirement clubs or referrals from other participants.

Completion of the survey took most older persons from 30 to 45 minutes. To maintain standardization of data collection, seminar attendees completed the questionnaire by themselves at the beginning of the meeting but the researcher and volunteers were available to assist where needed. Persons providing data at other sites likewise completed the surveys on their own. Exceptions were made for those who needed the questionnaire read due to limited reading ability, limited eyesight, or physical frailty. The questionnaire booklets were coded as to site and type of administration (interview or self-administration). Of the 359 usable questionnaires, 13 were interviews.

All participants completed the survey questionnaires on a voluntary basis. An additional motivation was provided to enhance the volunteer rate: participants who wished to be included in a drawing for a cash prize of $200, could supply their name, address, and phone number in the space provided. Only the names from completed, usable surveys were eligible for the drawing.

Instruments

A questionnaire booklet combining several instruments was designed to facilitate the collection of data. This questionnaire included five sections in the following order: stress (as measured by life events), social support, dysfunctional attitudes, depression, and demographics. The

complete questionnaire is reprinted in Appendix A. Descriptions of each of the instruments follow.

The Geriatric Scale of Recent Life Events

The Geriatric Scale of Recent Life Events (GSRLE) was developed by Kiyak et al. (1976). This scale was designed to measure the amount of stress, or readjustment, that comes from experiencing stressful life events. The scale consists of 55 items (stressful life events) relevant to older populations. The original life event scale, the Social Readjustment Rating Scale (SRRS) by Holmes and Rahe (1967), has been used in research extensively over the past 25 years. The GSRLE is a substantial adaptation of that original work. The SRRS provided 23 of the items deemed appropriate to older persons. The remaining 32 items were added or modified based on empirical research by the authors for use specifically with older persons (Kiyak et al., 1976).

Kiyak et al. (1976) examined the reliability and validity of the GSRLE. They correlated the item weights of this scale, normed on older persons, with those of the original Holmes and Rahe (1967) SRRS. Pearson correlations across persons for identical items ranged between .51 and .84. A number of researchers consider the GSRLE scale to be appropriate for use with older persons (Farran & Popovich, 1990; Kane & Kane, 1981; Kahana, Fairchild, & Felton, 1976; Kiyak et al., 1975; Kopac et al., 1988; Mangen & Peterson,

1982; Patrick & Moore, 1985; Schmader et al., 1990; Stokes & Gordon, 1988). For purposes of this study the scale was used to provide two measures. The first was the total number of listed life events that have occurred in the life of the subject within the past year. The range of possible scores for the frequency of stressful events was 0-55. For each event the subject experienced, they also reported their perception of the amount of stress that the event created by rating the stressfulness of the event on a scale of 1 "no stress" to 4 "high stress." The sum of these ratings was regarded as a participant's perceived stress level. The same life event can be more stressful for some persons than for others. It was therefore important that each participant indicate the degree of stress related to each event he/she had experienced (Frazier & Schauben, 1994). Perceived stress level scores could range from 0 to 220.

The Duke Social Support Index

The Duke Social Support Index (DSSI) was developed at the Duke University Medical Center (Hughes et al., 1990) for use in the Duke ECA Community Surveys funded by the National Institute of Mental Health. This index contains 35 items in four scales that measure various dimensions of social support. The index is based partially on a conceptual rationale and is partially empirically based. The scales (Social Network, Social Interaction, Subjective Social

Support, and Instrumental Social Support) were derived from a factor analysis of responses of more than 6,000 participants in two waves of ECA surveys gathered with a 1-year interval. The participants in the Duke study lived in communities in five counties in North Carolina.

Of the four scales, Social Network, Social Interaction, and Instrumental Social Support are objective measures. The Social Network Scale measures the size of the subject's network and the Social Interaction Scale ascertains how much time or involvement the subject has with his/her network. Current research with over 8,000 subjects has shown that size of network and time involvement are predictive of subjective and instrumental support (George, personal communication, August 25, 1994). Therefore only the latter two scales, the Instrumental Social Support Scale and the Subjective Social Support Scale, were used in this study.

The Instrumental Social Support Scale is composed of 13 items that ask if family or friends help the person in various ways. Helping is measured by acts such as: doing household chores, providing companionship, or providing meals for the person. The higher the score, the more help the person is receiving from the network. The range of scores possible for this scale is 0-13. A sample of 2,584 people in Wave 1 of the ECA community survey had a mean score of 10.3, and a standard deviation of 2.5, with a median score of 11.

According to Hughes et al. (1990), internal consistency reliability coefficients are unnecessary for this scale because there is no reason to expect high inter-item correlations. This scale is considered an objective measure of social support although it is subject to respondents' ability to recall events and activities.

The only subjective scale in the index, named the Subjective Social Support Scale, consists of 10 items that ask the individual questions such as: "How often do you feel lonely?;" "Do you feel useful to friends and family?;" and "Can you count on family and friends in times of trouble?" Negative items on the scale are reverse-coded so that the higher the score, the greater the individual perceives his/her social support to be. Clinical cutoffs have been established for this scale. A person with a score below 23 is considered to be "impaired" while a person with a score of 24 or greater is deemed to be "not impaired." In Wave 1 of the ECA community survey, the mean score was 26.1, the standard deviation was 2.7, and the median score was 27.

Table 2 contains various psychometric indicators for this scale. These data were reported by Hughes et al. (1990) for 2,742 North Carolina residents living in one of five counties who participated in both waves of data collection (approximately one year apart).

Table 2

Psychometric Characteristics of the Subjective Social Support Scale

	Wave 1	Wave 2
Cronbach's Alpha reliability coefficient	0.79	0.76
Standardized item alpha	0.79	0.76
Mean scale score	26.10	26.40
Variance of scale scores	7.40	6.20
Standard deviation of scale scores	2.70	2.50
Range of inter-item correlations	.13-.46	.07-.49

Dysfunctional Attitudes Scale-Form A

The original Dysfunctional Attitudes Scale (DAS) (Weissman & Beck, 1978), was a 100-item instrument developed to measure the presence of dysfunctional attitudes that relate to cognitive vulnerability to depression as described in Beck's cognitive theory of depression (1967). The internal consistency of the DAS using Cronbach's alpha was estimated to be .93. In a test-retest data collection with an 8-week interval, the reliability coefficient was found to be .71 (Weissman & Beck, 1978). Two abbreviated parallel forms (DASA & DASB) were developed using factor analysis (Weissman, 1979; Oliver & Baumgart, 1985). The two 40-item

forms were found to have alternate-form reliability of .79. The coefficient alpha reliabilities for Form A and Form B were found to be .86 and .87, respectively (Weissman, 1979).

Form A was selected for use in this study in lieu of the original form, to facilitate ease of administration to an older population while maintaining adequate measurement reliability. A test-retest coefficient of .79 over a two-week interval was reported by Oliver and Baumgart (1985). Dobson and Breiter (1983) reported a stability coefficient of .84 in an eight-week test-retest experiment. The concurrent and construct validity of the DASA were assessed by Dobson and Breiter (1983), in a study of 234 male and 222 female undergraduate normal (nonclinical) college students. In this study, correlations between the DAS and the Beck Depression Inventory (BDI) were r=.30 for females and r=.36 for males.

Dobson and Shaw (1986), in a comparison study of non-depressed psychiatric patients, depressed psychiatric patients and normal patients, found high correlations (.64 and .78) between the DASA, the Beck Depression Inventory and the Automatic Thoughts Questionnaire. Dobson and Shaw (1986) also reported Cronbach's alpha values of .87 for the normal patients, .91 for the depressed psychiatric patients, and .93 for the non-depressed psychiatric patients. The mean DAS scores were 112.35 for the normal patients, 146.8 for the depressed psychiatric patients, and 113.5 for the non-depressed psychiatric patients.

DASA is a self-report inventory of beliefs that is based on Beck's (1967) cognitive theory of depression and Ellis's notions of irrational thoughts. A sample item from the scale is "If I fail at my work then I'm a failure as a person." The respondent then indicates his/her level of agreement with the item, using a seven-point Likert scale ranging from 1 "totally disagree" to 7 "totally agree." Total scores may range from 40 to 280, with higher scores indicating greater incidence and severity of dysfunctional attitudes, distorted thinking, or the presence of negative schemas that constitute diatheses (predisposition) to depression (Hammen & Krantz, 1985; Parks & Hollon, 1988; Weissman, 1979). Low scores on the DASA indicate fewer or less severe dysfunctional attitudes, greater cognitive clarity, and less vulnerability to depression (Olinger et al., 1987). Multiple outcome studies have described mean scores for the short forms that range from 90 to 113 in normal populations (Griffin, 1994). Originally developed using samples of students, it has since been validated on adult hospital employees (Olinger et al., 1987).

Center for Epidemiological Studies-Depression Scale

Radloff (1977) developed the Center for Epidemiological Studies-Depression Scale (CES-D) to measure depressive symptomatology, in studies of the relationships between depression and other variables, in the general population.

The scale is intended to identify the presence and the severity of these symptoms (Rudolph & Locke, 1986). The Center for Epidemiological Studies of the National Institute of Mental Health selected these 20 items from a pool taken from several previously validated measures of depressive symptomatology: the Minnesota Multiphasic Personality Inventory (MMPI); the Beck Depression Inventory (BDI); and the Zung Self-Rating Depression Scale (SDS). The major components of depressive symptomatology, found through literature review and factor analysis, include: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. Wells (1985) describes the components as: depressive mood and crying, positive affect (reversed scoring), vegetative psychomotor symptoms, and interpersonal difficulty.

The 20 self-report items are answered on the basis of frequency of occurrence during the past week using a rating scale from 0 "rarely or less than once a day" to 3 "most or all of the time or 5-7 days." Four of the items are worded in a positive manner to control for acquiescence set (Shaw, Vallis, & McCabe, 1985). The potential range of scores on the CES-D is from 0 to 60, with a suggested cutoff score of 16 indicating significant symptomatology of depression (Craig & VanNatta, 1978; Radloff, 1977; Shaw et al., 1985). Higher

scores indicate the presence of greater depressive symptomatology (Corcoran & Fischer, 1987). Researchers have used this instrument in personal and telephone interviews and self-report formats, in general adult populations as well as with elderly populations (Blazer, 1991).

The internal consistency of this scale is considered high. Split-half correlations were .85 for patient groups and .77 for normal population groups (Radloff, 1977). Coefficient alpha and Spearman-Brown coefficients were reported as .90 and .92 for patient groups and .85 and .87, respectively, for normal population groups. A six-month test-retest study with no intervening disruptive life events produced a test-retest reliability coefficient of .54 (Radloff & Locke, 1986).

Concurrent validity investigations revealed positive correlations between the CES-D and several other measures of depression. The Depression Adjective Checklist (DACL; Lubin, 1965) and the CES-D correlated .70 in patient groups. High positive correlation coefficients (.81 and .90, respectively) were found with the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and with the Self-Report Depression Scale (Zung, 1965) by Weissman, Prusoff, and Newberry (1975).

Demographic Information

The final section of the questionnaire contains demographic questions for use in describing the population.

Descriptors such as gender, age, marital status, education, and income are included among the questions (see Appendix A).

Data Analysis

Descriptive statistics, including frequencies, means, ranges, and standard deviations, as appropriate, were used to analyze the demographic information section of the questionnaire, to provide a clear picture of the sample. The research model illustrated in Chapter I was investigated via path analysis through a series of simple and multiple linear regressions:

1. Regress subjective social support on objective social support.

2. Regress perceived stress on frequency of stressful events, objective social support, and subjective social support.

3. Regress dysfunctional attitudes on subjective social support, and perceived stress.

4. Regress depression on dysfunctional attitudes, subjective social support, and perceived stress.

The direct effect, indirect effect, and total effect of each exogenous and endogenous variable on each endogenous variable in the model that is directly or indirectly affected by it was estimated. Confidence intervals were calculated around each estimated path coefficient, and the direct paths

associated with confidence intervals found to contain zero were considered for elimination.

Pilot Study

In a pilot study of 70 participants obtained from stress seminars at four sites, 14 survey responses were eliminated from the analysis. Two participants took antidepressants, one was 54 years old, two were unable to finish, and nine had missing data. Of the 56 remaining, 40 (71%) were female and 16 (29%) were male. Caucasians made up 77% of the sample. The majority (52%) were married. Forty-six participants (84%) were between the ages of 60 and 79. A complete breakdown of demographic information can be found in Appendix B.

The usable data was submitted to path analysis via a series of simple and multiple linear regressions. The resulting path coefficients and standard errors are shown in Figure 2.

A correlation matrix for the six variables of interest in this pilot study is presented in Table 3.

The direct, indirect, and total effects of the variables associated with each path in the model were calculated and are shown in Table 4.

With a sample size of 56, the results of the pilot study analyses are imprecise. The study was not without meaningful findings, however. The path coefficients and correlations of

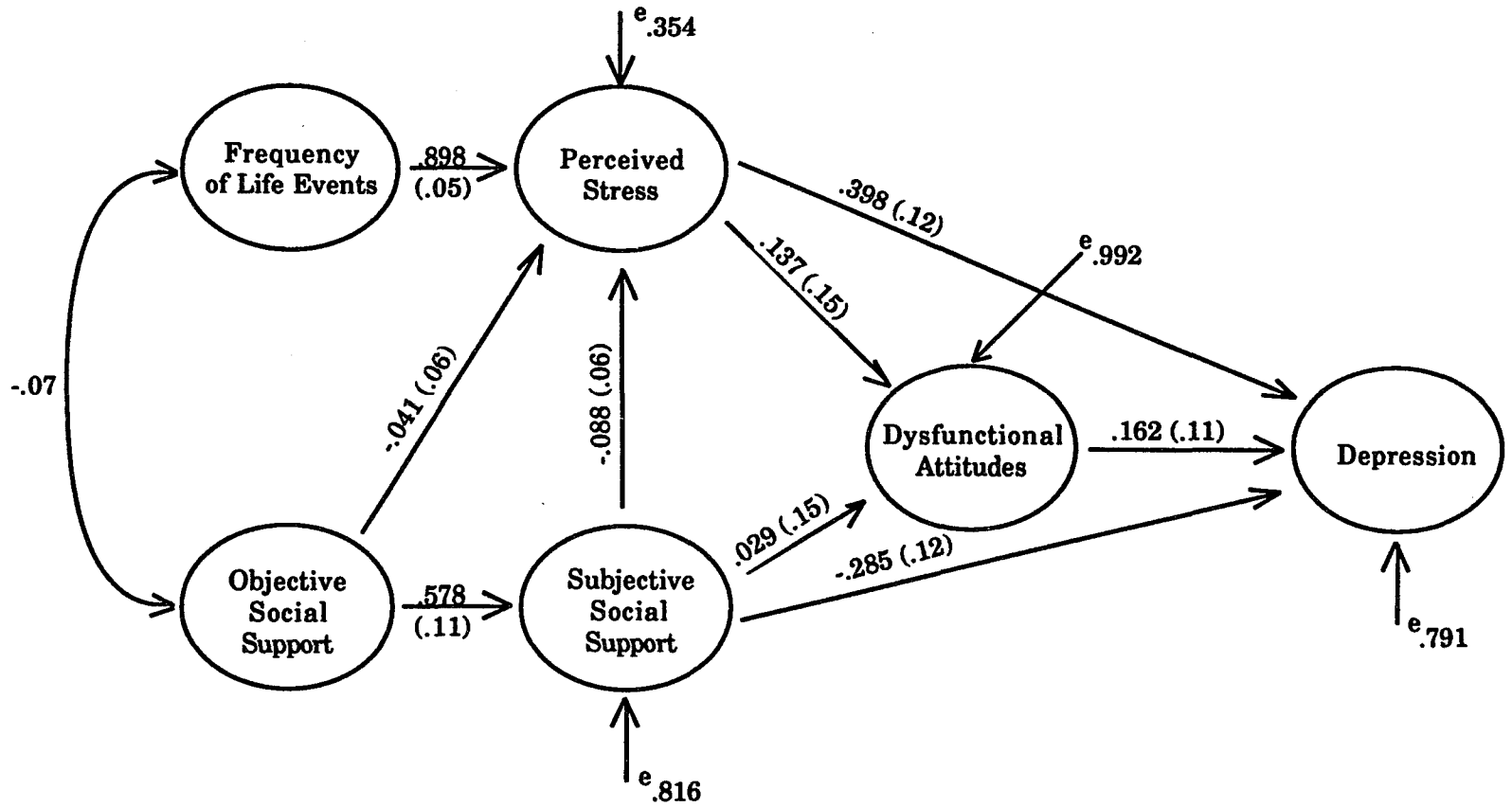

Figure 2. Full Path Model of Stress, Social Support, and Dysfunctional Attitudes on Depression

Table 3

Correlation Matrix of Six Variables of Interest Using Pilot Study Data (N=56)

	Frequency of Life Events	Perceived Stress	Subjective Social Support	Objective Social Support	Dysfunctional Atttitudes	Depression
Frequency of Life Events	1.000	.928	-.317	-.067	.146	.467
Perceived Stress	.928	1.000	-.397	-.152	.125	.531
Subjective Social Support	-.317	-.397	1.000	.578	-.025	-.446
Objective Social Support	-.067	-.152	.578	1.000	.095	-267
Dysfunctional Attitudes	.146	.125	-.025	.095	1.000	219
Depression	.467	.531	-.446	-269	219	1.000

Table 4

Direct, Indirect, and Total Effects of Variables Associated With Each Path in the Model, Using Pilot Study Data (N=56)

	Direct	Indirect	Total
Frequency of Life Events on Perceived Stress	.898	.000	.898
Objective Social Support on Perceived Stress	-.041	-.051	-.092
Objective Social Support on Subjective Social Support	.578	.000	.578
Perceived Stress on Dysfunctional Attitudes	.137	.000	.137
Subjective Social Support on Perceived Stress	-.088	.000	-.088
Subjective Social Support on Dysfunctional Attitudes	.029	-.012	.017
Perceived Stress on Depression	.398	.022	.420
Dysfunctional Attitudes on Depression	.162	.000	.162
Subjective Social Support on Depression	-.285	-.032	-.317

the Dysfunctional Attitudes Scales with the other variables were much smaller than anticipated. A preliminary factor analysis revealed that the DAS scale is not unidimensional and that some items may be more salient than others for older persons. Another (though not unexpected) finding pertained to the length of the questionnaire and the ability of the older population to complete it without fatigue. Although the length could not be changed, the survey was printed in booklet form with large page numbers to enhance the participants' awareness of the pages left uncompleted. The instruments themselves did not appear to be problematic, and a majority of the people in this group completed the survey in a reasonable amount of time.

The changes made to the methodology of this investigation as a result of the pilot study consisted of minor mechanical aides that were designed to increase the proportion of usable responses. Changes included: (1) providing more help at the collection sites to answer questions and scan the responses for gross missing data prior to collection, and (2) the physical format of the survey was changed from a series of pages stapled at the top left corner to a booklet with saddle stitching and large page numbers. The changes were so minor that pilot test data were merged with operational study data for later analysis.

CHAPTER IV

RESULTS

Chapter IV presents the results of various statistical analyses of data collected in this study. Statistics are provided to describe the performance of this sample of 359 (56 from pilot study) older persons on each of the instruments. Following this, results of a path analysis are presented. Examination of previously stated research expectations is next followed by a discussion of a more parsimonious path model.

Descriptive Results

Stress

The first instrument in the survey, The Geriatric Scale of Recent Life Events (Kiyak et al., 1976) (shown in Appendix A), contained a listing of 55 potential life events found in the lives of older persons. Respondents were instructed to mark whether or not the event happened to them during the past year. The range of potential scores was from 0-55. The mean for this sample was 8.31, the standard deviation was 4.39, and the range was 0-25. This score was used as the Frequency of Life Events variable in the path model.

Respondents were also instructed to indicate on a 4-point Likert scale how stressful each of the events they had experienced was for them. The range of potential scores was 0-220 (no events to 55 events rated highly stressful). This group had a range in scores from 0 to 69, a mean of 19.03, and standard deviation of 12.45. The percentage of respondents who experienced each life event and associated mean levels of perceived stress can be found in Appendix C. Table 5 shows the most frequently reported events for this sample and the average amount of stress assigned to each. The sum of the stress ratings for each respondent served as the measure of perceived stress in the path model.

Table 5

Most Frequently Reported Events and the Mean Stress Rating Associated With Each

Life Event	Frequency of "Yes" Responses	Percent	Mean of Stress Rating*
Minor Illness	225	63	2.54
Family Member Ill	163	46	3.17
Death of a Close Friend	151	43	2.53
Travel	148	41	1.69
Change in Sleeping Habit	143	40	2.59

* 0 = none; 3 = high

The events presented in Table 6 occurred less frequently than those shown in Table 5, but had the highest mean ratings of the amount of perceived stress associated with the event.

Table 6

Life Events Rated Most Stressful and the Mean Stress Rating Associated With Each

Life Event	Frequency of "Yes" Responses	Percent	Mean of Stress Rating
Spouse Unfaithful	6	2	3.67
Death of a Spouse	25	7	3.64
Fired From Job	3	1	3.33
Demotion	3	1	3.33
Major Illness	68	19	3.25
Family/Friends Turn Away	25	7	3.24
Family Member Ill	163	46	3.17

Social Support

The Instrumental Social Support Scale of the Duke Social Support Index (Hughes et al., 1990) consisted of 13 items describing ways which family and friends might provide help (see Section 2 of the questionnaire in Appendix A). Subjects recorded whether or not help is provided by circling "yes" or

"no" to each item. The possible scores can range from 0-13. In this sample the actual range was 0-13 with a mean of 7.54 and standard deviation of 2.78. In a large sample of 2,584 adults in a geographic area, Hughes et al. (1990) found a mean of 10.3 with 2.5 standard deviation. In the current study the population sampled were all adults over 55 years of age. There are several possible explanations for this sample's lower mean. Very few people in this age range have young children in their home; therefore, the item "help take care of small children" was scored "no" by more than 90% of respondents. Almost 40% of this sample are known to live in retirement communities that do not require the resident to do much housework or provide physical maintenance. In some cases, respondents received many of their meals through the retirement facility or a nutrition site. Less than half of the respondents said their family and friends "keep house for you, or do household chores," "give you advice on business or financial matters," or "prepare or provide meals for you."

In this sample, more than 80% of the respondents stated that family and friends help out when they are sick, give them gifts, provide companionship and listen to their problems. Less than 20% said they wish that family and friends would give them more help with these kinds of activities. See Appendix D for the percentage of "yes"

responses for each item. This measure was used to assess objective social support in the path analysis.

The Subjective Social Support Scale of the Duke Social Support Index (Hughes et al., 1990) contained 10 items designed to measure perceived social support. Each item asks a question such as "How often do you feel lonely?" Choices for response are: most of the time, some of the time, or hardly ever. The Hughes et al. (1990) sample had a mean of 26.1. The standard deviation was 2.7. The sample of older persons in the current investigation had a mean of 25.25 and standard deviation of 3.20 with 78% declaring that they were satisfied with their relationships with family and friends. In times of trouble, 90% feel they can count on family and friends. Seventy-eight percent of the older persons surveyed felt they have a definite role in the family most of the time and hardly ever feel lonely when they are with their family and friends. This scale served as the measure of subjective social support in the path analysis. See Appendix E for frequencies of responses on the Subjective Social Support Scale.

Dysfunctional Attitudes

The Dysfunctional Attitudes Scale (see Section 3 of the questionnaire in Appendix A) is a self-report measure that contains 40 items (attitudes) with a seven-point Likert scale. Ten of the items are positive statements and are

reverse scored. The higher the score, the higher the respondents' distorted thinking or dysfunctional attitudes. The range of possible scores is 40-280. The subjects in this study obtained a mean of 108.54 and standard deviation of 28.17. This mean falls within the range of scores considered normal which is 90-113. In a study of hospital patients, Dobson and Shaw (1986) found a mean of 112.5 for non-psychiatric patients, 113.5 for psychiatric patients without a diagnosis of depression, and 148.6 for the psychiatric patients with major depression.

While a complete listing of the mean for each item is in Appendix F, following are some of the more prominent attitudes held by the older persons surveyed in this study. For example, 57% believe "It is awful to be disapproved of by people important to you." More than 60% agree that "What other people think about me is very important" and that "Being isolated from others is bound to lead to unhappiness." It is not true that "It is difficult to be happy unless one is good looking, intelligent, rich, and creative" according to 81%. However, 88.2% claim that it is true that "Happiness is more a matter of my attitude towards myself than the way other people feel about me." To some degree, 81.8% agree that "It is possible to gain another person's respect without being especially talented at anything." Eighty-nine percent (321 people) disagree, on some level, that "If a person asks

for help, it is a sign of weakness." Fifty-seven percent (204) subjects totally disagree with the statements: "If I do not do as well as other people, it means I am an inferior human being" and "If I fail at my work, then I am a failure as a person."

Depression

The last instrument in the survey, the CES-D (see Section 4 of the questionnaire in Appendix A) was a 20-item inventory that measured depressive symptomatology in the past week on a 4-choice Likert scale (0-3). The total possible score range is from 0-60. In a study of dysfunctional attitudes and depression in clergy and in counselors, Griffin (1993) found mean scores for the CES-D for the clergy to be 8.29 and for the counselors to be 8.28. The standard deviations were 7.79 and 7.72 respectively. See Appendix G for a listing of means for items on the CES-D.

The sample in this study produced a mean of 11.35 and standard deviation of 8.74. Almost 50% reported at least some "trouble keeping my mind on what I was doing." Over 42% felt "everything I did was an effort" at least 1-2 days during the past week and 36% had experienced some depression. Although 142 (40%) people felt hopeful about the future, 4 people felt their lives had been a failure. Almost 60% of the sample reported some restless sleep. Although 49% said

"I was happy" most or all of the time, 53 people were rarely happy.

See Table 7 for the mean, range, and standard deviation of each variable used in this study.

Table 7

Mean, Range, and Standard Deviation of Life Events, Perceived Stress, Subjective Social Support, Instrumental Social Support, Dysfunctional Attitudes (DAS), and Depression (CES-D) Variables

Variable	Mean	Range	SD
Life Events	8.31	0-25	4.39
Perceived Stress	19.03	0-69	12.45
Subjective Social Support	25.25	10-30	3.20
Instrumental Social Support	7.54	0-13	2.78
Dysfunctional Attitudes	108.54	42-202	28.17
Depression	11.35	0-46	8.74

Path Analysis

The first step in analysis was to compute a matrix of correlation coefficients among all variables (see Table 8). As can be seen in this table, the highest correlation was between the Frequency of Life Events and their Perceived

Table 8

Correlation Matrix of Frequency of Life Events, Perceived Stress, Subjective Social Support, Objective Social Support, Dysfunctional Attitudes, and Depression

	Frequency of Life Events	Perceived Stress	Subjective Social Support	Objective Social Support	Dysfunctional Atttitudes
Perceived Stress	.9019**				
Subjective Social Support	-.2799**	-.3714**			
Objective Social Support	.0492	.0199	.3643**		
Dysfunctional Attitudes	.1785**	.1881**	-.1945**	.0048	
Depression	.3717**	.4763**	-.4335**	-.0956	.3324**

** Significant $p \leq .01$ (2-tailed)

Stress (r=.90). Depression was moderately correlated with all of the variables except Objective Social Support. In addition, moderate correlations were found between Subjective Social Support and Perceived Stress (r=.37), and between Subjective Social Support and Objective Social Support (r=.36). All other correlations were below .30.

Reliability estimates for each instrument were calculated using Cronbach's alpha (see Table 9). Coefficient alpha for the Dysfunctional Attitude Scale (DAS) was .88. This reliability coefficient compares favorably with the alpha of .87 found by Dobson and Shaw (1986) when used with a normal (non-psychiatric) hospitalized patients.

Table 9

Reliability Coefficients For Each Instrument

Instrument	Cronbach's Alpha
Dysfunctional Attitude Scale	.88
CES-D (Depression)	.85
Subjective Social Support	.83
Objective Social Support	.76

The CES-D in use with normal populations has had reliability estimates of .85 to .87 (Radloff, 1977). The Cronbach's

alpha for the CES-D found in this study was .85. The reliability estimates found for the Instrumental and Subjective Social Support measures were .76 and .83 respectively. Hughes et al. (1990) reported Cronbach's Alpha reliability coefficients of .79 and .76 respectively for Wave 1 and Wave 2 in their study using the Subjective Social Support Scale.

A path analysis was used to test the hypothesized model (see Figure 1 in Chapter I). This path analysis was conducted through a series of simple and multiple regression analyses. In the first regression equation, Depression (CES-D) was regressed on Dysfunctional Attitudes (DAS), Subjective Social Support, and Perceived Stress. This model produced an R^2 of .35 [$F(3,355)=63.15$, $p<.0001$]; these three predictors accounted for 35% of the variability in depression (see Table 10).

A multiple regression of Dysfunctional Attitudes on Perceived Stress and Subjective Social Support produced an R^2 of .05 [$F(2,356)=10.04$, $p=.0001$]. Both variables were statistically significant predictors of Dysfunctional Attitudes although they explained little of its variance in this sample (see Table 11).

Perceived Stress was then regressed on Life Events, Subjective Social Support and Objective Social Support [$R^2=.83$; $F(3,355)=575.79$, $p<.0001$]. Frequency of Life Events

Table 10

Regression of Depression on Dysfunctional Attitudes, Subjective Social Support, and Perceived Stress (R^2=.35)

Variable	standardized beta	SE	t	p
Dysfunctional Attitudes	.2173	.0441	4.933	<.0001
Subjective Soc. Support	-.2263	.0466	5.714	<.0001
Perceived Stress	.3366	.0465	7.232	<.0001

Table 11

Regression of Dysfunctional Attitudes on Perceived Stress and Subjective Social Support (R^2=.05)

Variable	standardized beta	SE	t	p
Perceived Stress	.1343	.0555	2.420	.0160
Subjective Social Support	-.1446	.0555	-.2603	.0096

and Subjective Social Support were statistically significant predictors. Objective Social Support was not found to be a predictor of Perceived Stress (see Table 12).

A simple linear regression of Subjective Social Support on Objective Social Support revealed that 13 percent of the

Table 12

Regression of Perceived Stress on Life Events, Subjective Social Support, and Objective Social Support (R^2=.83)

Variable	standardized beta	SE	t	p
Frequency of Life Events	.8611	.0232	37.18	<.0001
Subjective Social Support	-.1409	.0248	-5.67	<.0001
Objective Social Support	.0288	.0239	1.208	.2280

Objective Social Support (R^2=.13). Objective Social Support was a statistically significant predictor (see Table 13).

Table 13

Regression of Subjective Social Support on Objective Social Support (R^2=.13)

Variable	standardized beta	SE	t	p
Objective Social Support	.3643	.0493	7.39	<.0001

Figure 3 illustrates the results of the path analysis for the total sample. Path coefficients are reported

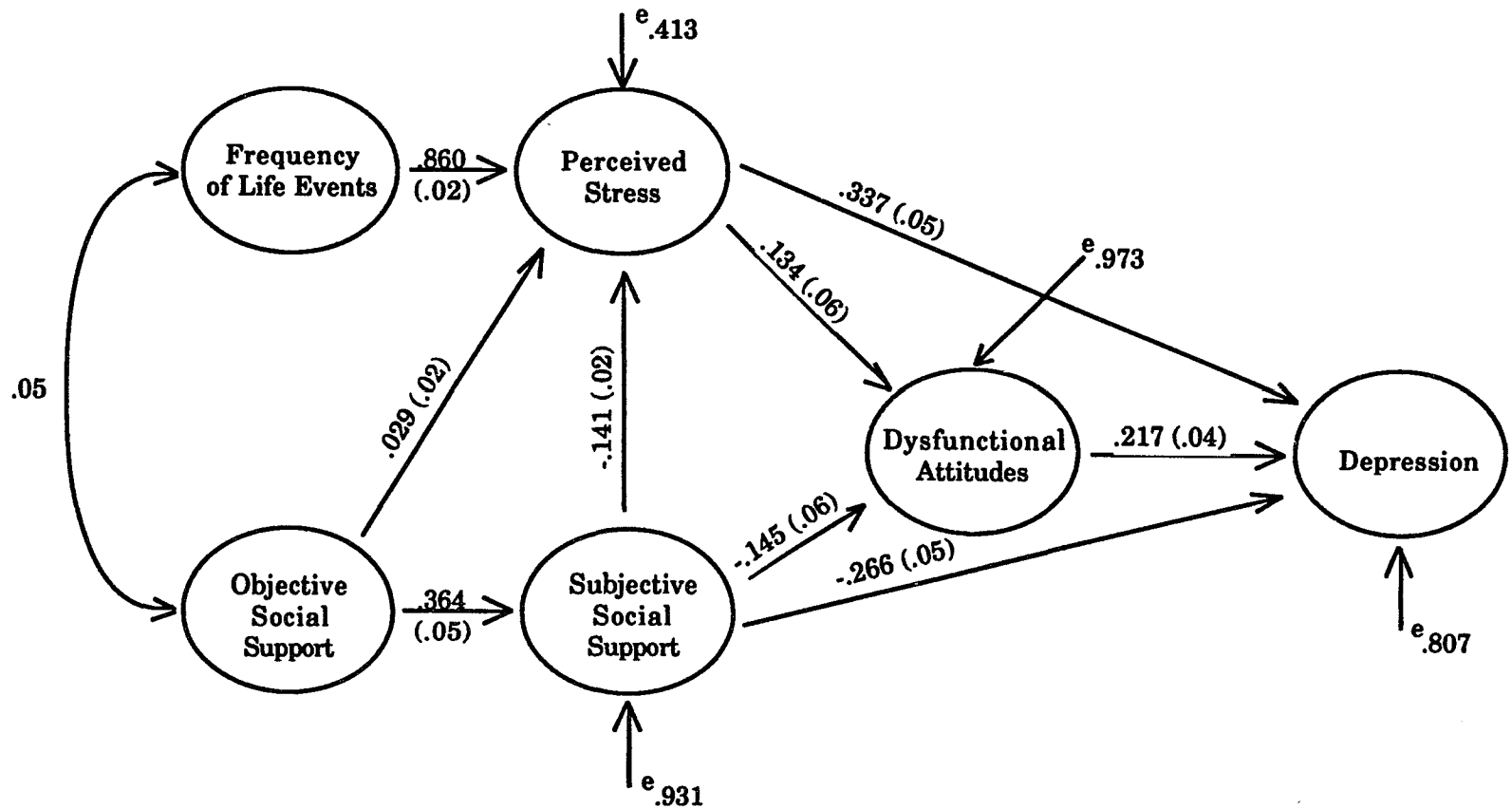

Figure 3. Full Path Model of Stress, Social Support, and Dysfunctional Attitudes on Depression

together with associated standard errors for all paths. Residual effects also are shown for each endogenous variable. All direct paths were statistically significant, except Objective Social Support on Perceived Stress.

Estimates of direct, indirect and total effects are shown in Table 14. It was concluded that, whereas all the direct effects save one were significant, the indirect effects did not contribute significantly to the model.

Examination of Research Expectations

It was anticipated that Objective Social Support would have a direct effect on Subjective Social Support and on Perceived Stress. The first expectation was confirmed when analysis revealed a direct effect of .364 on Subjective Social Support. Inconsistent with the expectations, Objective Social Support had an insignificant effect on Perceived Stress. The indirect effect of Objective Social Support through Subjective Social Support on Perceived Stress was predicted to exceed its direct effect which it did, but by an insignificant amount (-.05 compared to .03).

Perceived Stress was influenced directly by Frequency of Life Events confirming the expectation with a significant path coefficient of .86. Subjective Social Support and Perceived Stress were both found to have direct effects on Dysfunctional Attitudes. As expected, Subjective Social Support had a negative effect and Perceived Stress had a

Table 14

Direct, Indirect, and Total Effects of Variables on Each Path

	Perceived Stress			Dysfunctional Attitudes			Depression		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Frequency of Life Events	.861		.861						
Objective Social Support	.029	-.051	-.022						
Subjective Social Support	-.141		-.141	-.145	-.019	-.164	-.226	-.031	-.257
Perceived Stress				.134		.134	.337	.029	.366
Dysfunctional Attitudes							.217		.217

positive effect. Subjective Social Support did not have a significant indirect effect (through Perceived Stress) on Dysfunctional Attitudes, which was inconsistent with the expectation.

Perceived Stress, Subjective Social Support, and Dysfunctional Attitudes each had significant direct effects in the expected directions on Depression. The path coefficients were .337, -.266, and .217, respectively. However, the data analysis did not support the expectation that Perceived Stress and Subjective Social Support would each have a significant indirect effect on Depression through Dysfunctional Attitudes.

A More Parsimonious Model

Since the path coefficient associated with the direct effect of Objective Social Support on Perceived Stress was insignificant, the statistical implications were that the model might be made more parsimonious if the insignificant path were removed. Perceived Stress was then regressed on Frequency of Life Events and Subjective Social Support with a resultant R^2=.829, which was the same as the original regression. The standardized regression coefficients for Frequency of Life Events and Subjective Social Support remained statistically significant and were basically unchanged (.866 and -.129, respectively). See Table 15 for

the results of this regression and Figure 4 for the revised model.

Table 15

Regression of Perceived Stress on Frequency of Life Events and Subjective Social Support (R^2=.83)

Variable	standardized beta	SE	t	p
Frequency of Life Events	.857	.023	37.90	<.0001
Subjective Social Support	-.129	.023	-5.45	<.0001

This chapter has reported the results of various statistical analyses of the data collected in this study. Each instrument was reviewed and the means and standard deviations for this sample were reported. Estimates of reliability on each research measure were presented. Finally, the outcome testing of the expectations was reported and the more parsimonious model presented. Summary and conclusions from this study are discussed in the next chapter.

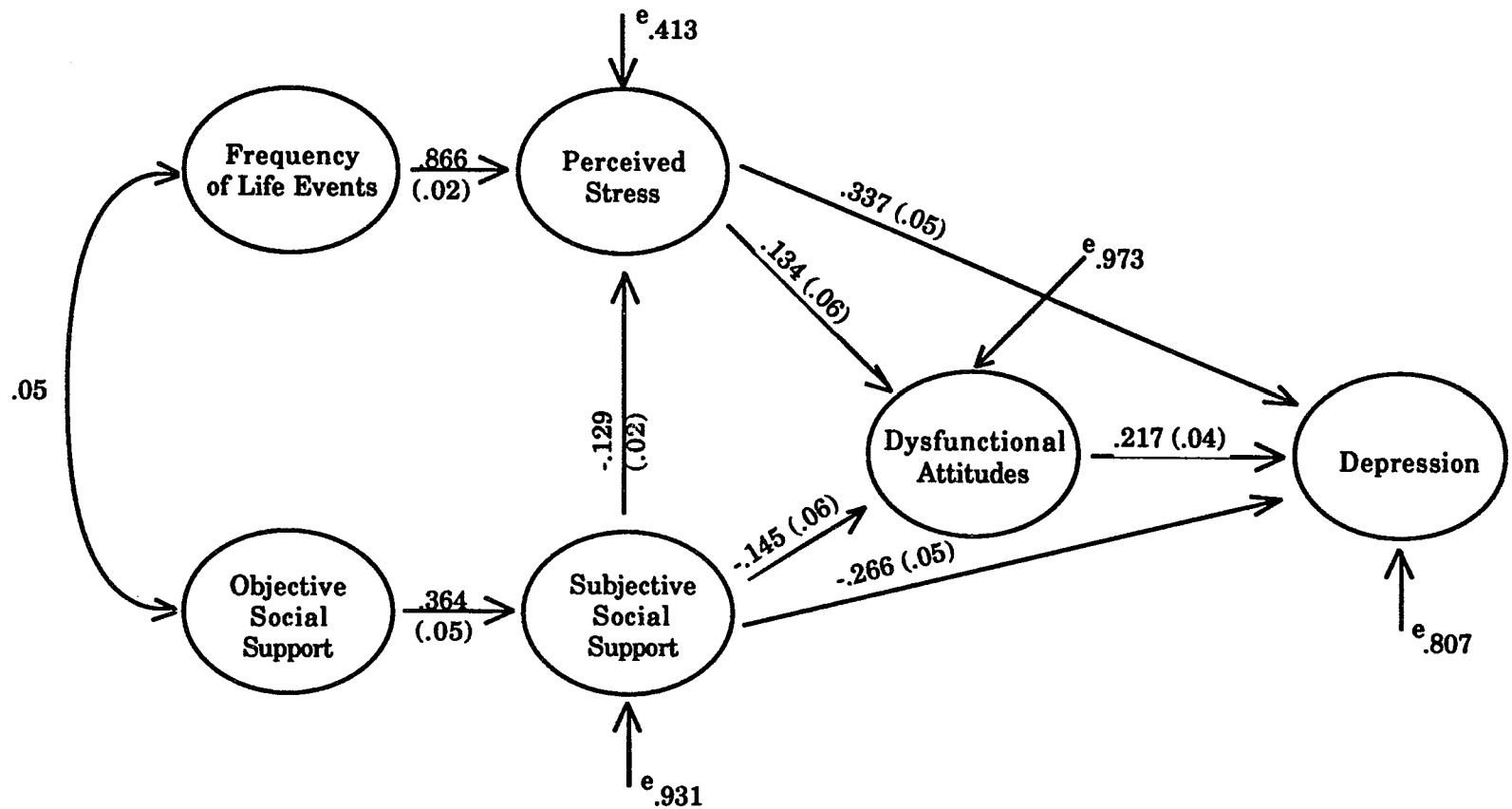

Figure 4. Revised Path Model of Stress, Social Support, and Dysfunctional Attitudes on Depression

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter serves several purposes. The first is to provide an overview of this research study. Next is a presentation of the conclusions that may be drawn, the limitations of this study, and recommendations for future research. Finally, a discussion of potential implications is offered.

Overview of the Study

This study was an examination of how stress, social support, and dysfunctional attitudes affect depression in a sample of older adults. Although previous research has assessed these relationships in young adults, no study has explicitly examined these relationships in older adults. To investigate these relationships, the present study utilized a structural model which combined three separate theories relating to stress and depression. This amalgamation is unique in two respects: this is the first time these variables have been combined in this manner, and the first time such a model has been tested with older adults. Together, the variables were used to posit a more complete model of underlying relationships as posited by the theories.

The first segment of the model is based on stress research. According to previous literature, stress as measured by the life events approach, predicts depression (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978; Dohrenwend & Pearlin, 1982; Holmes & Rahe, 1967). Life events such as the death of a spouse, loss of a job, or major illness create a change in the person's life significant enough to create stress (Holmes & Rahe, 1967). Dohrenwend & Dohrenwend (1978) noted that of the research that has sought to predict the effect of stressful life events on mental health, little has focused on the elderly. The current study sought to examine the effect of the frequency of life events on older person's perceptions of the amount of change (stress) created by the events. The relationship of this perceived stress and level of depression was also of interest (see the conceptual model in Figure 1, Chapter I). This portion of the model represents the stress research in the literature known as the Life Events Approach. As recommended in the literature (Miller, 1989; Frazier & Schauben, 1994), the occurrence of the life event and the degree of magnitude stress attributable to the event in the experience of older persons were measured separately. It was felt that the way one perceives their personal level of stress would be a greater predictor of depression than would be the number of stressors.

The mediating effects of social support on depression grounds another theory enjoying strong support in the literature. It has been found that social support has a direct effect on depression, with greater levels of perceived social support correlated with lessor levels of depression (George, 1989; Krause, 1987; Norris & Murrell, 1987). Like stress, social support is tested in the model by looking at objective and subjective measures separately. It was felt that the older person's perception of support may well be of greater importance than how much support the person actually received. Therefore, the effect of objective social support on subjective social support was examined as were the effects of Subjective Social Support on Perceived Stress, Dysfunctional Attitudes and Depression.

The third component of the model incorporates Beck's Theory of Depression (Beck, 1967). This theory suggests that a stressful stimulus (life event) may activate an acquired internal cognitive structure (dysfunctional attitude) that may render the person more vulnerable to depressive symptoms (Hass & Fitzgibbon, 1989). Beck's Theory of Depression is depicted in the model by the path from Perceived Stress to Dysfunctional Attitudes and finally to Depression. It was expected that Dysfunctional Attitudes would have a direct effect on Depression as well as mediating the effects of Perceived Stress and Subjective Social Support on Depression.

If an older person was experiencing high levels of perceived stress and high levels of dysfunctional attitudes, the person would be vulnerable to the additive effects of these variables, whereas fewer dysfunctional attitudes would have an ameliorating effect on depression. The structural model was used to examine the strengths of these relationships.

Conclusions

Results of the current study were consistent with the Life Events Approach to measuring stress and predicting depression. This sample reported experiencing normally anticipated life events such as illness in themselves or a family member, death of a close friend, or travel. Persons reporting these events rated the associated stress level as low to moderate. Though experienced less frequently in the sample, events such as an unfaithful spouse, death of a spouse, being fired or demoted, or experiencing a major illness were rated as much more stressful. Frequency of Life Events had a strong direct effect (.866) on Perceived Stress, consistent with expectations. The basic tenet of stress research was confirmed for this sample in that Perceived Stress had a positive direct effect (.337) on Depression. These results are not at variance with those of other investigators (Farran and Popovich, 1990).

The theoretical basis for the second component of this model refers to the mediating effects of social support on

depression. Again, the results of this study were consistent with previous research in that Subjective Social Support had negative direct effects on Perceived Stress, Dysfunctional Attitudes, and Depression. Older persons with a strong sense that they have a sufficient quantity or quality of support from family and friends reported experiencing less stress, had fewer dysfunctional attitudes and hadfewer depressive symptoms. Although Objective Social Support had a positive direct effect on Subjective Social Support, it was not found to have any effect on Perceived Stress. Even though the support exists and specific supportive transactions can be listed objectively, unless a person perceives that he/she is being supported, there is no buffering effect on stress. Previous studies using only measures of objective social support have not found buffering effects (Cohen & Wills, 1985). The measure of objective support appears to behave more like the checklist of life events, in that it is the perception of the support that is the significant predictor.

The final component of the model, supported by Beck's Theory of Depression, is portrayed by the paths from Perceived Stress to Dysfunctional Attitudes to Depression. Dysfunctional Attitudes was found to have a direct effect on Depression. However, the path from Perceived Stress to Dysfunctional Attitudes, while statistically significant, represents a weak relationship. In this sample, Perceived

Stress does not appear to activate dysfunctional belief systems as Beck suggests. Although support was obtained for the portion of Beck's theory that Dysfunctional Attitudes function as contributors to the prediction of Depression, support was lacking for the relationship between Perceived Stress and Dysfunctional Attitudes.

Limitations

The generalizability of the findings of this study is tempered by its limitations. Results also should be considered in light of these limitations. The sample was one of convenience, consisting of older persons living only in the Triad area of North Carolina who chose to participate. The wide age range of persons used as subjects is consistent with previous research, but this study did not attempt to differentiate effects in terms of developmental issues or cohort differences. The sample size of 359 (mostly white, relatively high-functioning females), although adequate for the analysis conducted here, may somewhat limit generalization beyond similarly-constituted populations. The length of the questionnaire may have induced fatigue or frustration in some of the subjects which may have jeopardized the validity of their reports. No evidence of random marking was found, but subjects nonetheless might have become careless due to fatigue. It is unknown whether any of the respondents were concerned about confidentiality or

social desirability when considering the answers or if there exists any distortion due to memory loss. Also, since respondents known to be utilizing psychotropic medication were eliminated from the study, the generalizability of results was further limited. As with any retrospective study, these results are subject to biases of selective memory and denial.

The study was also limited by the accuracy of the self-report measures in the older population. The correlations are modest and in part, the findings are reflective of the less-than-perfect reliabilities of the measures. The correlations are attenuated by the less-than-perfect reliabilities and these attenuated correlations, in turn, attenuate the magnitudes of the path coefficients.

A potential limitation of structural path analysis is model specification. Though the variables chosen for this study are well grounded in theory, other variables known to contribute to depression are missing from the model. Had more measures been used in the questionnaire the opportunity for fatigue and frustration in this sample would have been exacerbated. This would have endangered further the validity of the results.

When interpreting the results of this study, attention must also be given to the consideration of possible lack of

specificity in variables such as Perceived Stress and Depression. Different subjects could have attributed diverse meanings to stress, or the perception of stress could be attributable to multiple sources not just to the life event being assigned the rating. The measure used to represent Depression measures the symptoms of depression, some of which could (especially in this age group) also be symptoms with another cause. Although 73% of this sample reported good to excellent health, some symptoms of depression such as problems with appetite, sleep, or memory, may also be attributed to illness, medications, or environment.

This investigation is a cross-sectional study. A longitudinal study providing an opportunity to assess depression and dysfunctional attitudes before and after the occurrence of various stressful events or during fluctuating levels of social support might have revealed different relationships. It is recommended that longitudinal studies in this area be considered for the future.

Recommendations for Further Research

The length of the questionnaire was a frequent complaint of people who refused to respond, people who began to respond and then stopped, and people who completed the questionnaire. Although care was taken to use large print, a substantial amount of white space, and a booklet format, future research

should continue to explore ways to design the questionnaire and its administration so as to limit fatigue in this population. Some potential respondents were lost to reading level and poor eyesight. Therefore, perhaps larger print and less confusing instruments and rating scales could be used with this population. For example, the 7-point Likert scale on the Dysfunctional Attitude Scale (DAS) seemed confusing to many of the older people.

Other complaints regarding the DAS included confusion about the wording of the items and the length of the instrument. In fact, although the interview format facilitated greater understanding of the task and the information requested, many people declined the opportunity to be interviewed and many of them declined to continue after beginning the interview. This most commonly occured during the DAS section. Perhaps another instrument could be developed that would be more appropriate for this population. A factor analysis performed in this study found a very strong first factor and three lessor but distinct factors among DAS items. More research in this area might produce a shorter, more unidimensional measure. It would also be helpful for counselors if a subscale of attitudes specific for older persons could be isolated. A logical extension of this study would be to modify the Dysfunctional Attitude Scale and

replicate the study with a larger more representative sample of older adults.

The current study used a sample composed predominately of white females from North Carolina. A larger, more heterogeneous sample might enable future researchers to examine differences in the relationships among these variables for groups stratified by gender, race, or age cohort. It is possible that this study also reflects attitudes of southern culture and therefore sampling other geographic areas might prove to be interesting.

Other mediators of depression identified and currently under investigation elsewhere include coping resources, economic resources, social relationships, personality (George, 1993b; Lazarus & Folkman, 1984; Pearlin, 1989), and intelligence. One specific trait that may be of research interest with an elderly population is that of hardiness. Although this variable is currently under investigation in more general populations, the influence of hardiness on depression is certainly pertinent for this segment of society.

General Implications

Considering the size of the elderly segment of the population and the prevalence of depression and suicide, all of the findings of this study and of relevant prior research are important. This study produced results consistent with

the theory that life events affect perceived stress, which, in turn, affects depression. Persons in this sample reported events such as an unfaithful spouse, death of a spouse, and major illness as some of the most stressful. Therefore, professionals working with older persons should be alert for signs of stress should any of these events occur and be prepared to intervene if necessary.

A perception of strong support from family and friends has been shown in prior research as well as in the current study to mediate the effects of stress. When an older person is ill or has experienced a loss, a sense of love, belonging, and support may help alleviate some of the resulting distress. Ensuring that the instrumental transactions of support are occurring is not enough, the older person must perceive that the quantity and or quality is sufficient. Assessing and enhancing the social support network is important to consider due to its power to improve feelings of self-esteem, control and security.

Implications for Professional Counselors

While it is vitally important to assess a client's level of depression, counselors will want to be aware that instruments such as the CES-D measure depressive symptoms. Other factors in the life of the client such as medications and illness will have to be ruled out as confounding causes of the symptoms. Knowledge of medical conditions (i.e.:

electrolyte imbalance, hypothyroidism) and drug effects and interactions would be valuable information for professional gerontological counselors. Research is still being conducted on the use of antidepressant drugs in elderly clients, which would imply that counselors should be open to complaints of unusual effects.

There are several counseling intervention strategies in the literature for depression. Cognitive therapy is most closely associated with Beck's Theory of Depression. The premise of Cognitive therapy is that cognitions are based on attitudes developed from previous experiences. Identifying specific dysfunctional attitudes is an important first step in allowing the client to understand the difference between his/her perceptions and a more reality-oriented explanation.

As the author reflects more deeply on the meaning of the conclusions presented in this study, it becomes apparent these same conclusions have been recorded in other literature. The fundamental finding of this study that cognitions (perceptions and attitudes) affect mood is consistent with prior observations. This fundamental conclusion is reflected in a quote attributed to Epictetus (Roman philosopher) that states, "Men are disturbed not by things, but by the views which they take of things."

Summary

Chapter I introduced the need for this study of stress, social support, dysfunctional attitudes and depression in the elderly. It also presented an introduction to the three theories that provide the basis for this study, a narrative and graphic description of the conceptual model and associated research questions, and operational definitions of terms. Chapter II provided a review of related literature and greater depth to the explanations of the theories. Descriptions of the research expectations, participants, procedures, instruments, and data analysis can be found in the methodology chapter. The results of all the data analysis are in Chapter IV. This chapter brings the study to a close. It opens with an overview of the study, provides an explanation of the conclusions in terms of the original three theories, and presents the limitations of the study. Recommendations for further research and implications for professionals working with older people conclude the dissertation.

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APPENDIX A

SURVEY FOR PERSONS 55 YEARS OF AGE AND OLDER ONLY

INTRODUCTION AND CONSENT

You are invited to contribute your time and energy to an important research study by sharing a little about yourself, your knowledge, and your experience with life events common to older adults. To do this, you are asked to complete this survey which will take approximately 30-45 minutes.

Your answers will be used to help myself and other health-care providers to learn more about stress and maintaining mental health in later life. Please be assured that your answers to this survey are completely confidential.

Allow me to thank your in advance for donating your time and energy to this important piece of research. Each of you and each of your answers add another important piece to the study. The puzzle of life can be solved one piece at a time -- no matter how small the piece may appear.

Thanks Again!

Darryl A. Hyers, RN, MA, NCC

By signing and proceeding with this survey, I indicate that I am willing to participate in this research project. I understand that my participation is voluntary, that my information is confidential, and that I may withdraw without penalty if I find it too difficult, become fatigued, or for any other reason.

Signature_____

This research and this consent form have been approved by the UNCG Institutional Review Board which ensures that research involving people follow federal regulations. Questions regarding this study can be asked of Beverly Maddox-Britt at 334-5878 or Darryl Hyers at 274-4801.

SECTION 1

Instructions: The following is a list of events that sometimes happen to each of us in the course of life. Some of them are stressful and some are not so stressful. For each event, circle "No" if that event has not happened to you during the past year. If the event has happened to you during the past year, circle "Yes" and then circle the number that indicates how much stress it was for you: No Stress, Low Stress, Moderate Stress, or High Stress.

	During Past Year:			No Stress	Low Stress	Moderate Stress	High Stress
1.	Minor Illness	No	Yes	1	2	3	4
2.	Loss of Hearing/ Loss of Vision	No	Yes	1	2	3	4
3.	Difficulty Walking	No	Yes	1	2	3	4
4.	Sexual Difficulty	No	Yes	1	2	3	4
5.	Divorce	No	Yes	1	2	3	4
6.	Separation	No	Yes	1	2	3	4
7.	Family Member Ill	No	Yes	1	2	3	4
8.	Gain New Family Member	No	Yes	1	2	3	4
9.	Death of a Close Friend	No	Yes	1	2	3	4
10.	Change in Number of Family Get-Togethers	No	Yes	1	2	3	4
11.	Personal Achievement of Family Member	No	Yes	1	2	3	4

OVER

During Past Year:			No Stress	Low Stress	Moderate Stress	High Stress
12. Relinquish Financial Responsibility	No	Yes	1	2	3	4
13. Financial Difficulty	No	Yes	1	2	3	4
14. Change in Work Hours or Conditions	No	Yes	1	2	3	4
15. Change in Residence	No	Yes	1	2	3	4
16. Sell Major Possessions	No	Yes	1	2	3	4
17. Personal Achievement	No	Yes	1	2	3	4
18. Reduce Recreation	No	Yes	1	2	3	4
19. Spouse Unfaithful	No	Yes	1	2	3	4
20. Fired from Job	No	Yes	1	2	3	4
21. Loss of Valuable Object	No	Yes	1	2	3	4
22. Child Married	No	Yes	1	2	3	4
23. Taking Large Loan	No	Yes	1	2	3	4
24. Minor Legal Violation	No	Yes	1	2	3	4
25. Trouble with Neighbors	No	Yes	1	2	3	4
26. Trouble with Social Security	No	Yes	1	2	3	4
27. Age Discrimination	No	Yes	1	2	3	4
28. Major Illness	No	Yes	1	2	3	4

	During Past Year:			No Stress	Low Stress	Moderate Stress	High Stress
29.	Change in Sleeping Habits	No	Yes	1	2	3	4
30.	Change in Eating Habits	No	Yes	1	2	3	4
31.	Menopause	No	Yes	1	2	3	4
32.	Death of a Spouse	No	Yes	1	2	3	4
33.	Marriage	No	Yes	1	2	3	4
34.	Marital Reconciliation	No	Yes	1	2	3	4
35.	More Arguments with Spouse	No	Yes	1	2	3	4
36.	Fewer Arguments with Spouse	No	Yes	1	2	3	4
37.	Death of a Family Member	No	Yes	1	2	3	4
38.	Improvement in Family Member Health	No	Yes	1	2	3	4
39.	Trouble with Children	No	Yes	1	2	3	4
40.	Victim of Crime	No	Yes	1	2	3	4
41.	Improvement of Financial State	No	Yes	1	2	3	4
42.	Retirement	No	Yes	1	2	3	4

OVER

	During Past Year:			No Stress	Low Stress	Moderate Stress	High Stress
43.	Less Church Activity	No	Yes	1	2	3	4
44.	More Church Activity	No	Yes	1	2	3	4
45.	More Recreation	No	Yes	1	2	3	4
46.	Travel	No	Yes	1	2	3	4
47.	Stop Driving	No	Yes	1	2	3	4
48.	Go to Jail	No	Yes	1	2	3	4
49.	Unemployed One Month	No	Yes	1	2	3	4
50.	Demotion	No	Yes	1	2	3	4
51.	Promotion	No	Yes	1	2	3	4
52.	Grandchild Married	No	Yes	1	2	3	4
53.	Argument with Boss or Co-Worker	No	Yes	1	2	3	4
54.	Move to Home for Aged	No	Yes	1	2	3	4
55.	Friends and Family Turn Away	No	Yes	1	2	3	4

SECTION 2

Instructions: The following statements refer to your family and friends. Please mark the response that best represents how you feel.

1. When you are with your family and friends, how often do you feel lonely?

   ____1 Most of the time
   ____2 Some of the time
   ____3 Hardly ever

2. Does it seem that your family and friends understand you?

   ____1 Most of the time
   ____2 Some of the time
   ____3 Hardly ever

3. Do you feel useful to your family and friends?

   ____1 Most of the time
   ____2 Some of the time
   ____3 Hardly ever

4. Do you know what is going on with your family and friends?

   ____1 Most of the time
   ____2 Some of the time
   ____3 Hardly ever

5. When you are talking with your family and friends, do you feel you are being listened to?

   ____1 Most of the time
   ____2 Some of the time
   ____3 Hardly ever

OVER

10. Do your family and friends ever help you in any of the following ways? (Please circle your response for each item.)

a. Help out when you are sick?	NO	YES
b. Shop or run errands for you?	NO	YES
c. Give you gifts (presents)?	NO	YES
d. Help you out with money?	NO	YES
e. Fix things around your house?	NO	YES
f. Keep house for you, or do household chores?	NO	YES
g. Give you advice on business or financial matters?	NO	YES
h. Provide companionship for you?	NO	YES
i. Listen to your problems?	NO	YES
j. Give you advice on dealing with life's problems?	NO	YES
k. Provide transportation for you?	NO	YES
l. Prepare or provide meals for you?	NO	YES
m. Help take care of small children?	NO	YES

11. Do you wish your family and friends would give you (more) help with these kinds of things? NO YES

OVER

APPENDIX B

FREQUENCIES AND PERCENTAGES OF SUBJECTS (PILOT STUDY) BY SELECTED DEMOGRAPHIC CHARACTERISTICS

Frequencies and Percentages of Subjects (Pilot Study) by Selected Demographic Characteristics

Demographic Variable	Frequency	Percent
Age		
55-59	3	5.5
60-69	25	45.5
70-79	21	38.2
80-89	3	5.5
90-99	3	5.5
Gender		
Female	40	71.4
Male	16	28.6
Ethnicity		
Caucasian/White	43	76.8
African-American	10	17.9
Other	3	5.4
Marital Status		
Married	29	51.8
Widowed	18	32.1
Divorced/Separated	5	8.9
Single	4	7.1
Highest Grade Completed in School		
Grades 1-8	9	16.1
Grades 9-11	10	17.9
HS Diploma	12	21.4
Some college	10	17.9
Bachelor degree	7	12.5
Advanced degree	8	14.3

APPENDIX C

FREQUENCIES OF RESPONDENTS RESPONDING "YES" ON THE LIFE EVENTS SCALE AND MEANS FOR RATINGS ON EACH LIFE EVENT

Frequencies of Respondents Responding "Yes" on the Life Events Ccale and Means for Ratings on Each Life Event

Life Events Item	Frequency Responding "yes" n	%	Mean
1. Minor Illness	225	63	2.54
2. Loss of Hearing/Loss of Vision	86	24	2.54
3. Difficulty Walking	120	34	2.68
4. Sexual Difficulty	59	17	2.57
5. Divorce	6	2	2.33
6. Separation	9	3	3.11
7. Family Member Ill	163	46	3.17
8. Gain New Family Member	76	21	1.36
9. Death of a Close Friend	151	43	2.53
10. Change in Number of Family Get-Togethers	98	27	2.12
11. Personal Achievement of Family Member	142	40	1.33
12. Relinquish Financial Responsibility	25	7	2.36
13. Financial Difficulty	73	20	2.99
14. Change in Work Hours or Conditions	44	12	2.50
15. Change in Residence	50	14	2.82
16. Sell Major Possessions	37	10	2.57
17. Personal Achievement	60	17	1.65
18. Reduce Recreation	111	31	2.15
19. Spouse Unfaithful	6	2	3.67
20. Fired From Job	3	1	3.33
21. Loss of Valuable Object	20	6	3.00

Frequencies of Respondents Responding "Yes" on the Life Events Ccale and Means for Ratings on Each Life Event

Life Event Item	Frequency Responding "yes" n	%	Mean
22. Child Married	26	7	1.62
23. Taking Large Loan	13	4	2.46
24. Minor Legal Violation	9	3	2.11
25. Trouble With Neighbors	25	7	2.64
26. Trouble With Social Security	10	3	3.00
27. Age Discrimination	17	5	2.24
28. Major Illness	68	19	3.25
29. Change in Sleeping Habits	143	40	2.59
30. Change in Eating Habits	90	25	2.06
31. Menopause	16	5	2.73
32. Death of a Spouse	25	7	3.64
33. Marriage	2	1	3.00
34. Marital Reconciliation	2	1	1.00
35. More Arguments With Spouse	30	8	2.77
36. Fewer Arguments With Spouse	37	11	1.14
37. Death of a Family Member	80	22	2.90
38. Improvement in Family Member Health	75	21	1.41
39. Trouble With Children	50	14	3.00
40. Victim of Crime	5	1	2.60
41. Improvement of Financial State	49	14	1.33
42. Retirement	41	12	1.72
43. Less Church Activity	129	37	1.56
44. More Church Activity	89	25	1.56

Frequencies of Respondents Responding "Yes" on the Life Events Ccale and Means for Ratings on Each Life Event

	Frequency Responding "yes"		
Life Event Item	n	%	Mean
45. More Recreation	71	20	1.42
46. Travel	148	41	1.69
47. Stop Driving	30	8	2.59
48. Go to Jail	1	0	1.00
49. Unemployed One Month	10	3	2.90
50. Demotion	3	1	3.33
51. Promotion	0	0	0.00
52. Grandchild Married	42	12	1.45
53. Argument With Boss or Co-Worker	7	2	3.14
54. Move to Home for Aged	50	14	2.53
55. Friends and Family Turn Away	25	7	3.24

APPENDIX D

FREQUENCIES FOR RATINGS ON THE OBJECTIVE SOCIAL SUPPORT SCALE

Frequencies for Ratings on the Objective Social Support Scale

Objective Social Support Item	Frequency Responding "yes" n	%
1. Help out when you are sick?	335	94
2. Shop or run errands for you?	282	79
3. Give you gifts (presents)?	325	91
4. Help you out with money?	93	26
5. Fix things around your house?	208	59
6. Keep house for you, or do household chores?	115	32
7. Give you advice on business or financial matters?	157	44
8. Provide companionship for you?	291	82
9. Listen to your problems?	306	86
10. Give you advice on dealing with life's problems?	206	58
11. Provide transportation for you?	203	57
12. Prepare or provide meals for you?	162	45
13. Help take care of small children?	23	7

APPENDIX E

FREQUENCIES FOR RATINGS ON THE SUBJECTIVE SOCIAL SUPPORT SCALE

Frequencies for Ratings on the Subjective Social Support Scale

Subjective Social Support Item	Frequency					
	Most of the Time		Some of the Time		Hardly Ever	
	n	%	n	%	n	%
1. When you are with your family and friends, how often do you feel lonely?	6	2	72	20	280	78
2. Does it seem that your family and friends understand you?	275	77	70	19	14	4
3. Do you feel useful to your family and friends?	243	68	100	28	16	4
4. Do you know what is going on with your family and friends?	224	62	120	33	15	4
5. When you are talking with your family and friends, do you feel you are being listened to?	253	70	99	28	7	2
6. Do you feel you have a definite role (place) in your family and among your friends?	277	77	76	21	6	2
7. In times of trouble, can you count on at least some of your family and friends?	322	90	33	9	4	1

Frequencies for Ratings on the Subjective Social Support Scale

Subjective Social Support Item	Frequency					
	Very Dissatisfied		Somewhat Dissatisfied		Satisfied	
	n	%	n	%	n	%
8. How satisfied are you with the kinds of relationships you have with your families and friends?	257	72	75	21	26	7

Subjective Social Support Item	Frequency			
	Yes		No	
	n	%	n	%
9. Do you wish your family and friends would give you (more) help with these kinds of things?	66	19	289	81

APPENDIX F

MEANS FOR ITEMS ON THE DYSFUNCTIONAL ATTITUDE SCALE

Means for Items on the Dysfunctional Attitude Scale

Dysfunctional Attitude Scale Item	Mean
1. It is difficult to be happy unless one is good looking, intelligent, rich, and creative.	2.15
2. Happiness is more a matter of my attitude towards myself than the way other people feel about me.	2.16
3. People will probably think less of me if I make a mistake.	2.86
4. If I do not do well all the time, people will not respect me.	2.49
5. Taking even a small risk is foolish because the loss is likely to be a disaster.	2.76
6. It is possible to gain another person's respect without being especially talented at anything.	2.32
7. I cannot be happy unless most people I know admire me.	2.65
8. If a person asks for help, it is a sign of weakness.	1.79
9. If I do not do as well as other people, it means I am an inferior human being.	1.72
10. If I fail at my work, then I am a failure as a person.	1.80
11. If you cannot do something well, there is little point in doing it at all.	2.20
12. Making mistakes is fine because I can learn from them.	2.52
13. If someone disagrees with me, it probably indicates he does not like me.	2.03
14. If I fail partly, it is as bad as being a complete failure.	1.90
15. If other people know what you are really like, they will think less of you.	2.10
16. I am nothing if a person I love doesn't love me.	1.96
17. One can get pleasure from an activity regardless of the end result.	2.49
18. People should have a reasonable likelihood of success before undertaking anything.	3.41

Means for Items on the Dysfunctional Attitude Scale

Dysfunctional Attitude Scale Item	Mean
19. My value as a person depends greatly on what others think of me.	2.66
20. If I don't set the highest standards for myself, I am likely to end up a second-rate person.	3.36
21. If I am to be a worthwhile person, I must be truly outstanding in at least one major respect.	2.81
22. People who have good ideas are more worthy than those who do not.	2.92
23. I should be upset if I make a mistake.	3.15
24. My own opinions of myself are more important than other's opinions of me.	2.68
25. To be a good, moral, worthwhile person, I must help everyone who needs it.	3.38
26. If I ask a question, it makes me look inferior.	1.74
27. It is awful to be disapproved of by people important to you.	4.21
28. If you don't have other people to lean on, you are bound to be sad.	3.03
29. I can reach important goals without slave driving myself.	2.52
30. It is possible for a person to be scolded and not get upset.	3.27
31. I cannot trust other people because they might be cruel to me.	2.10
32. If others dislike you, you cannot be happy.	2.79
33. It is best to give up your own interests in order to please other people.	2.27
34. My happiness depends more on other people than it does on me.	2.38
35. I do not need the approval of other people in order to be happy.	3.35
36. If a person avoids problems, the problems tend to go away.	2.17

Means for Items on the Dysfunctional Attitude Scale

Dysfunctional Attitude Scale Item	Mean
37. I can be happy even if I miss out on many of the good things in life.	2.86
38. What other people think about me is very important.	4.69
39. Being isolated from others is bound to lead to unhappiness.	4.54
40. I can find happiness without being loved by another person.	4.32

APPENDIX G

MEANS FOR ITEMS ON THE CES-D

Means for Items on the CES-D

CES-D Item	Mean
1. I was bothered by things that usually don't bother me.	0.53
2. I did not feel like eating; my appetite was poor.	0.33
3. I felt that I could not shake off the blues even with help from my family and friends.	0.38
4. I felt that I was just as good as other people.	0.95
5. I had trouble keeping my mind on what I was doing.	0.71
6. I felt depressed.	0.60
7. I felt that everything I did was an effort.	0.69
8. I felt hopeful about the future.	1.10
9. I thought my life had been a failure.	0.19
10. I felt fearful.	0.35
11. My sleep was restless.	0.90
12. I was happy.	0.90
13. I talked less than usual.	0.75
14. I felt lonely.	0.50
15. People were unfriendly.	0.18
16. I enjoyed life.	0.83
17. I had crying spells.	0.19
18. I felt sad.	0.45
19. I felt that people dislike me.	0.17
20. I could not get "going."	0.63

APPENDIX H

LETTERS OF CONSENT FOR USE OF INSTRUMENTS

THANK YOU FOR YOUR REQUEST TO THE

National Institute of Mental Health

WE HOPE YOU WILL FIND THIS MATERIAL HELPFUL.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
National Institutes of Health

Information Resources and Inquiries Branch
Office of Scientific Information
National Institute of Mental Health
Room 7C-02
5600 Fishers Lane
Rockville, MD 20857

Date: 12/19/94
Request Number: 006029

006029 SM P
Ms. Darryl Eyers
1540-G Spring Garden St.
Greensboro, NC 27403

PUBLICATION NUMBER	TITLE	QUANTITY SHIPPED	REMARKS (See Reverse)

***** Additional Remarks **********

Dear Ms. Eyers:
re: The Center for Epidemiological Studies - Depression Scale (CES-D) by Radloff and Green
The above scale developed by National Institute of Mental Health may be used in survey. NIMH scale is in public domain.

Sincerely,
Mrs. Sharon Maarsen

THE UNIVERSITY OF NORTH CAROLINA
GREENSBORO

School of Education
Department of Counseling
and Educational Development

November 3, 1994

Dr. Linda George
Duke University Medical Center
P.O. Box 3003
Durham, North Carolina 27710

Dear Dr. George:

I am writing as a doctoral student in the Department of Counseling and Educational Development at the University of North Carolina at Greensboro. I respectfully request your permission to use the Duke Social Support Index in my dissertation study. I would also like to request any reprints of other work you have done regarding this instrument and studies with older persons.

The study will be measuring the relations between stress, social support, dysfunctional attitudes, and depression in older persons and follows the results of our interaction last August fairly closely.

Thank you for your kind consideration of this request, your time last August, and any further assistance you can think to lend.

Respectfully,

Darryl A. Hyers
Doctoral Student

DAH:vkp

P.S. I have been unable to locate Dr. Lenore Radloff to obtain permission to use the CES-D. I note that you have incorporated this instrument in your work and I wonder if you know how to find her? Address? Phone number? Thanks, again.

You have my permission to use these scales. Please just mention appropriately in any publications. Others I sent the relevant reprints earlier. God bless

Curry Building, UNCG, Greensboro, NC 27412-5001
(910) 334-3423•FAX (910) 334-3238

Arlene N. Weissman, PhD
Principal

Centre Square East
1500 Market Street
Philadelphia, PA 19102-4790
215 246 6316

Towers Perrin

October 14, 1994

Darryl A. Hyers
The University of North Carolian
School of Education
Department of Counseling and
Educational Development
Curry Building, UNCG
Greensboro, NC 27412-5001

Dear Darryl:

This letter will serve as permission to use the Dysfunctional Attitude Scale (DAS).

Good luck with your dissertation.

Sincerely,

Arlene N. Weissman

October 3, 1994

Darryl A. Hyers
Doctoral Student
Department of Counseling and
Educational Development
School of Education
University of North Carolina
Greensboro, N.C. 27412-5001

Dear Darryl:

Thank you for your letter of September 28. Of course you may use our "Geriatric Scale of Recent Life Events". I am sending you a copy of the APA presentation that describes the development of this instrument. Table 2 of that paper presents the entire instrument. Be sure to use the Kane and Kane citation when you publish your findings. Also, please send me a copy of your final report (a summary of your dissertation would be fine, NOT the complete report!).

Good luck with your dissertation research. I look forward to receiving a copy of your results!

Sincerely,

H. Asuman Kiyak, Ph.D.
Director and Professor

Mailing Address: 701 Dexter Ave. Suite 2[illegible] Seattle, WA 98109
SB-24, University of Washington
Campus Mail Stop [illegible]