COMPARING STRESS BUFFERING AND MAIN EFFECTS MODELS OF SOCIAL SUPPORT FOR MARRIED AND WIDOWED OLDER WOMEN

THESIS

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements For the Degree of

MASTER OF ARTS

By

Melissa E. Murdock, B.A.

Denton, Texas

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Social support has been shown to lessen the negative effects of life stress on psychological and physical health. The stress buffering model and the main effects model of social support were compared using two samples of women over the age of 50 who were either married or recently widowed. These two groups represent low and high uncontrollable major life stress respectively. Other life stress events were also taken into account. Measures assessed current level of life stress, perceived social support, satisfaction with social support, and psychological symptomatology. Results using overall psychological health as the dependent variable support the main effects model.
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 CHAPTER I

INTRODUCTION TO THE STUDY

As human beings we live our lives in a complex social environment that is made up of social sub-groups. The most basic social sub-group is the nuclear family consisting primarily of a husband and wife and secondarily of their offspring. After marriage, one’s main needs for social support are traditionally met by the spouse. When this conjugal bond is broken through the death of this partner, the remaining partner is left to rebuild a network of social support that meets needs previously met by the deceased spouse. Since spouses do not usually die at the same time, it is likely that at the end of the life cycle, one partner in a marriage will experience the loss of a spouse through death. It is expected that about seventy-five percent of married women will be widowed during their lifetimes (Barrett, 1978) and these women will spend an average of seven years as widows. This large percentage for women is mainly due to the longer life expectancy for women and age differences of marital partners with husbands usually older than wives. Thus, the issue of conjugal loss is especially relevant to older women.

There is an abundance of literature pointing to the fact that social support is directly and positively related
to mental and physical health status (c.f., Cohen & Wills, 1985; House, 1981). When social support is jeopardized by the loss of a major component of the network, such as a spouse, health is threatened. Conjugal loss and bereavement have been linked to a drop in mental and physical health. The loss of a spouse simultaneously decreases social support and increases life stress, both of which tend to increase health symptomatology (Stroebe & Stroebe, 1987). A significant amount of literature also indicates that increased number of life stressors tends to decrease mental and physical health status (c.f., Dohrenwend & Dohrenwend, 1974; Elliot & Eis dorfer, 1982). The level of social support available to the individual after conjugal loss and the amount of other life stress the individual is experiencing should influence the amount of psychological and physical symptomatology experienced. This general relationship would also be the case for non-bereaved individuals. That is, the amount of symptomatology one is experiencing would relate positively to amount of life stress experienced and negatively to level of social support.

Life Stress

Within the life stress and coping process, a demand placed upon an individual by someone or something in the environment is called a stressor. The negative psychological outcome to this demand is distress. Wolff
(1953), an early contributor to the development of the stress concept, described stress as a dynamic state in which an organism adapts physically and psychologically to environmental demands. Stress theory (Lazarus & Folkman, 1984) defines psychological stress as a feeling that occurs when an individual perceives there to be a difference between available coping resources and the demands of the environment. When an individual feels that a situation requires personal resources beyond what the individual thinks are available, distress is the result. For example, if someone is required to take a driving test in an hour and has never driven before, then the situation will likely be perceived as stressful. This model assumes distress to be a subjective experience based on the perceived relationship between environmental demands and the ability of the person to meet these demands. Once an individual has appraised a situation as stressful, the person then attempts to cope with the problem drawing on available resources. These available resources include psychological resources such as intelligence, logic, and positive self-talk; physical resources, such as strength and health; and environmental resources, such as social support and financial resources (Stroebe & Stroebe, 1987).

The effects of a major life stressor such as conjugal loss on psychological and physical health can be extensive. The death of a spouse is one of the most stressful events
that a person will normally experience. Holmes and Rahe's Social Readjustment Scale (1967) recognizes loss of a spouse as the most traumatic life event on their scale. In fact, studies have found that recently widowed individuals are at higher risk for physical illnesses than non-widowed individuals (Windholz, Marmar, & Horowitz, 1985) and mortality rates of widowers are higher than mortality rates of married men of the same age (Bowling, 1988; Helsing & Szklo, 1981). Research shows conflicting results with regard to mortality rates of widows. It is expected that events such as the loss of a spouse will have a great impact on an individual, and this generalizes to other major negative events such as job loss, ending a relationship, or failing school.

Minor stressors are often ignored in the life stress literature, but they can also affect health, especially psychological well-being (Lazarus & Folkman, 1984; Zautra, Guarnaccia, & Dohrenwend, 1986; Zautra, Guarnaccia, Reich, & Dohrenwend, 1987). Small events that are experienced in every day life such as a minor physical pain, running late for an appointment, or having an argument with a friend are all seen as minor life stressors. Although these kinds of events seem inconsequential in relationship to major life stressors such as the death of a spouse, research supports the idea that these small life events also impact psychological symptomatology. In a longitudinal study,
Zautra, Guarnaccia, and Reich (1989) found small life events as well as major life events to be predictive of psychological well being. In a study involving middle-aged adults, Kanner, Coyne, Schaefer, and Lazarus (1981) found that everyday hassles were more predictive of psychological symptoms than major life events. Monroe (1983) found similar results in a study using adults ages 18 to 54. One or two minor negative events are not likely to have a great impact on one's psychological functioning. However, when there are a series of these negative life events occurring within a short period of time, these can have a significant effect on psychological and physical health, specifically relating to anxiety and depression (Zautra, Guarnaccia, & Reich, 1989). Therefore, even if an individual is not experiencing a major life stressor, that person may still be experiencing event related psychological distress. In spite of the emphasis on major life events in the literature, these minor daily events are of great importance in determining the level of life stress on an individual. Research concerning the effects of stress on psychological symptoms must take small daily negative events into account to get an accurate measure of overall level of psychological stress.

All individuals are usually subject to a host of stressors of varying degrees of severity at any given time. These can range from minor quarrels with acquaintances to
the death of a child. Different major and minor life stressors must be measured in a study of specific stressors since older adults who are not recently conjugally bereaved cannot be assumed to be under no life stress. An accurate measure of total life stress is also important because it has been found that widows with many stressful life events as well as the death of a spouse have poorer bereavement outcome than those with fewer stressful life events (Parkes, 1970). Norris and Murrell (1990) found that widows with higher global life stress before the death of a spouse had more depressive symptoms than widows with lower prebereavement life stress.

Social Support

Social support systems are made up of all resources available to an individual in a social setting. This study addresses one's personal social support system which differs from the more formal social support one may utilize. It has been found that professional support such as physicians, psychologists, and chaplains, is important but not nearly as effective in bereavement outcome as one's informal social network (VandeCreek, 1988).

Informal social support is the group of family and friends available to an individual that offer help and companionship throughout the individual's life. Social support networks are beneficial because they give an individual a set of roles in which social reinforcement is
common and usually leads to positive affect. The individual feels a sense of belonging in a particular group which creates stability and continuity in the individual’s life. Even with the traumatic loss of a spouse, the remaining social network would still be available to provide the individual an ongoing supportive social environment.

The concept of social support has been broken down into various sub-types. Two commonly recognized sub-types are instrumental, and emotional support (Gottlieb, 1983). Instrumental, or tangible social support is help with life tasks. Emotional support meets the needs for caring and love including having someone to talk to and help work through emotional difficulties in life. Stroebe and Stroebe (1989) added another sub-type of social support that they called validational support. This type provides a frame of reference for the individual and a validating quality for the person’s views and feelings. Spouses can reassure one another that they are accurate in their perceptions of the world and that they are sound and rational. One’s spouse is usually the most important frame of reference for a person since the spouse is typically present more than any other individual. When the spouse is no longer present to fill this role, one’s sense of reality may be jeopardized as this validational support may be mostly lost (Stroebe & Stroebe, 1989).
Another way social support has been broken into component parts is by viewing one's social support network in terms of objective or actual support and perceived support. The perception that one has people to turn to in a time of crisis differs from what is objectively available. Both of these types of support have been shown to lessen negative health symptomatology (Sarason, Shearin, Pierce, & Sarason, 1987). However, the perception that one has people to turn to in a time of crisis has been shown to have more of a stress buffering effect than actual support (Ward, Sherman, & LaGory, 1984; Wethington & Kessler, 1986). In their review of the literature, Kessler and McLeod (1985) found perceived social support to be a consistent stress buffer. This leads to two possible assumptions: either perceived support is an indicator of objective support, or the perception of social support aids in adjustment to stressors regardless of level of objective support. These two indices of support, perceived and objective, have not been found to be highly correlated (Ward, Sherman, & LaGory, 1984). Maddison and Walker (1967) found that those widows at highest risk for poor outcome were the ones who perceived themselves as having inadequate social support to meet their needs. The most disturbing for these individuals was a perceived lack of emotional support rather than instrumental support. These findings indicate that perception of social support is more important than how much support is
objectively received. Therefore, research should focus more attention on measuring perceived social support rather than on measuring objective support.

The actual presence of supportive others when dealing with life stressors provides specific help in both emotional and instrumental areas of coping. One's perception of the availability of this support in times of life stress also serves to aid in coping, and therefore reduces negative health symptomatology related to that stress. There are two ways the perception of social support may act to lessen the impact of life stress on consequent symptoms. First, perception of support may intervene between the occurrence of the event and how stressful the individual perceives the event to be (Cohen & McKay, 1984). The individual believes that there are people to turn to, so the individual appraises the event as less stressful than the individual that does not believe this to be true. The perception of available support causes a person to perceive an event as less stressful for several reasons. The person realizes that help is available if it is needed in a situation. Others will be around to provide that help, and others will also be around to provide emotional support such as a shoulder to cry on or time to talk with the person about a problem and comfort or offer advice. In this way, the reaction to, and subsequent health symptoms of life stress
are lessened. Secondly, the perception of available social support may intervene after the event has occurred and been perceived as stressful. The individual with high perceived social support does not experience as many negative effects from the stressor, namely physical and psychological symptoms, as the individual with low perceived social support. This is because the individual believes that others are potentially available to provide help through the stressful time (Cohen & Wills, 1985). The perception of available social support is an intervening variable between life stress and health. The benefits of this perception of social support are thought to occur before and after the appraisal of an event as stressful.

Research has shown that social support acts as a buffer against stress created by a variety of life events. Individuals with higher perceived social support have fewer adverse symptoms due to life stress than those individuals with lower perceived social support (Sarason, Sarason, Potter, & Antoni, 1985; Surtees, 1980). Gore (1978) found that men with high perceived social support who had recently lost jobs remained in better health than men in the same situation who perceived themselves as having low social support. In Windholz, Marmor, and Horowitz's (1985) review of the conjugal bereavement literature, it was found that out of a host of possible predictors of better adjustment to loss, the perception of high social support was the most
consistent predictor. The perception of high social support was found to be a more consistent predictor of better adjustment than the anticipation of the death, high objective social support, and the bereaved individual living with family. Low social support has been related to poor physical health of recently widowed individuals in the first year after loss (Maddison & Walker, 1967). Though common, these are not uniform findings. Several studies on bereaved individuals have not found a difference between older adults with high or low levels of social support and level of functioning two years after the loss (Lund et al., 1985).

Models of How Social Support Operates

It is generally acknowledged that social support contributes to well-being (Cohen & Syme, 1985; House, 1981). Several models attempt to explain how social support relates to distress and health. The two most prevalent models are the stress buffering model and the main effects model. These models predict two different relationships between life stress and social support. The stress buffering model predicts a variable relationship between level of life stress and the protective effects of social support. The main effects model shows no such variable relationship. Both models are backed by a substantial amount of research (Cohen & Wills, 1985).

The stress buffering model (Cohen & Wills, 1985) posits that when one is experiencing high life stress, one’s social
support network acts as a buffer against that stress. The social network protects the individual from the negative effects of stress, namely psychological and physical symptoms. People with high social support will not experience as many of the negative effects of stress as people with low social support. The model also states that when one is experiencing lower life stress, social support would have a much smaller impact on physical and mental health status. Thus, the stress buffering model predicts that the protective effects of social support interact with level of life stress (see Figure 1 A.).

It has been hypothesized that a buffering relationship (i.e., a statistical interaction) between level of life stress experienced and level of social support is artificial due to the interrelatedness of the two variables (Gore, 1981). Level of stress is usually measured using a life events scale that invariably measures such life events as death of a friend or family member, divorce, increased arguments with a loved one, and other events that involve changes in the social support network. A measure of one’s level of social support along with this will reflect the same events in the individual’s life, so an interaction between the two constructs is inevitable. This hypothesis, called the artifact hypothesis (Cohen & Wills, 1985), has not received support from research. Studies using measures of life stress and social support that show no correlation
still show evidence of a buffering effect. So even if measures of level of life stress and level of social support overlap, an interaction between the two variables should not necessarily be discounted due to this overlap. In the case of conjugal loss where the loss should greatly effect both stress and social support variables, it would be necessary to analyze the measures to see how much of the buffering effect, if one is detected, may be due to overlap of the measures.

A key issue to be considered when looking at the stress buffering model is whether high social support is acting to lessen the potentially negative effects of life stress or whether social support is directly correlated with well-being across all levels of stress. In other words, is the social support acting as a moderator between stressful events and health (Figure 1 A) or is it acting to promote health regardless of the presence of stressful events (Figure 1 B). If social support has a uniform effect on psychological symptoms, then the difference it makes for individuals with high life stress would be the same as the difference it makes for individuals with low life stress. If social support interacts with life stress, then at higher levels of life stress, the impact of social support on psychological symptoms would be greater than at lower levels of life stress.
The alternative to the stress buffering model of social support is the main effects model which posits that social support is beneficial to health regardless of the level of stress one is experiencing (see Figure 1 B). This model does not assume an interaction between social support and coping with stress. Instead, the main effects model assumes a uniformly positive effect of social support on health whether or not one is experiencing stress. Bell, LeRoy, and Stephenson (1982) examined whether an interaction exists between social support and stress in relation to depressive symptoms. Using over 2,000 subjects, no interaction was found, thus supporting the main effects model. Aneshensel and Stone (1982) found similar results in relation to depression. A possible explanation for this could be that the main effects model is most accurate in relation to depressive symptoms and the stress buffering model may be most accurate in relation to other types of psychological symptoms. It is important to examine different types of symptoms separately and together because of the possibility of each model being accurate under different circumstances.

Stroebe, Stroebe, and Domittner (1985) addressed whether an interaction between social support and stress exists in relation to recently widowed individuals. They compared the health of widows and married individuals at varying levels of social support. Adding married non-bereaved subjects to a sample creates a lower stress group
Figure 1. The models of the impact of stress and social support on psychological symptomatology.

A. Stress Buffering model of social support; an interaction between life stress and social support and the effects on psychological symptomatology.

B. Main Effects model of social support; no interaction between life stress and social support and their effects on psychological symptomatology.
so the interaction between level of social support and low stress can be observed as well as level of social support for a high stress group. Controlling for varying levels of stress, results showed no differences between the effects of social support on bereaved and non-bereaved persons. That is, individuals with higher life stress were not more affected by level of social support than individuals with lower life stress. The absence of an interaction between level of social support and level of stress on health supports the main effects model that social support positively affects health whether or not a stressful situation is present. The Stroebe, Stroebe, and Domittner (1985) study included recently widowed adults under the age of 60. Younger recently widowed adults have been shown to have more severe reactions to their loss than older adults (Beckwith et al., 1990), although these results have been disputed. In a study of 81 widows of varying ages, Sable (1991) found older women to be more depressed and experience more intense grief than younger women. Which ever the case, there do appear to be differences among the age groups, so conclusions based on research from one age group cannot reliably be generalized to another.

Several problems exist in the Stroebe, Stroebe, and Domittner (1985) study. First, there was an absence of subjects with low social support because all subjects reported moderate to high social support. The literature
has shown that the absence of subjects in a low social support group tends to reduce the differences between groups and thereby reduce the probability of finding an interaction between social support and stress. This naturally occurring problem of restricted range is difficult to overcome considering that data can only be collected from willing participants. If all subjects have at least adequate social support and fairly high life stress, any effect between amount of stress and social support on psychological health will be minimized (Cohen & Wills, 1985) due to restriction of range. Also, Stroebe, Stroebe, and Domittner's (1985) study used bereavement status as an indicator of life stress level, so they did not take into account that married non-conjugally bereaved subjects may have been experiencing stress from other sources. If non-conjugally bereaved controls were experiencing a greater amount of stress due to other major or minor life events, then this may have caused the non-bereaved group to appear more like the bereaved group in terms of health symptomatology. This would minimize any interaction between level of life stress and level of social support. Thus, the main effects model would have been supported because the assumed low life stress group may have actually been experiencing significant life stress that was not taken into consideration in the study. This problem can be addressed by measuring major and minor life stressors in addition to recent conjugal loss for both
groups. A positive aspect of the Stroebe, Stroebe, and Domittner (1985) study was that by using conjugally bereaved and married subjects, the potential basis for higher and lower life stress groups was established. The next logical step is to incorporate other stressful life events into the life stressor measure. All stressors, including death of a spouse, other major life stressors, and minor life stressors should be measured to adequately assess for level of stress one is experiencing.

Participants

When studying who is most affected by the loss of a spouse, it is important to know who participates in this type of research. Studies looking at bereavement and health consequences tend to rely on volunteers, so the characteristics of those who self-select may affect the outcome of the study. If those who tend to participate are coping well to begin with, research would show effects of the bereavement process to be less than what individuals are actually experiencing in the population. Likewise, if those who are worse off tend to participate, then the effects of bereavement on health would be overestimated. In their review, Stroebe and Stroebe (1989-90) found that widows who were more depressed were more willing to participate in bereavement research than less depressed widows. The opposite was found for widowers. Results of any study of this nature should take into account a possible bias due to
characteristics of volunteer participants before generalizing results to the population.

Summary

It is a common finding that social support is beneficial in reducing psychological symptoms and that life stress acts to increase psychological symptoms. Whether social support and life stress statistically interact (stress buffering model) or are additive (main effects model) is still in question. Results from research in this area is conflicting. The present investigation was designed to address the question in an area where life stress is at its peak, death of a spouse, and social support is most needed. The following hypotheses and research questions have been generated to test the nature of the relationship between life stress and social support, and related issues.

Hypotheses

1. A widowed group will experience a higher level of overall psychological symptomatology and specifically depression than a married group.

2. Level of depressive symptomatology and overall psychological symptomatology will be positively effected by level of social support and negatively effected by number of stressful life events experienced for all participants. This will occur regardless of the relationship between stressful life events and
Research Question

Social support and life stressors have both been shown in the literature to have an impact on level of overall psychological symptomatology and depressive symptomatology. Both social support and life stress should have an effect on symptomatology in the present study. If the main effects model is more accurate, then the relationship between the independent variables, stress and social support, will be additive. In this case a multiplicative term of (social support \times\text{life stress}) will not be a significant predictor in the equation. In other words, the level of one independent variable will not impact the effects of the other independent variable on the dependent variable (psychological symptomatology). They will both effect the dependent variable in a separate, additive way. In this instance, each of the independent variables would have a main effect on the dependent variable (Pedhazur, 1982).

If the stress buffering model is more accurate, then stress and social support will interact. That is, as the level of stress increases, the effects of social support on symptomatology will also increase (Lewis-Beck, 1980). This is considered a joint effect because as the level of one independent variable increases, the effects of the other independent variable on the dependent variable are enhanced.
In the case of the stress buffering model, the interaction means that higher individuals with social support at any level of stress will have less psychological symptomatology than individuals with lower social support. The amount of difference between the high and low social support groups at differing stress levels will vary.
CHAPTER II

METHODS

Participants

The participants included a total of 71 independently living Caucasian females age 50 years and older. This sample consisted of a recently widowed subsample and a married subsample. The recently widowed subsample, consisting of 21 participants, suffered the death of their husbands within the last one year. The other subsample consisted of 50 married participants.

Data was collected at a retirement community in the Denton, Texas area, and the Denton and Lewisville, Texas Senior Centers. All participants were living independently in the community. Some married participants were recruited from the Dallas, Texas area through an announcement in an area newspaper. Some of the recently widowed individuals came from another study (Guarnaccia & Hayslip, 1993).

The mean age of all participants was 69.41 years old. Most participants had a high school diploma and some had college level education. The average annual income level was approximately $30,000 per household. Most participants had only been married one time and had been married an average of 40 years (see Table 1, Appendix F). All
participants seemed free from major cognitive deficits, and all seemed capable of living independently.

All participants were independently living in either residential houses or apartments either as part of a retirement community or in the general community. Married individuals were limited to those with reasonably healthy spouses that have lived in the home continuously for at least the past six months rather than in a hospital or another health care facility. This selection criteria was to prevent introducing the confounding variable of a demanding caregiver role for married subjects.

Measures

Measures used in this study were: the Brief Symptom Inventory (BSI) (Derogatis & Spencer, 1982); the Louisville Social Support Scale (LSSS) (Norris & Murrell, 1987) (see Appendix B); a small life events scale (see Appendix C) which is an edited older adult version (Zautra, Guarnaccia, & Carothers, 1988) of the Inventory of Small Life Events (ISLE) (Zautra, Guarnaccia, & Dohrenwend, 1986); a major life events scale (see Appendix E) which is an edited version of the Psychiatric Epidemiology Research Interview (PERI) (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978); a demographics questionnaire including a brief physical
health measure (see Appendix D); and a consent form (see Appendix A).

**Health Measures**

It was important to measure both psychological and physical health since both are an integral part of an individual's well-being. Recent conjugal bereavement seems to have a greater impact on psychological health than physical health, especially on depressive symptomatology (Lund, Caserta, & Dimond, 1986). Therefore, psychological symptomatology was measured in more detail than physical health. The measure of physical health was included primarily to ensure that all subjects were in relatively good physical health so as to lessen the possibility of physical health becoming a confounding variable.

**Physical Health Measure.** Physical health issues tend to be more common among older adults than the rest of the population, so it was important to measure physical health of participants as well as spouses for the married participants. Physical health was measured in the demographics questionnaire with a series of questions about health-related events occurring in the past year such as number of visits to the doctor, major and minor surgeries, trips to the emergency room, and a participant's use of prescription drugs. Participants' answers to these four questions were scored by unitary weighing and summed. Participants' also filled out a Likert-type rating of their
opinion of their physical health. The Likert-type rating was then added to the score for an overall physical health score.

**Psychological Health Measure: Brief Symptom Inventory.** The instrument used to measure psychological symptomatology was the Brief Symptom Inventory (BSI) (Derogatis & Spencer, 1982). This is a 53 item self-report instrument that takes approximately 10 minutes to complete. It is a brief version of the SCL-90-R (Derogatis, 1977) and, like the original instrument, the BSI was designed to measure psychological symptoms across nine dimensions of psychological health including Somatization, Obsessive-Compulsiveness, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. The measure also has three global health scales to assess overall psychological distress, these are the Global Severity Index, Positive Symptom Total, and the Positive Symptom Distress Index. The BSI scales used in this study included the Global Severity Index, and the Depression, Anxiety, and Psychoticism subscales. The Psychoticism subscale was used to ensure that participants were free from major psychiatric symptoms. The BSI requires participants to report about a wide variety of symptoms possibly experienced within the last seven days, so results from this measure are a point-in-time indicator of psychological health as opposed to a prospective or retrospective measure.
For each item, participants indicated on a Likert-type scale to what degree they have experienced the symptom from not at all (score of 0) to extremely (score of 4). The score for the Global Severity Index and the subscales is the mean of all items in the scale or subscale.

With both clinical and community samples, the BSI shows high internal consistency (ranging from .71 to .85 for the 9 subscales) and high test-retest reliability (ranging from .68 to .91 for the 9 subscales). The BSI’s 9 subscales correlate highly with the 9 subscales of the SCL-90-R (correlations range from .92 to .99). High convergent and discriminant validity between this measure and the MMPI has been shown along with high construct validity. The measure has also been shown to be highly sensitive to small differences in symptomatology (Derogatis & Spencer, 1982).

**Life Stressor Measures**

As in the Stroebe, Stroebe, and Domittner (1985) study, married individuals were sampled as well as those who had experienced the loss of a spouse within the last year. Recently widowed women would likely be experiencing higher life stress than married women. However, many married participants were also experiencing high levels of stress from other situations, so it was not assumed that recently widowed status was the only indicator of level of stress. Instead, marital status served as a basic indicator that was modified by the presence of other life stressors. Many
members of the married group had higher stress levels than members of the recently widowed group, which created a more varied stratification along the life stressor variable.

Monroe (1983) showed that a life events scale that is a simple tally of number of events that have occurred is as valid a measure of overall stress as a weighted events scale. Therefore, in the current study, life events were measured by a tally type scale.

**Minor Life Events Scale.** The ISLE was designed to measure both positive and negative small life events. An edited older adult version (Zautra, Guarnaccia, & Carothers, 1988) of the Inventory of Small Life Events (ISLE) (Zautra, Guarnaccia, & Dohrenwend, 1986) was administered to measure minor life stress (see Appendix C). The edited version is a 48 item measure that includes those minor negative life events that a sample of older adults most commonly acknowledged as happening to them (probability greater than or equal to .02 occurrences per month) (Zautra, Guarnaccia, & Carothers, 1988). The measure required participants to indicate those items on the list that they had experienced in the past one month. The total score was the number of items indicated by the participant, so the range was from zero to 48.

**Major Life Events Scale.** The second life events scale, the Major Life Events Scale, is an edited version of the Psychiatric Epidemiology Research Interview (PERI)
(Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978). It is a list of 48 major life events from the PERI most commonly endorsed by older adults (Zautra, Guarnaccia, & Carothers, 1988) (see Appendix E). Participants were required to indicate those items on the list that they had experienced within the last one year. As in the minor life events scale, the score was the total number of items that the participant indicated.

**Social Support Measure: Louisville Social Support Scale**

The Louisville Social Support Scale (LSSS) (Norris & Murrell, 1987) is a 13 item scale made up of four items from Phillips (1967) social participation index, seven items from Andrews, Tennant, Hewson, and Scharnell (1978) scale about the amount of help available to people during a crisis, and two new items (Murrell & Himmelfarb, 1989) (see Appendix B). Each item on the scale is rated from one to five, so the total possible scores range from 13 to 65, with higher numbers representing low social support. The LSSS had an alpha internal consistency of .82, and test-retest reliability of .70 in a sample of 1,411 adult subjects (Murrell & Norris, 1991).

The LSSS has two subscales. Items one through six form the Social Embeddedness subscale, which is the size and closeness of a person’s social network. Items eight through twelve form the Expected or Perceived Social Support subscale. Neither sub-scale incorporates item seven because
of it’s potential to overlap both sub-scales (based on unpublished data). The Social Embeddedness subscale has a reliability of .67 and the Expected Social Support subscale has a reliability of .83 from a sample of 1,326 adults 55 years and older (Murrell & Norris, 1991).

Demographics Questionnaire

A general information questionnaire was also used to collect demographic information including age, race, marital status, years of marriage, and questions relating to general health status (see Appendix D). Additional questions for the recently widowed group included length of time since the loss and whether the death was sudden or expected due to long term illness. Additional questions for the married group included spouses health status.

Procedures

Each retirement community and senior center was contacted and asked to participate in the research. Administrations agreeing to this notified their residents or members of the opportunity to participate in the research. Those residents or members who were interested picked up the packet of materials including a consent form and questionnaires. The materials were filled out at the subject’s convenience and either returned to a volunteer by a set later date or mailed to the researcher. Some recently widowed participants were also obtained from another study of conjugal bereavement (Guarnaccia & Hayslip, 1993). They
completed the packet along with materials for the other study. The participants that were recruited through the announcement in area newspapers called the researcher and were mailed a questionnaire and a postage paid return envelope.

APA ethical guidelines for research with human subjects were followed. Approval for the use of human subjects was obtained from the University of North Texas Committee for the Protection of Human Subjects. All statistics procedures were run using SPSS computer programs.
CHAPTER III

RESULTS

Demographic Variables

The means and standard deviations of demographic variables for participants are summarized in Table 1 (see Appendix F) along with corresponding t-test differences between the married and widowed groups. The two groups did not differ significantly along basic demographic variables such as age, income, education level, or overall health. The number of people living in the home other than the participant differed significantly between married and widowed groups with the married group having a mode of one other person living in the home, presumably the spouse, and the widowed group having a mode of no other people living in the home.

Psychosocial Variables

The psychosocial variables for the married and widowed groups are summarized in Table 2 (see Appendix F). The overall means for the global measure of psychological symptoms for both married and recently widowed participants were somewhat greater than the corresponding means for non-patient normals, but less than the corresponding means for psychiatric outpatient groups found by Derogatis & Spencer (1982). Compared to Derogatis & Spencer's findings for non-
patient normals, the means for depression appeared to be somewhat higher for the married group, and quite a lot higher for the recently widowed group. The Psychoticism subscale means for the married group did not differ from non-patient normals, but appeared to be much higher for the recently widowed group. The greater means along most of these variables in this study is likely due to participants being older adults and therefore reporting greater symptomatology than the general population, but not to a degree as great as psychiatric outpatients.

The widowed group reported more symptoms on the Psychoticism subscale than the married group. Three of the five items in the Psychoticism subscale are also common symptoms of bereavement. They are:

Item 14: Feeling lonely even when you are with people.
Item 44: Never feeling close to another person.
Item 53: The idea that something is wrong with your mind.

Because of these items, the Psychoticism subscale is likely not an accurate measure of psychotic symptoms in this recently widowed sample. The Psychoticism subscale was also found to have low reliability (alpha=.35). This was probably due to the overlap of symptoms that could be classified as either indicative of psychosis or conjugal bereavement, and due to participants interpreting them in different ways. Surprisingly, the Psychoticism sub-scale
was less reliable for married than widowed participants. It could be that widowed participants somewhat more uniformly interpreted the items on the psychoticism sub-scale as pertaining to their bereavement symptoms, making the scale more reliable for their group.

The other subscales of the BSI and the Global Severity Index were all found to have high reliability (see Table 3, Appendix F). The LSSS and its subscales also had high reliability, however, the Social Embeddedness subscale had lower reliability than the Expected Support subscale.

There were no differences between levels of reported overall social support for married and recently widowed groups. There was a significant difference between the married and widowed groups for reported minor negative life events. The married group reported significantly more minor negative life events, or minor stressors, than the widowed group. It could be that recently widowed older women experienced fewer small negative life events that married older women. Another possibility for this finding could be that for those who were overwhelmed by a major stressor, such as the death of a spouse, minor negative events may have been more in the periphery of awareness than for those who had not experienced such a major stressor. Individuals going through bereavement from the loss of a spouse may have under reported daily hassles because their focus was on the major stressor.
Major stressful life events were found to be correlated with poor physical health ($r = .64$, $p < .05$) as well as overall psychological symptomatology and depressive symptomatology. Major life events were also positively correlated with anxiety ($r = .31$, $p > .01$) and negatively correlated with level of income ($r = -.27$, $p > .05$). As anxiety increased and income level and physical health decreased, number of major life events increased.

**Testing Hypothesis 1**

The degree of global psychological symptoms reported did not differ between groups. The widowed group did not experience a higher level of overall psychological symptomatology than the married group. The widowed group did, however, show a significantly higher level of depressive symptomatology than the married group ($t = -4.25$, $p > .01$).

**Testing Hypothesis 2**

The level of depressive symptomatology was not correlated with social support. The level of overall psychological symptomatology was negatively correlated with social support ($r = -.28$, $p > .05$). This means that as social support increased, psychological symptoms decreased. The Social Embeddedness subscale was not correlated with overall psychological symptomatology. The other social support sub-scale, Expected Support, was correlated with overall psychological symptomatology ($r = -.29$, $p > .05$).
The level of overall psychological symptomatology was positively correlated with stressful life events ($r = .44$, $p > .01$). As stress increased, so did psychological symptoms. This was true for major and minor life events, both at $p > .01$. The level of depressive symptomatology was not correlated with minor stressful life events, but it was correlated with major stressful life events at $p > .05$.

Interestingly, when participants were separated into married and widowed groups, it was found that for the widowed group, neither social support nor major or minor life stress were significantly correlated with overall psychological symptomatology or depressive symptomatology. For the married group, social support and life stress were significantly correlated with overall psychological symptomatology and depressive symptomatology.

Testing the Research Question

Due to the continuous nature of the variables, a multiple regression analysis was used. This procedure along with a two-way analysis of variance has been used in many similar studies in the past comparing social support, stress, and psychological symptomatology (Cohen & Wills, 1985). Factors that may have an effect of symptomatology were run in a hierarchical procedure with demographic factors (age, health status, and education level) run first (see Table 4, Appendix F).
Subject's physical health was found to be significantly correlated with overall psychological symptomatology, with poorer health indicating greater symptomatology. Age, income, and education level were found to be non-significant. Marital status, being married or recently widowed, did not effect overall psychological symptomatology. Social support and stressful life events had a significant impact on psychological symptomatology.

Overall psychological symptomatology increased as level of social support decreased and number of stressful life events increased. When social support is broken into perceived support and social embeddedness factors, they did not significantly effect symptomatology independently. Although levels of social support and number of stressful life events had an effect on psychological symptomatology, they did not statistically interact.

For depressive symptomatology, health was also a significant factor, but age, income, and education level were found to be non-significant. Marital status had a significant effect on depressive symptomatology. Social support was found to be significant, but not stressful life events, and the two variables did not interact.

Both social support and stressful life events had an impact on overall psychological symptomatology, but their relationship was additive. Since there was no statistical interaction between social support and stressful life
events, the main effects model was supported by this data in relation to overall symptomatology. Stressful life events did not have an effect on a participant's level of depressive symptomatology, so neither of the models of social support were supported in relation to depression.

Post-Hoc Analysis

A post hoc correlational analysis was run to examine whether the social support and stress measures used in this study were correlated. Neither of the two measures for life stress were not found to be correlated with the social support measure or either of the social support subscales. This shows that there was not a confounding between the measures as has been found in some previous studies. Therefore, had an interaction been found between social support and stress, it would not have been due to confounding variables.
In order to detect whether an interaction between two variables exists in relation to a third variable, both of the independent variables must have a significant impact on the dependent variable. This was not the case for all variables that were originally going to be tested in the present study. Social support had an effect on both overall psychological symptomatology and depressive symptomatology independently. Number of stressful life events was correlated with overall psychological symptomatology but not depression. Therefore, the only case where stress and social support significantly effected symptomatology was for overall symptomatology, so the models of social support could not be tested for depressive symptomatology.

Depressive symptomatology was most related to marital status. Depressive symptomatology was also related to poor health. When the sample was separated into married and widowed groups, depressive symptomatology was not significantly related to stressful life events, social support, or any other factor for the widowed group. For the married group, depressive symptomatology was significantly correlated with level of social support, stressful life events, and physical health.
In the case of using overall psychological symptomatology, both levels of stress and social support had an impact on symptomatology, but they did not show a statistical interaction. This means that the main effects model of social support was supported in the current study. Stress and social support effected overall psychological symptomatology independently, so as stress increased, the positive effects of social support did not increase but rather acted in a uniformly positive manner regardless of level of stress. This finding indicates that social support is equally important regardless of what stressful life events one is experiencing.

The most important indicator of psychological symptoms with regard to social support in this study was expected or perceived support rather than degree of embeddedness in the social network. This finding supports previous studies (Ward, Sherman, & LaGory, 1984; Wethington & Kessler, 1986) that also indicate that an individual’s perception of their level of social support is more important that the actual support provided. Ward, Sherman, and LaGory (1984) found that actual support and the perception of social support are not highly correlated. If this is the case, and the perception of support is a better indicator of psychological symptomatology than objective support, then interventions aimed at increasing the positive effects of social support on psychological well-being should be designed accordingly.
Interventions should stress improving an individual’s perceptions of their support system instead of intervening in a more objective manner such as having family members call more often or encouraging the individual to make new friends.

Another interesting finding from the current study was that major and minor stressful life events were both correlated at $p > .01$ with overall psychological symptomatology and anxiety. Major and minor stressful life events seem to be equally good indicators and possible causes of psychological symptoms. This is an important point to consider when researching life stress, because studies often fail to take into account minor daily hassles. Minor negative life stressors seem to have a large impact on psychological symptomatology, and specifically anxiety, so older adults who are not experiencing a major stressor such as death of a spouse could still be at a significant risk for many psychological symptoms.

Several problems existed in the present study. One problem with the study was the small sample size. It is often difficult to obtain a large sample size with an older population living independently in the community, especially a population of recently widowed older adults. Even so, a large sample size is important when attempting to test for a statistical interaction. A large variety of levels of all variables is necessary, and this may not have been the case
in the present study. Most individuals reported at least moderately high levels of social support, which is a problem that many studies of this nature have faced. It may be the case that people with higher levels of social support tend to be more likely to participate in studies than people who feel more isolated. The variation between different participant’s level of stress was also somewhat limited. On the major life events scale, the range of possible scores was between 0 and 48, and the mean for the sample was 4.83 with a standard deviation of 3.05. As a whole, the sample showed higher levels of psychological symptoms than average adults (Derogatis & Spencer, 1982). Using a population of people with greater age differences may allow for more differences in psychological symptoms, which would make testing an interaction more effective.

Contrary to other research (Stroebe & Stroebe, 1987), this study found that the recently widowed group did not report poorer physical health than the married group. Also, overall psychological symptomatology was about the same for both groups. The widowed group did, however, report more symptoms of depression than the married group. The widowed group reported more symptoms on the psychoticism sub-scale of the BSI, but it is likely that the scores were not a true reflection of psychotic symptoms. The psychoticism sub-scale had low reliability in the present investigation. Although the psychoticism subscale was found to be
unreliable, it did not seem to effect the reliability of the overall scale in this study. In future studies using the BSI with older adults, it may be useful to note this finding if the psychoticism subscale is to be used as a measure independent of the overall scale. Another measure of psychoticism symptoms may be a better choice than the BSI sub-scale. A better measure of psychoticism may be one that taps on other symptoms of psychoticism besides those mentioned in this study. The Global Severity Index and anxiety and depression sub-scales all had high reliability, so the BSI as a whole appeared to be a useful measure.

Another notable finding of this study was that the recently widowed participants reported significantly fewer negative small life events than the married participants. Zautra, Reich, and Guarnaccia (1990) found the same trend in relation to recently widowed older adults and controls. A possible explanation for this finding is that recently widowed older women experience as many small life stressors as married older women, but they do not notice them as much because their focus is on a major stressor, the death of their spouse. Another explanation could be that recently widowed older women receive more care from their support networks than married older women, so they either do not notice the small negative events or they are protected from them by members of the support network. In the former two cases, it is implied that recently widowed older women
experience the same number of negative small life events as married older women, but recently widowed women do not notice them as much. In the latter case, it is implied that recently widowed women are protected from the negative small life events and they therefore do not experience them because members of the social network deal with the event instead of the recently widowed woman dealing with it. If this is the case, this may be a direct example if how social support systems are beneficial, and work to minimize life stress.

Another interesting finding was that overall psychological symptomatology for the widowed group was not significantly correlated with level of social support or number of stressful life events one has experienced. For the married group, however, overall psychological symptomatology was correlated with both level of social support and major and minor stressful life events. It could be that the size of the widowed group (21 participants) was too small to detect a correlation. Another possible explanation is that psychological symptomatology for recently widowed older women is influenced much more by the single major stressor, loss of a spouse, that any other factor. The amount of social support one receives or the number of other stressors one may experience do not have an impact on psychological symptomatology because the impact of the loss of the spouse on symptomatology is so great.
The main effects and the stress buffering models of social support both seem to be receiving support from research. It may be that each model is correct under different circumstances or in different groups of people. As more research is done in this area, our understanding of the beneficial nature of social support improves. It is generally recognized that social support is beneficial in reducing psychological and physical health symptoms, but a better understanding of how it works is necessary in order to utilize it to its full potential.
APPENDIX A

INFORMED CONSENT
I.D. __________

Informed Consent for Study of Stress and Coping

I, ____________________________, agree to participate in a study investigating the psychological factors involved in stress and coping. I understand that I will fill out some questionnaires concerning: my health status and basic demographic information, recent events that have taken place in my life, and my resources during stressful times.

I understand that there is no expected risk or discomfort related to filling out these questionnaires. I further understand that I am free to withdraw my consent and discontinue participation in the study at any time with no adverse consequences. A decision to withdraw from the study will not in any way affect the services I receive.

If I have any questions or problems that arise in connection with my participation in this study, I should contact either the researcher, Melissa Murdock, or the project director, Dr. Charles Guarnaccia, in the Department of Psychology of the University of North Texas, at 817-565-2671.

I understand that this form must be completed before I complete any questionnaires in this study.

(Print Name)

(Signature of Participant)          (Today’s Date)

PROJECT REVIEWED BY THE COMMITTEE FOR PROTECTION OF HUMAN SUBJECTS AT THE UNIVERSITY OF NORTH TEXAS (817-565-3940)
APPENDIX B

LOUISVILLE SOCIAL SUPPORT SCALE (LSSS)
1. During the past few weeks, how many times did you get together with friends - I mean things like going out together or visiting in each other’s homes?

1. None
2. Once or twice
3. 3 to 5 times
4. 6 to 10 times
5. 11 times or more

2. About how many neighbors here do you know well enough to visit with?

1. None
2. 1 to 3 neighbors
3. 4 to 8 neighbors
4. 9 to 15 neighbors
5. 16 or more

3. What about organizations such as church and school groups, labor unions, or social, civic, and fraternal clubs. About how many do you take an active part in?

1. None
2. One
3. 2
4. 3 or 4
5. 5 or more

4. How often do you visit with family and relatives who live outside the home? Would you say...

1. Daily
2. Every week or so
3. Monthly
4. Less than once a month
5. Less than once a year
5. In an average day, how many people would you say "hello" to, either on the phone or in person?

1. None
2. 1 or 2
3. 3 or 4
4. 5 to 9
5. 10 or more

6. Thinking of the best friend you now have, how close are you to that friend in being able to share your innermost thoughts, worries, and feelings?

1. Extremely close
2. Very close
3. Somewhat close
4. Slightly close
5. Not close at all

7. If everything went badly, how many people could you turn to for real comfort and support?

1. None
2. 1 to 5
3. 6 to 15
4. 16 to 20
5. 21 or more
Instructions: Place a check mark beside the answer that most applies to you for each question.

8. People deal with emergencies in different ways. In an emergency, how much help would your immediate family be able to give you?
   ___1. A great deal of help
   ___2. A fair amount of help
   ___3. Only a little help
   ___4. No help at all

9. In an emergency how much help would your relatives outside the home be able to give you?
   ___1. A great deal of help
   ___2. A fair amount of help
   ___3. Only a little help
   ___4. No help at all

10. In an emergency, how much help would friends be able to give you?
    ___1. A great deal of help
    ___2. A fair amount of help
    ___3. Only a little help
    ___4. No help at all

11. In an emergency, how much help would neighbors be able to give you?
    ___1. A great deal of help
    ___2. A fair amount of help
    ___3. Only a little help
    ___4. No help at all

12. In an emergency, how much help would churches in your community be able to give you?
    ___1. A great deal of help
    ___2. A fair amount of help
    ___3. Only a little help
    ___4. No help at all
I.D.: _______  Minor Life Events Scale

This list of events has to do with your life in general. Place a check mark next to the ones that happened directly to you in the past one month (that is happened between this time last month and now).

__ 1. Your pet was very sick and needed extra attention.
__ 2. You had to stop a hobby, sport or other recreational activity.
__ 3. You called off a planned (weekend or longer) vacation.
__ 4. You had to attend a funeral service.
__ 5. You broke an important rule or commandment of your religion.
__ 6. You ran out of money and could not cover living expenses this month.
__ 7. You received threatening news from a creditor (by phone or mail).
__ 8. Your rent or mortgage payment was increased.
__ 9. You had an unexpected expense over $50.00.
___ 10. You found a large unfavorable error in your check book balance.
__ 11. Your car broke down.
__ 12. You were a passenger in a car/bus with a poor driver.
__ 13. Your household plumbing, electrical, etc. broke down.
__ 14. Your home had too much heat for a day or more.
__ 15. Your home had too little heat for a day or more.
__ 16. One of your household appliances broke down or stopped running well.
__ 17. Your neighbor’s noise disrupted your sleep.
18. Repair person or apartment superintendent failed to fix something properly for you.

19. You had to wait a long time for a repair person to arrive at your home.

20. You saw unwanted household pest (roaches, mouse, spider, etc.).

21. Your child became sick and needed your attention.

22. You had an argument with a family member (not spouse/mate).

23. You argued with your spouse/mate.

24. You were criticized by your child(ren).

25. You discovered that your child has a problem with his/her spouse.

26. You were criticized or blamed for something by a family member.

27. Your usual visit with your child was canceled or postponed.

28. You discovered your child has a problem at work.

29. You were criticized by spouse/mate.

30. You were critical of spouse/mate.

31. You discovered a friend, relative, or neighbor was a victim of a crime.

32. You were cheated or short-changed in a store.

33. A close friend or a relative of yours died.

34. Your close friend(s) left the neighborhood.

35. You were criticized by a friend/acquaintance.

36. You argued with a friend/acquaintance.

37. Your friend/acquaintance failed to show up for scheduled meeting.

38. You missed an important appointment.
39. Your friend/acquaintance did not return your call.
40. You met an unfriendly or rude person.
41. You heard rumors of layoffs that would affect your job.
42. You had added pressure to work harder/faster on your job.
43. You had to work overtime on your job when you did not want to.
44. Your workplace ran out of supplies you needed to do your job.
45. You had a physical illness or injury occur or get worse.
46. Your allergies flared up or air pollution caused you extended discomfort.
47. You began a day with physical pain or discomfort.
48. You got very tired in a short time.
APPENDIX D

DEMOGRAPHICS QUESTIONNAIRE
Demographics Questionnaire

Subject Number:_______

What is your age? ______(years)    Date of Birth:__________

What is your gender? _____Male    _____Female

What is your current marital status?

___Married    ___Single (Never married)    ___Divorced or separated

___Widowed     If widowed, what was the date of your spouses death?____________

Length of most recent marriage (years):_______
Number of times married:_______

What is your racial/ethnic background?

___Caucasian/White (not Hispanic)    ___Hispanic

___African American/Black    ___Other - Please describe__________

What is your yearly personal income?

___$0 to $9,999    ___$10,000 to $19,999    ___$20,000 to $29,999

___$30,000 to $39,999    ___$40,000 or more

Number of years of education:

___0-8    ___9-12    ___13-16    ___over 16
(0-8 high school) (4 year college) (graduate work)

How many people live with you?__________
What are each of their relationships to you?

1.__________________________

2.__________________________

3.__________________________

4.__________________________

5.__________________________

How many times have you been to the doctor in the last year?_______
Are you taking any prescription medications? _____
If so, please list: __________________________________________
                                           __________________________________________
                                           __________________________________________

Have you had any major or minor surgeries in the last year? _____
If so, please describe: __________________________________________
                                           __________________________________________
                                           __________________________________________

Have you had any hospitalizations or visits to the emergency room in the last year that you have not already described? If so, please describe: __________________________________________
                                           __________________________________________
                                           __________________________________________

How would you rate your overall health?

   _____Very Good    _____Quite Good    _____Somewhat Good    _____Okay
   _____Somewhat Poor    _____Quite Poor    _____Very Poor
For married individuals:

How many times has your spouse been to the doctor in the last year? _____

Is your spouse taking any prescription medications? _____
If so, please list: __________________________________________
__________________________________________________________
__________________________________________________________

Has your spouse had any major or minor surgeries in the last year? _____
If so, please describe: ______________________________________
__________________________________________________________
__________________________________________________________

Has your spouse had any hospitalizations or visits to the emergency room in the last year that you have not already described? If so, please describe: ______________________________________
__________________________________________________________
__________________________________________________________

How would you rate your spouse's overall health?
____ Very Good  ____ Quite Good  ____ Somewhat Good  ____ Okay
____ Somewhat Poor  ____ Quite Poor  ____ Very Poor
APPENDIX E

MAJOR LIFE EVENTS INVENTORY
Major Life Events Inventory

___ID

Which of these events happened to you in the past 1 year, that is between this time last year and now (please check)

1. SOCIAL LIFE SECTION

___ 1. Broke up with a friend
___ 2. Close friend or relative (not spouse) died.
___ 3. Close friend or relative had to move away (institutionalized, nursing home, extended hospitalization, etc.)

2. MONEY AND FINANCIAL MATTERS

___ 1. Took out a mortgage.
___ 2. Started buying a car, furniture, or other large items bought on installment plan.
___ 3. Suffered a financial loss or loss of property not related to work.
___ 4. Had financial improvement not related to work.

3. FAMILY SECTION

___ 1. New person moved into the household.
___ 2. Person moved out of the household.
___ 3. Hit by your child.

4. HOUSEHOLD SECTION

___ 1. Moved to a better residence or household.
___ 2. Moved to a worse residence or household.
___ 3. Moved to a residence or neighborhood no better or worse that the last one.
___ 4. Built a home or had a home built.
___ 5. Lost a home through fire, flood, or other disaster.
5. CRIME AND LEGAL MATTERS SECTION

__ 1. Physically assaulted or attacked.
__ 2. Burglarized.
__ 3. Robbed.
__ 4. Involved in a lawsuit.
__ 5. Got involved in a court case.

6. HEALTH/ILLNESS SECTION

__ 1. Physical health improved.
__ 2. Unable to get treatment for a serious illness or injury.
__ 3. Serious physical illness started or got worse.
__ 4. Serious injury occurred or got worse.

Which of these diseases/injuries have you had or do you have?

__ 5. Arthritis or rheumatism.
__ 6. Chronic back pain
__ 7. Serious lung troubles such as asthma, emphysema, chronic bronchitis, or tuberculosis.
__ 8. Cancers, tumors, or leukemia (except skin cancers.)
__ 9. Skin disorders such as pressure sores, leg ulcers, severe burns, skin cancers or other dermatological problems.
__ 10. Diabetes, sugar diabetes, or hypoglycemia.
__ 11. Heart disease, angina, or heart attack.
__ 12. Hardening of the arteries.
__ 14. High blood pressure or hypertension.
__ 15. Liver disease.
17. Ulcers or other intestinal or stomach disorders.
19. Vision disorders such as glaucoma, blindness, or other severe eye problems.
20. Broken or injured bones.
21. Spinal injury or disease.
22. Neurological disorders (such as Epilepsy, Parkinson's Disease, Meningitis, Cerebral Palsy, Convulsions, Seizures, Multiple Sclerosis, Muscular Dystrophy, etc.)
23. Circulation trouble in arms or legs.
25. Thyroid or other glandular disorders.
26. Effects of polio.
27. Speech impairment or impediment.
28. Other disease/injury (specify)
APPENDIX F

TABLES
Table 1

Demographic Variables of Married and Widowed Participants

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<thead>
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<th>Variable</th>
<th>All Participants</th>
<th>Widowed</th>
<th>Married</th>
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</tbody>
</table>

<sup>a</sup> Income is rated 1=$0-9,999, 2=$10,000-19,999, 3=$20,000-29,999, 4=$30,000-39,999, 5=$40,000 and over

<sup>b</sup> Education is rated 1=0-8 yrs, 2=9-12 yrs, 3=13-16 yrs, 4=over 16 yrs

<sup>c</sup> Homesize is number of other people living in the household other than the participant

<sup>d</sup> Poor health is rated between 0 and 12 with higher numbers indicating poorer health
Table 2

Psychosocial Variables of Married and Widowed Participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>All Participants</th>
<th>Widowed</th>
<th>Married</th>
<th>M</th>
<th>SD</th>
<th>m</th>
<th>sd</th>
<th>T^a</th>
<th>(p)</th>
</tr>
</thead>
</table>
| BSI Total               | .44              | .34     | .52     | .28 | .41 | .35 |     | -1.33 | NS
| BSI Depression          | .57              | .57     | .96     | .62 | .40 | .45 |     | -4.25 | .000 |
| BSI Psychoticism        | .26              | .31     | .42     | .37 | .19 | .26 |     | -2.59 | .015 |
| LSSS Total              | 38.39            | 6.40    | 40.43   | 5.07 | 37.54 | 6.75 |     | -1.76 | .083 |
| Perceived Support       | 15.35            | 3.27    | 16.38   | 2.91 | 14.92 | 3.34 |     | -1.74 | .086 |
| Life Events Total       | 10.89            | 6.01    | 10.14   | 4.93 | 11.20 | 6.43 |     | .67  | NS |
| Major Life Events       | 4.83             | 3.05    | 5.38    | 2.92 | 4.60 | 3.10 |     | -.99 | NS |
| Minor Life Events       | 6.06             | 4.06    | 4.60    | 3.10 | 6.60 | 4.38 |     | 2.10 | .041 |

^a Degrees of Freedom for each t-test = 69
Table 3

**Alpha Internal Consistency Reliabilities**

<table>
<thead>
<tr>
<th>Scale Name</th>
<th># of Items</th>
<th>Mean Inter-Item Corr.</th>
<th>Std. Item Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSSS Total</td>
<td>12</td>
<td>.202</td>
<td>.752</td>
</tr>
<tr>
<td>Soc. Embeddedness</td>
<td>6</td>
<td>.147</td>
<td>.508</td>
</tr>
<tr>
<td>Perceived Support</td>
<td>5</td>
<td>.340</td>
<td>.720</td>
</tr>
<tr>
<td>BSI Total</td>
<td>53</td>
<td>.198</td>
<td>.929</td>
</tr>
<tr>
<td>BSI Depression</td>
<td>6</td>
<td>.332</td>
<td>.749</td>
</tr>
<tr>
<td>BSI Anxiety</td>
<td>6</td>
<td>.246</td>
<td>.662</td>
</tr>
<tr>
<td>BSI Psychoticism</td>
<td>5</td>
<td>.096</td>
<td>.348</td>
</tr>
</tbody>
</table>
### Table 4

**Hierarchical Multiple Regression Predicting Overall Psychological Symptomatology**

<table>
<thead>
<tr>
<th>Step</th>
<th>F Change</th>
<th>Sig F Change</th>
<th>$R^2$ Change</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 - Physical Health</td>
<td>21.005</td>
<td>.000</td>
<td>.253</td>
<td>.503</td>
</tr>
<tr>
<td>Step 2 - Age</td>
<td>.001</td>
<td>NS</td>
<td>.000</td>
<td>.003</td>
</tr>
<tr>
<td>Step 3 - Income</td>
<td>.063</td>
<td>NS</td>
<td>.001</td>
<td>.030</td>
</tr>
<tr>
<td>Step 4 - Educate</td>
<td>2.438</td>
<td>NS</td>
<td>.030</td>
<td>-.186</td>
</tr>
<tr>
<td>Step 5 - Marital Status</td>
<td>2.228</td>
<td>NS</td>
<td>.027</td>
<td>.166</td>
</tr>
<tr>
<td>Step 6 - Social Support</td>
<td>4.400</td>
<td>.040</td>
<td>.049</td>
<td>-.232</td>
</tr>
<tr>
<td>Step 7 - Stressful Life Events</td>
<td>5.282</td>
<td>.025</td>
<td>.055</td>
<td>.273</td>
</tr>
<tr>
<td>Step 8 - Soc Supp X Life Events</td>
<td>1.343</td>
<td>NS</td>
<td>.014</td>
<td>-.995</td>
</tr>
</tbody>
</table>
Table 5

Hierarchical Multiple Regression Predicting Depressive Symptomatology

<table>
<thead>
<tr>
<th>Step</th>
<th>F Change</th>
<th>Sig F Change</th>
<th>R² Change</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 - Physical Health</td>
<td>4.913</td>
<td>.030</td>
<td>.073</td>
<td>.271</td>
</tr>
<tr>
<td>Step 2 - Age</td>
<td>.265</td>
<td>NS</td>
<td>.004</td>
<td>-.065</td>
</tr>
<tr>
<td>Step 3 - Income</td>
<td>.079</td>
<td>NS</td>
<td>.001</td>
<td>-.037</td>
</tr>
<tr>
<td>Step 4 - Educate</td>
<td>.078</td>
<td>NS</td>
<td>.001</td>
<td>-.038</td>
</tr>
<tr>
<td>Step 5 - Marital Status</td>
<td>18.641</td>
<td>.000</td>
<td>.224</td>
<td>.482</td>
</tr>
<tr>
<td>Step 6 - Social Support</td>
<td>6.937</td>
<td>.011</td>
<td>.075</td>
<td>-.287</td>
</tr>
<tr>
<td>Step 7 - Stressful Life Events</td>
<td>1.570</td>
<td>NS</td>
<td>.017</td>
<td>.151</td>
</tr>
<tr>
<td>Step 8 - Soc Supp X Life Events</td>
<td>.370</td>
<td>NS</td>
<td>.004</td>
<td>-.535</td>
</tr>
</tbody>
</table>
REFERENCES


George, L.K. (1988). Stress, social support, and depression over the life course. In K.S. Markides & C.L. Cooper
(Eds.), Aging, stress and health (pp. 241-267). New York: Wiley.


