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A COMPARATIVE STUDY OF STRAIN AND DEPRESSIVE
SYMPTOMATOLOGY IN FAMILY CAREGIVERS
OF OLDER ADULTS
WHO ARE FUNCTIONALLY IMPAIRED

by

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Submitted in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy

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January, 1995
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A COMPARATIVE STUDY OF STRAIN AND DEPRESSIVE SYMPTOMATOLOGY IN FAMILY CAREGIVERS OF OLDER ADULTS WHO ARE FUNCTIONALLY IMPAIRED

Abstract

by

KAREN ANN SCHWARZ

Families have been providing assistance to older adults that may result in strain and depressive symptomatology. Caregiver strain and depressive symptomatology may be explained by availability of social support. Research concerning home care nurses as formal providers of social support to caregivers of older adults residing in the community is limited. The purposes of the study were to 1) determine if strain, depressive symptomatology, and caregiving appraisal were significantly different between family caregivers of older adults who were functionally impaired receiving home health care and those who were not receiving this support, and 2) assess the moderator model of social support.

Using consecutive sampling, 49 caregivers to functionally impaired older adults receiving home health care and 51 caregivers not receiving this support were selected after receiving referrals from hospital personnel. Within a week of receiving the referral, interviews in the home were conducted about strain, depressive symptomatology, caregiving appraisal, informal social support,
satisfaction with social support, problem-focused coping, and emotion-focused coping. After three months, the same data were collected as well as information about satisfaction with home health care.

Differences in strain, depressive symptomatology, and caregiving appraisal between those caregivers receiving home health care and those not receiving this support were assessed with t-tests and ANCOVA. Concepts used in the explanation of strain and depressive symptomatology were analyzed with multiple regression. The buffering effect of social support was tested with multiple regression with interaction effects.

Strain and depressive symptomatology were not significantly lower and positive caregiving appraisal was not significantly higher after three months between those caregivers with home health care and those without this support, even when controlling for their pretest measures. Taken together, problem-focused coping, emotion-focused coping, and positive caregiving appraisal explained strain and depressive symptomatology among family caregivers prior to receiving home health care ($R^2$'s = .49 and .50, respectively). Positive caregiving appraisal was a significant variable in regression at pretest for strain and depressive symptomatology ($B$'s = -.71 and -.70, respectively) and at post test for strain and depressive symptomatology ($B$'s = -.72 and -.61, respectively).

Recommendations for development of instruments to measure factors involved in caregiving of functionally impaired older adults were indicated. Gaps in caregiving research concerning specific populations were addressed.
DEDICATION

This dissertation is dedicated to the numerous caregivers and care-recipients who are trying to meet life's challenges daily. Hope lies within those persons who are committed to research in order to develop interventions that will improve their quality of life.
ACKNOWLEDGEMENTS

Sincere appreciation is extended to my committee chairperson, Dr. Beverly Roberts and my committee members, Dr. Carol Blixen, Dr. Diana Morris, and Dr. David Biegel. Dr. Roberts guided me throughout not only the candidacy and dissertation process but facilitated acquiring funding through the National Center for Nursing Research. Dr. Robert's expertise enabled me to understand the whole picture, develop critical thinking, and gain an appreciation for the research process. Dr. Blixen, Dr. Morris, and Dr. Biegel enhanced the quality of the study with their expertise on caregiving and the mental health of the older adult.

Sincere appreciation is given to The Frances Payne Bolton School of Nursing Alumni Research Committee, Sigma Theta Tau, Delta Omega Chapter, and the National Center for Nursing Research (NR06819-02) who provided funding for the study. Recognition for this research endeavor provided impetus to continue when the challenges were overwhelming. Gratitude is extended to the home health care agencies who participated in the study and hospital personnel who assisted with data collection.

I thank my colleagues at the University of Akron and friends in the community who demonstrated an interest in my endeavors. I am indebted to my husband Chuck and daughters Liz and Kate for their love, patience, and words of encouragement when the days and nights were long. I thank God for listening to my prayers for hope and patience, and lastly, I thank my parents Joseph and Marcella Nauyalis. Although they were not able to see this accomplishment, they realized that their daughter would pursue this project to completion.
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CHAPTER I

Introduction

Families have long been recognized as providing enormous amounts of assistance to older adults, and the resulting strain from this caregiving is well-documented (Biegel, Sales, Schulz, 1991). During the past decade, researchers have become more and more interested in studying these family members called caregivers who provide care for the frail older adult (Gatz, Bengtson, & Blum, 1990). Researchers have studied support groups and respite care to determine if these interventions are a means of alleviating caregiver strain, but results of previous studies have been equivocal. Researchers have not given much attention to supportive services such as home health care as a means of alleviating strain and depressive symptoms in caregivers of impaired older adults while addressing the informal social system.

Significance of the Problem

The number of persons aged 65 years and over has increased from 4% of the population in 1900 to 12% in 1985 (Mader & Ford, 1987). There are approximately 23 million people 65 years and older in the United States, and this figure continues to rise. In addition, an estimated five percent of persons over 65 years of age and 20 percent of persons over 80 years of age are affected by a type of irreversible dementia, which is the impairment of intellectual functioning usually accompanied by memory loss, personality change, and inability to carry out the normal tasks of daily living (Morycz, 1980; Steel & Feldman, 1979).

The interaction of a cognitive impairment and unusual behaviors associated with dementia or the inability to care for oneself due to a chronic illness
necessitates caregiving by others such as children and spouses (Biegel et al., 1991; Stoller & Earl, 1983; Zarit & Zarit, 1982). However, care at home that is expensive in terms of time and/or money (Fischer & Eustis, 1994) frequently taxes the caregiver's physical and psychological resources resulting in stress and depressive symptomatology (Morycz, 1980).

For conceptual clarity it is necessary to discuss terms that have been used interchangeably with stress and the meaning of depressive symptomatology. Stress is a transaction between the individual and the environment in which the individual construes stimuli as challenging or threatening to well-being (Lazarus & Folkman, 1984). Stressors and strain are dimensions of stress (Engel, 1985). Stressors are defined as experiential circumstances or life events that are threatening (Pearlin, 1989) while strains are reactions to persistent problems that are continuous and ongoing (Pearlin & Schooler, 1978). Since problems associated with caregiving are part of the caregiver's everyday life and often continue for years, strain was the focus of the study.

Depressive symptomatology identified feelings of sadness and hopelessness that may be experienced by caregivers. Epidemiological and clinical data suggest that most persons reporting significant dysphoric symptoms in community surveys do not meet criteria delineated in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1987) for a specific DSM-III-R diagnosis of affective disorder (Blazer, 1989; Blazer, Hughes, & George, 1987). Most caregivers reporting depressive symptomatology are experiencing a transient dysphoric mood rather than major depression (Fitting & Rabins, 1985). Thus, the depressed mood will remit after the stressor ceases or if a new level of adaptation is achieved with coping (Blazer, 1982; Neundorfer, 1991).
Individual differences, however, exist in the degree to which caregivers appraise caregiving situations as stressful (Poulshock & Deimling, 1984; Quayhagen & Quayhagen, 1988; Zarit, Todd, & Zarit, 1986). These findings are consistent with Lazarus and Folkman’s (1984) theory of stress and coping that proposes that stress is mediated by one's primary and secondary appraisal of the situation and coping resources. Social support, a behavior or action that assists one in meeting goals or dealing with demands of a particular situation (Tolsdorf, 1976), is a resource that affects this appraisal and satisfaction with informal and formal social support is of importance (Krause, 1987a).

The strain borne by families of those persons who undergo some mental deterioration in addition to a physical impairment is often not recognized but may be the major factor in the family's decision to institutionalize an older family member (Morycz, 1980). Although older adults are twice as likely to prefer home health care to any form of institutional care (Fischer & Eustis, 1994), families seek nursing home placement because they can achieve some relief from strain and depression (Biegel et al., 1991). According to Biegel et al. (1991) and Morycz (1985), data suggest that institutional placement may be delayed if caregivers perceive that a cooperative support system is available. Hughes, Cordray, and Spiker (1984) found the rate of admission to a long-term care institution was twice as great for the older adults who did not receive home health care than for the group who received services. Wan and Wiessert (1981) and Eggert, Granger, Morris, and Pendleton (1977) indicated that lack of social support increased the likelihood of discharge from hospital to nursing home.

Families of functionally impaired older adults require formal services from service agencies such as home health care or from informal services obtained
through family and friends (Noelker & Bass, 1989). Only 6% of caregivers receive care from formal caregivers while 70%-80% of primary care is provided by relatives with spousal caregivers representing 36% of those relatives providing care (Hogan, 1990; Soldo, 1984; Stone et al., 1987). Noelker and Townsend (1987) found the use of informal and formal support to be positively related to caregiver satisfaction. Yet, more financial support is available for the more costly institutional living rather than community living for the older adult (Hogan, 1990). The total expenditures by the federal government for home health care during 1990 were less than 1% of the total health care budget (U.S. Bureau of Census, 1991).

As years of caregiving continue, the potential exists for caregivers themselves to become depressed with a deterioration in their own health (Gaynor, 1990). The caregiver, worn down by tasks, providing care to others, and aging becomes in need of care, himself, and the cycle of need for care by others continues. However, home health care has the potential to offset this cycle by offering supportive services. Home health care nurses, a form of formal social support, have first-hand information about the home environment and how caregivers such as spouses are coping with strain from caregiving. Personnel from home health care agencies can provide assistance with bathing and transferring, respite, household tasks, emotional support, and assessment of the needs of the caregiver and care-receiver. The family and worker roles interlock in that each provides what the other does not (Fischer & Eustis, 1994).

The goal of nurses is to assess and enhance health status, health assets, and the health potentials of humans (Schlotfeldt, 1981). Assisting individuals in the maintenance of their health by coping with life crises, changes in life styles, and roles represents the reason for the being of nursing. However, if nurses are to
maximize the caregiver’s health by reducing strain, a better understanding of the
effects of home care that is believed to be supportive of cognitively and physically
impaired older adults is needed (Bass & Noelker, 1987).

**Research Problem**

In a study of noninstitutionalized functionally impaired elders and their
caregivers, Stone, Cafferata, and Sangl (1987) found that 42% of elders in the
United States reported difficulty with at least five activities of daily living.
This reported difficulty, in addition to dementia, potentiates the need for others to
provide care (Shook & Beck, 1991). Relatives and friends, a form of informal
social support, provide most of the care that is provided to older adults residing in
the community (Johnson & Catalano, 1983).

Family caregivers of older adults who are cognitively impaired experience
high levels of strain and depressive symptoms (Cantor, 1983; George & Gwyther,
1986; Robinson, 1989; Zarit, Todd, & Zarit, 1986). Caregiver characteristics that
may affect strain and/or depression are age, gender, health, time spent in
caregiving, and role obligations (Pallet, 1990), and the relationship among them is
complex. Spousal caregivers of older adults with dementia are at greatest risk for
strain and depression because of their age, declining health, decreased finances,
and difficulties coping with mental impairment of the care-receiver (Cantor, 1983;
Deimling & Bass, 1986). Pruchno and Resch (1989a) found that wives involved in
caregiving were more burdened and depressed than husbands who were caregivers.
For some caregivers, ill health and physical disabilities cause added hardships,
while for caregivers who are healthy, confinement is more stressful (Pallet, 1990).

According to Lazarus and Folkman’s (1984) theory of stress and coping,
perceived stress is mediated by one’s primary and secondary appraisal of the
situation and coping resources. Potentially stressful situations are evaluated in terms of their significance to personal well-being, and these evaluations guide emotion-focused and problem-focused coping responses and the need for support (Lazarus & Folkman, 1984; Scott, Oberst, & Dropkin, 1980). Social support is assumed to moderate the relationship between strain and depression, but results of previous researchers have been inconsistent (George, 1989). The importance of measuring satisfaction with social support, however, is just as important as measuring the amount of support received. Krause (1987a) found self-perceived health to be more highly related with psychological than objective or functional health status, and satisfaction with tangible support was an important correlate affecting depression.

Home health care nurses are a potential source of formal social support for caregivers of older adults who are functionally impaired due to a cognitive or physical impairment. In working toward one's right to remain independent and functioning at home, home health care nurses attempt to minimize the negative consequences and effects of the older adult's disability through physical and psychosocial assessments and coordination of services to the caregiver and care-recipient (Cox, 1990).

Although nurses and auxiliary personnel are involved in providing this much needed care home care, little information is available about whether services provided make a difference in strain and depressive symptomatology of caregivers of older adults (Schirm, 1989). Gilhooly (1984) found a significant positive relationship between the number of visits by a community health nurse to morale and mental health of the caregiver of the older adult. Baines (1984) and Smith, Smith, and Toseland (1991) found caregivers had concerns of not knowing the
proper way to care for the disabled person, identified a need for improving coping skills, and wanted assistance from service providers.

Because older adults use proportionately more medical services than any other age group, detecting and preventing mental health problems could affect the monetary and psychological costs associated with increased health care (Blixen, 1994). Home health care personnel, who experience unique interactions with the family, are in a position to anticipate and intervene in problems associated with caregiving. This supportive service can prevent the caregiver from becoming exhausted and ill from the duties of caregiving by providing caregivers with knowledge and skills or providing care, offering emotional support, and respite from the daily tasks. Therefore, the main purpose of this study was to determine if strain, depressive symptomatology, and caregiving appraisal were significantly different between caregivers of functionally impaired older adults receiving home health care and those not receiving this type of support. The second purpose was to assess whether informal and formal social support moderated the relationship between strain and depressive symptomatology.

Conceptual Framework

The conceptual framework for the proposed study was an adaptation of Lazarus and Folkman’s (1984) transactional theory of stress and coping and Wheaton’s (1985) interactive stress-buffering model of social support. Although the conceptual model has been borrowed, the relationships among the concepts related to person, environment, health, and nursing fit into the nursing perspective and relate to the nursing metaparadigm as related by Fawcett (1984).

With primary appraisal a person evaluates the transaction or stakes involved. With secondary appraisal, a person evaluates coping resources and options. A reappraisal occurs when a previous appraisal is altered on the basis of new information from the environment. Support may facilitate cognitive reappraisal, such as believing one's strain is not due to one's own fault (La Rocco, House, & French, 1980).

Cognitive appraisal is dynamic and continuous and can be expected to change as caregiving demands change or the resources available to the caregiver are altered (Carey, Oberst, Mc Cubbin, & Hughes, 1991). Whether a demand is stressful depends on subjective appraisal (Lawton, Kleban, Moss, Rovine & Glicksman, 1989). Caregiving appraisal that was measured by Lawton et al. (1989) included all the cognitive and affective appraisals and reappraisals of the potential stressors including positive, neutral, and negative responses.

Coping refers to the person's cognitive and behavioral attempts to manage events that are appraised as stressful (Lazarus & Folkman, 1984). An individual manages these stressful events through various ways of coping. Emotion-focused coping occurs by managing an individual's emotional response to stress while problem-focused coping occurs with managing problems generating the stress. Folkman and Lazarus (1980) found that problem-focused forms of coping were used in situations that were appraised as changeable, while emotion-focused forms of coping were used in encounters appraised as unchangeable.

Researchers are beginning to study specific coping strategies in relationship to strain and depressive symptomatology. Problems that the caregiver confronts at an earlier stage of illness may evoke coping behaviors that differ at a later stage of the disease (Pearlin, Turner, & Semple, 1989). Although Jeffrey (1989) found lack of
a relationship between ways of coping and time since diagnosis, Gurklis and Menke (1985) found length of time on hemodialysis treatments was positively associated with problem-focused coping but not with affective-oriented coping. Furthermore, Billings and Moos (1984) found that problem-focused coping was related to fewer depressive outcomes, whereas emotion-focused coping was related to more depressive outcomes (Folkman, Lazarus, Gruen, & De Longis, 1986), and stress (Killeen, 1990).

The final function of coping is to manage the symptoms of stress that arise from caregiving (Pearlin et al., 1989). Since insufficient effort has been given to evaluating the efficacy of coping (Pearlin, 1989), it is not clear whether one response or a group of responses represents the best way to deal with the strain of caregiving. Therefore, this study assessed whether emotion-focused and problem-focused coping explained strain and depressive symptomatology in caregivers of older adults.

Although stress contributes to negative caregiver outcomes, such as depressive symptomatology, the perceived intensity of this stress or strain may be predicted by the availability of social support to the caregiver (Morycz, 1980). One of the ways social support may protect people from the damaging effects of stress is through its effects on the mediating appraisal and coping process (Lazarus & Folkman, 1984). This support can be categorized as being informal or formal. Informal social support is provided by families and friends, while formal social support is provided by governmental and voluntary service agencies (Branch & Jette, 1983). Home health care agencies provide home services, a type of formal social support, that has the potential to assist clients in adapting to life stresses.
The relationship among strain, depression, informal and formal social support, and satisfaction with social support is a complex process (George, 1989; Krause & Jay, 1991). The relationship between these variables may depend upon the nature of the stressor, the potentially negative as well as positive effects of social support, and the specific sources of support that are available. Measures of these variables can be incorporated into the same conceptual framework so that the contribution of each factor can be assessed simultaneously (Krause & Jay, 1991).

Wheaton (1985) and Krause (1989) differ from Lazarus and Folkman (1984) in how they view the function of social support as a resource. These authors view resources as buffers or moderators of stress, but Lazarus and Folkman view resources as factors that precede and influence coping, which in turn affect stress. The moderator model requires an interaction between stress and social support in that the effect of stress on depression will be significantly attenuated at higher levels of support (Wheaton, 1985), but the relationship between social support and stress is low (Krause, 1989). Support can moderate the effects of stress whether or not it depends causally on the level of stress.

Although Krause (1986c; 1987b) and Boyce (1981) found evidence for both direct and interactive effects for support, others have found only direct effects (Billings & Moos, 1984; Cronkite & Moos, 1984; Roberts, Dunkle, & Haug, 1994). Since it is not clear whether the moderator model or an additive model fits better, both models will be used in hypothesis testing. Figures 1 and 2 (pp. 13 and 14) illustrate the conceptual models.

According to Krause (1987a) satisfaction with informal and formal social support such as home health care is related to intrapsychic and social factors. In the ideal case, one feels supported and the effect of that support is some objectively
ascertainable positive outcome (Antonacci, 1985). However, problems result when either one is not truly supported, or social demands arise from the relationship causing more stress (Lazarus and Folkman, 1984).

In further study of satisfaction with social support, Krause (1987a) found that those older adults who were dissatisfied with the amount of provided help tended to be more depressed than those older adults who felt more satisfied with help they had given. Satisfaction with emotional support, which can be provided by home health care, was an important determinant of well-being. However, satisfaction with social support was not evaluated within the moderator model because a number of complex factors may enter into the overall evaluation of the adequacy of social support (Krause, 1989).

Although age, sex, perceived health of the caregiver, length of time spent in caregiving, and role obligations may affect strain and depressive symptomatology, findings in the literature have not been consistent (Pallet, 1990). Relationships among these variables appear to be complex and the unique contribution of each variable is not always evident. Results of several studies suggested that older caregivers providing care to spouses suffered less stress than younger caregivers because of the marital bond of affection (Pallet, 1990). In terms of health of the caregiver, researchers such as Robinson and Thurnher (1979) found caregiving was more stressful for the healthier spouse confined to the home. On the other hand, with increasing age the potential for physical disabilities increases and exacerbates the strain of caregiving (Chenoweth & Spencer, 1986).

Several researchers found that females exhibit more caregiver strain than males (Fitting & Rabins; Johnson, 1983; Verbrugge, 1976), but results have been inconclusive and sparse concerning depression (Ballie, Norbeck, & Barnes, 1988;
gender related to psychological distress, but Pruchno and Resch (1989a) found
wives to be more depressed than husbands.

Length of time spent in caregiving is important because caregivers must
continually adapt to the changing dependency needs of the care-recipient (Lindgren
1990). Feelings of helplessness, an indicator of depressive symptomatology, may
occur with the longer time one spends in caregiving. However, results concerning
time spent in caregiving have been inconclusive (Grad & Sainsbury, 1963; Zarit,
Todd, & Zarit, 1986). For some caregivers, the necessary skills and ability to
tolerate problems increases, and for others, strain and depressive symptoms occur.

Additional social roles such as providing care to others or employment place
demands on the caregiver’s time and energy that may lead to role conflict and
strain (Pallet, 1990). Caregivers often reduce involvement in some roles and
eliminate others to control the stress from multiple roles. Involvement in other
relationships or roles may be taxing, but it also allows emotional support and
respite that is greatly needed (Pallet, 1990).
Figure 1. Main Effects Model
Figure 2. Moderator Model
Gaps in Knowledge

Researchers have suggested that strain is a result of many factors including informal social support (Zarit & Zarit, 1982; Krause, 1986c, 1987a, 1987b), and enhancing the informal support network with formal social support may prevent the breakdown of the family system (Zarit, Reever, & Bach-Peterson, 1980). The importance of satisfaction with support in terms of perceived health has been supported such that older adults who are not satisfied with provided support are more likely to suffer from psychological distress than those adults who are satisfied (Krause, 1987a; Krause, Liang, & Yatomi, 1989).

However, while the literature about caregiving and studies of social support are abundant, several gaps in knowledge remain when examining these variables together. First, most investigators examining caregiving strain have not looked at the combined influence of coping, appraisal, and informal and formal social support on strain and depressive symptomatology. Although investigators assessed coping styles and satisfaction with group participation, neither strain or appraisal were analyzed with coping (Haley, Brown, & Levine, 1987). According to Pearlin et al. (1989), there is an urgent need to examine the optimum mix of formal resources, informal support, and personal coping strategies when examining caregiver stress. The modes of coping that are most likely to be adopted function primarily for the management of the meaning of the situation or how the situation is perceived and understood. Coping, however, is most effective when it is accompanied by other resources. This study determined whether problem-focused and emotion-focused coping and positive caregiving appraisal were important in the explanation of strain and depressive symptomatology in caregivers of functionally impaired older adults.
Second, the effects of stress and social support on depressive symptoms have been examined by many researchers and considerable evidence exists that they have significant main effects on depression (Billings & Moos, 1984; George, 1989; George & Gwyther, 1986; Krause, 1986b, 1987b). Although some researchers found that social support moderates or buffers the effects of stress on depression (George, 1989; Kiecolt-Glaser, Dura, Speicher, Trask, & Glaser, 1991), these results are inconsistent (Krause & Markides, 1990; Roberts et al., 1994), and few studies are available on the moderating effects of social support on strain and depressive symptomatology in the caregiving population.

In a study of 87 family caregivers of the impaired older adult, Ballie, Norbeck, and Barnes (1988) investigated the effects of perceived stress and satisfaction with support on depression with a main and interaction effects model. Although the main effects model was supported, the interaction term did not meet criteria for entry into the regression equation. This methodological problem may have been due to problems with multicollinearity (Chronbach, 1987). Measures of satisfaction with social support are also not appropriate for evaluating the moderator model because of a number of complex factors involved (Krause, 1989). This study resolved this methodological inadequacy by testing the moderating effects of home health care and a measure of informal social support on the relationship between strain and depressive symptomatology. To counteract the problem of multicollinearity, all independent and dependent variables were centered.

Third, most investigators measuring the relationship between formal social support and caregiver stress have identified respite, day care, and support groups as the means of support rather than a community nursing service (Burdz, Eaton, &
and have not measured one's satisfaction with the support received. Haley, Brown, and Levine (1987) upon examining differences in depression between caregivers attending and not attending support groups found that caregivers identified a need for assistance such as sitting services, assistance with household tasks, and services from home health care. Although Tennstedt, Cafferata, and Sullivan (1992) found that for caregivers of the functionally impaired, high levels of support had detrimental emotional and physical health consequences, satisfaction with informal and formal support was more important than the quantity of support received. This study determined whether caregiver strain and depressive symptomatology were lower after receiving home health and if satisfaction with social support was related to strain and depressive symptoms.

Conclusion

The support provided by the informal system or the primary caregiver is a key variable in determining whether an older person will remain in the community or be institutionalized (Brody, 1981; Cantor, 1983). Yet families do not have unending emotional resources for meeting the complex health and social needs of older adults (Monk, 1979). Supportive services are designed to forestall or prevent institutionalization by providing resources for maintaining the impaired older adult at home (Eggert et al., 1977), and home health care is growing rapidly primarily because of the pressures on hospitals to discharge patients early (Van Ort & Woodtli, 1989).

Social policy needs to consider emotional strain, a pervasive issue in dealing with the physical and cognitive disabilities of a person to whom one is close (Hogan, 1990). Caring for the increasing number of chronically ill older adults
has created a potential crisis for the health-care system in that caregivers themselves are likely to become care-recipients in need of health care services. The full-time older caregiver, who appears to be at higher risk for strain (Cantor, 1983), often mistakes loss of sleep, decreased appetite, and sadness as normal stages of aging (Blixen, 1988). These caregivers do not realize that these symptoms could result in major depression, especially with predisposed persons (Becker & Morissey, 1988).

The care-recipient is more likely to receive better care from a care provider who is experiencing less strain and depressive symptoms and is more confident with providing assistance with ADL's. This strain and depression that results from overwhelming responsibilities can develop into elder abuse (Lau & Kosberg, 1979). However, appropriate supportive interventions can result in more positive outcomes for these older care-recipients. Community health nurses and auxiliary personnel, a form of supportive services, are in a position to direct and implement care on behalf of frail older adults (Schirm, 1989). With their ability to assess needs, formulate nursing diagnoses, plan interventions, and evaluate outcomes (Van Ort & Woodtli, 1989), home health care nurses are the communication link between the care-recipient, caregiver, and care-provider.

Despite increases in home health care, little information is available about whether community nursing services make a difference in the strain perceived by caregivers and how health professionals can assist with caregiving in the home (Schirm & Fennel, 1991). Bass and Noelker (1987) found that the use of in-home nursing or aide services for older adults was more likely when the primary caregivers experienced greater care-related stress. This study may provide a better understanding of the efficacy of social support by testing whether home health care
has both main and moderating effects on the relationship between strain and depressive symptomatology.

Most researchers have found that individuals use different coping strategies to offset strain (Folkman & Lazarus, 1980). However, the evaluation of these different strategies has been limited in the context of caregiving (Pearlin, 1989). Therefore, this study also examined whether problem-focused and emotion-focused strategies explained strain and depressive symptomatology in family caregivers. Finally, caregiving appraisal has received little attention by researchers. This research assessed whether those persons receiving home health care had a more positive appraisal of caregiving and whether positive caregiving appraisal explained strain and depressive symptomatology. By examining changes in strain and depressive symptomatology, the role of home health nursing personnel as a source of social support can be evaluated. This knowledge is essential to the development of appropriate ways to care for the increasing numbers of older adults.

Research Questions and Hypotheses

Question 1:
What are the differences in strain, depressive symptomatology, and caregiving appraisal between caregivers to persons receiving home health care and those not receiving home health care after three months?

Hₐ₁: After three months, strain and depressive symptomatology for caregivers to those persons receiving home health care will be lower than for caregivers to those persons not receiving home health care.

Hₐ₂: After three months, caregivers to those persons receiving home health care will have a more positive appraisal of the caregiving situation than caregivers to those not receiving this support.
Question 2:
Do the differences in strain, depressive symptomatology, and caregiving appraisal hold when controlling for these measures prior to receiving home health care?

Ha3: After three months, strain and depressive symptomatology for caregivers to those persons receiving home health care will be lower than for caregivers to those persons not receiving home health care when controlling for these measures prior to receiving this support.

Ha4: After three months, positive caregiving appraisal for caregivers to those persons receiving home health care will be higher than for caregivers to those persons not receiving home health care when controlling for these measures prior to receiving this support.

Question 3:
Are problem-focused coping, emotion-focused coping, and positive caregiving appraisal able to explain strain and depressive symptomatology among family caregivers before receiving home health care?

Ha5: Problem-focused coping, emotion-focused coping, and positive caregiving appraisal will explain strain and depressive symptomatology among family caregivers prior to receiving home health care.
Question 4:
What are the effects of problem-focused coping, emotion-focused coping, utilization of home health care, positive caregiving appraisal, and informal social support on strain and depressive symptomatology of family caregivers of functionally impaired older adults after receiving home health care?

Ha6: Home health care will explain post test measures of strain and depressive symptomatology over and above post test measures of problem-focused coping, emotion-focused coping, positive caregiving appraisal, and informal social support.

Question 5:
What is the effect of social support on the relationship between post test measures of strain and depressive symptomatology?

Ha7: Informal social support and formal social support will attenuate the relationship between post test measures of strain and depressive symptomatology.

Question 6:
What are the effects of home health care on strain and depressive symptomatology of the caregiver when controlling for informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and time spent in caregiving?

Ha8: The effects of home health care on strain and depressive symptomatology will hold when controlling for informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and length of time spent in caregiving.
Definition of Terms

The conceptual and operational definitions for the study are as follows:

Strain

**Conceptual Definition:** An individual’s reaction to persistent problems that are continuous and have the potential for arousing threat (Krause, 1986a; Morycz, 1985).

**Operational Definition:** Ratings of exhaustion, feelings about the caregiving situation, and how far one is from six ideal states on the Caregiver Strain Questionnaire (England, 1990).

Depressive Symptomatology

**Conceptual Definition:** A state of sadness, melancholy, or inadequacy in response to stress that consists of feelings of hopelessness (Robinson, 1989).

**Operational Definition:** Rating of depressive symptoms on the Center for Epidemiological Studies Depression Scale (Radloff, 1977).

Positive Caregiving Appraisal

**Conceptual Definition:** Positive cognitive and affective evaluation and re-evaluation of the potential stressor (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989).

**Operational Definition:** Positive rating of caregiving appraisal (subjective burden, caregiving satisfaction, impact, and mastery) on the Philadelphia Geriatric Caregiving Appraisal Scale (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989).

Coping

**Conceptual Definition:** Cognitive and behavioral attempts to manage events or problems that are appraised as stressful (Lazarus & Folkman, 1984).

Informal Social Support

Conceptual Definition: Instrumental and expressive activities that are provided by families and friends (Branch & Jette, 1983; Lin, 1986).

Operational Definition: Rating of informal social support (informational, tangible, emotional, and integration) on the Modified Version of the Inventory of Socially Supportive Behaviors Scale (Krause & Markides, 1990).

Satisfaction with Informal Social Support

Conceptual Definition: Needs being adequately met by family and friends.


Formal Social Support

Conceptual Definition: Instrumental and expressive activities that are provided by governmental and service agencies (Branch & Jette, 1983; Lin, 1986).

Operational Definition: A dichotomous score indicating whether one has received any type of services from a home health care agency during the three month data collection period.

Satisfaction with Formal Social Support

Conceptual Definition: Needs being adequately met by home health care personnel.

Operational Definition: Rating of satisfaction on the Satisfaction with Home Health Care Scale (Schirm, 1987).
CHAPTER II
Review of the Literature

Introduction

More than one million households have a person 65 years and older who requires some assistance with activities of daily living (Hogan, 1990). Many older adults who receive this care in their homes have some cognitive impairment in addition to physical impairment that necessitates care provided by others called caregivers (Deimling & Bass, 1986). Seventy to eighty percent of care is provided by relatives, the informal support system (Hogan, 1990; Soldo, 1984).

Furthermore, family caregivers of older adults with a cognitive impairment often experience high levels of strain and depressive symptoms (Robinson, 1989). Chronic strains are reactions to persistent problems that are continuous and ongoing (Krause, 1986a; Morycz, 1985) and are the result of the prolonged time and effort spent in caregiving. Depressive symptomatology or a state of sadness is an outcome of stress due to feelings of hopelessness and helplessness or inadequacy (Robinson, 1989; Slimmer, Lopez, Le Sage, & Ellor, 1987).

Although caregiver strain is a major factor in the decision to institutionalize the impaired older adult, caregivers go to great lengths to prevent this from happening (Morycz, 1980). The intensity of strain varies with each caregiver based on the availability and satisfaction with social support received, coping strategies used, and appraisal of the caregiving situation (Krause, 1987a; Lazarus & Folkman, 1984; Morycz, 1985). Social support such as home health care is a resource that may moderate the relationship between strain and depressive symptomatology (Wheaton, 1985). However, the quality of the relations of a
social network is as important as the amount of support received (Pearlin, Lieberman, Menaghan, & Mullan, 1981).

Four models of social support exist (Noelker & Bass, 1989). The first proposes that the informal and formal systems are complementary because they have discrete areas of task specialization. The second suggests that the formal system supplements the informal system. The third contends that formal services substitute for help given by family members. A fourth model proposes that there is no relationship between informal and formal social support with the informal kin caregivers meeting the needs of the care-receiver. While home health care nurses provide discrete areas of assistance with skilled tasks, monitoring the patient's progress, and assessing the psychosocial needs of the family, recent results of research suggests that home health care also supplements the care provided by families and friends (Noelker & Bass, 1989). Much of the care needed by chronically impaired older adults is routine involving help with personal care.

Although social support is assumed to moderate the relationship between strain and depressive symptomatology, few controlled studies have investigated the effects of social support on the relationship between strain and depressive symptomatology of caregivers of cognitively and physically impaired older adults (Zarit, 1989). This study examined the differences in strain and depressive symptomatology between a group of caregivers to persons receiving home health care and a group not receiving this care, and whether informal social support and formal social support moderated the relationship between strain and depressive symptomatology.
In the following review of the literature, the transactional model of stress and coping developed by Lazarus and Folkman (1984) organized the discussion of the effects of social support on the relationship between strain and depressive symptomatology of caregivers of functionally impaired older adults. Specifically addressed were factors influencing the outcome variables, caregiver strain and depressive symptomatology, and research relating social support, coping, depressive symptomatology, and strain of caregivers of older adults.

**Strain and Depressive Symptomatology**

Numerous studies have indicated that when older adults depend upon a caregiver, stress and strain exist for that caregiver (Brody, 1981; Cantor, 1983; Crossman, London, & Barry, 1981; Gaynor, 1989; Poulshock, Silverstone, & Noelker, 1982). This strain from caregiving often contributes to depressive symptoms (Gaynor, 1989). George and Gwyther (1986) found caregivers of persons with dementia to be significantly more distressed than noncaregiving populations, and others (Haley, Levine, Brown, Berry, and Hughes, 1987) found 43% of caregivers to be depressed using the Beck Depression Scale as a measure. However, according to Becker & Morrissey (1988), severe chronic stresses associated with caregiving of Alzheimer’s patients are unlikely to cause major depression except in predisposed persons. These periods of extreme distress are usually limited so that caregivers can cope with their own needs and those of the patient (Biegel et al., 1991).

The following is a review of findings about strain and depression in the caregiving population.
Strain

According to Pallet (1990) and Morycz (1985), factors that may affect caregiver strain include characteristics of the impaired person and the caregiver, the relationship between caregiver and recipient of care, the caregiver's resources, time spent in caregiving, and role obligations. These factors may induce stress or protect the caregiver against stress.

Characteristics of cognitively impaired persons include memory and language disturbances, behavior problems, and changes in functional status. There is consistent evidence that cognitive impairment results in behavioral problems of the care-recipient and strain of the caregiver (Deimling & Bass, 1986; Pallet, 1990). From a descriptive study of a random sample of 614 caregiving families, Deimling and Bass (1986) found that disruptive behavior and impaired social functioning of the care-recipient increased caregiver stress of which strain is a dimension. These researchers felt that stress resulted from the older adult's need for supervision. An explanation for Cantor's (1983) finding that mental impairment is a major contributing factor in symptoms of caregiver stress is that grooming, eating, and toileting take twice as long than for the physically impaired (Shook & Beck, 1991). However, these results are inconclusive because others (George and Gwyther, 1986; Montgomery, 1989; Zarit, Todd, and Zarit, 1986) found little evidence that patient characteristics are important factors in strain.

Although the results of research studies have been inconclusive, caregiver characteristics that may affect strain are age, gender, marital status, health, relationship with the care-receiver, and role obligations (Bunting, 1989; Pallet, 1990). Furthermore, for some caregivers, ill health and physical disabilities exacerbate the stress of caregiving (Chenoweth and Spencer, 1986). Van Ort and
Woodtli (1989) and Johnson (1983) found that one half of the caregivers reported that their health was poorer than good, indicating that many of the older adults were being cared for by others with health problems. Cantor (1983) found that 84% of spousal caregivers perceived their health as fair or poor and reported a significant amount of emotional, physical, and financial strain.

For other caregivers, however, the confinement of caregiving has been found to be more stressful for the healthy, active caregiver (Pallet, 1990). Poulshock et al. (1982) found that the most commonly reported stressful effect of caregiving was the restriction on the primary caregiver's personal time. Johnson and Catalano (1983), Cantor (1983), and Robinson and Thurnher (1979) found that the healthier spouse was forced to reduce personal contacts outside the home because no one was available to substitute in caregiving. This confinement was the major cause of stress. Home health care has the potential to alleviate this stress by providing respite services and providing assistance with personal care tasks that will allow caregivers more time for their own interests.

Several investigators found that female caregivers exhibited greater strain than males (Fitting & Rabins, 1985; Johnson, 1983; Noelker & Wallace, 1985; Poulshock et al., 1982; Verbrugge, 1976). Poulshock et al. (1982) found that wives who were caring for their husbands experienced greater stress than husbands caring for their wives. The greater strain perceived by female caregivers is a serious problem since caregiving traditionally has been viewed as a female responsibility with wives and daughters as the caregivers (Brody, 1981; Cantor, 1983; Johnson & Catalano, 1983). Stone et al. (1987) found that wives constitute 23% of all caregivers, while husbands account for 13%. In addition to caring for a spouse, the female caregiver has extra responsibility that is a further cause of
strain and role overload. According to Brody (1981), as women in their 40's and 50's become older, they are more likely to have an older mother living in their household. For women under 50 years of age, 9% had a parent living with them, but for those women over 50 years of age, 34% resided with the parent (Brody, 1981).

Given the scarcity of time and energy, caregivers often reduce involvement in some roles and eliminate others to control the stress of multiple roles (Marks, 1977; Pallet, 1990). However, this attempt to relieve one source of stress often produces another stress, role constriction (Goldstein, Regnery, & Wellin, 1981). When all of one's activities center around a single role such as that of caregiving, interpersonal transactions are primarily with one other person and opportunities to interact with a variety of other persons are minimal (Goldstein et al., 1981). If the situation requires that all other roles and activities be subordinated to the demands from caregiving, the outcome is role fatigue from a constriction of roles. Role fatigue is usually a gradual process with the tasks of caregiving increasingly demanding more time. For the person serving as the sole caregiver, no definite relief is in sight unless professional services are used. Contributions of a community health nurse or aide may decrease role fatigue and role constriction by enhancing the ability of the caregiver to maintain the care recipient at home. Home health care personnel can monitor the health status of both the recipient and caregiver, assist with the recipient's physical needs, and offer emotional support and reassurance (Goldstein et al., 1981).

Although studies have been inconsistent concerning differences in strain based on the relationship to the recipient (Johnson & Catalano, 1983), spouses have been found to experience greater strain with caregiving than children, distant
relatives, and friends (Cantor, 1983; Fengler & Goodrich, 1979; George & Gwyther, 1986; Poulshock et al., 1982). Cantor (1983) found this strain was due to the low income of the spouse and advanced age that limits the caregiver's physical capabilities, and Poulshock et al. (1982) found spouses felt that their relationship with their spouse was negatively affected.

Social support is another factor that may affect caregiver strain. Researchers found that the primary caregivers' difficulties with providing care was related not only to behavior problems of the older adult but also with social support provided by family members' visits (Brock & O'Sullivan, 1985; Morycz, 1980; Zarit, Reever, Bach-Peterson, 1980). The strain on the primary caregiver was less in those situations where more visits were paid to the impaired older adult by other family members. More strain is experienced when caregivers have little social support available to them and more laborious tasks (Morycz, 1985). Kiecolt-Glaser et al. (1991) found that lower levels of support were significantly related to impaired immune function in caregivers of those persons with dementia. Home health care personnel have the potential to decrease this strain by assisting with bathing, transferring, and performing homemaking tasks and listening to their problems.

Although findings have not been consistent, length of time spent in caregiving may affect strain. Grad and Sainsbury (1963) found that the effect on the family caring for a psychiatrically disturbed person was significantly greater for a chronic rather than an acute illness of the care recipient. Gaynor (1990) and Johnson and Catalano (1983) found that feelings of burden and strain increased as their time of caregiving was prolonged. However, Zarit et al. (1986) and Machin (1980) found that the caregivers' ability to tolerate problem behaviors increased
from when they first started providing care, and there was no relationship between years spent in caregiving and strain.

Therefore, caregiver strain may be related to a number of factors including characteristics of the older adult and caregiver, role obligations, time spent in caregiving, and social support. These factors interact to produce the potential for strain (Morycz, 1985). This study increases knowledge by evaluating whether characteristics of the caregiver are related to strain, and whether services from a home health care agency make a difference in strain.

**Depressive Symptomatology**

Families of patients with a cognitive impairment feel frustrated, bewildered, annoyed, impatient, guilty, trapped, tied-down, and isolated (Morycz, 1980). Family members who are caregivers often feel that their interests and personal needs are overcome by the needs and demands of the care-recipient. Depressive symptomatology is one problem consistently defined by caregivers (George & Gwyther, 1986; Haley, Levine, Brown, Berry, & Hughes, 1987; Mace & Rabins, 1981; Pruchno & Resch, 1989b; Toseland, Rossiter, & Labrecque, 1989). Factors that may affect depressive symptoms are characteristics of the caregiver and care-receiver, length of time spent in caregiving, health of the caregiver, and social support.

Results have been inconsistent about whether gender differences exist for caregivers experiencing depressive symptomatology, identified as depression by multiple researchers (Ballie, Norbeck, & Barnes, 1988; Pruchno & Resch, 1989a). Ballie et al. (1988) found that gender was not related to the caregiver’s feelings of psychological distress, of which depression is a component. However, in a comparative study of husbands (101) and wives (214) who were providing care to
spouses, Pruchno and Resch (1989a) found that wives were more depressed as well as more burdened than husbands. Johnson (1983) and Bass, Looman, and Ehrlich (1992) found that husbands experienced less strain, a precipitator of depression, possibly because they were more likely to seek assistance from formal providers, shared caregiving responsibilities among relatives, and having more resources, were able to purchase more services than other caregivers.

Researchers are not clear whether greater emotional involvement in the caregiver role, differences in emotional and task support, or ways of responding to measures of depression account for a difference in results of studies about depression for men and women (Pruchno & Resch, 1989a). Although much attention has been given to sex differences in depressive symptoms among young adults, little research has been done with the older adult in the general population (Krause, 1986a), and the results are equivocal. Bollerup (1975), Weissman and Klerman (1977), Krause (1986a), and Gallagher, Rose, Rivera, Lovett, and Thompson (1989) found that women were more depressed than men. Gallagher et al. (1989) reported 21% of men and 52% of women to be depressed in a study of family caregivers. According to Krause (1986a), the differential-exposure and differential-vulnerability hypotheses suggest that women are exposed to more stressful experiences than men and stressful experiences exert a greater impact on women than men with financial strain being largely responsible (Cantor, 1983). Blazer and Williams (1980), however, found no significant differences for gender in rates of depression for 997 subjects using the OARS Depressive Scale. Home health care, however, will not affect depressive symptoms that are related only to financial problems.
Researchers also found inconsistent results in the length of time spent in caregiving as a predictor of depressive symptomatology (Ballie et al., 1988; George & Gwyther, 1986; Gilhooly, 1984). Ballie et al. (1988) reported that years spent in caregiving was a significant predictor of psychological distress. However, in a study of 35 caregivers of older adults with dementia, Gilhooly (1984) found that the longer the caregiver had been providing care, the higher the caregiver's morale and the better the caregiver's mental health. To explain these findings, Gilhooly hypothesized that the caregiver had time to learn to cope and adjust. Contradictory results were found by George and Gwyther (1986) who found that the caregiver's well-being was not related to the length of the patient's illness. These researchers found that resources available to the caregiver rather than the condition of the care recipient or time spent in caregiving was most directly related to caregiver well-being. A potential resource for caregivers is home health care that can assist with physical tasks and provide emotional support.

Health has been identified as an important factor in depressive symptoms for spousal caregivers (George & Gwyther, 1986; Robinson, 1989; Pruchno & Resch, 1989a). George and Gwyther (1986) found that spousal caregivers reported lower well-being and significantly more visits to the physician and poorer health than adult-child caregivers. From a sample of 78 caregiving wives, Robinson (1989) found that caregiver health was the best predictor of depression. Pruchno and Resch (1989) found that those caregivers with poorer health experienced more depression. This study examined the effects of home health care on depressive symptomatology of the caregiver when controlling for their perceived health.

Considerable evidence supports the role of social support as having a direct effect upon depression, and this finding has been observed in adults of all ages
(George, 1989). There also is consistent evidence that various dimensions of social support buffer depressive symptomatology (Krause, 1986c). According to Krause (1986c), specific types of informal social support buffer the impact of specific types of stressors. Krause (1986c) found that four types of informal social support (emotional support, integration, tangible help, and informational help) buffered the impact of bereavement on depressive symptoms in a community sample of older adults. Although social support has direct and buffering effects upon depression, perceived adequacy of support may be the best predictor of well-being in the older adult (Antonucci, 1985). This assertion was supported by Krause (1987a) upon finding that the amount of tangible support failed to affect depressive symptomatology, but satisfaction with tangible and emotional support was an important determinant for well-being.

Therefore, depressive symptomatology of the caregiver may be related to a number of factors including characteristics of the caregiver and care-receiver, time spent in caregiving, and social support. This study extends previous work by looking at the interrelationship among these variables.

Factors in Caregiver Strain and Depressive Symptomatology

Many factors have a potential role in regulating the impact of caregiving on strain and depressive symptoms (Pearlin, 1989). According to Lazarus and Folkman's (1984) theory of stress and coping, perceived stress is mediated by one's appraisal of the situation and resources such as social support and coping. However, little is known about how these factors are conceptualized together within a caregiving framework. While researchers such as Hawranik (1986) and Quayhagen and Quayhagen (1988) addressed coping strategies used by caregivers, they did not examine coping in the explanation of strain and depressive
symptomatology relative to one's appraisal of caregiving. The following review addresses research examining factors that are the framework for the study.

**Coping**

A number of factors may influence the coping ability of caregivers: family relationships, length of caregiving, gender, age, finances, and developmental tasks of the child and parent (Brody, 1981; Hawranik, 1986; Robinson & Thurnher, 1979). The ways that people cope with a situation also depends on the nature of the stressor encountered in a situation (Pearlin, 1989) and the stage of illness (Pearlin et al., 1989). Jeffrey (1989) found that subjects with a chronic illness used problem solving when they felt they were in control of the situation, and persons who had been diagnosed longer used distancing, a form of emotion-focused coping.

Coping behaviors used to manage situations involve efforts aimed at reducing the demands of caregiving or making them more manageable. Folkman and Lazarus (1980) found that different strategies were used depending on the changeability of the situation. Problem-focused coping or strategies for managing the behaviors of the patient was used in situations that were appraised as changeable while emotion-focused coping or methods for alleviating the emotional stress of caregiving was used in situations appraised as unchangeable. However, Gurkis and Menke's (1988) findings suggested that individuals use combinations of problem-oriented and affective coping methods to handle stress.

In a study of ways to manage caregiving, Hawranik (1986) examined the relationship between the coping strategies and the availability, utilization, and satisfaction with formal and informal support. From a sample of 60 caregivers, Hawranik (1986) found that as caregivers used a higher number of problem-
focused strategies, they also tended to use a higher number of emotion-focused strategies. Haley, Levine, Brown, and Bartolucci (1987) found that a greater use of coping mechanisms of logical analysis, information seeking, problem-solving, and affective regulative efforts were related to a higher self-reported health. This finding was substantiated by Killeen (1990) who found that caregivers reporting greater stress used more emotion-focused coping strategies directed at modifying or eliminating the source of the stress.

Quayhagen and Quayhagen (1988) examined coping strategies of 58 families experiencing the stress of Alzheimer's disease. The relationships between coping strategies and well-being (a composite score of life satisfaction, physical health, and emotional health) were examined. Well-being was associated with lower use of fantasy. Problem-solving, help-seeking, and low self-blame were associated with well-being for the spouses but not for the daughters.

Researchers concluded that coping has the potential to mediate stress, but the evaluation of coping strategies in the explanation of strain and depressive symptomatology has received little attention (Pearlin, 1989; Pearlin et al., 1989). This study examined whether problem-focused and emotion-focused coping explained strain and depressive symptomatology in caregivers of functionally impaired older adults. Most researchers examining caregiving strain have not looked at the influence of coping, appraisal, informal and formal social support on strain and depressive symptomatology. Although Haley, Brown, and Levine (1987) did look at coping styles and satisfaction with group participation, neither strain or caregiving appraisal were analyzed with coping. There is an urgent need to examine the optimum mix of formal resources, informal support, and personal coping strategies when examining caregiver stress since these resources are
determining factors (Pearlin, Turner, & Semple, 1987). The study examined these factors within a conceptual framework.

**Appraisal**

An assumption of the study, based on the work of Lazarus and Folkman (1984), is that an individual's perception of the personal meaning of the caregiving situation is more, or just as likely to, explain outcomes than are sociodemographic characteristics of the individual (Oberst, Thomas, Gass, & Ward, 1989). Because the lack of instruments to measure appraisal has been a limiting factor, few studies specific to caregiving have examined appraisal in relation to strain and depression (Carey, Oberst, Mc Cubbin, & Hughes, 1991; Oberst et al., 1989; Zarit et al., 1986). Using a Caregiving Appraisal Scale developed for their study, Oberst et al. (1989) found a strong positive relationship between perceived load and threat appraisal. Persons with the fewest personal and material resources were more likely to perceive the caregiving situation as most harmful and threatening. From the results of an exploratory study of 49 family caregivers of patients receiving chemotherapy, Carey et al. (1991) found that caregivers' appraisals of their situations mediated the effects of illness and predicted outcomes. Coping resources such as the ability of the family to work together was hypothesized to modify this appraisal. Zarit et al. (1986) found that caregivers' appraisals of the stressfulness resulting from patients' problems were more important than the severity of the problems in determining caregivers' perceived stress.

Lawton, Kleban, Moss, Rovine, and Glicksman (1989) examined the responses of 632 caregivers in terms of their appraisal of the caregiving process using the conceptual framework of Lazarus and Folkman (1984) as the underpinnings of their study. From this study, these researchers developed a
questionnaire consisting of 31 items measuring subjective burden, caregiving satisfaction, perceived caregiving impact, and mastery, but it has yet to be used in published reports. However, Pearlin, Mullin, Semple, and Skaff (1990) conceptualized a model of stress of Alzheimer's caregivers in which loss of self, role captivity, and mastery, that are addressed in Lawton, Kleban, Moss, Rovine, and Glicksman's (1989) instrument, yield depression and anxiety. This finding indicated that these concepts are integral to one's appraisal of stress and need to be measured.

Folkman, Lazarus, Gruen, and De Longis (1986) assessed primary appraisal with 13 items that describe various stakes people might have in a specific encounter. Using this instrument with 150 community-dwelling adults, these researchers found that personality, primary appraisal, and coping did explain a significant amount of the variance (43%) in psychological symptoms. Personality factors accounted for 18% of the variance, primary appraisal accounted for an additional 17%, and coping for an additional 9%. These findings suggest that appraisal and coping have an impact upon strain and depression and are indicators of one's psychological well-being. This study assessed if positive caregiving appraisal in addition to coping strategies explained strain and depressive symptomatology in the caregiving population.

Social Support

In examining the effects of social support on strain and depression, the results have been inconsistent (George, 1989). Researchers have shown considerable evidence for significant main effects and some evidence of interactive effects for the relationship between strain and depressive symptomatology (Boyce, 1981; Krause, 1986c, 1987b). Most researchers of caregivers of older adults,
however, have examined main effects rather than the buffering effects of social support in the explanation of depressive symptomatology. According to the stress-buffering hypothesis, the relationship between stress and depression depends on the level of support (George, 1989), and stress-buffering effects of various dimensions of social support are specific to the type of stressors (Krause, 1986c). Although Roberts et al. (1994) determined that social support did not attenuate the impact of strain on the general mental health of 155 older adults, their findings supported the importance of the specific nature of stress in determining its effects.

Krause (1987a) found that satisfaction with social support was an important determinant of depressive symptoms. Problems result when either one is not truly supported, or the effect on the recipient's behavior is negative. Social demands also may arise from the relationship causing more stress because close relationships with others can create potential for conflict (Lazarus & Folkman, 1984). Therefore, Ballie et al. (1988) examined the effects of stress and satisfaction with informal support and their interaction with the psychological well-being of 87 family caregivers of older adults. Although the main effects of perceived stress and satisfaction with social support on depression was supported, there was no evidence of a buffering effect of satisfaction with social support on the relationship between stress and psychological distress. This finding is to be expected because measures of satisfaction with social support are not appropriate for evaluating the moderator model (Krause, 1989).

Most investigators who have examined the relationship between formal social support and caregiver strain have focused on support groups, respite care, and day care as modifiers of stress (Burdz & Eaton, 1988; Graham, 1989; Haley, Brown, & Levine, 1987; Lawton, Brody, & Saperstein, 1989). Burdz and Eaton (1988)
examined the impact of a respite program on the cognitive and physical functioning of 55 adults with dementia and those cognitively intact. Since the respite care program had a positive influence on the cognitive and physical functioning of these patients, both caregivers and care-receivers benefited. When questioned about perceptions of respite care, 81% of the caregivers felt that a respite program was beneficial. Crossman, London, and Barry (1981) found that a respite program provided wives relief from the daily, physical burden of caregiving for a disabled spouse. Respite services provided by a home health care agency can provide caregivers time for themselves that should alleviate the strain and depression from the constant tasks of caregiving.

Graham (1989) investigated whether caregiver strain would decrease following placement of the cognitively impaired older adult in adult day care. The finding that caregiver strain was not reduced with placement of the older adult in day care was probably due to the small sample size of 15 caregivers and measuring caregiver strain with the Burden Interview. The investigators also suggested that change in stability of the family, resulting in guilt from placing the older adult in day care, was a cause of strain. Home health care is advantageous in this respect because neither caregiver nor care-recipient has to leave the home or have a routine disturbed to benefit from provided services.

In an experimental study of 642 care caregivers of older adults with Alzheimer's disease, Lawton, Brody, and Saperstein (1989) analyzed strain in terms of well-being. Over a 12 month period, families using respite care were able to maintain the impaired relative in the community significantly longer (22 days). Although a significant relationship was not found between respite and change in well-being from baseline to the second period of data collection, the
caregivers maintained that they received some relief and were satisfied with the service. Therefore, this sense of relief has the potential to decrease strain and depression because social isolation and insufficient time for family and friends is taxing and a source of role fatigue and strain (Goldstein et al., 1981).

In further study of social support, Haley, Brown, and Levine (1987) divided 54 caregiving families of Alzheimer's patients into three groups: a supportive group, a group with both supportive and stress-management components, and a control group. Supportive assistance was described as information about dementia, emotional support, and assistance in problem-solving. Caregivers receiving stress-management skills were taught skills for managing depression, anxiety, anger, and guilt. From the 40 caregivers who completed the study, the control group of subjects was found to use more emotion-coping strategies. This finding would be expected since Killeen (1990) found the use of emotion-focused coping to be significantly related to stress, and Haley, Levine, Brown, & Bartolucci (1987) found that use of problem-solving methods of coping was related to better self-reported health.

In terms of findings, Haley, Brown, and Levine (1987) found no significant differences between the control group and the treatment groups for depression, life satisfaction, and social activity. However, the caregivers expressed a need for assistance such as in-home chore services, sitters, and home health care. The findings from this study suggest that professionally-led, comprehensive groups that stress counselling and education about dementia may not be sufficient given the enormity of problems faced by caregivers (Haley, Brown, & Levine, 1987), and specific types of social support buffer specific types of stressors (Krause, 1986c).
Effective management of problems faced by families requires more intensive and comprehensive services that can be provided by home health care.

As previously stated, the importance of satisfaction with support in relationship to perceived health is of importance and has been documented (Krause, 1987a; Krause et al. 1989; Tennstedt et al., 1992). Older adults who are not satisfied with support are more likely to suffer from psychological distress than those adults who are satisfied. From a sample of 351 community dwelling older adults, Krause (1987a) found that satisfaction with tangible social support was an important variable affecting depressive symptoms whereas the amount of tangible support failed to affect depression. Those adults who reported that they were dissatisfied with the amount of help provided to others tended to be more depressed than those who felt satisfaction with giving support. Satisfaction with emotional support appeared to play a role in maintaining well-being. Gilhooly (1984) found that satisfaction with social support was significantly positively related to caregivers' mental health, and Robinson (1989) found that the desire for more social support was a better predictor of depression than received social support.

Therefore, although support and counselling groups are a source of formal social support, effectiveness of these programs is directly related to the satisfaction with support. Home health care may make a difference in strain and depressive symptomatology if caregivers are satisfied with services provided. This finding is expected since Schirm and Fennell (1991) found that caregivers perceived home health care nurses to be very empathetic, an essential feature of the helping process.
Understanding whether home health care services make a difference in strain and depressive symptoms of older adults is of importance because these supportive services that are costly in terms of finances and health are only assumed to be beneficial for reducing institutionalization of the care recipient (Eggert et al., 1977; Wan & Weissert, 1981). Total expenditures for home health care during 1990 were $7.9 billion (U.S. Bureau of the Census, 1991) with a third being out-of-pocket expenditures (Ebersole, 1993). Furthermore, negative changes in health for caregivers that increase health care costs include sleep deprivation, chronic fatigue, and depression (George & Gwyther, 1986; Robinson & Thurner, 1979; Zarit et al., 1980).

Timely formal social support can help caregivers avoid becoming exhausted and also in need of care (Gaynor, 1990). However, research concerning nurses as formal caregivers to older adults residing in the community is very limited. In an exploratory descriptive study, Gilhooly (1984) found a significant positive relationship between home help service and morale and mental health of the primary caregiver. Although the results of this study were limited due to a small sample size of 37 caregivers, the results indicated that services provided by a home health agency can increase caregiver's mental health and decrease depression.

Researchers determined that caregivers require assistance from skilled personnel for meeting physical care needs of the older adult, learning how to provide care, and improving coping skills (Baines, 1984; Hooyman, Gonyea, & Montgomery, 1985; Mundinger, 1983; Smith et al. 1991). Baines (1984) found that caregivers needed information about providing treatments and care for the disabled person. Over half of the caregivers indicated feeling worn out and tired,
and not knowing the best way to care for the disabled person. Hooymann et al. (1985) found that types of tasks were better predictors of stress than the time a family member spent daily providing care. The performance of personal care or body contact tasks such as bathing, feeding, and toileting was positively related to an increase in perceived stress because assisting a relative with intimate bodily tasks was thought to violate family norms about appropriate familial roles and interaction. From interviews with home health care nurses, Mundinger (1983) concluded that the older adult requires personal care, instrumental assistance, and other types of supportive services in addition to skilled services. Home health care agencies can provide these services with home health care aides who are supervised by registered nurses.

The contributions of a home health care agency, therefore, are crucial in two respects (Goldstein et al., 1981). First, in terms of services provided. Community health nurses are in a position to direct and implement care on behalf of frail older adults (Schirm, 1989). Second, the visits serve the purpose of providing the caregiver with emotional support, reassurance, respite, and assistance with arduous tasks. However, this assistance with care needs to be evaluated for its effectiveness in lowering strain and depressive symptoms since satisfaction with received support is as important as the amount of support received.

Although nurses are involved in providing formal social support to caregivers of cognitively and physically impaired older adults, research about services provided such as assistance with activities of daily living, skilled services, and emotional support is sparse (Schirm, 1989). Most researchers that have examined caregiver strain and depressive symptomatology have identified respite, day care,
and group interventions as the means of formal social support. This study filled this gap by testing whether there is a significant difference in strain and depressive symptomatology of caregivers to persons receiving home health care after three months. Researchers have shown that social support has significant main effects upon depression (George, 1989), but little is known about the stress-buffering model with the caregiving population. This study extends previous work by testing the interaction effect of social support on the relationship between strain and depressive symptomatology.

Summary

Today, 70%-80% of care to older adults is provided by relatives with spousal caregivers representing 36% of those relatives providing care (Hogan, 1990; Soldo, 1984). The caregiver, worn down by daily tasks, providing care to others, and aging is subject to strain and depressive symptomatology. Research findings suggest that strain and depressive symptomatology are related to a number of factors including characteristics of the caregiver and care-receiver, time spent in caregiving, role obligations, coping, appraisal, and informal and formal social support. While family and friends are a source of informal social support, home health care is a potential source of formal social support.

There is evidence that social support has both main and buffering effects on the relationship between strain and depression (George, 1989). Researchers in caregiving have generally studied the effects of social support in terms of day care, respite care, and educational programs. Little emphasis has been placed on the contributions of home health care personnel in lowering strain and depressive symptomatology, and the evaluation of one's coping strategies and appraisal of caregiving in the explanation of strain and depressive symptomatology.
In the preceding sections of the review of the literature, results of studies that have linked variables of interest have been reviewed. This study extends previous work by examining strain, depressive symptomatology, coping, appraisal, and social support in a conceptual framework based upon the work of Lazarus and Folkman (1984). Whether certain coping strategies and positive caregiving appraisal explained strain and depressive symptomatology in caregivers of functionally impaired older adults was examined. The direct effects and the moderating effects of home health care on the relationship between strain and depressive symptomatology were tested.

The increase in the number of older adults, especially for those at risk for cognitive and physical impairment, make it imperative that factors mediating the impact on caregivers be studied. Research about the effects of home health care on strain and depressive symptomatology is important because family caregivers go to great lengths providing care at home rather than resorting to nursing home placement. Spousal caregivers are susceptible to chronic health problems resulting from strain and depressive symptoms as they too grow older.

According to Noelker and Bass (1989), family caregivers often "spend down" their physical and emotional resources before in-home services are utilized. The amount of paid home health care received by the older adults is determined by the nature and severity of the disability or illness, access to informal social support, and financial resources (Fischer & Eustis, 1994). Clients who either have high incomes or qualify for public or private insurance are likely to have more extensive home care than low-income clients with no home care funds regardless of need. According to the income needs standards (Public Assistance Manual Resources 7412, 1994), families with an annual income under $7431 are eligible
for Medicaid depending on their medical expenses. The Medicare home benefit is intended to provide medically oriented acute or restorative skilled nursing care on an intermittent, short-term basis (Helberg, 1993). Caregivers, therefore, find ways to manage on their own with the minimal amount of services while lacking a variety of ostensibly necessary services (Fischer & Eustis, 1994).

Outcomes of home health care should apply not only to the patient but to the caregiver or family as well with nursing care maximizing the care-recipient’s functional ability and helping caregivers cope with the chronicity of the illness (Anderson, Hobson, Steiner, & Rodel, 1992). Generally home health care nurses are reimbursed per visit that usually lasts 30 minutes. If changes in reimbursement for home health care are to occur, nurses must validate that the time they spend working with the caregiver and care-recipient is essential, and the need for gerontological nurse specialists. The family’s perspective has value and is relevant to quality care of the impaired person.

At present, public policy initiatives provide more financial support for institutionalization than for community living for older adults (Hogan, 1990). This does not appear to be justifiable because the family has more responsibility as planners and managers of care. In addition, the family must bear the major medical costs for in-home care because of limited and restricted public resources. If home-health care can be shown to lower strain and depression in caregivers of functionally impaired older adults, physicians and social workers would be more supportive of initiating the services of a home health care agency before the caregiver becomes the patient. Home health care nurses will be reassured that their services are making a significant impact on caregiving families, and health policies can be changed to benefit those who are providing care in the community.
Chapter III

Methods

Design

This comparative study of individuals receiving and not receiving home health care during a 13 month period consisted of 100 family caregivers to older adults age 65 years. These care-recipients required assistance with three ADL's or instrumental activities of daily living (IADL's) such as meal preparation and administration of medication. The emphasis of this study was on how these caregivers differed in strain and depressive symptomatology after receiving home health care. Pretest and post-test measures of strain, depressive symptomatology, and caregiving appraisal were compared after an interval of approximately three months. The time elapsed between pretest and post-test should correspond to the time that it takes for social support to exert a maximum effect on psychological distress. Results of research suggested that a three month interval may be appropriate (Krause, 1989).

Sample

The subjects for the study were family caregivers of adults 65 and over who required assistance with at least three ADL's or IADL's since functional impairment has been recognized as an important determinant of eligibility for long-term care and is an important indication of services needed by older adults to remain in the community (Kane, Saslow, & Brundage, 1991; Schirm, 1989; Stone & Murtaugh, 1990). The focus was family caregivers because the closer the bond between the caregiver and receiver, the greater the amount of stress perceived; the sense of family and family cohesion is a predictor of strain; and full-time
involvement or commitment with caregiving compounds the stress of the caregiver (Cantor, 1983). Therefore, criteria for inclusion were 1) the caregiver speaks and understands English; 2) the caregiver, who is a family member, lives with the care receiver and provides the majority of care; 3) the care-receiver is 65 years and over; 4) the care-receiver requires assistance with at least three ADL’S or IADL’s; 5) the caregiver is not cognitively impaired. Hospice clients were excluded because they have special problems in terms of stress in coping with bereavement (Norris & Murrell, 1987).

Using consecutive sampling, 49 caregivers to functionally impaired older adults receiving home health care and 51 caregivers not receiving home health care were identified with the assistance of nursing (49), social service (28), and home health coordinators (7) from three hospitals in northeastern Ohio. Power analysis was used to determine the sample size based on the difference between two means, a test of Hypothesis 1: After three months, strain and depressive symptomatology for caregivers to those persons receiving home health care will be lower than for caregivers to those persons not receiving home health care. Four factors involved in power analysis are the significance criterion (alpha), sample size, effect size, and power (Cohen, 1988). The alpha level was set at .05 for a one tailed test, power at .8, and effect size of .5. Using the formula for differences between means in Cohen (1988, p. 545) with the preceding alpha, power, and effect size, 100 subjects or 50 in each group were required (number of subjects in each group =2[2.49/.5]²).

Power analysis was also used to determine sample size based on multiple regression and testing of Hypothesis 5: Home health care will explain depressive symptomatology and strain over and above problem-focused coping, emotion-
focused coping, positive caregiving appraisal, and informal social support. The
formula to determine sample size is from Cohen (1988, p. 445). Alpha was set at
.05 and power at .8. The degrees of freedom for error, V, was set at 20. Lambda
(16.7) is based upon the number of independent variables (5), power, and degrees
of freedom (V). Since Robinson (1989) found a multiple R^2 of .24 using the
Inventory of Socially Supportive Behavior to predict depression in caregivers, the
effect size expressed as a function of R^2 was .24 (Cohen, 1988, p. 445). The
number of subjects required for regression was 53 (N = 16.7 (.76)/.24). Therefore,
at least 100 subjects were necessary because more subjects were needed to test the
difference between means.

Initially, hospital personnel approached the caregivers to functionally
impaired older adults. A list of potential subjects with their telephone numbers
were provided to the researcher by the contact persons weekly. Since statistics
from past research were not available to determine refusal to participate, an
unexpected total of 80 caregivers or 35% of those approached by the nurse
researcher (19 males and 61 females) refused to participate in the study. These
caregivers who refused to participate included spouses (n = 58), children
(n = 11), and other family members (n = 10). These persons who refused to be
in the study stated that they were either too busy, had too much strain and
emotional problems, or had no interest in the study. Furthermore, since the
caregivers were studied over a three month period, further attrition was estimated
at 25%, and a total of 133 subjects were required for the initial interview.
Instrumentation

The following are the key variables from the conceptual models, and how they were measured. Table 2 identifies total scale reliabilities.

**Table 1**

**Variables and Their Measures**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Measurement</th>
<th>Time of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Self-report</td>
<td>T₁</td>
</tr>
<tr>
<td>Gender</td>
<td>Observation</td>
<td>T₁</td>
</tr>
<tr>
<td>Perceived Health</td>
<td>Self-report</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Length of Time</td>
<td>Self-report</td>
<td>T₁</td>
</tr>
<tr>
<td>Spent in Caregiving</td>
<td></td>
<td></td>
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<tr>
<td>Role Obligations</td>
<td>Self-report</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Strain</td>
<td>Caregiver Strain Questionnaire</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>Center for Epidemiological Studies Depression Scale</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>Philadelphia Geriatric Caregiving Appraisal Scale</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Coping</td>
<td>Revised Ways of Coping Checklist</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>Modified Inventory of Socially Supportive Behaviors</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Satisfaction with Informal Social Support</td>
<td>Satisfaction with Informal Social Support Scale</td>
<td>T₁ and T₂</td>
</tr>
<tr>
<td>Formal Social Support</td>
<td>Documentation of Services from Home Health Agency</td>
<td>T₂</td>
</tr>
<tr>
<td>Satisfaction With Formal Social Support</td>
<td>Satisfaction with Home Health Care Scale</td>
<td>T₂</td>
</tr>
</tbody>
</table>

T₁ Pretest
T₂ Post Test
### Table 2

**Reliability Estimates for Total Scales Used in Data Analysis (N = 100)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach Alpha</th>
<th>Pretest</th>
<th>Post Test</th>
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</thead>
<tbody>
<tr>
<td>Strain</td>
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<td>.92</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
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<td></td>
<td>.92</td>
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<tr>
<td>Positive Caregiving Appraisal</td>
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<td>.88</td>
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<tr>
<td>Problem-Focused Coping</td>
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<td>.53</td>
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<tr>
<td>Emotion-Focused Coping</td>
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<td></td>
<td>.68</td>
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<tr>
<td>Informal Social Support</td>
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<td>.87</td>
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<td>Satisfaction with Informal</td>
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<td>.47</td>
</tr>
<tr>
<td>Social Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with Formal Social Support</td>
<td>NA</td>
<td></td>
<td>.75</td>
</tr>
</tbody>
</table>

Age of the caregiver and care-receiver was measured in years by self-report (see Appendices A and B).

Gender of the caregiver and care-receiver was determined by observation (see Appendices A and B).

Perceived Health of the caregiver was rated by self-report as 4-excellent, 3-good, 2-fair, or 1-poor. Rosencranz and Pihlblad (1970), Mossey and Shapiro (1982), and Cadogan (1994) found that self-rated health was a strong correlate of objective measures of health (see Appendix A).

Length of Time Spent in Caregiving- The caregivers were asked about the duration in years in which they provided care to the older adults. Also, time spent in caregiving was categorized as less than 1 year, 1-3 years, more than 3 years but less than 5 years, and over 5 years. Stone et al. (1987) found that almost half of the caregivers had been providing care for between one and four years, and
Poulshock et al. (1982) found that caregivers had been assisting with care for an average of 6 years. The possibility existed that the caregiver was not able to give an accurate estimation of time spent in caregiving (see Appendix A).

**Role Obligations**- Caregivers were questioned about providing care to others, such as children, whether they had a spouse that was not the care recipient, whether they were employed, and other role obligations such as being a college student (see Appendix A). Categories for employment were weighted by the amount of involvement on a scale of 0-2 include not employed (0), part-time (1), or full-time (2). Weighted categories for being a student, on a scale of 0-2, included not being a student (0), part-time (1), and full-time (2). The number of role obligations was scored by adding the weighted involvement for employment and schooling in addition to helping children in the home or having a spouse other than the care-recipient. Since the weighting scheme addresses various obligations, the total score may not be an accurate measurement of role obligations. The total score was only used as a covariate in ANCOVA.

**Strain** is an individual’s reaction to persistent problems that are continuous and have the potential for arousing threat. This concept (see Appendix C) was measured with the Caregiver Strain Questionnaire (CSQ), a forty-eight item instrument consisting of three dimensions: exhaustion, emotional arousal, and ideal states (England, 1990). This instrument was chosen since it was developed for caregivers, is reflective of problems due to caregiving, and has good psychometric properties. A total score for caregiver strain was computed by adding the subscale scores. The scores for the total scale ranged from 16-210.

Thirty items of the exhaustion subscale were rated on a four point Likert-type scale (0 "not at all drained", 3 "very drained"; range of 0-90) and reflect the extent
to which respondents feel exhausted, with higher scores reflecting more exhaustion. This score was computed by summing the 30 ratings. A rating of not applicable indicated activities that were not performed. Next, the subscale emotional arousal, twelve items on a six point Likert-type scale (1 "least like I feel", 6 "most like I feel"; range of 10-60), measured the caregiver's feelings about the caregiving situation. The underlying assumption of emotional arousal is that people are upset by unpleasant sensations and circumstances (England, 1990). The total score for emotional arousal was computed by summing the twelve item ratings with higher scores reflecting greater emotional arousal. Five items were reverse-scored to reduce response bias.

The last subscale is goal discrepancy and measures how far the caregiver is from six ideal states. It is composed of six, ten-rung Cantril-type ladders (10 "ideal state" to 1 "nonideal present state"; range of 6-60), with higher scores indicating greater goal discrepancy distress that is defined as an organismic state marked by tension due to the dissonance between a person's aspirations and achievements (England, 1990). The items are reverse-scored to reduce response bias. Cut-points have not been determined for degrees of strain.

Psychometrics were established by England (1990), and reliability and validity testing is ongoing. Cronbach's alpha for exhaustion ranged from .75 to .80, for emotional arousal from .78 to .88, and for goal discrepancy .71. Good reliability for the total scale was indicated by a Cronbach's alpha of .87. For this sample, Cronbach's alpha at pretest was .90 for exhaustion, .83 for emotional arousal, and .72 for goal discrepancy. For post test, Cronbach's alpha was .93 for exhaustion, .85 for emotional arousal, and .74 for goal discrepancy. For this sample, Cronbach's alpha for the total scale was .90 at pretest, and .92 at post test.
According to England (1990), factor analysis supported construct validity. Principal axis factor analysis revealed six dimensions of caregiver strain that were theoretically important and explained 50.3% of the variance. Four factors identified in a pilot study by England (personal communication on September 10, 1993) corresponded to factors in England's dissertation study (1990, p. 83). Construct validity was supported by the finding that caregiver strain was significantly greater in adult offspring with crisis experience than that of offspring without crisis experience (England, 1990). Predictive validity was supported by finding that offspring in crisis reported significantly greater goal discrepancy distress and emotional turbulence. Concurrent validity was indicated with a positive relationship between scores on the Parent Caregiver Burden Index and the CSQ (England in Press). Confirmatory factor analysis with Lisrel indicates a Goodness of Fit of .99 (England, personal communication on September 10, 1993).

**Depressive Symptomatology** is a mood of sadness consisting of feelings of hopelessness and helplessness that was measured with the Center for Epidemiological Studies Depression Scale (CES-D). The CES-D examines the entire range of depressive symptomatology (George, 1989) and provides a state measure of depressive symptomatology as it indicates present levels of functioning (Devins & Orme, 1985). This four-point Likert-type summative scale (0 "rarely" to 3 "most or all of the time"; range of 0-60) consists of twenty items with higher scores indicating more depression (Radloff, 1977). Ratings are summed for a total score, and some items are reverse scored before adding them to the total score (see Appendix D). Although cut-points have been largely ignored by social scientists (George, 1989), the level of depressive symptoms as defined by Barnes and Prosen
(1984) was defined as follows: 0-15 = not depressed; 16-20 = mild depression; 21-30 = moderate depression; 31 and over = severe depression.

The CES-D was chosen to measure depressive symptoms because it focuses on distress symptoms prevalent among nonpsychiatric populations and was not intended as a measure of clinical depression but depressed mood (Radloff, 1977). The CES-D is appropriate to use with all populations regardless of age, sex, and socioeconomic status (Radloff, 1977) and has been tested with community samples of adults over 65 (Krause, 1986). The CES-D has been shown to have excellent psychometric properties. Radloff (1977) reported a high coefficient alpha of .85 for nonpsychiatric adults and .90 for those with a psychiatric diagnosis. Test-retest reliability was similar for 2, 4, 6, and 8 week intervals as expected for a measure of current depressive symptomatology. Cronbach's alpha for this sample was .89 at pretest and .92 at post test.

According to Radloff (1977), convergent validity was supported by significant relationships between the Bradburn Affect Balance Scale's Negative Affect (.60) and the Lubin Depression Adjective Checklist (.40's to .50's). However, these relationships are weak. Since the CES-D discriminated well between psychiatric inpatients and the general population, construct validity using the contrasted group approach was supported (Radloff, 1977).

Further analyses of the CES-D with a cutpoint of 20 indicated that the scale discriminated between a sample of older persons living in the community and a sample of older persons who were hospitalized for psychological disorder (Himmelfarb & Murrel, 1983). Although Himmelfarb and Murrel (1983) did not elaborate on their findings, the scale discriminated between samples for both men and women, for persons 65 years and younger and those 66 years and older, for
persons in all marital status categories, and for persons who were classified as being in good or poor physical health.

Although Radloff (1977) has argued against emphasis on the factor structure of the CES-D, the factor structure has shown some variability across different populations (Callahan & Wolinsky, 1994). Furthermore, the possibility of differential item endorsement due to sociocultural differences rather than differences in rates of depressive symptoms was suggested. Callahan and Wolinsky (1994) found varying factor structures and significant race-gender differences in rates of depressive symptoms among 3,047 men and women divided by race and gender. White women had significantly higher mean CES-D summary scores than the other three subgroups, and black men had significantly lower mean summary scores.

**Positive Caregiving Appraisal** is the cognitive and affective evaluation and re-evaluation of the potential stressor that was measured with the Philadelphia Geriatric Center Caregiving Appraisal Scale (PGCCAS). This scale (see Appendix E) consists of twenty-eight-items rated on a five-point Likert-type scale with a range of 28-140. Items 1-22 are rated 5 "never", 1 "nearly always", and items 23-28 are rated 1 "disagree a lot", 5 "agree a lot". Ratings of each subscale were summed with higher scores indicating positive caregiving appraisal (Lawton, Kleban et al., 1989). Some items are reverse scored to reduce response bias.

This summative scale was chosen since it addressed four dimensions of caregiving appraisal: subjective burden, impact, mastery, and satisfaction. Psychometrics have been established by Lawton, Kleban et al. (1989). Cronbach's alpha for the total scale was not reported, but Cronbach's alphas were .85 for subjective burden, .67 for caregiving satisfaction, and .70 for impact. Cronbach's
alpha was not reported for mastery since it did not survive exploratory maximum likelihood analysis with LISREL. Although several items of content relevant to mastery did not load on this factor, mastery was included in the scale because the existence of this dimension was supported by the cluster that did load (Lawton, Kleban et al., 1989). Concurrent validity was supported by correlations between the summary burden rating and subjective burden (.65), between caregiving satisfaction and the relationship to the impaired person (.50), and between caregiving impact and the summary burden rating (.57). Since exploratory factor analysis produced all five of the hypothesized factors, construct validity was supported. With confirmatory factor analysis, subjective burden, caregiving satisfaction, and perceived caregiving impact were confirmed as dimensions.

For this sample, Cronbach's alpha at pretest was .77 for impact, .81 for burden, .61 for mastery, and .79 for caregiving satisfaction. For post test, Cronbach's alpha was .72 for impact, .84 for burden, .60 for mastery, and .70 for caregiving satisfaction. Cronbach's alpha for the total scale for pretest and post test was .88. Although an acceptable level for internal consistency reliability is .7 for early stage research (Nunnally, 1978, p. 245), the instrument indicated internal consistency except for mastery.

Further reliability and validity testing is ongoing including mastery in the scale, and with another caregiver sample, the three Lisrel factors reproduced well (Lawton, personal communication on September 30, 1994). According to Lawton, Moss, Kleban, Glicksman, and Rovine (1991), different patterns of appraisals for spouses and adult-child caregivers need future confirmation, and findings indicated the utility of considering appraisals and outcomes of positive and negative valence.
Coping is cognitive and behavioral attempts to manage events that are appraised as stressful (Folkman, Lazarus, Dunkel-Schetter, De Longis, & Gruen, 1986). This concept (see Appendix F) was measured with scores from the emotion-focused subscale and problem-focused subscale from the Revised Ways of Coping Checklist (RWCC) consisting of 50 items on a four-point Likert-type summative scale (0 "does not apply", 3 "used a great deal"). Higher scores indicate greater use of certain coping strategies. The range of scores for the problem-focused subscale is 0-36 and for the emotion-focused subscale is 0-114.

The RWCC was chosen because of its well-established theoretical underpinnings and validation with a variety of samples including chronically ill persons and caregivers to older adults and those persons with dementia (Jeffrey, 1989; Killeen, 1990; Neundorfer, 1991; Quayhagen & Quayhagen, 1988). The total scale was divided into problem-focused coping and emotion-focused coping because of differences in the use of coping strategies to explain stress (Lazarus & Folkman, 1984). There is a fairly consistent trend for emotion-focused coping to have negative impacts while problem-solving coping benefits physical and mental health (Quayhagen & Quayhagen, 1988; Wright, Clipp, & George, 1993). Although the mean correlation was .44 between the two subscales, there is enough variance not shared by the two scales to support their independent use (Folkman & Lazarus, 1980).

Problem-focused coping includes confrontive coping and planful problem-solving (Folkman, Lazarus, Gruen, & De Longis, 1986). Confrontive coping includes aggressive interpersonal efforts to alter the situation, and problem-solving coping includes rational efforts to problem solve. Emotion-focused coping includes distancing, self-controlling, seeking social support, accepting
responsibility, escape-avoidance, and positive reappraisal (Folkman, Lazarus, Dunkel-Schetter et al., 1986). Distancing describes efforts to detach oneself. Self-controlling describes efforts to regulate one's feelings. Seeking social support describes efforts to seek informational support. Accepting responsibility acknowledges one's role in the situation. Escape-avoidance describes wishful thinking. Positive reappraisal describes efforts to create positive meaning by focusing on personal growth.

Cronbach's alpha for each subscale with a sample of community dwelling healthy adults was as follows: confrontive coping .70, distancing .61, self-control .70, seeking social support .76, accepting responsibility .72, planful problem-solving .68, and positive reappraisal .79 (Folkman, Lazarus, Dunkel-Schetter et al., 1986). With a sample of 52 white women and 48 white men, 45-64 years of age with adequate income and most having a high school education, Cronbach's alpha for problem-solving was .80 and emotion-focused coping was .81 (Folkman & Lazarus, 1980).

Construct validity was supported with factor analysis. Three factor analyses using alpha and principal factoring yielded eight similar factor patterns as theoretically expected (Folkman, Lazarus, Dunkel-Schetter et al., 1986). However, Wineman, Durand, and Mc Culloch (1994), in examination of coping in a clinical population of 690 subjects with a mean age of 46 years, identified a three factor structure: cognitive reframing, emotional respite, and direct assistance. These findings suggested that factors identified in different studies may conceptually represent underlying constructs unique to the specific study population. This findings is consistent with Lazarus and Folkman (1984) in that
coping is situation specific and based on the context in which the person-environment transaction occurs.

For this sample, Cronbach's alpha, low for problem solving, was .58 at pretest and .53 at post test, and for emotion-focused coping was .71 at pretest and .68 at post test. Cronbach's alpha for the total scale was .77 at pretest and .72 at post test.

Informal Social Support is the subject's rating of support provided by families and friends that was measured by the Modified Inventory of Socially Supportive Behaviors (MISSB) developed by Krause and Markides (1990) building on the work of Barrera, Sandler, and Ramsay (1981). This scale (see Appendix G) contains forty items rated on a four-point Likert-type scale (1 "never" to 4 "very often"). The scale was chosen since it measures the amount of social support actually received than merely counting supportive individuals, takes into account the individual's need for support, and reflects satisfaction with support. The summative subscales tap dimensions of informal social support: informational (range of 7-28), tangible (range of 9 to 36), emotional (range of 11 to 44), and integration (range of 13 to 42). Higher scores indicated greater social support.

With a random sample of 351 noninstitutionalized adults 65 years of age and over, Krause and Markides (1990) established psychometrics for the scale. Since 66% of the sample were female and 34% were male, a weighting procedure was used with only slight differences between the weighted and unweighted parameter estimates. The sample consisted of various races: white (64%), black (7%), Hispanic (7%), and other (1%). Cronbach's alpha for each subscale was as follows: informational support .81, tangible support .66, emotional support .82, and integration .81. Evidence of predictive validity was supported by finding that
all four types of social support buffered the impact of bereavement on depressive symptoms. Cronbach's alpha for this sample at pretest was .71 for informational, .59 for tangible, .83 for emotional, and .78 for integration. Cronbach's alpha for this sample at post test was .72 for informational, .60 for tangible, .81 for emotional, and .81 for integration. For this sample, Cronbach's alpha for the total scale was .86 at pretest and .87 at post test.

Construct validity was supported by finding a theoretically meaningful three factor orthogonal solution (Krause & Markides, 1990). Items referring to receipt of information was called "informational support". Items referring to help that respondents provide to others was called "integration". The third factor contained items pertaining to emotional support such as as empathy and caring, and tangible support such as instrumental behavior. Krause and Markides (1990) felt that the final factor should be analyzed separately because of important theoretical differences. All of the composites appeared to be valid measures of the underlying phenomena since they were strongly related with their respective latent constructs (Krause & Markides, 1990) and are as follows: informational support .86, tangible support .69, emotional support .82, and integration .81. No further work has been done with reliability or validity testing, and the instrument has not been norm-referenced for race, gender, and age (Krause, personal communication on October 13, 1994).

Satisfaction with Informal Social Support refers to needs being adequately met by family and friends that was measured by the Satisfaction with Informal Social Support Scale (Krause & Markides, 1990). Krause (1987a) found that satisfaction with tangible and emotional support had a positive influence on self-rated health and well-being. Subjects rate satisfaction (see Appendix H) with the
four types of informal social support on a 3-point Likert-type scale (1 "more often", 3 "less often"). The range of scores is 4-12. Higher scores reflect greater satisfaction with informal social support. Predictive validity was supported with finding that satisfaction with support buffered the impact of bereavement on depressive symptoms (Krause & Markides, 1990). Cronbach’s alpha, poor for this sample, was .47 at pretest and .47 at post test.

**Formal Social Support** is support provided by a home health care agency that was treated as a dichotomous variable, either 1 "yes" or 0 "no".  

**Satisfaction With Formal Social Support** is needs being adequately met by home health care personnel (see Appendix I) that was measured by the Satisfaction with Home Health Care Scale (SHCS), a four-item, five-point Likert summative scale (1 "strongly disagree", 5 "strongly agree"; range of 4-20). Two items were reverse scored to reduce response bias. Higher scores indicated greater satisfaction with home care. Cronbach’s alpha for the scale ranged from .61 to .85 (McCusker, 1984; Schirm, 1987). For this sample, Cronbach’s alpha was .75.

**Data Collection**

The study consisted of two phases. First, the instruments were initially tested with a sample of three caregivers to determine whether older adults understood the questions. Revisions in format, questions, and interviewing techniques were made based upon these results. Next, a convenience sample of family caregivers to older adults who required assistance with at least three ADL’s or IADL’s such as meal preparation and administration of medication was contacted and interviewed about strain, depressive symptomatology, coping, informal social support, satisfaction with informal/formal social support, and caregiving appraisal.
Home health coordinators, social workers, and nurse managers in the three hospitals were approached and the study was described to them by the nurse researcher (see Appendix J). They were enlisted to assist with identifying functionally impaired persons who had recently received hospital services and their caregivers who were the subjects for the study. Social service obtains a list of patients who are admitted daily, and the patients are identified with name, age, and diagnosis. Those over 75 years of age are automatically interviewed for needs upon discharge by social service, and the families have the option of utilizing a home health care agency of their choice or have the option of refusing home health care. Hence, the manner in which the subjects were initially approached may relate to the high refusal rate for participation in the study.

Social workers, home health coordinators, and nurse managers identified every person meeting study criteria. A written description of the study was provided to each potential caregiver by the contact persons (see Appendix K). The study was further explained per telephone by the nurse researcher, and an appointment was established for the first interview.

Within one week of receiving a referral, the caregivers, who lived in a five county area, were interviewed by the nurse researcher in their homes about strain, depressive symptomatology, caregiving appraisal, informal social support, satisfaction with informal social support, and coping. The interview was done in person to increase the probability of participation. With more personal contact with the researcher and data collectors, subjects were more willing to continue to cooperate with the study. Consent forms were signed by the caregiver at the first and second interviews (see Appendices L and M) giving permission to be interviewed and the home health care agency to be contacted.
An indication of cognitive functioning of the caregiver was assessed with the Short Portable Mental Status Questionnaire (Pfeiffer, 1975) as a guide with a score of 0-2 indicating intact cognitive functioning. The average age of the caregivers was 64.7 years (median = 67 years), and 81% were at least high school graduates. Therefore, since the respondents were oriented to person, place, and time, cognition did not present a problem.

Since the caregivers were studied over a three month period, attrition did pose a problem. Attrition jeopardizes the internal validity of a study because subjects who drop out may differ from those who remain with respect to key variables (Given, Keilman, Collins, & Given, 1990). Attempts to minimize attrition, however, were used. The interviewer provided positive regard by offering the subjects ten dollars for their time involvement, establishing a convenient time for the interviews, making the task appear brief, and establishing trust (Dillman, 1978). According to Dillman (1978), respondent's behavior is motivated by whether they expect the rewards to outweigh the costs of participating in a study. Because regard for the caregivers was displayed, trust about the interviewing process was established, and the subjects were allowed to express their feelings about caregiving, they stated that the study was worthwhile and were willing to give up some of their time.

Access to the nurse researcher was established by providing the caregivers with a phone number to enable participants to use if necessary. Prior to the second interview after three months, another letter was sent as a reminder and thanking them for their help so far (see Appendix N). The subjects were told that they would be again contacted by phone three months later to establish an appointment to complete, in their homes, the second set of questionnaires about strain,
depressive symptomatology, caregiving appraisal, coping, informal social support, and satisfaction with home care. Data were also collected at this time about changes in health status, role obligations, and informal support and services provided from other supportive programs such as mobile meals and day care (see Appendix O). The nurse researcher contacted the seven home health care agencies that provided services to the care-recipients to conduct chart reviews to document services received by the families during the three month data collection period (see Appendices P and Q).

**Data Analysis**

The data analysis was divided into three parts: description, preliminary analysis, and hypothesis testing. Since summative scores were used, all the variables were treated as interval except gender, dichotomization of cognitive impairment, and formal social support which are nominal, and perceived health which is ordinal.

**Description**

Included in the study were eight conceptual variables. The independent variables were home health care, informal social support, satisfaction with informal and formal social support, positive caregiving appraisal, and coping. The dependent variables were strain and depressive symptomatology. The control variables were age, gender, perceived health, length of time spent in caregiving, and role obligations. Summary statistics for each variable were obtained to examine the shape of the distribution (normal, skewness, kurtosis), central tendency (mean, median, mode), and dispersion (range, variance, standard deviation) of the scores.
Preliminary Analysis

Preliminary analysis consisted of comparing the two groups of caregivers on pretest data and testing the assumptions of multiple regression, ANCOVA, the independent t-test, Chi-square, and Mann-Whitney test. Residual analysis was used to detect outliers and test for assumptions of normality, homoscedasticity, linearity, and independence. Scatterplots of the independent variables with the dependent variables, strain and depressive symptomatology, were also used to examine linearity.

Hypothesis Testing

Univariate and multivariate tests were used for hypothesis testing. The alpha level was .05.

Hypothesis 1: After three months, strain and depressive symptomatology for caregivers to those persons receiving home health care will be lower than for caregivers to those persons not receiving home health care.

Hypothesis 2: After three months, caregivers to those persons receiving home health care will have a more positive appraisal of the caregiving situation than caregivers to those persons not receiving this support.

To determine the differences in strain, depressive symptomatology, and caregiving appraisal between caregivers to those persons who receive and do not receive home care after a period of three months, independent t-tests were used for significance testing of Hypothesis 1 and Hypothesis 2.

Hypothesis 3: After three months, strain and depressive symptomatology for caregivers to those persons receiving home health care will be lower than for caregivers to those persons not receiving home health care when controlling for these measures prior to receiving this support.
**Hypothesis 4**: After three months, positive caregiving appraisal for caregivers to those persons receiving home health care will be higher than for caregivers to those persons not receiving home health care when controlling for these measures prior to receiving this support.

To determine whether the effect of home health care on post test measures of strain, depressive symptomatology, and positive caregiving appraisal held when controlling for their pre-test measures, ANCOVA was used. The covariates were pretest measures of strain, depressive symptomatology, and positive caregiving appraisal. The $F$ statistic was used for the test of significance.

**Hypothesis 5**: Problem-focused coping, emotion-focused coping, and positive caregiving appraisal will explain strain and depressive symptomatology among family caregivers prior to receiving home health care.

To assess the explanatory value of problem-focused and emotion-focused coping and positive caregiving appraisal in terms of depressive symptomatology and strain, multiple regression was used. Two separate regressions were used, one each for strain and depressive symptomatology as dependent variables. Pretest measures of coping were examined in terms of problem-focused and emotion-focused coping subscales. Pretest scores for positive caregiving appraisal were entered first followed by scores for problem-focused coping and emotion-focused coping.

The relative importance of each of the variables was done by examining the Betas. The partial slopes of the independent variables ($b'$s) reflect the increment in proportion of variance accounted for in the dependent variable by each independent variable (Pedhazur, 1982). The $t$-tests were used to assess significance of the partial slopes ($b'$s), and the sign of the $b$ indicated the direction of the change.
(Pedhazur, 1982). The $F$-test was used to assess the significance of the multiple $R^2$, an indication of the amount of variance explained in strain and depressive symptomatology.

**Hypothesis 6:** Home health care will explain post test measures of strain and depressive symptomatology over and above post test measures of problem-focused coping, emotion-focused coping, positive caregiving appraisal, and informal social support.

To assess the explanatory value of utilization of home health care, problem-focused and emotion-focused coping, positive caregiving appraisal, and informal social support on depressive symptomatology and strain among spousal caregivers, hierarchical multiple regression was used. Two separate regressions were used, one each for depressive symptomatology and strain as dependent variables. Post test scores for positive caregiving appraisal were entered first into the regression equation since little was known about this variable in the caregiving population. Post-test scores for emotion-focused coping, problem-focused coping, and informal social support subscales were entered next. Utilization of home health care was entered last since the unique importance of this variable was of interest and was hypothesized to explain the greatest variation in strain and depressive symptomatology.

**Hypothesis 7:** Informal social support and formal social support will attenuate the relationship between post test measures of strain and depressive symptomatology.

To determine the moderating effects of informal and formal social support on the relationship between strain and depressive symptomatology, multiple regression with interaction effects, as described by Jaccard, Turrisi, and Wan (1990), was
used. Strain and social support (informal/formal) interact in the determination of depressive symptomatology if the effect of strain on depressive symptomatology depends on the level of social support (Allison, 1983).

Because multiplicative terms can introduce high levels of multicollinearity between the product term and their component parts (Jaccard et al., 1990), although not substantive (Cronbach, 1987), all independent and dependent variables were centered. The mean of each variable was subtracted from each subject's score. Then the multiplicative term was computed by multiplying the centered score of strain with the centered score for either type of social support.

According to Allison (1983), testing for interaction in multiple regression should only be done hierarchically. Higher order interactions are tested only when all lower-order interaction and main effects are included in the model because additive relationships have priority over multiplicative relationships. The independent variables were entered first, the polynomials for social support second, then the interaction terms for social support, and the quadratic interaction terms were entered last. The presence of an interaction effect was evaluated by whether the interaction terms were significant. The strength of the effect was the difference in squared multiple correlations for the "main-effects" model and the interactive model (Jaccard et al., 1990). The nature of the interaction was not determined because the interaction terms were not significant.

Given a statistically significant interaction effect, the nature of the significant nonlinear interaction would be explored at low, medium, and high levels of social support (Jaccard et al., 1990). Unstandardized regression coefficients would be computed for strain at each level of support. High and low levels of social support
would be set at one standard deviation above and below the mean, respectively, while the mean would be used for medium support.

In the model with a multiplicative term, the partial slope coefficients reflect conditional relationships rather than the effects of the independent variable on the dependent variable in the main effects model (Jaccard et al., 1990). The standard errors for regression coefficients in the additive model reflect estimates of sampling error across levels of the independent variables (Jaccard et al., 1990). The standard errors for the regression coefficients in the interactive model are conditional and reflect sampling error when the other variables equal zero. Therefore, the unstandardized regression coefficients of the interaction terms were reported.

**Hypothesis 8:** The effects of home health care on strain and depressive symptomatology will hold when controlling for informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and length of time spent in caregiving.

To determine whether the effect of home health care on strain and depressive symptomatology holds when controlling for informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and time spent in caregiving, analysis of covariance (ANCOVA) was used. In this study, the dependent variables were post-test measures of strain and depressive symptomatology and the independent variable was home health care. The control variables were informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and time spent in caregiving. The $F$ statistic was used for the test of significance.
When choosing a covariate, a high correlation between the dependent variable and the covariate is desired (Pedhazur, 1982). Therefore, Pearson's product moment correlations were obtained for the relationships between the control variables and strain and depressive symptomatology to determine whether they contributed to relevant individual differences. Only those covariates with significant correlations were used in ANCOVA.

**Protection of Human Rights**

Subjects for the proposed study were family members who speak and understand English, live with a functionally impaired older adult over 65 years of age, and provide the majority of care. Potential subjects were identified through the cooperation of three hospitals and seven home health care agencies. Subjects were informed of the nature of the study with a letter of explanation and were told that participation in the study was voluntary. The subjects were assured that participation in the study would not affect care from the home health agency in the present or future. Subjects were told that they could withdraw at any time. Informed consent forms were signed at the interviews. Each caregiver was offered ten dollars after completion of both interviews.

Since interviewing was the only method of data collection, the potential for psychological risks existed when asking one to explore feelings. If the subjects displayed emotional reactions to any of the questions, the nurse researcher was prepared to offer some emotional support and refer them to their physician or home health care nurse for follow-up. However, emotional reactions to the interview did not occur.

The subjects benefited from the study by having someone listen to their feelings about caregiving. The subjects were told that their participation in the
study would benefit others by providing nurses with means for evaluating the
effectiveness of home health care.

The subjects were told that material from the interviews would be handled in
the strictest confidence. Confidentiality of the subjects’ responses was maintained
by using numbers for identification of questionnaires and data files. The data
stored on computer discs were stored in a locked file. The key linking the name to
the identification number was placed in a locked file that was separate from the
data and is accessible only to the project staff. No mention of the subjects’ names
occurred in the data analysis or discussion of the findings. The study was
approved by the appropriate Institutional Review Boards before data collection.
CHAPTER IV

Results

One hundred family caregivers, residing with an older family member either receiving home health care or not receiving home health care, were selected after receiving services from three hospitals. A comparative research design utilizing face-to-face interviews in the home was implemented. The role of home health care, a type of formal social support, was studied in relationship to strain, depressive symptomatology, caregiving appraisal, informal social support, satisfaction with social support, problem-focused coping, and emotion-focused coping. Included in this chapter are the analytical findings generated from the data collection.

Description of Caregivers

Using consecutive sampling, 148 subjects were interviewed by the nurse researcher in their homes within a week after receiving referrals from hospital personnel. One hundred subjects completed the study, an attrition rate of 32%. Attrition was due to death of the care-recipient (n = 15), rehospitalization (n = 14), the caregiver's refusal to continue with the study (n = 6), nursing home placement (n = 6), relocation of the care-recipient with another caregiver (n = 4), and the care-recipient not requiring assistance with ADL's at post test (n = 2).

Since strain and depressive symptomatology were anticipated as high and positive caregiving appraisal as low for those caregivers to persons who were placed in the nursing home (n = 6) and for those who refused to continue with the study (n = 6), these 12 caregivers were compared with the 100 caregivers who finished the study. These groups of caregivers were not significantly different in age, health, strain, depressive symptomatology, and positive caregiving appraisal.
**Total Sample**

The subjects for the total sample ranged in age from 29-88 years with a mean age of 64.7 (SD = 13.42, median = 67). Most of the subjects were female (74%), white (87%), spouses (64%), married (79%), high school graduates (81%), retired (52%), able to pay their bills (81%), and described their health as good (54%). The total number of caregivers included 64 spouses, 29 children, 1 sibling, 1 cousin, 1 sister-in-law, and 4 daughters-in-law.

**Comparison of Groups**

Furthermore, description of the sample was divided into the two groups: those with home health care (n = 49) and those without home health care (n = 51). The age of those caregivers with home health care (M = 62.14) and those without home health care (M = 67.14) was not significantly different. Most of the caregivers in the home health care group and those without home health care were female, white, spouses, married, retired, financially comfortable, and described their health as good. Significantly more females (n = 41, 55%) than males (n = 8, 31%) used home health care than did not use this support (Χ² = 3.74, 1 df, p = .05), but the relationship was weak (Phi = .22).

Significantly more whites (n = 39, 45%) than blacks (n = 10, 83%) used home health care (Χ² = 7.23, 2 df, p = .03), but the relationship was weak (Cramer's V = .27). However, the caregiver's health (Z = -1.87, p = .06) and marital status (Χ² = 5.45, 3 df, p = .15) were not significantly different between the groups. Table 3 describes the caregivers in their respective groups.
Table 3

Description of Caregivers Receiving Home Health Care (n = 49) and Those Who Did Not (n = 51)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Home Care</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>16.3&lt;sup&gt;a&lt;/sup&gt; (8)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>35.3 (18)</td>
</tr>
<tr>
<td>Female</td>
<td>83.7 (41)</td>
<td>64.7 (33)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>79.6 (39)</td>
<td>94.1 (48)</td>
</tr>
<tr>
<td>Black</td>
<td>20.4 (10)</td>
<td>3.9 (2)</td>
</tr>
<tr>
<td>Native American Indian</td>
<td>0.0</td>
<td>2.0 (1)</td>
</tr>
<tr>
<td><strong>Relationship to Care-Recipient</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spouse</td>
<td>51.0 (25)</td>
<td>76.5 (39)</td>
</tr>
<tr>
<td>Child</td>
<td>44.9 (22)</td>
<td>13.7 (7)</td>
</tr>
<tr>
<td>Sibling</td>
<td>0.0</td>
<td>2.0 (1)</td>
</tr>
<tr>
<td>Other</td>
<td>4.0 (2)</td>
<td>7.9 (4)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>69.4 (34)</td>
<td>88.2 (45)</td>
</tr>
<tr>
<td>Single</td>
<td>10.2 (5)</td>
<td>3.9 (2)</td>
</tr>
<tr>
<td>Widow</td>
<td>8.2 (4)</td>
<td>3.9 (2)</td>
</tr>
<tr>
<td>Divorced</td>
<td>12.2 (6)</td>
<td>3.9 (2)</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent</td>
<td>12.2 (6)</td>
<td>23.5 (12)</td>
</tr>
<tr>
<td>Good</td>
<td>53.1 (26)</td>
<td>54.9 (28)</td>
</tr>
<tr>
<td>Fair</td>
<td>24.5 (12)</td>
<td>17.6 (9)</td>
</tr>
<tr>
<td>Poor</td>
<td>10.2 (5)</td>
<td>3.9 (2)</td>
</tr>
</tbody>
</table>

<sup>a</sup> Percentage  
<sup>b</sup> Number
Additional Data

Most of the subjects (67%) had no other household members and no other role obligations (63%), but 17% provided help to others in the home besides the older care-recipient. For the sample, the amount of time assisting the care-recipient daily ranged from 2-24 hours with a mean of 11.07 (SD = 8.76, median = 7). Those subjects (n = 17) who did assist someone in addition to the care-recipient provided an average of 6.4 hours of care daily, and those who did not (n = 83) provided an average of 9.51 hours of care daily. The mean number of years providing care to the older adults was 2.6 years (SD = 2.86) with most of the caregivers (41%) providing care from one to three years. The length of time in years providing care was significantly higher for those caregivers receiving home care (M = 2.9) than for those not receiving home care (M = 1.68). The hours helping the care-recipient were not significantly related to strain, depressive symptomatology, and positive caregiving appraisal at pretest (r's = .11, -.03 and -.10, respectively) or at post test (r's = .10, .10 and -.10, respectively). The caregiver's health was not significantly related to strain but was significantly related to depressive symptomatology at pretest (eta = .25).

Twenty-seven percent of the caregivers had assistance from family with physical care of the care-recipient, and 50% of the caregivers had assistance with cleaning, cooking, shopping, or providing respite. The majority of assistance with household duties was provided by daughters (n = 19) followed by siblings (n = 10), friends (n = 5), and spouses (n = 4). Although not systematically collected, 30 of the families employed cleaning and yardwork services because of their medical disabilities. At pretest and post test, greater satisfaction with informal social support was significantly related to lower strain (r's = -.54 and
-.56, respectively) and depressive symptomatology ($r$'s = -.34 and -.32, respectively). For those caregivers with home health care, significantly more caregivers ($n = 31$) did not have help from their families with physical care of the care-recipient than those ($n = 18$) who did have help ($\chi^2 = 3.7, 1\text{ df}, p = .05$), but the relationship was weak ($\Phi = .21$). The difference between the groups for receiving help with household duties was not significant ($\chi^2 = 2.56, 1\text{ df}, p = .11$).

**Description of Care-Recipients**

**Total Sample**

The mean age of the care-recipients for the total sample was 76.5 years ($SD = 7.92$, median = 75.5). Most of these older adults were white (88%), female (52%), had a high school education (69%), and were retired (88%). The caregivers described the care-recipient’s health as good (21%), fair (45%), or poor (34%).

**Comparison of Groups**

Most of the care-recipients either with home health care or without home health care were white (80% and 96%, respectively) and female (53.1% and 51%, respectively). Age was not significantly different between those care-recipients receiving home health care ($M = 77.8$) and those without this support ($M = 75.31$). The proportion of men and women with home health care ($n$'s = 23 and 26, respectively) and without this support ($n$'s = 25 and 26, respectively) was not significant ($\chi^2 = .00, 1\text{ df}, p = .99$). The care-recipients health was significantly different between those with home health care and those without this
support ($Z = -3.5, p = .000$). Twenty-five of the care-recipients (51%) with home health care had poor health, while the health of nine of the care-recipients (18%) without this support was poor.

Most of the care-recipients had heart disease (23%), stroke (27%), or Alzheimer's disease (14%). Table 4 illustrates the diagnoses of the care-recipients according to whether they had home health care and indicates that the groups had similar proportions of medical diagnoses ($X^2 = 15.33, 9 \text{ df}, p = .08$). Heart disease ($X^2 = 4.04, 1 \text{ df}, p = .04$) was significantly greater for those caregivers with home health care than without this support, and skeletal problems were significantly greater for those caregivers without home health care ($X^2 = 4.70, 1 \text{ df}, p = .03$) but the relationships were weak ($\Phi = .22$ for both). Forty-seven percent of care-recipients were cognitively impaired due to a stroke, Alzheimer's disease, or multi-infarct syndrome. However cognitive impairment was not a significant variable for those with home health care ($n = 25$) and those ($n = 24$) without this support ($X^2 = .35, 1 \text{ df}, p = .56$).
Table 4

Differences in Diagnoses Between Those Care-Recipients Receiving Home Health Care (n = 49) and Those Who Did Not (n = 51)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Home Care</th>
<th>X²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>32.7a (16)b</td>
<td>13.7 (7)</td>
</tr>
<tr>
<td>Stroke</td>
<td>34.7 (17)</td>
<td>19.6 (10)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>4.1 (2)</td>
<td>9.8 (5)</td>
</tr>
<tr>
<td>Cancer</td>
<td>8.2 (4)</td>
<td>5.9 (3)</td>
</tr>
<tr>
<td>Kidney Disease</td>
<td>2.0 (1)</td>
<td>3.9 (2)</td>
</tr>
<tr>
<td>Pulmonary Disease</td>
<td>4.1 (2)</td>
<td>7.8 (4)</td>
</tr>
<tr>
<td>Alzheimer's Disease</td>
<td>10.2 (5)</td>
<td>17.6 (9)</td>
</tr>
<tr>
<td>Skeletal Problems</td>
<td>4.1 (2)</td>
<td>17.6 (9)</td>
</tr>
<tr>
<td>GI Problems</td>
<td>0.0</td>
<td>2.0 (1)</td>
</tr>
<tr>
<td>Neurological Problems</td>
<td>0.0</td>
<td>2.0 (1)</td>
</tr>
</tbody>
</table>

aPercentage
bNumber
*p < .05

The relationship of the care-recipient's health to strain and depressive symptomatology of the caregiver was not significant at pretest. Although 61% of the caregivers reported that there was no significant change in the care-recipient's health after three months, 28% of the total care-recipients showed some improvement in their general well-being (11%) or ambulation (17%), and 11% of the total care-recipients showed a decline in their mental health (8%), and/or ambulation (3%), and/or in their general well-being (3%). Seventeen percent of the families indicated changes in informal social support with 11% having increased assistance from the extended family, and 6% having less help.
Services Provided by the Home Health Care Agency

Services provided by the health care agencies are described in Table 5. The average number of visits provided by the home health care agencies during a three month period was 55.3 (SD = 41.7). Home health aides provided the greatest number of visits (M = 27.16, SD = 28.87) followed by the registered nurse (M = 13.86, SD = 8.52).

Table 5

Services Provided by the Home-Health Care Agency (n = 49)

<table>
<thead>
<tr>
<th>Services</th>
<th>Mean Visits</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Nurse</td>
<td>13.86</td>
<td>8.52</td>
</tr>
<tr>
<td>Licensed Practical Nurse</td>
<td>3.86</td>
<td>4.49</td>
</tr>
<tr>
<td>Home-health Aide</td>
<td>27.16</td>
<td>28.87</td>
</tr>
<tr>
<td>Physical Therapist</td>
<td>6.63</td>
<td>8.08</td>
</tr>
<tr>
<td>Speech Therapist</td>
<td>.53</td>
<td>3.43</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>1.08</td>
<td>4.09</td>
</tr>
<tr>
<td>Respite Care</td>
<td>1.22</td>
<td>7.04</td>
</tr>
<tr>
<td>Social Services</td>
<td>.63</td>
<td>1.09</td>
</tr>
</tbody>
</table>

Only 13\% (n = 13) of the total number of caregivers received additional services not provided by the home health care agency. Five percent of the families received mobile meals five times a week, 5\% used day care services, 2\% used respite services, and 16\% used outpatient physical therapy. Counselling and legal aide were not used by the families.

The caregivers reported that satisfaction with home health care services was related to the registered nurses listening to their problems, teaching skills, emergency visits at night, monitoring of the care-recipient's health in the home,
and being compassionate. Although 47% of the caregivers receiving home health care were very satisfied with the nursing service, satisfaction with home health care was not significantly related to strain or depressive symptomatology at post test ($r's = -.17$ and $-.01$, respectively). At post test, the total number of services used was not significantly related to strain or depressive symptomatology ($r's = -.11$ and $-.01$, respectively).

Several of the caregivers found cancellation of transportation to day care was a source of strain because they needed to locate a new facility and adjust their schedules. Other caregivers remarked that they did not want to leave the care-recipient for even a few hours during the day because they did not have peace of mind when they were away from home.

**Description of Conceptual Variables**

The subjects experienced low levels of strain and depressive symptomatology at pretest and post test and their positive caregiving appraisal was moderate. The utilization of informal social support, problem-focused coping, and emotion-focused coping were in mid range at pretest and post test. Descriptive statistics for these variables are summarized in Table 6.
Table 6

Means, Standard Deviations, and Ranges at Pretest and Post Test (N = 100)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pretest</th>
<th>Post test</th>
<th>Theoretical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>71.48 (31.57)</td>
<td>61.27 (32.56)</td>
<td>16-210</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>11.21 (10.95)</td>
<td>7.82 (9.73)</td>
<td>0-60</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>112.04 (16.95)</td>
<td>113.53 (16.83)</td>
<td>28-140</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>87.43 (15.97)</td>
<td>86.34 (15.57)</td>
<td>40-160</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>52.46 (11.48)</td>
<td>52.53 (10.52)</td>
<td>0-114</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>18.26 (5.26)</td>
<td>19.14 (4.98)</td>
<td>0-36</td>
</tr>
<tr>
<td>Satisfaction with Informal Social Support</td>
<td>6.55 (1.20)</td>
<td>6.74 (1.16)</td>
<td>4-12</td>
</tr>
<tr>
<td>Satisfaction with Formal Social Support</td>
<td>NA</td>
<td>16.30 (3.91)</td>
<td>4-20</td>
</tr>
</tbody>
</table>

A log transformation was used for depressive symptomatology that was significantly skewed, and caregiving appraisal consisted only of impact, mastery, and satisfaction because subjective burden was highly correlated with strain at pretest and post test (r's = -.78 and -.83, respectively). Greater positive caregiving appraisal was significantly related at pretest and post test to lower strain (r's = -.68 and -.74, respectively) and depressive symptomatology (r's = -.68 and -.57, respectively). Problem-focused coping and emotion-focused coping were not significantly related at pretest and post test to strain or depressive...
symptomatology. Greater informal social support was significantly related to greater strain at pretest and post test ($r$'s = .24 and .32, respectively) but not to depressive symptomatology at pretest and post test ($r$'s = .06 and .05, respectively). Greater informal social support was significantly related at post test to lower positive caregiving appraisal ($r$ = -.28) but not at pretest ($r$ = -.14). Greater satisfaction with informal social support was significantly related at pretest and post test to lower strain ($r$'s = -.54 and -.56, respectively) and depressive symptomatology at pretest and post test ($r$'s = -.30 and -.27, respectively) and greater positive positive caregiving appraisal at pretest and post test ($r$'s = .46 and .57, respectively. See Tables 7 and 8 for the correlation matrices for these variables.

**Preliminary Analysis**

Preliminary analysis consisted of comparing the two groups of caregivers with pretest data and testing the assumptions of multiple regression, ANCOVA, the t-test, Chi-square, and Mann-Whitney test. The groups of caregivers receiving home health care and those not receiving home health care were compared in terms of strain, depressive symptomatology, positive caregiving appraisal, informal social support, satisfaction with informal social support, and coping. Except for emotion-focused coping, there were no significant differences at pretest between those caregivers receiving home health care and those not receiving home health care for strain, depressive symptomatology, positive caregiving appraisal, informal social support, satisfaction with informal social support, and problem-focused coping. Table 9 compares the means and standard deviations at pretest for those caregivers receiving home health care and those not receiving this support.
### Table 7

**Correlation Matrix for Conceptual Variables at Pretest (N = 100)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Strain</td>
<td>1.00</td>
<td>.62***</td>
<td>-.68***</td>
<td>.24**</td>
<td>.06</td>
<td>-.03</td>
<td>-.54***</td>
</tr>
<tr>
<td>2 Depressive Symptomatology</td>
<td>.62***</td>
<td>1.00</td>
<td>-.69***</td>
<td>.06</td>
<td>.02</td>
<td>-.05</td>
<td>-.30**</td>
</tr>
<tr>
<td>3 Positive Caregiving Appraisal</td>
<td>-.68***</td>
<td>-.69***</td>
<td>1.00</td>
<td>-.14</td>
<td>.02</td>
<td>.07</td>
<td>.46***</td>
</tr>
<tr>
<td>4 Informal Social Support</td>
<td>.24</td>
<td>.06</td>
<td>-.14</td>
<td>1.00</td>
<td>.35***</td>
<td>.45***</td>
<td>-.13</td>
</tr>
<tr>
<td>5 Emotion-focused Coping</td>
<td>.06</td>
<td>.02</td>
<td>.02</td>
<td>.35***</td>
<td>1.00</td>
<td>.52***</td>
<td>-.17</td>
</tr>
<tr>
<td>6 Problem-focused Coping</td>
<td>-.03</td>
<td>-.05</td>
<td>.07</td>
<td>.45***</td>
<td>.52***</td>
<td>1.00</td>
<td>-.14</td>
</tr>
<tr>
<td>7 Satisfaction with Informal Social Support</td>
<td>-.54***</td>
<td>-.30**</td>
<td>.46***</td>
<td>-.12</td>
<td>-.17</td>
<td>-.14</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**p < .01  ***p < .001**
Table 8

Correlation Matrix for Conceptual Variables at Post-Test (N = 100)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Strain</td>
<td>1.00</td>
<td>.62***</td>
<td>-.74***</td>
<td>.32**</td>
<td>.12</td>
<td>.09</td>
<td>-.56***</td>
<td>-.17</td>
</tr>
<tr>
<td>2 Depressive Symptomatology</td>
<td>.62***</td>
<td>1.00</td>
<td>-.57***</td>
<td>.05</td>
<td>-.09</td>
<td>-.07</td>
<td>-.27**</td>
<td>-.01</td>
</tr>
<tr>
<td>3 Positive Caregiving Appraisal</td>
<td>-.74***</td>
<td>-.57***</td>
<td>1.00</td>
<td>-.28**</td>
<td>-.08</td>
<td>-.11</td>
<td>.57***</td>
<td>.15</td>
</tr>
<tr>
<td>4 Informal Social Support</td>
<td>.32**</td>
<td>.05</td>
<td>-.28**</td>
<td>1.00</td>
<td>.33**</td>
<td>.35**</td>
<td>-.31**</td>
<td>-.05</td>
</tr>
<tr>
<td>5 Emotion-focused Coping</td>
<td>.12</td>
<td>.12</td>
<td>-.08</td>
<td>.33**</td>
<td>1.00</td>
<td>.34***</td>
<td>-.16</td>
<td>.28**</td>
</tr>
<tr>
<td>6 Problem-focused Coping</td>
<td>.09</td>
<td>-.07</td>
<td>-.11</td>
<td>.35**</td>
<td>.34**</td>
<td>1.00</td>
<td>-.18</td>
<td>.10</td>
</tr>
<tr>
<td>7 Satisfaction with Informal Social Support</td>
<td>-.56***</td>
<td>-.27**</td>
<td>.57***</td>
<td>-.31**</td>
<td>-.16</td>
<td>-.17</td>
<td>1.00</td>
<td>.17</td>
</tr>
<tr>
<td>8 Satisfaction with Formal Social Support</td>
<td>-.17</td>
<td>-.01</td>
<td>.15</td>
<td>-.05</td>
<td>.28**</td>
<td>.10</td>
<td>.17</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**p < .01  ***p < .001
Table 9

**Means and Standard Deviations at Pretest For Caregivers Receiving Home Health Care (n=49) and Those Who Did Not (n=51)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Home Care</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes Mean (SD)</td>
<td>No Mean (SD)</td>
</tr>
<tr>
<td>Strain</td>
<td>70.83 (30.39)</td>
<td>72.11 (32.95)</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>7.85 (2.83)</td>
<td>7.54 (3.06)</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>112.08 (17.38)</td>
<td>112.00 (16.70)</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>88.76 (17.31)</td>
<td>86.16 (14.63)</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>54.96 (10.77)</td>
<td>50.06 (11.73)</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>18.86 (5.72)</td>
<td>17.69 (4.76)</td>
</tr>
<tr>
<td>Satisfaction with Informal Social Support</td>
<td>6.66 (1.11)</td>
<td>6.45 (1.29)</td>
</tr>
</tbody>
</table>

*p < .05

Next, assumptions of multiple regression were tested. The first assumption of linearity between the independent and dependent variables was examined with scatterplots. The nonlinear relationships that existed between informal social support, emotion-focused coping, problem-focused coping, and depressive symptomatology and strain were treated as a polynomials in regression analysis. See each specific question in data analysis for how each variable was treated.
Outliers due to recording or keypunching errors were greatly minimized with multiple entry of the data, thereby comparing the values for each separately keyed data set (Barhyte & Bacon, 1985) and inspection of frequencies. Although residual analysis indicated that one case was an outlier, this subject met selection criteria and had high strain, and its omission did not affect the outcome of regression analysis. Therefore, this subject was included in the final analysis.

The assumption that the mean value of the error term is zero was met by renaming the error term and determining the mean (Berry & Feldman, 1985). Upon examination of the scatterplot of the residuals against the predicted value, the residuals did not increase with the predicted value indicating that the variances of the error term was constant, and the assumption of homoscedasticity was met. The assumption of fixed independent variables was determined to be zero by investigating the correlation between the residuals and the independent variables.

The next assumption that no independent variable is perfectly related to one or more of the independent variables in the equation, multicollinearity (Berry & Feldman, 1985), was met since the intercorrelation matrix for all independent variables was less than .8. When testing the model with an interaction term, all independent and dependent variables were centered to reduce multicollinearity (Cronbach, 1987). Centering was accomplished by subtracting the mean for each variable from each subject's score.

The last assumption of multiple regression is that the error term is normally distributed. Examination of a probability plot and histogram of standardized residuals indicated that the score for depressive symptomatology was not normally distributed. Although in large samples one can rely on the Central Limit Theory to ensure that even if the error term is not normally distributed in the population, the
sampling distribution of a partial coefficient will be normally distributed (Berry & Feldman, 1985), a log transformation was used for depressive symptomatology that was significantly, positively skewed to approximate a symmetrical distribution.

By testing assumptions of multiple regression, the assumptions of ANCOVA were also being tested: normal distribution of residuals with equal variance and independence, and a linear relationship between the covariate and dependent variable (Pedhazur, 1982). The assumption of homogeneity of regression coefficients (slopes for each group are not significantly different) was tested by examining the interaction term of the covariate and independent variable. The nonsignificant change in $R^2$ indicated that this assumption was met. The log transformation was also used for depressive symptomatology in ANCOVA.

Violations of the independent $t$-test were examined next (Welkowitz, Ewen, & Cohen, 1982). Since depressive symptomatology was not normally distributed, a log transformation was used for the independent $t$-tests and the antilogs are reported for the means and standard deviations. Although the samples were independently sampled, random sampling was not used, and an assumption of these tests was violated. The $F$ test determined whether the variances of the populations were equal and when to use a pooled variance or separate variance $t$-test. The separate variance test was used with equal sample sizes and a significant $F$ statistic.

The assumptions of Chi-square were met. The observations were independent, the data were categorical, and the computations were based on all the subjects in the sample. That is the sum of the observed frequencies equalled the sum of the expected frequencies (Welkowitz et al., 1982). The Mann-Whitney test requires that the values be ordered (Norusis, 1990).
Hypothesis Testing

Question 1. What are the differences in strain, depressive symptomatology, and caregiving appraisal between caregivers to persons receiving home health care and those not receiving home health care after three months?

Strain and depressive symptomatology were not significantly lower for those caregivers receiving home health care after three months (M's = 58.81 and 5.26, respectively) than for those who did not (M's = 63.63 and 6.30, respectively). Positive caregiving appraisal was not significantly higher for those caregivers with home health care (M = 113.84) than for those without this support (M = 113.24). Table 10 compares these variables.

Table 10
Comparisons in Strain, Depressive Symptomatology, and Caregiving Appraisal Between Caregivers with Home Health Care (n = 49) and Those Without (n = 100)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Home Care</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes Mean (SD)</td>
<td>No Mean (SD)</td>
</tr>
<tr>
<td>Strain</td>
<td>58.81 (29.60)</td>
<td>63.63 (35.30)</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>5.26 (2.83)</td>
<td>6.30 (2.66)</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>113.84 (15.81)</td>
<td>113.24 (17.90)</td>
</tr>
</tbody>
</table>

**Note:** None of the t-tests are significant
**Question 2:** Do the differences in strain, caregiving appraisal, and depressive symptomatology hold when controlling for these measures prior to receiving home health care?

To determine whether the effects of home health care on strain, depressive symptomatology, and caregiving appraisal will hold when controlling for pretest measures of these variables, analysis of covariance was used. Pretest measures of strain, depressive symptomatology, and positive caregiving appraisal were significantly related to their post test measures ($r$'s = .74, .50, and .71, respectively) and were used as covariates. As in the previous analysis, the effects of home care on strain ($F = .76$), depressive symptomatology ($F = .34$), and positive caregiving appraisal ($F = .05$) were not significant.

**Question 3:** Are problem-focused coping, emotion-focused coping, and positive caregiving appraisal able to explain strain and depressive symptomatology among family caregivers before receiving home health care?

To determine the nature of the relationships of problem-focused coping, emotion-focused coping, and positive caregiving appraisal to strain and depressive symptomatology at pretest, scatterplots and Pearson correlations were examined. Greater positive caregiving appraisal was significantly related to lower strain at pretest ($r = -.68$), and a scatterplot indicated a linear relationship. Problem-focused coping and emotion-focused coping did not have linear relationships with strain at pretest, and scatterplots indicated quadratic nonlinear relationships. Thus, $\eta^2$, an overall measure of nonlinear relationships, was computed. All $\eta^2$s were high and ranged from .46 for problem-focused coping to .73 for positive caregiving appraisal. Quadratic polynomials were used in regression analyses for
problem-focused and emotion-focused coping with strain. Table 11 summarizes
etas and Pearson correlations of the independent variables with strain and
depressive symptomatology at pretest.

Table 11

Pearson Correlations and Etas of Pretest Positive Caregiving Appraisal,
Problem-Focused Coping, and Emotion-Focused Coping to Strain and
Depressive Symptomatology (N = 100)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlations</th>
<th>Etas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.68 ***</td>
<td>.73</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>.06</td>
<td>.58</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-.03</td>
<td>.46</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.69 ***</td>
<td>.88</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>.02</td>
<td>.52</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-.05</td>
<td>.44</td>
</tr>
</tbody>
</table>

***p < .001

Greater positive caregiving appraisal was significantly related to lower
depressive symptomatology at pretest (r = -.69), and a scatterplot indicated a
linear relationship between these variables. Problem-focused coping and emotion-
focused coping were not significantly related to depressive symptomatology and
scatterplots suggested quadratic nonlinear relationships. Therefore, the computed
etas were moderate to high and ranged from .44 for problem-focused coping to .88
for positive caregiving appraisal. Thus, quadratic polynomials were used in
regression analyses for problem-focused and emotion-focused coping with
depressive symptomatology. See Appendices R and S for scatterplots of positive caregiving appraisal, problem-focused coping, and emotion-focused coping with strain and depressive symptomatology at pretest.

Hierarchical multiple regression was used with positive caregiving appraisal being entered first because theoretically little is known about the variable within this population. This would allow determining whether problem-focused coping and emotion-focused coping added any other explained variance over and above positive caregiving appraisal. Positive caregiving appraisal consisted of impact, mastery, and satisfaction. Problem-focused coping and emotion-focused coping were entered next followed by the quadratic polynomials for problem-focused coping and emotion-focused coping. Forty-nine percent of the variance in strain was accounted for by positive caregiving appraisal, problem-focused coping, and emotion-focused coping and their quadratic polynomials.

Table 12 describes regression analysis of pretest measures of positive caregiving appraisal, problem-focused coping, and emotion-focused coping in the explanation of strain. Since the magnitude of the test of \( b \) depends positively on the size of the standard errors, which were large for emotion-focused coping and problem-focused coping, greater positive caregiving appraisal was the only significant variable explaining lower strain (\( b = -.71 \)). The standard error of the regression coefficient measures how sensitive the estimate of the parameter is to changes in a few observations in the sample, and the higher the intercorrelation among the independent variables, the larger the standard error of the \( b \)'s (Schroeder, Sjoquist, & Stephan, 1986). Greater emotion-focused coping was significantly related to greater problem-focused coping (\( r = .52 \), but emotion-
focused and problem-focused coping were not significantly related to positive
caringng appraisal.

Table 12

Multiple Regression for Strain on Pretest Positive Caregiving Appraisal, Problem-
Focused Coping, and Emotion-Focused Coping (N = 100)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized Regression Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.68*** (.24)a</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>----</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>----</td>
</tr>
<tr>
<td>Problem-focused Quadratic Polynomial</td>
<td>----</td>
</tr>
<tr>
<td>Emotion-focused Quadratic Polynomial</td>
<td>----</td>
</tr>
</tbody>
</table>

\[ R^2 \]

<table>
<thead>
<tr>
<th>Change R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>----</td>
</tr>
</tbody>
</table>

*Standard error of b

*** p < .001

With depressive symptomatology, hierarchical multiple regression was used
with positive caregiving appraisal being entered first followed by problem-focused
coping and emotion-focused coping. The quadratic polynomials for problem-
focused coping and emotion-coping were entered last. Fifty percent of the
variance in depressive symptomatology was accounted for by positive caregiving
appraisal, problem-focused coping, emotion-focused coping, and their quadratic polynomials. Greater positive caregiving appraisal was the only significant variable explaining lower depressive symptomatology ($R = -.70$). Table 13 describes regression analysis of pretest measures of positive caregiving appraisal, problem-focused coping, and emotion-focused coping in the explanation of depressive symptomatology.

Table 13

**Multiple Regression for Depressive Symptomatology on Pretest Positive Caregiving Appraisal, Problem Focused Coping, and Emotion-Focused Coping**

$(N = 100)$

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized Regression Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.69*** (.005)$^a$</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>-----</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-----</td>
</tr>
<tr>
<td>Problem-focused Quadratic Polynomial</td>
<td>-----</td>
</tr>
<tr>
<td>Emotion-focused Quadratic Polynomial</td>
<td>-----</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.48**</td>
</tr>
<tr>
<td>Change $R^2$</td>
<td>-----</td>
</tr>
</tbody>
</table>

$^a$Standard of error of $b$

***$p < .001$
Question 4: What are the effects of problem-focused coping, emotion-focused coping, utilization of home health care, positive caregiving appraisal, and informal social support on strain and depressive symptomatology of family caregivers of functionally impaired older adults after receiving home health care?

To determine the nature of the relationships of the independent variables to strain and depressive symptomatology at post test, scatterplots and Pearson correlations were examined. As stated earlier, greater positive caregiving appraisal and lower informal social support were significantly related at post test to lower strain ($r$'s = -.74 and .32, respectively), and scatterplots indicated a linear relationship between these variables. Problem-focused coping and emotion-focused coping were not significantly related at post test to strain. Therefore, the computed etas except for home care utilization were high and ranged from .73 for emotion-focused coping to .93 for positive caregiving appraisal. Thus, quadratic polynomials were used in regression analyses for problem-focused coping and emotion-focused coping with post test measures of strain.

Greater positive caregiving appraisal was significantly related to lower depressive symptomatology at post test ($r = -.57$), and a scatterplot indicated a linear relationship between these variables. Problem-focused coping, emotion-focused coping, and informal social support were not significantly related to depressive symptomatology at post test. Eta’s were moderate to high and ranged from .45 for problem-focused coping to .80 for positive caregiving appraisal. Thus, quadratic polynomials were used in regression analyses for problem-focused and emotion-focused coping with the dependent variable, depressive symptomatology. Table 14 summarizes etas and Pearson correlations of the independent variables with strain and depressive symptomatology at post test. See
Appendices T and U for scatterplots of positive caregiving appraisal, problem-focused coping, emotion-focused coping, and informal social support with post test measures of strain and depressive symptomatology.

Table 14

Pearson Correlations and Etas of Post Test Positive Caregiving Appraisal,

Problem-Focused Coping, Emotion-Focused Coping, Informal Social Support, and Home Health Care Utilization to Strain and Depressive Symptomatology

(N = 100)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlations</th>
<th>Etas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.74 ***</td>
<td>.85</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>.12</td>
<td>.73</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-.09</td>
<td>.53</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>.32 **</td>
<td>.79</td>
</tr>
<tr>
<td>Home Care Utilization</td>
<td>-.07</td>
<td>.07</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.57 ***</td>
<td>.80</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>.09</td>
<td>.80</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-.07</td>
<td>.45</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>.05</td>
<td>.82</td>
</tr>
<tr>
<td>Home Care Utilization</td>
<td>-.09</td>
<td>.09</td>
</tr>
</tbody>
</table>

**p < .01  ***p < .001

With strain, hierarchical multiple regression was used with positive caregiving appraisal being entered first. Emotion-focused coping, problem-focused coping, and informal social support were entered next followed by the quadratic polynomials for emotion-focused coping and problem-focused coping. Utilization
of home health care was entered last to determine whether home health care added any other explained variance over and above the others.

Sixty percent of the variance in strain was accounted for by positive caregiving appraisal, problem-focused coping, emotion-focused coping, informal social support, their quadratic polynomials, and home health care. Since the standard errors were large for emotion-focused coping and problem-focused coping, greater positive caregiving appraisal was the only significant variable explaining lower strain ($R = -.72$). Table 15 on the following page describes the results of regression analysis explaining post test measures of strain.

With depressive symptomatology, hierarchical multiple regression was used with positive caregiving appraisal being entered first. Emotion-focused coping, problem-focused coping, and informal social support were entered next followed by the quadratic polynomials for emotion-focused coping, problem-focused coping, and informal social support. Utilization of home health care was entered last.

Thirty-seven percent of the variance in depressive symptomatology at post test was accounted for by positive caregiving appraisal, problem-focused coping, emotion-focused coping, informal social support, their quadratic polynomials, and home care. Since the standard error was large for problem-focused coping, greater positive caregiving appraisal was the only significant variable explaining lower depressive symptomatology ($R = -.61$). Table 16 describes the results of regression analysis explaining post test measures of depressive symptomatology.
Table 15

Multiple Regression for Strain on Post Test Positive Caregiving Appraisal, Problem-Focused Coping, Emotion-Focused Coping, Informal Social Support, and Home Care Utilization (N = 100)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized Regression Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.74 *** (.25)a</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>--------</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>--------</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>--------</td>
</tr>
<tr>
<td>Emotion-focused Quadratic Polynomial</td>
<td>--------</td>
</tr>
<tr>
<td>Problem-focused Quadratic Polynomial</td>
<td>--------</td>
</tr>
<tr>
<td>Home Care Utilization</td>
<td>--------</td>
</tr>
<tr>
<td>R²</td>
<td>-.55 **</td>
</tr>
<tr>
<td>Change R²</td>
<td>--------</td>
</tr>
</tbody>
</table>

aStandard error of b

***p < .001
Table 16

**Multiple Regression for Depressive Symptomatology on Post Test Positive Caregiving Appraisal, Problem-Focused Coping, Emotion-Focused Coping, Informal Social Support, and Home Care Utilization Depression (N = 100)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>-.57*** (.005)*</td>
<td>-.61*** (.006)</td>
<td>-.62*** (.006)</td>
<td>-.61*** (.006)</td>
</tr>
<tr>
<td>Problem-focused Coping</td>
<td>-----</td>
<td>-.13 (.019)</td>
<td>.50 (.137)</td>
<td>.59 (.140)</td>
</tr>
<tr>
<td>Emotion-focused Coping</td>
<td>-----</td>
<td>.13 (.009)</td>
<td>.50 (.060)</td>
<td>.51 (.060)</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>-----</td>
<td>-.13 (.006)</td>
<td>-.26 (.045)</td>
<td>-.33 (.046)</td>
</tr>
<tr>
<td>Emotion-focused Quadratic Polynomial</td>
<td>-----</td>
<td>-----</td>
<td>-.37 (&lt;.001)</td>
<td>-.38 (&lt;.001)</td>
</tr>
<tr>
<td>Problem-focused Quadratic Polynomial</td>
<td>-----</td>
<td>-----</td>
<td>-.64 (.003)</td>
<td>-.73 (.003)</td>
</tr>
<tr>
<td>Informal support Quadratic Polynomial</td>
<td>-----</td>
<td>-----</td>
<td>.15 (&lt;.001)</td>
<td>.23 (&lt;.001)</td>
</tr>
<tr>
<td>Home Care Utilization</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-.06 (.188)</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.33***</td>
<td>.36***</td>
<td>.37***</td>
<td>.37***</td>
</tr>
<tr>
<td>Change ( R^2 )</td>
<td>-----</td>
<td>.03</td>
<td>.01</td>
<td>&lt; .01</td>
</tr>
</tbody>
</table>

*Standard error of \( b \)

*** \( p < .001 \)
Question 5: What is the effect of social support on the relationship between post test measures of strain and depressive symptomatology?

Multiple regression with interaction terms as described by Jaccard et al. (1990) was used to determine the moderating effects of informal and formal social support (home health care utilization) on the relationship between strain and depressive symptomatology. To minimize multicollinearity between the main effects of the independent variables and the interaction terms, all variables were centered prior to analysis. That is, the mean for each variable was subtracted from each subject’s score. The log transformation was used for the depressive symptomatology score. Since an indication of a nonlinear relationship between informal and formal social support and depressive symptomatology was suggested by scatterplots and small Pearson correlations, quadratic polynomials were used in regression for informal social and formal social support.

According to Jaccard et al. (1990), standardized betas cannot be adequately interpreted in this type of analysis, and only unstandardized regression coefficients are reported. The statistical model used for the regression analysis is:

\[ Y = a + b_1 ST + b_2 FS + b_3 IS + b_4 FS^2 + b_5 IS^2 + b_6 ST*FS + b_7 ST*IS + b_8 ST*FS^2 + b_9 ST*IS^2 \]

Specifically, \( a \) is the constant; \( ST \) is strain; \( FS \) is formal social support; \( IS \) is informal social support; \( FS^2 \) is the nonlinear term for formal social support; \( IS^2 \) is the nonlinear term for informal social support; \( ST*FS \) is the linear interaction between formal social support and strain; \( ST*IS \) is the linear interaction between informal social support and strain; \( ST*FS^2 \) is the nonlinear interaction between
formal social support and strain; and $ST^2IS^2$ is the nonlinear interaction between informal social support and strain.

The independent variables were entered in the following order: strain, formal social support, and informal social support were entered first; then the polynomials for formal and informal social support; then the interaction terms for formal and informal social support; and the quadratic interaction terms were entered last. Since formal social support was a dichotomous variable, it was not possible to use this variable in the nonlinear model.

The presence, strength, and nature of the interaction effect were evaluated. The interaction effects for linear and nonlinear interaction terms were not significant. The strength of the effect was determined by the difference in squared multiple correlations ($R^2$) for the main-effects model and the interactive model (Jaccard et al., 1990) and was not significant. The difference between the $R^2$ for the linear interaction and quadratic interaction model was .01. The nature of the interaction was not explored because neither the linear nor the quadratic interaction terms were significant.

Although strain, formal social support, and informal social support accounted for 41% of the variance in depressive symptomatology, their interaction terms were not significant, and hence, formal social support and informal social support did not moderate the relationship between strain and depressive symptomatology. Summarized in Table 17 are the unstandardized regression coefficients of the interaction terms.
Table 17

Unstandardized Regression Coefficients for the Linear and Quadratic Interaction Terms For Strain and Informal and Formal Social Support (N = 100)

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Unstandardized Regression Coefficient</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Model:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain with Formal Social Support</td>
<td>.0036</td>
<td>.66</td>
</tr>
<tr>
<td>Strain with Informal Social Support</td>
<td>-.0002</td>
<td>-1.29</td>
</tr>
<tr>
<td>Nonlinear Model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain with Informal Social Support</td>
<td>&lt;.0001</td>
<td>.81</td>
</tr>
</tbody>
</table>

Note: None of the interaction terms are significant

Question 6: What are the effects of home health care on strain and depressive symptomatology of the caregiver when controlling for informal social support, satisfaction with informal/formal social support, caregiver age, gender, and perceived health, role obligations, and time spent in caregiving?

To determine whether the effects of home health care on post test measures of strain and depressive symptomatology will hold when controlling for the above mentioned variables, analysis of covariance was used. Strain and depressive symptomatology were analyzed in separate ANCOVA’s. Since a linear model is needed for ANCOVA (Pedhazur, 1982), relationships between the dependent variables and the covariates were determined. Post test measures of strain were significantly related to age and post test measures of informal social support and
satisfaction with informal social support ($r's = -.35, -.32, \text{ and } -.56$, respectively) and were used as covariates. The effects of home care on strain were not significant when controlling for these covariates ($F = .49$).

Post test measures of depressive symptomatology were significantly related to post test measures of satisfaction with informal social support ($r = -.27$), the caregiver's health ($\eta = .25$), and gender ($r_{pb} = -.34$) and were used as covariates. The effects of home care on depressive symptomatology were not significant when controlling for these covariates ($F = 1.10$).

**Additional Findings**

The interaction of cognitive impairment and unusual behaviors associated with dementia taxes the caregiver's physical and psychological health that may result in strain and depressive symptomatology (Morycz, 1980). Therefore, this was explored using independent $t$-tests. Differences in strain, depressive symptomatology, and positive caregiving appraisal were examined between caregivers of those persons who were cognitively impaired and those who were cognitively intact. Strain and depressive symptomatology were significantly higher for caregivers of persons who were cognitively impaired than for those who were cognitively intact at pretest and post test, and positive caregiving appraisal was significantly lower for caregivers of persons cognitively impaired than for those who were not at pretest and post test. Table 18 compares strain, depressive symptomatology, and positive caregiving appraisal between caregivers to those care-recipients who were cognitively impaired or cognitively intact at pretest and post test.
Table 18

Comparisons in Caregiver Strain, Depressive Symptomatology, and Positive Caregiving Appraisal Between Those Care-Recipients Who Were Cognitively Impaired (n = 47) and Those Who Were Cognitively Intact (n = 53) at Pretest and Post Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cognitive Impairment</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>84.18 (33.47)</td>
<td>60.23 (25.13)</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>10.20 (2.80)</td>
<td>5.78 (2.89)</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>104.21 (18.81)</td>
<td>118.98 (11.38)</td>
</tr>
<tr>
<td>Post test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>72.93 (34.20)</td>
<td>50.93 (27.41)</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>7.77 (2.60)</td>
<td>4.31 (2.67)</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>107.04 (18.52)</td>
<td>119.28 (12.81)</td>
</tr>
</tbody>
</table>

**p < .01   ***p < .001

Researchers found that female caregivers exhibit greater strain than their male counterparts (Fitting & Rabins, 1985; Johnson, 1983; Noelker & Walker, 1985), but the results have been sparse concerning depressive symptomatology (Ballie et al., 1988). Furthermore, Johnson (1983) and Bass et al. (1992) found that husbands experienced less strain because they shared caregiving responsibilities among relatives. Therefore, differences in strain, depressive symptomatology, positive caregiving appraisal, and informal social support were examined between
males and females. Strain and informal social support were significantly greater for females than for males at pretest and post test, and depressive symptomatology was significantly greater for females at pretest but not at post test. Positive caregiving appraisal was significantly lower for females than for males at pretest and post test. Table 19 compares strain, depressive symptomatology, positive caregiving appraisal, and informal social support between males and females at pretest and post test.

Strain and depressive symptomatology were higher for female caregivers at pretest and for caregivers to those cognitively impaired. Therefore, strain, depressive symptomatology, and positive caregiving appraisal were compared between female and male caregivers to those who were cognitively impaired. Strain, depressive symptomatology, and positive caregiving appraisal were not significantly different between female and male caregivers of those care-recipients who were cognitively impaired.

Callahan and Wolinsky (1994) findings suggested that race-gender differences exist when measuring depressive symptomatology with the CES-D. Therefore, differences in depressive symptomatology were examined among the three racial groups with analysis of variance. Depressive symptomatology was not significantly different among the three races of caregivers.
### Table 19

**Comparisons in Strain, Depressive Symptomatology, Positive Caregiving Appraisal, and Informal Social Support Between Males (n = 26) and Females (n = 74) at Pretest and Post Test**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Females Mean (SD)</th>
<th>Males Mean (SD)</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pretest</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>75.68 (32.19)</td>
<td>59.55 (26.83)</td>
<td>-2.29**</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>8.67 (2.90)</td>
<td>5.10 (2.83)</td>
<td>-2.04*</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>109.37 (17.59)</td>
<td>119.65 (12.35)</td>
<td>3.25***</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>91.15 (15.12)</td>
<td>76.85 (13.62)</td>
<td>-4.25***</td>
</tr>
<tr>
<td><strong>Post Test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>64.55 (32.48)</td>
<td>51.92 (31.55)</td>
<td>-1.72*</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>4.14 (2.83)</td>
<td>5.58 (2.44)</td>
<td>-.13</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>111.77 (16.85)</td>
<td>118.54 (16.05)</td>
<td>1.78*</td>
</tr>
<tr>
<td>Informal Social Support</td>
<td>89.57 (15.11)</td>
<td>77.15 (13.24)</td>
<td>-3.72 ***</td>
</tr>
</tbody>
</table>

* p < .05  ** p < .01  *** p < .001

Cantor (1983) and Deimling and Bass (1986) found that spousal caregivers were at greatest risk for strain and depressive symptoms. Therefore, strain, depressive symptomatology, and positive caregiving appraisal were compared between spouses and nonspousal caregivers. Strain and positive caregiving appraisal were significantly higher at pretest and post test for nonspousal caregivers than for spousal caregivers. Depressive symptomatology was not significantly
different between the groups at pretest and post test. Positive caregiving appraisal at pretest was significantly higher for males than females in the spousal group ($t = 2.28, 62$ df, $p = .02$), but not at post test. Strain and depressive symptomatology were not significantly different between spousal females and males at pretest and post test. Table 20 compares the differences in strain, depressive symptomatology, and positive caregiving appraisal between spousal and nonspousal caregivers.

Since positive caregiving appraisal was a significant variable in the explanation of strain and depressive symptomatology, the relationships between positive caregiving appraisal and the control variables (age, gender, health, length of time spent in caregiving, and role obligations) were examined. Positive caregiving appraisal was positively related to age at pretest and post test ($r$'s = .30 and .38, respectively) and was negatively related to role obligations at pretest and post test ($r$'s = -.30 and -.27, respectively). There was a positive correlation between being male and positive caregiving appraisal at pretest ($r_{pb} = .27$) but not at post test. Length of time spent in caregiving and health were not significantly related to positive caregiving appraisal.

According to Pearlin et al. (1989), coping behaviors differ with stages of illness. Furthermore, Gurkli and Menke (1985) found length of time on hemodialysis treatments was positively associated with problem-focused coping but not with affective-oriented coping. Therefore, the relationship between problem-focused coping and emotion-focused coping was examined. Problem-focused coping and emotion-focused coping were not significantly related to the length of time spent in caregiving.
Table 20
Comparisons in Caregiver Strain, Depressive Symptomatology, and Positive Caregiving Appraisal Between Spouses (n = 64) and Nonspouses (n = 36) at Pretest and Post Test

<table>
<thead>
<tr>
<th>Variables</th>
<th>Spouse</th>
<th>Nonspouse</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td></td>
</tr>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>64.41 (27.90)</td>
<td>84.06 (34.11)</td>
<td>-3.12***</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>6.75 (3.13)</td>
<td>9.68 (2.56)</td>
<td>-1.55</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>115.28 (14.88)</td>
<td>106.28 (19.00)</td>
<td>2.62**</td>
</tr>
<tr>
<td>Post Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strain</td>
<td>54.15 (30.50)</td>
<td>73.92 (32.68)</td>
<td>-3.03***</td>
</tr>
<tr>
<td>Depressive Symptomatology</td>
<td>5.37 (2.92)</td>
<td>6.49 (2.41)</td>
<td>-.79</td>
</tr>
<tr>
<td>Positive Caregiving Appraisal</td>
<td>117.66 (15.71)</td>
<td>106.19 (16.44)</td>
<td>3.44***</td>
</tr>
</tbody>
</table>

**p < .01  ***p < .001

Since strain and depressive symptomatology were greater for females than for males, gender was added to regressions for strain and depressive symptomatology at pretest and post test after problem-focused coping, emotion-focused coping, positive caregiving appraisal, utilization of home health care, and informal social support. Gender was not significant and did not explain a significant amount of variance in strain and depressive symptomatology over and above the other
variables in regression. Since strain and depressive symptomatology were significantly greater for caregivers of those persons who were cognitively impaired than for those who were cognitively intact, cognitive impairment was added to regressions for strain and depressive symptomatology at pretest and post test after problem-focused coping, emotion-focused coping, positive caregiving appraisal, utilization of home health care, and informal social support. Cognitive impairment was not significant and did not explain a significant amount of variance in strain and depressive symptomatology over and above positive caregiving appraisal in regression.

Formal social support that was measured as a dichotomous variable was originally used in regression. For further analysis, the total number of home health care services used by the families rather than the dichotomous variable was entered into the regressions for strain and depressive symptomatology at post test. The total number of home health care services, however, did not explain a significant amount of variance in strain and depressive symptomatology over and above positive caregiving appraisal.

**Summary**

Strain and depressive symptomatology were not significantly lower for those caregivers receiving home health care than for those not receiving this support, and positive caregiving appraisal was not significantly higher for those caregivers with home health care than for those without this support. Furthermore, the effects of home health care on strain, depressive symptomatology, and caregiving appraisal were not significant when controlling for their pretest measures.

Taken together, positive caregiving appraisal, problem-focused coping, and emotion-focused coping explained strain and depressive symptomatology among
family caregivers prior to receiving home health care. Greater positive caregiving appraisal significantly explained lower strain and depressive symptomatology at pretest while problem-focused coping and emotion-focused coping were not significant.

Taken together, positive caregiving appraisal, problem-focused coping, emotion-focused coping, informal social support, and the utilization of home health care explained strain and depressive symptomatology among family caregivers after receiving home health care for three months. However, utilization of home health care, problem-focused coping, emotion-focused coping, and informal social support were not significant in the explanation of strain and depressive symptomatology, but greater positive caregiving appraisal significantly explained lower strain and depressive symptomatology at post test.

The moderator model of social support was further examined. Although strain, formal social support, and informal social support accounted for 41% of the variance in depressive symptomatology, their interaction terms were not significant, and hence, formal and informal social support did not moderate the relationship between strain and depressive symptomatology.

Home health aides followed by the registered nurse provided the greatest number of visits to the families during the three month period of data collection. However, the utilization of home health care was not significant in explaining lower strain and depressive symptomatology even when controlling for informal social support, satisfaction with informal social support, caregiver age, gender, and perceived health. The total number of home health care services used was not significant in regression for strain and depressive symptomatology.
Greater satisfaction with informal social support was significantly related at pretest and post test to lower strain and depressive symptomatology and greater positive caregiving appraisal. Greater use of informal social support was significantly related to greater strain at pretest and post test and lower positive caregiving appraisal at post test.

Some other areas of interest for additional analysis were differences in strain, depressive symptomatology, and positive caregiving appraisal between caregivers to those care-recipients with cognitive impairment and those cognitively intact and between spouses and nonspouses. At pretest and post test, strain and depressive symptomatology were higher for caregivers of those persons who were cognitively impaired and positive caregiving appraisal was lower. Strain and positive caregiving appraisal were significantly higher at pretest and post test for nonspousal caregivers.

Strain, depressive symptomatology, positive caregiving appraisal, and informal social support were compared between females and males. Strain and informal social support were significantly greater for females than males at pretest and post test. Depressive symptomatology was significantly greater for females at pretest but not at post test. Positive caregiving appraisal was significantly lower for females at pretest and post test.

Although strain and depressive symptomatology were greater for caregivers to those persons with cognitive impairment and females had greater strain and depressive symptomatology than males, cognitive impairment and gender did not explain a significant amount of variance in strain and depressive symptomatology over and above positive caregiving appraisal in regression. Problem-focused coping and emotion-focused coping were not related to time spent in caregiving.
CHAPTER V
Discussion, Implications and Recommendations

Families have been recognized as providing enormous amounts of assistance to older adults, and the resulting strain and depressive symptomatology from this caregiving has been an issue for research. The purposes of the study were to 1) determine if strain, depressive symptomatology, and caregiving appraisal were different between family caregivers of functionally impaired older adults who were receiving home health care and those who were not receiving this type of support, and 2) assess the moderator model of social support.

One hundred family caregivers residing with an older family member, either receiving home health care or not receiving this care, were selected after receiving services from three hospitals. Within a week of receiving subject referral from nursing, social workers, and home health coordinators, interviews were done in the caregivers' homes for data about strain, depressive symptomatology, caregiving appraisal, informal social support, satisfaction with social support, problem-focused coping, and emotion-focused coping. After three months, the same data were collected as well as information about satisfaction with home health care.

Lazarus and Folkman's (1984) cognitive theory of stress and coping and Wheaton's (1985) interactive stress-buffering model of social support were adapted and provided the basic conceptual framework for the study. Although the conceptual framework is borrowed, the conceptualizations fit with the perspectives of the nursing discipline and relate to its metaparadigm (Fawcett, 1984). Strain on the caregiver (man) is related to informal social support (environment) and actions taken by one's use of formal social support (nursing) resulting in an outcome of wellness (health) or depressive symptomatology.
Neither the moderator model nor the additive model of social support were supported. There were no significant differences in strain, depressive symptomatology, and positive caregiving appraisal between those caregivers receiving home health care and those not receiving this type of support. Also, greater positive caregiving appraisal significantly explained lower strain and depressive symptomatology at pretest and post test while problem-focused coping, emotion-focused coping, and informal social support were not significant. Informal and formal social support did not moderate the relationship between strain and depressive symptomatology.

**Differences With Home Health Care**

After three months, strain and depressive symptomatology were not significantly lower and positive caregiving appraisal was not significantly higher for those caregivers receiving home health care than for those not receiving this care, even when controlling for their pretest measures. Significant relationships between pretest and post test measures indicated that strain, depressive symptomatology, and positive caregiving appraisal were strongly influenced by their own prior measures. Findings in this study were consistent with other investigators (Graham, 1989; Lawton, Brody, & Saperstein, 1989; Haley, Brown, & Levine, 1987) who used various forms of formal social support to study caregiver strain and depressive symptomatology. Although the generalizability of Graham's study (1989) is limited due to small sample size, the use of day care did not lower strain in 15 caregivers of cognitively impaired older adults. Lawton, Brody, and Saperstein (1989) found that the amount of respite care did not effect well-being over a 12 month period, but the families using respite care were able to
maintain the impaired relative in the community significantly longer. Haley, Brown, and Levine (1987) found that depressive symptomatology was not significantly lower for the group that received supportive assistance than those who did not.

Those caregivers who refused to participate in the study expressed having high levels of strain and consequently, those persons who participated had lower levels of strain. Since strain and depressive symptomatology were low and positive caregiving appraisal was moderate at pretest and post test, the amount of variation in these factors was small and the ability to detect differences in strain, depressive symptomatology, and positive caregiving appraisal was minimized.

Furthermore, since a significant number of care-recipients with home health care had heart disease while a significant number of care-recipients without home health care had skeletal problems, the groups were not similar in health. The caregivers rated the health of the care-recipients with home health care as poor and the health for those without home health care as fair. Contrary to the findings of George and Gwyther (1986) who found that resources available to the caregiver rather than the condition of the care-recipient affected caregiver well-being, the resulting strain and depressive symptomatology for those caregivers with home health care were not significantly lower. While differences in strain and depressive symptomatology were not significant, home health care may have helped the caregivers contend with physical tasks of providing care to persons with greater functional impairment.

Furthermore, lack of significant findings may be related to the amount and type of home health care services provided. The home health care agencies calculate the use of home health care by the number of services used rather than by
the number of hours provided. A minimal number of home health care visits were
provided with aides providing the most services. According to Fischer and Eustis
(1994), care-recipients tend to be underserviced and caregivers manage their daily
lives while having important needs unmet.

When measuring the outcomes of care provided by nonprofessional personnel
who assist with physical needs rather than the professional addressing psychosocial
needs, strain and depressive symptomatology may not be appropriate outcomes.
Hooyman, Gonyea, and Montgomery (1985) found that loss of chore services to
caregivers was not associated with the caregiver's perceptions of burden or their
level of stress. Although confinement has been identified as a common stressor in
caring for an impaired older family member (Robinson, 1983), a very minimal
amount of respite was provided by the home health care agency, and few families
used private respite services. Hence, persons receiving home health care did not
receive respite from care and this may account for the nonsignificant findings for
the effects of home health care on strain and depressive symptomatology.

Timing, also, is an important element of the social process (Eckenrode &
interval for the measurement of changes in stress to occur, changes in the care-
recipient's health occurred two to two and one-half months after the initial
interview. Thus, the three month interval for data collection as suggested by
Krause (1989) may not be the most appropriate time for determining the effects of
home health care on strain and depressive symptomatology. Possibly,
measurement of the outcomes of caregiving should occur sooner and at multiple
time points.
Effects of Coping and Appraisal on Strain and Depressive Symptomatology

Taken together, positive caregiving appraisal, problem-focused coping, and emotion-focused coping explained strain and depressive symptomatology among family caregivers prior to receiving home health care, and positive caregiving appraisal, problem-focused coping, emotion-focused coping, informal social support, and utilization of home health care explained strain and depressive symptomatology among family caregivers after receiving home health care for three months. However, greater positive caregiving appraisal significantly explained lower strain and depressive symptomatology at pretest and post test while problem-focused coping, emotion-focused coping, informal social support, and utilization of home care were not significant.

In contrast to findings of Jeffrey (1989) and Killeen (1990), problem-focused coping and emotion-focused coping were not significantly related to strain and depressive symptomatology and were not significant in explaining strain and depressive symptomatology at post test. Jeffrey (1989) found that persons with a chronic illness such as arthritis used more problem solving when they felt in control of a situation, and in a study of 126 family caregivers of the older adult, Killeen (1990) found that more emotion-focused strategies were used when caregivers reported greater stress.

Furthermore, differences in coping styles may be explained by the nature of the chronic illness. Contrary to the subjects in Jeffrey’s (1989) study who had arthritis and rarely faced a medical crisis, almost half of the studied care-recipient were cognitively impaired with other physical problems that were life threatening. Thus, the caregivers may not have felt in control of the situation because of
anticipating possible changes in the care-recipient's health. Inconsistencies from Killeen's (1990) study may be explained by differences in the measurement of coping. Killeen (1990) measured emotion-focused and problem-focused coping styles with a forty-item questionnaire, a prime consideration when working with subjects who cite lack of time as a major problem. The caregivers sampled may have been disinterested in responding to the great number of items related to coping because these questions were at the end of the interview. Also, the items may not have been comparable in content to those from the Revised Ways of Coping Checklist (Lazarus & Folkman, 1984).

According to Killeen (1990), how one copes and strategies used may be explained by how long the caregiver has assumed the caregiving role (Killeen, 1990). Problems that the caregiver confronts at an earlier stage of illness may evoke coping behaviors that differ at a later stage of the disease (Pearlin et al., 1989). Although Killeen (1990) found that persons who had been caregivers longer used more emotion-focused strategies while less time in the role was associated with greater use of problem-focused strategies, findings from this study and the works of others have been inconsistent (Jeffrey, 1989; Gurklis & Menkle, 1988; Neundorfer, 1991).

Most of the caregivers in this study had been providing care for one to three years with one-fifth of the caregivers providing care for five years. Consistent with the findings of Neundorfer (1991) whose subjects had been providing care on average for 2.9 years, problem-focused coping and emotion-focused coping were not significantly related to the length of time providing care, and coping strategies were not significantly different between pretest and post test. Although Jeffrey (1989) studied patients rather than caregivers, lack of a relationship between ways
of coping and time since diagnosis was found. Persons who had arthritis longer used strategies to distance themselves from the problem and gained self-control by putting the illness into perspective. Gurklis and Menkle (1988) found that length of time on hemodialysis was not significantly related to total coping scores.

Although the majority of caregivers studied had at least a high school education, many were perplexed when questioned about coping with problems and were not consciously aware of how they were involved in decision-making. Coping and problem-solving strategies that previously were used may not be used or be effective in the caregiving situation. Therefore, coping with caregiving cannot be assessed with instruments that measure how people cope with other dissimilar life problems (Pearlin et al., 1990). Perhaps an instrument that measures coping reflecting strategies used by caregivers would explain more of strain and depressive symptomatology. Although the present study did not address positive outcomes, some adaptive coping strategies may have been used because strain and depressive symptoms were low for this group. Coping efforts such as spiritual growth and existential growth that has been found to be adaptive for caregivers could be measured (Quayhagen & Quayhagen, 1988).

In regard to primary appraisal, individuals define and interpret situations, thereby, attaching meaning to others' actions and their own actions that may vary their skills for managing these problems (Stull, Kosloski, & Kercher, 1994; Zarit et al., 1986). Although the positive aspects of caregiving appraisal have received less attention than the negative ones (Lawton, Kleban, Moss, Rovine, & Glicksman, 1989), the measure of caregiving appraisal in this study examined the positive, neutral, and negative side of caregiving. As found by previous investigators (Billings & Moos, 1984; Boss, 1987; Oberst et al., 1989; Zarit et al.,
greater positive caregiving appraisal was significantly related to lower strain and depressive symptomatology at pretest and post test. Furthermore, greater positive appraisal of caregiving was significantly related to greater satisfaction with informal social support. Although most of the care-recipient's health was fair or poor and the caregivers spent an average of 11.07 hours daily assisting the care-recipient, the caregivers' appraisal of the situation was positive. Thus, less strain and the appraisal of stress were more important than the severity of problems. Therefore, one's perceptions or appraisal of caregiving activities rather the number of hours involved was most significant.

**Effects of Home Health Care on Strain and Depressive Symptomatology**

Home health care did not explain strain and depressive symptomatology over and above problem-focused coping, emotion-focused coping, positive caregiving appraisal, and informal social support. Furthermore, the effects of home health care on strain and depressive symptomatology were not significant when controlling for informal social support, satisfaction with social support, caregiver age and perceived health. Length of time spent in caregiving and role obligations were not used as controls in analysis since they were not significantly related to strain or depressive symptomatology.

Possible explanations for this lack of significant findings are further explored. First, home health care may not have been effective because minimal number of services were used. Clients tend to find ways to manage on their own while lacking a variety of necessary services (Fischer & Eustis, 1994). Second, since strain and depressive symptomatology were low in this study, little variance was available to be explained by other factors. Possibly, the subjects may have felt strain upon being involved in providing care but minimized the negative aspects
when they were interviewed. Hence, the variability in strain and depressive symptomatology may have been too low to be explained by social support. Third, perhaps three months is not the appropriate time to measure outcomes of social support. Although the subjects stated that changes in their health and the care-recipient's health were not significant, history is a threat to internal validity. The effects of home care may have been more potent earlier than the three month period.

**Stress-Buffering of Informal and Formal Social Support**

The evidence for the effects of social support are inconsistent (George, 1989). While stress-buffering effects are observed for some types of support, not all dimensions nor all kinds of stressors are buffered (Krause 1986c, 1987b). However, consistent with the findings of Roberts et al. (1994) who found that social support did not attenuate the impact of strain and stressful life events on general mental health, informal and formal social support did not moderate the relationship between strain and depressive symptomatology for the caregivers sampled. Furthermore, these findings are consistent with those of Billings and Moos (1984) and Cronkite and Moos (1984) who found little evidence of an interaction between stressors and social support in predicting depressive symptomatology in community samples.

Since the positive relationship between greater strain and greater informal social support was high, the lack of stress-buffering may be explained. The moderator model assumes that the relationship between stress and social support is low (Krause, 1989), otherwise, the interaction between stress and social support could become confounded with the effect of stress on social support. Also, maximum buffering of social support occurs when stress is high (Krause, 1989).
Since only nine subjects had fairly high strain, it may have been too low for social support to be effective. Furthermore, Krause and Jay (1991) found that older adults have fewer social supports than those younger, and basic supportive functions may be provided by only a few people (Roberts et al., 1994). Loss of contact with these persons may result in disruption of basic support, and hence, the older adults may have had inadequate support for attenuating the effects of strain even if it had been higher.

Since greater informal social support was significantly related to lower positive caregiving appraisal and greater strain, significant others were either a source of negative interaction as well as a source of assistance during times of increased stress or informal social support was mobilized with greater strain. Mounting evidence suggests that other persons may offer assistance during difficult times but may also be critical of the way a person is reacting to the event (Krause & Jay, 1991). For example, one child caregiver complained of greater stress and lower satisfaction with informal social support from an aunt whom she described as interfering.

Greater satisfaction with informal social support was significantly related to lower strain and depressive symptomatology and is consistent with previous researchers (Ballie et al., 1988; Gilhooly, 1984; Krause, 1987a). According to Ballie et al. (1988), Krause (1987a), and Gilhooly (1984), greater satisfaction with informal social support was related to lower depressive symptomatology and psychological distress and improved morale and mental health of the caregiver. The findings of this study suggest that indicators of one's appraisal of social support such as satisfaction is more potent in explaining strain than the amount of enacted social support.
Factors in Strain and Depressive Symptomatology

Cognitive Impairment

Since forty-seven percent of this sample of chronically ill older adults were also cognitively impaired, strain and depressive symptomatology were assessed between caregivers to those persons who were cognitively impaired and those who were not. Consistent with the findings of previous researchers (Haley, Levine, Brown, Berry, & Hughes, 1987; Mace & Rabins, 1981; Robinson, 1989), strain and depressive symptomatology were significantly higher for caregivers of those persons who were cognitively impaired. Cognitive impairment and unusual behaviors associated with dementia create burdens that are extremely upsetting to caregivers (George & Gwyther, 1986) and lead to greater strain and depressive symptomatology. Also, physical demands of assisting with the care-recipient's self-care needs, coping with their loss of memory, or watching the deterioration of their personality consumes one's day (Mace & Rabins, 1981).

Supporting the findings of George and Gwyther (1986), the caregivers sampled reported their frustrations in repeating directions to those persons with Alzheimer's disease and maintaining the self-esteem of those who were aware of their limitations post-stroke. Although several of the caregivers remarked that lifestyle influences feelings of confinement, especially when the care-recipient is cognitively impaired, they are extremely limited in their activities and few are able to take time away for a brief vacation or attend activities with a friend such as lunch or golf. Since respite and day care services are often not reimbursable in most states and transportation to the day care facility is scarce (Hogan, 1990), the problem of confinement is intensified.
Gender

Consistent with the findings of others (Ballie et al., 1988; Pruchno & Resch, 1989a), females had significantly greater strain than males and had significantly greater depressive symptomatology at pretest. Although Callahan and Wolinsky (1994) found significant race and gender differences in rates of depressive symptoms with white women having significantly higher depressive symptomatology, results of this study indicated that there were no significant differences in depressive symptomatology for race. However, there were significant differences in depressive symptomatology for gender at pretest. Furthermore, contrary to the findings of Bass et al. (1992), the female caregivers in this study had more informal social support than the male caregivers. Perhaps the female caregivers' strain mobilized them to access more informal social support.

All of the added responsibilities that are incorporated into a woman's daily life may explain why females have more strain and depressive symptomatology than males. Women assume multiple roles as caretakers, mothers, and employed workers (Brody, 1981; Pallet, 1990), and as they are emerging from child-rearing responsibilities, parental disability may conflict with the ability to take control of their lives (Brody, 1985). Robinson and Thurnher (1979), on the other hand, found that men had a greater ability to distance themselves physically and emotionally from their parents, appeared to experience less guilt, and readily accepted that they did not have the power to make their parent happier. Men seek assistance from extended family (Johnson, 1983) and formal providers because they have more resources to purchase services (Bass et al., 1992). Furthermore, Noelker and Bass (1989) found that service providers assisted with different tasks
when the caregiver was male and when the caregiver reported higher levels of care-related stress. However in this study, the relationship between the total number of home health care services used and strain was not significant.

Although women have been been socialized to be family oriented and nurturant (Pruchno & Resch, 1989a), they look forward to the later years as a time of personal growth (Zarit et al., 1986) and may resent becoming caregivers to their husbands or parents. Thus, further explaining the increased strain and depressive symptomatology in females. Furthermore, Guttman (1987) indicated that the sex-role differences in early life may not continue into later life with the maternal tendencies more in line in late life with men rather than women. The more positive mental health experienced by male caregivers suggests that the role may be more congruent with their needs than those of women. Older men may have less strain because the loss of the work role when they retire may heighten their involvement in family caregiving as an outlet for domestic interests (Miller & Cafasso, 1992). Furthermore, according to Miller and Cafasso (1992), women may have higher standards of accomplishment and be less able to maintain emotional distance. Therefore, they have higher levels of strain from feelings of inadequacy.

Health

Although the caregiver's physical health has consistently been identified as an excellent predictor of depressive symptomatology (Cadagan, 1994; George & Gwyther, 1986; Robinson, 1989), 54 percent of the caregivers in this study reported that their physical health was good, and this was not significantly related to strain but was related to depressive symptomatology. Furthermore, results of a few studies have documented a decline over time in the self-rated health for
caregivers of stroke patients (Wright, Clipp, & George, 1992). Five of the
caregivers commented that they felt a negative change in their physical health, and
seven caregivers were taking medication for depressive symptomatology. Perhaps
measurements of strain and depressive symptomatology for those caregivers
without home health would be higher a few months later.

**Relationship to Care-Recipient**

Contrary to the findings of Cantor (1983) and Poulshock et al. (1986),
nonspousal caregivers had significantly more strain than spouses at pretest and post
test, but their positive caregiving appraisal was lower than the spouses. Depression
was not significantly different between spouses and nonspouses. Furthermore,
positive caregiving appraisal at pretest was significantly higher for male spousal
caregivers than for female. This finding reinforces Guttman's (1987) theory about
men having more maternal tendencies later in life, and women being less able to
distance themselves emotionally (Miller & Cafasso, 1992).

Furthermore, these findings reflect those of Lawton et al. (1991) in that for
the adult child, caregiving is an activity that is superimposed on an existing
lifestyle. The amount of care given by an adult child may be more congruent with
the child's needs than is true for spousal caregivers. Some of the spousal
caregivers in this sample remarked that they felt it was their obligation to provide
care to their spouse and expected this role as they grew older. Several male
caregivers remarked that their wives had cared for them and their children
throughout the years, but now it was time for her to be provided for.

**Summary**

Therefore, the findings indicated that greater positive cognitive appraisal
significantly explained lower strain and depressive symptomatology of caregivers
of functionally impaired older adults. Greater satisfaction with informal social support at pretest and post test was significantly related to lower strain and depressive symptomatology and greater positive caregiving appraisal. Those caregivers to persons with cognitive impairment experienced significantly greater strain and depressive symptomatology and lower positive caregiving appraisal. Women had significantly greater strain and depressive symptomatology and lower positive caregiving appraisal than men before receiving home health care and greater strain and lower positive caregiving appraisal after receiving this support. Nonspousal caregivers had significantly more strain at pretest and post test than spouses. Gender, cognitive impairment, and total number of services received from home health care were not significant over and above positive caregiving appraisal in the explanation of strain and depressive symptomatology. Limitations of the study, however, did exist and therefore will be addressed.

Limitations of the Study

Several of the limitations of the study resulted from sampling. With using a convenience sample with a high refusal rate, the sample became self-selected and less representative of the population, a threat to external validity (Cook & Campbell, 1979, p.70; Douglas, Briones, & Chronister, 1994). According to Cook and Campbell (1979), the effects on statistical conclusion validity or drawing false conclusions about populations covariations from unstable sample data becomes problematic. However, since sampling variability decreases as sample size increases, sample size is the most potent method of achieving estimates that are sufficiently precise and reliable for scientific inquiry (Henry, 1990). The fairly large sample size and the high statistical power suggested that the findings are likely to reflect the population.
Another possible limitation due to sampling may be related to sample selection. The nurse researcher did not have control in the initial selection of participants for the study. The hospital personnel from three hospitals servicing a five-county area made the initial contact with the families, and bias may have been related to their refusal to allow the nurse researcher to contact them. Furthermore, higher socioeconomic status and better physical health that has been found to be positively related to better mental health (Haug, Belgrave, & Gratton, 1984; Young & Kahana, 1994), may be a limitation in measuring depressive symptomatology since most of the sampled caregivers were at least high school graduates, were able to pay their bills, and had good health.

Findings of the study, however, may be generalized to the caregiving population because demographic characteristics of the sample were consistent with the sample of Stone et al. (1987) who used the National Long-Term Care Survey. As in the present study, caregivers were predominantly female, middle-aged, white, married, and one fifth had been providing care for at least five years. In contrast to Stone et al. (1987), this sample of caregivers and care-recipients resided in the same household, and therefore, the majority of the caregivers were spouses. The caregivers relied on both informal and formal services for assistance with physical care and housekeeping tasks. Furthermore, selection bias may be minimal because there were no significant differences between caregivers with home health care and those without this support for age, perceived health, strain, depressive symptomatology, positive caregiving appraisal, informal social support, satisfaction with informal social support, and problem-focused coping. Emotion-focused coping, however, was significantly greater for those caregivers with home health care than for those without this support.
Attrition between the first and second interview was high. With the focus on rehabilitation, many hospitalized patients upon discharge were able to bathe and dress themselves with little assistance, thereby not meeting study criteria. Many of the older adults who required complete care were placed in an extended care facility after hospitalization upon the recommendation of the social worker or physician. Therefore, those persons who returned home and met study criteria had a high risk of mortality and were subject to rehospitalizations. Although a number of actions were taken to reduce attrition, nonsampling bias related to the high attrition between the first and second interview may have been minimal because age and health of the caregiver and care-recipient, strain, depressive symptomatology, and caregiving appraisal were not significantly different between those 12 caregivers who refused to participate in the second interview or had placed their family member in a nursing home and the 100 caregivers who completed the second interview. Hence, the sample obtained may be representative of this population of caregivers to functionally impaired older adults.

Face-to-face interviews were a potential threat to the internal validity of the study because the subjects may have behaved in a certain manner because they were aware of their participation in a study. Social desirability response set was reduced by explaining to the subjects that there were no right or wrong answers and their answers were confidential. They were told that services provided by the home health care agency would not be affected, and their participation in the study will help other caregivers. Furthermore, the interviews may have reduced the strain and depressive symptomatology of the caregivers by allowing them to express their feelings and confounded the effects of home health care. Although
sampling bias related to refusal rate and the method of testing were limitations, the steps to minimize them reduced their adverse effects on the findings.

Health changes of the care-receiver and/or caregiver or changes in informal social support were possible extraneous variables affecting caregivers' strain and depressive symptomatology. The subjects were questioned about changes in their physical health, informal social support, and the care-recipient's health during the three month study period. As noted earlier, the majority of caregivers reported that neither their health nor the care-recipient's health had changed significantly and the informal social support provided by family and friends remained basically the same.

Limitations of the study also may have been due to measurement issues. For this sample, internal consistency reliability was fair for problem-focused coping at pretest and post test and poor for satisfaction with informal social support at pretest and post test. Therefore, findings related to these concepts may not be an accurate representation. Although Callahan and Wolinsky (1994) addressed the race-gender issue in the measurement of depressive symptomatology, depressive symptomatology was not significantly different among races, and therefore, race was not an issue in measurement.

Lastly, results of this study indicated that home health care services were provided mostly by home health aides who are task-oriented and focus on the care-recipient, not the caregiver. Social workers did not interact on a regular basis but were more concerned about the families' finances upon entry into home health care utilization. Registered nurses, who are skilled in not only meeting the technical needs of the family but their psychosocial needs, spent only one half hour to one hour per week with the families. The majority of this time was spent assessing the
care-recipient and not focusing on the needs of the caregiver. Thus, home health care may be beneficial in the provision of assistance with physical care and household chores but does not have a significant effect on strain and depressive symptomatology associated with the psychosocial domain of caregiving.

Implications for Nursing Practice

Family care is multifaceted, and nurses who work with families in the community should find the best possible marriage between formal and informal support (Hays, 1988). According to Pearlín et al. (1989), formal and informal social resources that are combined with individual coping and the range and intensity of associated strains govern the outcomes of individual coping. Since greater positive caregiving appraisal explained lower strain and depressive symptomatology for this sample of caregivers, interventions need to be targeted at the caregiver to ensure that their positive appraisal of caregiving is enhanced, and strain and depressive symptomatology are minimized.

One potential means of increasing positive appraisal may be through education about health problems such as Alzheimer’s Disease and rehabilitation post-stroke while addressing antecedents of strain (Fortinsky & Hathaway, 1990). If changing the appraisal of fear about a medical procedure is an important purpose of health teaching, then changing a caregiver’s fear about the chronic illness is just as important. The information provided to families may assist them in maximizing their abilities by understanding the chronic illness and anticipating changes that may occur.

Home health care nurses should assess the patient’s need for assistance with physical activities of daily living and the caregiver’s coping ability upon admission to the home care facility (Helberg, 1993). The monitoring of the health status of
these care-recipients requiring much assistance should assist the caregiver in maintaining a positive appraisal of caregiving and decrease strain and depressive symptomatology. Six of the care-recipients were placed in nursing homes and 15 persons died before the second interview. Thus, home health care nurses should identify persons who are at higher risk for increased mortality and institutionalization and assist the families who are anticipating health changes in the care-recipient by relating the recipient's health status to the caregiver at each visit.

Counter to the perceptions of many gerontological nurses, strain and depressive symptomatology were low for this sample of caregivers. Findings of the study, however, indicated that caregivers to persons with cognitive impairment, female caregivers, and nonspousal caregivers had greater strain and depressive symptomatology than caregivers to persons that were cognitively intact, males, and spouses. Therefore, home health care nurses should identify these persons as at higher risk. Although nurses are reimbursed for a visit that usually lasts 30 minutes, additional time is necessary for the team of home health care workers involved to conferene with the family on a regular basis.

Implications for Health Policy

Three primary subjects involved in family caregiving in chronic illness are the care-recipient, caregiver, and health care system and they are often in conflict with each other (Biegel et al., 1991). Although only a small proportion of older people in the community have a need for assistance with activities of daily living, they represent nearly three times as many individuals that are in nursing homes (Arling & Mc Cauley, 1983). Most families and other informal providers are caring for impaired persons without public reimbursement. Family counselling, respite care, adult day care, and selected-in-home services that are potential means
of lowering strain in the caregiver is expensive. Public health policies need to support reimbursement to families for care that they must purchase in order to maintain their family members at home.

Although more research is needed about whether home health care services make a difference in strain and depressive symptomatology of older adults, master's prepared geropsychiatric clinical nurse specialists can assess the caregiver's predisposition for mental health problems and educate other nurses in recognizing the signs and symptoms of depression. Because older adults use proportionately more medical services than any other age group, detecting and treating mental health problems of these older adults could affect the monetary and psychological costs associated with increased health care utilization (Blixen, 1994).

Therefore, nurses who are well-trained in providing appropriate care for older adults and their families should be monitoring the needs of the caregiver and care-recipient. Family members need to be aware of the importance of their responses and opinions regarding formal service planning in order to maximize interventions provided.

Implications for Nursing Education

With a higher mean age for older adults needing care and increased acuity levels, expert educators with clinical expertise to prepare professional nurses at the basic and graduate level are needed to meet the basic and complex needs of the older adult (Fitzpatrick, Wykle, & Morris, 1990). According to Yurchuck and Bower (1994), findings of a regional survey by the Southern Regional Education Board indicated that only 12% of faculty members had specific preparation in gerontological nursing. A lack of well-educated health professionals providing care for older adults is a barrier to effective caregiving.
Nursing curricula must develop and teach its own gerontological content while incorporating other disciplines' contributions to gerontological knowledge (Yurchuck & Bower, 1994). The results of this study indicated that the professional nurse spent less time with the care-recipient than did the non-professional person. With advanced education in gerontological nursing, the professional nurse will be more prepared and able to document the need for increased time with families who are caring for the older adult.

**Implications for Nursing Research and Knowledge Development**

Nursing as a discipline is subject to change based upon its structural conceptual base (Donaldson & Crowley, 1978). This study, formulated from theories borrowed from psychology and sociology, addressed the key concepts of the metaparadigm of nursing. However, this conceptual base can be further tested and adjustments made in the interrelationships of the concepts, and the new framework can be used not just for knowledge sake but affect positive changes in health. The following addresses research issues pertinent in the development of a conceptual framework for the study of caregiving within the discipline of nursing.

**Factors in the Measurement of Outcomes**

Although this study determined whether home health care made a difference in strain and depressive symptomatology between family caregivers of older adults, the content of care delivered to the care-recipient was not under the control of the principal investigator. Future studies need to evaluate standardized interventions within a conceptual model examining care-recipient outcomes in addition to those of the caregiver. The outcomes of this type of research would assess services such as education provided by home health care nurses and psychological support that
are presumed to minimize caregiver strain and depressive symptomatology and allow the care-recipient to remain in the community (Cameron, 1993).

Although satisfaction with home health care was measured, it was not significantly related to strain and depressive symptomatology. Minimal data were collected about whether the caregivers' needs were met by the home health care agency. Future research about home health care should address how the caregivers view the formal social support that they receive and whether this support is adequate.

A few caregivers in this study expressed that prior relationships affected how they viewed the time commitment that accompanies caregiving and the resulting strain. However, the quality of these relationships was not assessed and has not been well studied in the past. According to Biegel et al. (1991), caregivers of persons with Alzheimer's disease indicated that those persons with better prior relationships felt less burdened by the caregiving role, and couples with greater marital cohesion and better communication withstood the diagnosis of cancer and heart attack better than other couples. Furthermore, the stages of illness need to be considered because the threat of loss may have a greater impact on those in closer relationships. Although stronger relationships between caregiver and care-recipient may facilitate coping at an earlier stage of an illness or disease process, caregivers in closer relationships or marriage may feel more strain at terminal stages of the disease (Biegel, 1991).

Instrumentation Development

Researchers should address the succinct measurement of coping, strain, and informal social support within the caregiving population because of the time demands on caregivers. Coping is a complex construct that involves recognition of
several factors including its multidimensionality, changes that occur in coping over time, and salient variables that can affect the coping process such as characteristics of the stressor, environmental resources, and personal characteristics (Panzarine, 1985). The kinds of coping behaviors used to manage situations of healthy individuals differ from behaviors used by community populations with long-term chronic conditions (Wineman, et al, 1994). According to Wineman et al. (1994), future qualitative research methods such as focus groups are needed to describe more thoroughly and accurately the coping behaviors used by caregivers of the older adult. Researchers must move beyond inquiring about what coping strategies are used and ask under what conditions particular coping strategies may or may not be effective (Pearlin et al., 1989).

Furthermore, the ongoing problem of measurement of caregiver strain or burden is a subject for future research. Although Stull et al. (1994) found that burden taps a unique domain of caregiving and was a better predictor of outcomes than global measures of well-being such as physical health, social activities, and income, they should both be used in future studies. According to George and Gwyther (1986), burden is irrelevant to noncaregivers, thus making comparisons between caregivers and noncaregivers nearly impossible. Also, to anticipate and assess burden among family caregivers is synonymous with the expectation that caregivers will experience decrements in certain dimensions of well-being. Therefore, with using well-being as a measure of caregiving outcomes, caregivers can be compared with noncaregivers on physical and mental health, social activities, and finances (George & Gwyther, 1986).

Although greater satisfaction with informal social support was significantly related to greater strain and depressive symptomatology, the reliability of this
instrument was poor for this sample, and thus, the findings were questionable. More work needs to done with developing an instrument to measure satisfaction with informal social support with the caregiving population. Furthermore, few studies involving older adults include measures of negative interaction as well as supportive behaviors in the same analyses (Krause & Jay, 1991). If researchers are to have a better understanding of the social support process, they need to adopt a comprehensive view that acknowledges the negative as well as the positive reactions in response to requests for assistance.

**Population Issues**

Since strain and depressive symptomatology were greater for caregivers of those persons who were cognitively impaired than for those cognitively intact, studies about the existence of disparities in interventions for families of the cognitively and functionally impaired older adult, and the capacity of families to purchase long term care services are subjects for future research (Cameron, 1993; Hays, 1988; Helberg, 1993). At present, Medicare provides reimbursement for medically oriented acute or restorative skilled nursing care in the home, thereby limiting the availability of services provided to those persons only with cognitive impairment.

Since women in this study had greater strain and depressive symptomatology than men, more research is needed examining the home care needs of women, especially about older black women who are the most economically vulnerable of all aged subgroups (Hays, 1988). Furthermore, research is specifically needed about the outcomes of home health care for families caring for older adults with cancer since limited empirical data exists (Biegel et al., 1991).
Conclusion

Families provide enormous amounts of assistance to functionally impaired older adults that may result in strain and depressive symptomatology. Home health care nurses are a type of formal social support for these family caregivers who live with the older adults. However, strain and depressive symptomatology were not a significant problem for the caregivers sampled, and home health care did not significantly explain strain and depressive symptomatology. Greater positive caregiving appraisal explained lower strain and depressive symptomatology, but informal and formal social support did not moderate the relationship between strain and depressive symptomatology. Greater satisfaction with informal social support was significantly related to lower strain and depressive symptomatology. Strain and depressive symptomatology were significantly higher and positive caregiving appraisal was lower for caregivers of those persons who were cognitively impaired. Women had significantly greater strain, depressive symptomatology, and informal social support, and lower positive caregiving appraisal than men before receiving home health care and greater strain and informal social support, and lower positive caregiving appraisal after receiving this support. Nonspousal caregivers had significantly greater strain and lower positive caregiving appraisal before receiving home health care and after receiving this support.

The trend toward community based care and early hospital discharge of the growing number of impaired older persons has added new dimensions to the study of caregiving. Thus, the findings from this study have implications for nursing practice, education, health policy, and ongoing research. Home health care nurses are the organizers and gatekeepers of services provided to families in the community. Registered nurses who are skilled in meeting the physical and
psychosocial needs of families spend a very limited time with the care-recipients each week. Home health care nurses have the responsibility of identifying those persons who have a higher risk for strain and depressive symptomatology and individualize services offered to the families. Interventions need to be targeted at the caregiver and care-recipient to enhance the caregiver’s positive appraisal of the situation.

Future studies should evaluate standardized interventions examining care-recipient outcomes with those of the caregiver, address women and those caregivers to the cognitively impaired who are at greatest risk for strain and depressive symptomatology, determine how relationships affect strain and depressive symptomatology in family caregivers, and develop succinct instruments for studying caregiver strain, coping, and informal social support. The findings from future research can then be used in the formulation of a nursing model for the study of caregiving. Given the state of the economy and the high costs of institutionalization, the family and society will reap the benefits.
References


Appendix A

CAREGIVER'S SOCIODEMOGRAPHIC DATA

Caregiver I. D. ________
Hospital ____________________________
Home Health Care 0. Yes ______ 1. No. ______

Instructions: Please answer these questions about yourself

Q-1. Age________

Q-2. Sex________

Q-3. Race:
1. Asian ______
2. Black ______
3. White or Caucasian ______
4. Hispanic ______
5. Native American Indian ______
6. Other (specify) ______

Q-4. Relationship to care-recipient
1. Spouse____ 2. Child____ 3. Other Relative____

Q-5. Marital Status
1. Single, never married____
2. Married____
3. Divorced____
4. Widowed____

Q-6. Education (the highest level completed):
1. Less than High School____
2. High School graduate (or equivalency exam)____
3. Some college education____
4. Graduate of technical training program____
5. Associate degree____
6. Bachelor’s degree____
7. Master’s degree____
8. Doctoral degree or beyond____

Q-7. Employment status:
0. Not employed____
1. Employed part-time____
2. Employed full-time____
3. Never worked____
4. Retired____
CAREGIVER'S SOCIO DEMOGRAPHIC DATA (continued)

Q-8. College student
   0. No______
   1. Part-time student______
   2. Full-time student______

Q-9. Financially, are you:
   1. Comfortable______
   2. Uncomfortable______
   3. Unable to make ends meet______

Q-10. Are there other members of your household besides the care-recipient?
   0. No______
   1. Yes______
   What is their relationship to you? ____________________________

Q-11. Besides the care-recipient, are there others in your home that require help from you?
   0. No____
   1. Yes____
   What is their relationship to you? ____________________________
   How many hours per day do you help that person or provide care or transportation? ________________

Q-12. Approximately how many hours each day do you spend giving care to your spouse or impaired family member? ________________

Q-13. How long have you been providing this care to a family member? ________________
   1. less than 1 year
   2. 1 to 3 years
   3. more than 3 but less than 5 years
   4. 5 years or more

Q-14. Does a family member or friend help you with the physical care of this family member? 0. No______
   1. Yes______
   What is their relationship to you? ________________
   How many hours per day do they provide care? ________________

Q-15. Does a family member or friend help you with household duties such as cleaning, cooking, or shopping? 0. No______
   1. Yes______
   What is their relationship to you? ____________________________
   For what tasks do they provide assistance? ____________________________
CAREGIVER'S SOCIODEMOGRAPHIC DATA (continued)

Q-16. How satisfied are you with the direct assistance provided by family and friends?
1. Very satisfied_____
2. Satisfied_____
3. Not satisfied_____
4. Not applicable_____

Q-17. How would you describe your current physical health compared to others of the same sex and your age?
1. Excellent_____
2. Good_____
3. Fair_____
4. Poor_____

Q-18. How would you describe your impaired family member's physical health compared to others of the same sex and age?
1. Excellent_____
2. Good_____
3. Fair_____
4. Poor_____
Appendix B

CARE RECEIVER'S SOCIODEMOGRAPHIC DATA

Care Receiver I.D. ____________

Diagnosis of Care-Receiver ____________________________________________

Instructions: Please answer these questions about your impaired family member

Q-1. Age____

Q-2. Sex____

Q-3. Race:
   1. Asian____
   2. Black____
   3. White or Caucasian____
   4. Hispanic____
   5. Native American Indian____
   6. Other (specify)____

Q-4. Education (the highest level completed):
   1. Less than high school____
   2. High school graduate (or equivalency exam)____
   3. Some college education____
   4. Graduate of technical training program____
   5. Associate degree____
   6. Bachelor's degree____
   7. Master's degree____
   8. Doctoral degree or beyond____

Q-5. Employment status:
   0. Not employed____
   1. Employed part-time____
   2. Employed full-time____
   3. Never worked____
   4. Retired____
Appendix C

EXHAUSTION SUBSCALE OF THE
CAREGIVER STRAIN QUESTIONNAIRE (CSQ)

Sometimes doing things for the person we take care of can be very wearing. The following section deals with how much effort you must put into HELPING THE PERSON YOU TAKE CARE OF. What is the BEST response that represents how DRAINED you feel as a result of doing the following things for this person. Not applicable indicates activities you do not perform.

<table>
<thead>
<tr>
<th>Activity</th>
<th>NOT AT ALL DRAINED</th>
<th>A LITTLE DRAINED</th>
<th>SOMewhat DRAINED</th>
<th>VERY DRAINED</th>
<th>NOT APPLICABLE</th>
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<tbody>
<tr>
<td>1. FEEDING</td>
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<td>2. TOILETING</td>
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<td>3. BATHING</td>
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<td>4. DRESSING</td>
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<td>5. TECHNICAL OR SKILLED CARE REQUESTED BY A DOCTOR OR NURSE</td>
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<td>6. MEDICATIONS</td>
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<td>7. HELPING PERSON GET IN OR OUT OF BED, WHEELCHAIR, OR CAR</td>
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<td>8. GETTING UP AT NIGHT</td>
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<td>9. THINKING ABOUT PERSON</td>
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<td></td>
<td>NOT AT ALL DRAINED</td>
<td>A LITTLE DRAINED</td>
<td>SOMEWHAT DRAINED</td>
<td>VERY DRAINED</td>
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<td>10. MAKING PHONE CALLS ON BEHALF OF PERSON</td>
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<td>11. MONEY MATTERS</td>
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<td>12. LEGAL MATTERS</td>
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<td>13. CHECKING TO SEE THAT PERSON IS OK</td>
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<td>14. MAKING SURE THAT PERSON DOES NOT GET LOST OR HURT</td>
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<td>15. PROTECTING PERSON FROM KNOWING THAT SHE OR HE IS BEING TAKEN CARE OF</td>
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<td>16. HOME /YARD REPAIRS OR MAINTENANCE</td>
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<td>17. LAUNDRY</td>
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<td>18. MEAL PREPARATION</td>
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<td>19. HOUSEWORK</td>
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<td>20. TALKING WITH PERSON</td>
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<td>Item</td>
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<td>SOMEWHAT DRAINED</td>
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<td>21.</td>
<td>WALKING WITH PERSON</td>
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<td>22.</td>
<td>TRANSPORTATION</td>
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<td>23.</td>
<td>ERRANDS/SHOPPING</td>
<td></td>
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<tr>
<td>24.</td>
<td>BUILDING UP PERSON'S EGO</td>
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<tr>
<td>25.</td>
<td>WAITING FOR HELP OR SERVICES</td>
<td></td>
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<tr>
<td>26.</td>
<td>WAITING FOR A CHANGE IN PERSON'S SITUATION</td>
<td></td>
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<tr>
<td>27.</td>
<td>SEEING TO IT THAT PERSON IS CARED FOR IN A HUMANE WAY</td>
<td></td>
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</tr>
<tr>
<td>28.</td>
<td>PROTECTING PERSON'S POSSESSIONS</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>29.</td>
<td>FILLING OUT FORMS</td>
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<tr>
<td>30.</td>
<td>HUMAN ENVIRONMENT</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix C (continued)

**AROUSAL SUBSCALE OF THE CAREGIVER STRAIN QUESTIONNAIRE**

Below are words that describe feelings people commonly have. What is the number that BEST describes what your feelings are like TODAY.

<table>
<thead>
<tr>
<th>Least like the Way I Feel</th>
<th>Most Like the Way I Feel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Least like the way I feel</td>
<td>4 = Like the way I feel</td>
</tr>
<tr>
<td>2 = Very little like the way I feel</td>
<td>5 = Very much like the way I feel</td>
</tr>
<tr>
<td>3 = Somewhat like the way I feel</td>
<td>6 = Most like the way I feel</td>
</tr>
</tbody>
</table>

| CHALLENGED | 1 | 2 | 3 | 4 | 5 | 6 |
| Intersted in taking action or doing things |

| UNSURE | 1 | 2 | 3 | 4 | 5 | 6 |
| Uneasy; uncertain |

| TORMENTED | 1 | 2 | 3 | 4 | 5 | 6 |
| Awful feelings that keep coming back |

| FRUSTRATED | 1 | 2 | 3 | 4 | 5 | 6 |
| Feeling blocked or outwitted; discouraged |

| SINKING | 1 | 2 | 3 | 4 | 5 | 6 |
| A sick or drowning feeling |

| CAPABLE | 1 | 2 | 3 | 4 | 5 | 6 |
| Able to get things done; able to perform |

| INVIGORATED | 1 | 2 | 3 | 4 | 5 | 6 |
| Full of energy; uplifted |

| CONFINED | 1 | 2 | 3 | 4 | 5 | 6 |
| Tied down; backed up against a wall |

| PATIENT | 1 | 2 | 3 | 4 | 5 | 6 |
| Able to wait; able to resist pressures |

| IRRITABLE | 1 | 2 | 3 | 4 | 5 | 6 |
| Excitable; easily annoyed or disturbed |

| EAGER | 1 | 2 | 3 | 4 | 5 | 6 |
| Enthusiastic; excited, animated |

| REGRET | 1 | 2 | 3 | 4 | 5 | 6 |
| Disappointed; having misgivings |
Appendix C (continued)

GOAL DISCREPANCY SUBSCALES OF THE CAREGIVER STRAIN QUESTIONNAIRE

YOU WILL BE SHOWN SOME LADDERS THAT CAN BE USED TO REPRESENT "IDEAL" WAYS OF BEING OR ACTING. YOU ARE ASKED TO INDICATE HOW FAR AWAY YOU ARE FROM THE "IDEAL" AT THE PRESENT TIME.

NOW, SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "IDEAL AMOUNT" OF TIME YOU HAVE TO YOURSELF. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS THE "LEAST IDEAL AMOUNT" OF TIME YOU HAVE TO YOURSELF.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING THE AMOUNT OF TIME YOU HAVE TO YOURSELF?

<table>
<thead>
<tr>
<th>Ideal Amount of Time to Myself</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Least Ideal Amount of Time for Myself</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>
GOAL DISCREPANCY SUBSCALE

SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "IDEAL NUMBER" OF CHURCH ACTIVITIES YOU TAKE PART IN. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS THE "LEAST IDEAL NUMBER" OF CHURCH ACTIVITIES YOU TAKE PART IN.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING THE NUMBER OF CHURCH ACTIVITIES YOU TAKE PART IN?

<table>
<thead>
<tr>
<th>Ideal Number of Church Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Least Ideal Number of Church Activities</td>
</tr>
</tbody>
</table>
GOAL DISCREPANCY SUBSCALE

SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "IDEAL AMOUNT" OF MONEY YOU NEED FOR MEETING YOUR EXPENSES. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS YOU NOT HAVING ANY MONEY AT ALL TO PAY YOUR BILLS.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING THE AMOUNT OF MONEY YOU HAVE FOR PAYING YOUR BILLS?

Ideal Amount of Money

                   
                   
                   
                   
                   
                   
                   
                   
                   
                   
                   
No Money At All
GOAL DISCREPANCY SUBSCALE

SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "IDEAL AMOUNT" OF HELP YOU HAVE FOR TAKING CARE OF THOSE CLOSE TO YOU. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS THE "LEAST IDEAL AMOUNT" OF HELP YOU HAVE FOR TAKING CARE OF THOSE CLOSE TO YOU.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING THE HELP YOU GET?

Ideal Amount of Help

_______

_______

_______

_______

_______

_______

_______

_______

_______

Least Ideal Amount of Help
GOAL DISCREPANCY SUBSCALE

SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "IDEAL AMOUNT" OF TIME YOU SPEND VISITING WITH YOUR FRIENDS. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS THE "LEAST IDEAL AMOUNT" OF TIME YOU SPEND VISITING WITH FRIENDS.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING THE AMOUNT OF TIME YOU ACTUALLY SPEND VISITING WITH FRIENDS? PLACE A MARK ON THE RUNG OF THE LADDER THAT BEST REPRESENTS HOW FAR AWAY YOU ARE FROM HAVING THE IDEAL AMOUNT OF TIME WITH FRIENDS.

[Mark the rungs for Ideal Amount of Time with Friends]

[Mark the rungs for Least Ideal Amount of Time Visiting with Friends]
GOAD DISCREPANCY SUBSCALE

SUPPOSE THAT THE TOP OF THE LADDER REPRESENTS THE "BEST POSSIBLE" RELATIONSHIP YOU COULD HAVE WITH YOUR CHILDREN. SUPPOSE THAT THE BOTTOM OF THE LADDER REPRESENTS THE "WORST POSSIBLE" RELATIONSHIP YOU COULD HAVE WITH YOUR CHILDREN.

WHERE ON THE LADDER DO YOU THINK YOU STAND REGARDING YOUR RELATIONSHIP WITH YOUR CHILDREN? PLACE A MARK ON THE RUNG OF THE LADDER THAT BEST REPRESENTS YOUR RELATIONSHIP WITH THEM.

Best Possible Relationship

________________________
________________________
________________________
________________________
________________________
________________________

Worst Possible Relationship
Appendix D

CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE

INSTRUCTIONS FOR QUESTIONS: Below is a list of the ways you might have felt or behaved. Which of the following statements best describes how often you felt or behaved this way DURING THE PAST WEEK.

0. Rarely or None of the Time (Less than 1 Day)
1. Some or a Little of the Time (1-2 Days)
2. Occasionally or a Moderate Amount of Time (3-4 Days)
3. Most or All of the Time (5-7 Days)

<table>
<thead>
<tr>
<th>DURING THE PAST WEEK</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I was bothered by things that usually don’t bother me.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>2. I did not feel like eating; my appetite was poor.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>3. I felt that I could not shake off the blues even with help from my family or friends.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>4. I felt that I was just as good as other people.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>5. I had trouble keeping my mind on what I was doing.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>6. I felt depressed.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>7. I felt that everything I did was an effort.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>8. I felt hopeful about the future.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>9. I thought my life has been a failure.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>10. I felt fearful.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>11. My sleep was restless.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>12. I was happy.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>13. I talked less than usual.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>14. I felt lonely.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>15. People were unfriendly.</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Question</td>
<td>0</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>16. I enjoyed life.</td>
<td></td>
</tr>
<tr>
<td>17. I had crying spells.</td>
<td></td>
</tr>
<tr>
<td>18. I felt sad.</td>
<td></td>
</tr>
<tr>
<td>19. I felt that people dislike me.</td>
<td></td>
</tr>
<tr>
<td>20. I could not get &quot;going&quot;.</td>
<td></td>
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</tbody>
</table>
Appendix E

PHILADELPHIA GERIATRIC CENTER CAREGIVING APPRAISAL SCALE

Caregiving appraisal refers to all appraisals of the caregiving process. These questions ask about your feelings and thought in terms of caregiving for your family member.

For each of the following choices, please indicate the response with which you agree.
1. Nearly always
2. Quite frequently
3. Sometimes
4. Rarely
5. Never

How often do you feel—

1. ___that ______ asks for more help than he or she needs?
   1 2 3 4 5

2. ___that because of the time you spend with _____you don’t have enough time for yourself?
   1 2 3 4 5

3. ___you really enjoy being with him/her?
   1 2 3 4 5

4. ___angry when you are around him/her?
   1 2 3 4 5

5. ___that ______ shows real appreciation of what you do for him or her?
   1 2 3 4 5

6. ___that he/she currently affects your relationships with other family members in a negative way?
   1 2 3 4 5

7. ___your health has suffered because of the care you must give your family member?
   1 2 3 4 5

8. ___that his/her pleasure over some little thing gives you pleasure?
   1 2 3 4 5

9. ___that caring for ______ does not allow you as much privacy as you would like?
   1 2 3 4 5

10. ___taking responsibility for him/her has given your self-esteem a boost?
    1 2 3 4 5

11. ___your social life has suffered because you are caring for him/her?
    1 2 3 4 5

12. ___uncomfortable about having friends over because of him/her?
### PHILADELPHIA GERIATRIC CENTER CAREGIVING APPRAISAL SCALE  (continued)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>13. ---helping _____ has made you feel closer to him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. ---uncertain about what to do about him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. ---reassured knowing that as long as you are helping, he/she is getting proper care?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. ---isolated and alone as a result of caring for him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. ---that you should be doing more for him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. ---that you will be unable to care for him/her much longer?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. ---you have lost control of your life since his/her illness?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. ---caring for _____ has interfered with your use of space in your home?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. ---that you could do a better job in caring for him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. ---very tired as a result of caring for him/her?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

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**FOR THE FOLLOWING CHOICES INDICATE WHETHER YOU:**

1. Disagree a lot  
2. Disagree a little  
3. Neither agree or disagree  
4. Agree a little  
5. Agree a lot

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</thead>
<tbody>
<tr>
<td>23. I feel able to handle most problems in the care of ________.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. I can fit in most of the things I need to do in spite of the time taken by caring for _____.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. It's hard to plan things ahead when his/her needs are so unpredictable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. It's mostly his/her needs that determine how my days are spent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. I am pretty good at figuring out what he/she needs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Taking care of ________ gives me a trapped feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tbody>
</table>
Appendix F

REVISED WAYS OF COPING CHECKLIST

Here is a list of ways people cope with a wide variety of stressful situations that you experience in caring for your family member. Please indicate to what extent you used it in stressful caregiving situations you experienced last week.

0. Does not apply and/or not used
1. Used somewhat
2. Used quite a bit
3. Used a great deal

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I just concentrate on what I have to do - the next step.</td>
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<tr>
<td>2.</td>
<td>I am doing something which I don't think will work but at least I am doing something.</td>
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<tr>
<td>3.</td>
<td>I try to get the person responsible to change his or her mind.</td>
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<tr>
<td>4.</td>
<td>I talk to someone to find out more about the illness.</td>
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<tr>
<td>5.</td>
<td>I criticize or lecture myself.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I try not to burn my bridges, but leave things open somewhat.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>I hope a miracle will happen.</td>
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<td></td>
<td></td>
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<tr>
<td>8.</td>
<td>I go along with fate.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>I go on as if nothing has happened.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>I try to keep my feelings to myself.</td>
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<td></td>
<td></td>
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<tr>
<td>11.</td>
<td>I look for the silver lining, so to speak; try to look on the bright side of things.</td>
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<tr>
<td>12.</td>
<td>I sleep more than usual.</td>
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<tr>
<td>13.</td>
<td>I express anger to the person(s) who caused the problem.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>I accept sympathy and understanding from someone.</td>
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<td>---</td>
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<td>---</td>
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</tr>
<tr>
<td>15. I am inspired to do something creative.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. I try to forget the whole thing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I get professional help.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. I have changed or grown as a person in a good way.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. I apologize or do things to make-up.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. I make a plan of action and follow it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. I let my feelings out somehow.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22. I realize I brought the problem on myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. I have come out of the experience better than when I went in.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. I talk to someone who can do something about the problem.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>25. I try to make myself feel better by eating, drinking, smoking, using drugs or medication, and so forth.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>26. I am taking a big chance or I am doing something very risky.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>27. I try not to act too hastily or follow my first hunch.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>28. I have found new faith.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>29. I have re-discovered what is important in life.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>30. I changed something so things would turn out all right.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>31. I avoid being with people in general.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>32. I don’t let it get to me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33. I ask a relative or friend I respect for advice.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
REVISED WAYS OF COPING CHECKLIST (continued)

34. I keep others from knowing how bad thing are. 0 1 2 3
35. I make light of my situation with caregiving. 0 1 2 3
36. I talk to someone about how I am feeling. 0 1 2 3
37. I stand my ground and fight for what I want. 0 1 2 3
38. I take it out on other people. 0 1 2 3
39. I draw on my past experiences; I have been in a similar situation before. 0 1 2 3
40. I know what has to be done, so I double my efforts to make things work. 0 1 2 3
41. I refuse to believe what has happened. 0 1 2 3
42. I have come up with a couple of different solutions to the problem. 0 1 2 3
43. I promise myself that things will be different next time. 0 1 2 3
44. I try to keep my feelings from interfering with other things too much. 0 1 2 3
45. I have changed something about myself. 0 1 2 3
46. I wish that the situation would go away or somehow be over with. 0 1 2 3
47. I have fantasies about how things might turn out. 0 1 2 3
48. I pray. 0 1 2 3
49. I go over in my mind what I would say or do. 0 1 2 3
50. I thought about how a person I admire would handle the situation and used that as a model. 0 1 2 3
Appendix G

MODIFIED INVENTORY OF SOCIAL SUPPORT BEHAVIORS

THE FOLLOWING QUESTIONS ASK YOU ABOUT INFORMAL SOCIAL SUPPORT THAT YOU RECEIVE AND DEMANDS ON YOU FROM OTHERS. PLEASE THINK ABOUT THE SUPPORT THAT YOU HAVE RECEIVED OR PROVIDED WHILE GIVING CARE TO YOUR FAMILY MEMBER.

FOR EACH OF THE FOLLOWING QUESTIONS, PLEASE RESPOND TO ONE OF THE FOLLOWING ALTERNATIVES:
1. Never
2. Once in a while
3. Fairly often
4. Very often

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Once in a while</th>
<th>Fairly Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Told you what they did in a stressful situation that was similar to one you were experiencing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Suggested some action that you should take in dealing with a difficult situation easier to understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Gave you information that made a difficult situation clearer and easier to understand.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. Helped you understand why you didn't do something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. Told you who you should see for assistance with a problem that you were having.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. Commented on how you were dealing with a problem without saying it was good or bad.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Checked back with you to see if you followed advice you were given on how to deal with a problem.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Provided you with a place where you could get away for a while.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. Watched over your possessions while you were away.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Gave or loaned you over $25.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. Provided you with some transportation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Never</td>
<td>Once in a while</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>------</td>
<td>---------------</td>
</tr>
<tr>
<td>12.</td>
<td>Loaned or gave you something (a physical object other than money) that you needed.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>Provided you with a place to stay overnight.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>Pitched in to help you do something that needed to get done, like household chores or yardwork.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>Looked after a family or household member while you were away.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>Helped you with shopping</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17.</td>
<td>Right there with you (physically) in a stressful situation.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18.</td>
<td>Told you that you were OK just the way you are.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19.</td>
<td>Comforted you by showing you physical affection.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20.</td>
<td>Listened to you talk about your private feelings.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21.</td>
<td>Told you they felt very close to you.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>22.</td>
<td>Joked and kidded to cheer you up.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>23.</td>
<td>Expressed interest and concern in your well-being.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24.</td>
<td>Went with you to see someone who helped you with a problem that you were having</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>25.</td>
<td>Told you that they would keep the thing you talked about privately just between the two of you.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>26.</td>
<td>Did some activity together with you to help you get your mind off things.</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
### INVENTORY OF SOCIALLY SUPPORTIVE BEHAVIORS (continued)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Never</th>
<th>Once in a While</th>
<th>Fairly Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.</td>
<td>Told you how they felt in a situation that was similar to yours.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28.</td>
<td>Depended on you for guidance and advice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29.</td>
<td>Depended on you for financial help.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30.</td>
<td>Talked over their problems and private feelings with you.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31.</td>
<td>Depended on you for transportation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32.</td>
<td>Depended on you for something they needed (a physical object other than money).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33.</td>
<td>Helped someone with their household chores.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34.</td>
<td>Helped someone with their shopping.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35.</td>
<td>Been right there with someone (physically) when they were experiencing a stressful situation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36.</td>
<td>Comforted someone by showing them physical affection.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37.</td>
<td>Expressed interest and concern in someone's well-being.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38.</td>
<td>Told someone what you did in a stressful situation that was similar to the one they were going through.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.</td>
<td>Suggested some action someone should take to deal with a problem they were having.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40.</td>
<td>Told someone where they could go for assistance with a problem they were having.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Appendix H

SATISFACTION WITH INFORMAL SOCIAL SUPPORT SCALE

1. During the last few minutes I have asked you some questions about the amount of information that people may have given you to help you deal with problems you might have had. During the past year, do you feel that this type of help was provided often enough, or do you wish it was given to you more often or less often?

1. More often
2. Satisfied
3. Less often

2. For the last few minutes we have been talking about things that people might have done for you or things they might have given you. Thinking back over the past year, would you say you feel satisfied with this type of help or do you wish it was provided more often or less often?

1. More often
2. Satisfied
3. Less often

3. For the last few minutes we have talked about the amount of emotional support that you might have received from others in the past. Are you satisfied with the amount of emotional support that you have received from others, or do you wish that others gave you this type of help more often or less often?

1. More often
2. Satisfied
3. Less often

4. During the last few minutes I have asked you about things that you may or may not have done for others. Thinking back over the past year, were you satisfied with the amount of help that you have been able to give to others or do you wish that you had helped others more often or less often?

1. More often
2. Satisfied
3. Less often
Appendix I

Satisfaction with Home Health Care

When you answer the next few questions, try to think of the services that your family member has been receiving from the home health care agency. Please indicate the extent to which you agree or disagree with the following statements.

1. Strongly disagree
2. Disagree
3. Uncertain
4. Agree
5. Strongly agree

1. I am very satisfied with the nursing care my family member received.

2. The nursing care my family member received in the last few months is just about perfect.

3. There are some things about the nursing care that could be better.

4. I have some complaints about the nursing care my family member received.

What would you like to see done differently in terms of services provided?

________________________________________________________________________

________________________________________________________________________
Appendix J

LETTER OF APPROACH TO HOSPITAL PERSONNEL

Date: ________

Mrs. Karen Schwarz
4150 Big Spruce Dr.
Akron, Ohio 44333

Dear ________________:

I am conducting a study of caregivers of older adults who are functionally impaired and have received permission to use ______________ as a site for data collection. Since you work with older adults, I thought that you should be aware of the study and may be a possible source for identification of subjects.

Enclosed is a sample of the explanation of the study that each caregiver receives and protocol for subject identification. I will contact you in the near future to further explain the study.

Thank you for your assistance and support.

Sincerely,

Karen Schwarz, MSN, RN
PhD Candidate, CWRU
Phone: ______________
Appendix K

EXPLANATION OF STUDY

Date: __________

Dear ________________:

I am a nurse and a graduate student in nursing at the Frances Payne Bolton School of Nursing, Case Western Reserve University in Cleveland, Ohio. I am studying the outcome of providing care to a family member with a chronic health problem. I am seeking information from the caregivers so that I can find better ways to understand and respond to their needs.

This letter is a request for your voluntary participation in a research project on caregiving. If you take part in the study, a trained research assistant or I will interview you twice using questionnaires. If you permit, the first interview will be in your home soon after the care-recipient receives services from the hospital. The second interview will occur in your home 3 months later. These interviews will last approximately 60 minutes. At our first meeting, I will ask you to sign a consent form. For your cooperation in the study and upon completion of both interviews, I will offer you $10 that you can accept or refuse.

The information you give is confidential, and it will be used for research purposes only. Your name will not be connected with your responses on any data collection forms, and it will not appear in any research report or publication. Responses to the questions will not affect any present or future services that you may receive from a home health care agency. You may refuse to respond to specific questions, and you may withdraw from the study at any time.

The information you give will help nurses to better understand and help those caregivers who provide care to family members. Thank you for your participation and continued assistance with this research project. If you have any questions in the future, you may contact me at the telephone number below.

Sincerely,

Karen Schwarz, RN, MSN
Ph.D. Candidate
xxxxxxx
Appendix L

INFORMED CONSENT

Before agreeing to participate in this study, it is important that the following explanation of the proposed procedures be read and understood. It describes the purpose, procedures, benefits, risks, and precautions of the study.

I, ____________________________, agree to participate in a research study being conducted by Karen Schwarz, RN, MSN, who is a graduate student in nursing at the Frances Payne Bolton School of Nursing, Case Western Reserve University. The purpose of this study is to analyze factors that are involved in caregiving. Nurses want to know what they can do to help family members who are providing care in the home.

I understand that participation in this study involves being interviewed with several questionnaires soon after my family member is discharged and three months later in my home. The interviews will be conducted by Karen Schwarz or a trained research assistant who will be available to answer questions or discuss any issues that are raised by the questionnaires. The interviews will take about 60 minutes. This is the extent of my participation in the study. For taking the time to cooperate in the study, I will be offered $10 that I can accept or refuse.

If my family member has received services from a home health care agency in the past three months, I agree to allow Ms. Schwarz to conduct a chart review to determine the number and types of services received. I also agree to allow Ms. Schwarz to conduct a review of his/her medical record to verify my family member’s diagnosis.

Care provided by the hospital or home health care agency will not be affected in the present or future if I refuse to participate in the study. I am free to decline now or in the future. I understand that there are no foreseeable risks or discomforts except possible fatigue for participants associated with this study. My name will not be used in the analysis of the study nor in the final report. Any report of the study will contain summarized information only. The questionnaires and analyzed data will be kept in locked files. It is expected that the information obtained will help nurses plan interventions to assist families with caregiving.

Therefore, the study has been explained to me in sufficient detail, and my questions have been answered. I understand that I can call Karen Schwarz (xxxxxxx) if I have any questions about this study. I can withdraw at any time.

_____________________________    ____________________________
Subject                          Date

_____________________________    ____________________________
Principal Investigator           Date
Appendix M

AUTHORIZATION FOR RELEASE OF INFORMATION

I, _________________________________ the primary caregiver and family member of the patient ____________________, authorize ______________________________ to release copies of his/her record to Karen Schwarz, MSN, RN for research purposes only. This information is strictly confidential. Our names will not be used in the publication of the findings. Any report of the study will contain summarized information only. The analyzed data will be kept in locked files.

Specific information I am authorizing to be released is as follows:

All services or care provided by the staff from ____________________ for the following dates: ____________________ to ____________________.

I understand this authorization is valid for 60 days after the date of my signature. I also understand that this authorization can be revoked, except to the extent that action has already been taken to comply with it. Information documented in this record after the date of my signature will not be released.

________________________  ___________________________
Date                        Caregiver to Patient

________________________  ___________________________
Relationship to Patient

________________________  ___________________________
Principal Investigator

Karen Schwarz, RN, MSN
PhD Candidate, CWRU
Phone: ________________
Appendix N

LETTER OF APPRECIATION

Date:___________

Dear ____________,

Thank you very much for your participation in the study and your continued support. Your participation in the study will help nurses determine if the services they are providing meet the needs of those caring for a family member.

As previously explained, I will be calling you to arrange a time to interview you for the last time. The time and day will be arranged at your convenience.

If you have any questions please do not hesitate to call.

Sincerely,

Karen Schwarz, RN, MSN
PhD Candidate, CWRU
xxxxxxx
Appendix O

POST TEST QUESTIONNAIRE

Caregiver I.D. ________

Home Health Care. Yes 1. No ________

1. Did you receive services from other agencies besides the home health care agency since you were first interviewed? 0. No 1. Yes ________

How many days per week for each of the following services?

1. Mobile Meals ________
2. Day Care ________
3. Counselling Services ________
4. Legal Aid Services ________
5. Private respite or sitting service? ________
6. Other ________

2. How satisfied are you with these services?
   1. Very satisfied ________
   2. Satisfied ________
   3. Not satisfied ________

Changes in Status at Post Test

1. How would you describe your present health?
   1. Excellent ________
   2. Good ________
   3. Fair ________
   4. Poor ________

   A. Have there been any significant changes in your health in the past 3 months?
   0. No 1. Yes ________

   B. Please explain how your health has changed: ____________________________

2. Have there been any significant changes in the care-recipient’s health in the past 3 months?
   0. No 1. Yes ________

   Please explain how his/her health has changed: ____________________________
Post Test Questionnaire (Continued)

3. Have there been changes in the support provided by family and friends?
   0. No  1. Yes

   If so, what has changes in terms of support? ________________________________

4. Have there been changes in your employment status?
   0. No  1. Yes

   If so, what are these changes? ________________________________

5. Have there been changes in the number of persons who require help from you or the assistance that you provide?
   0. No  1. Yes

   If so, what are these changes? ________________________________
Appendix P

LETTER TO REQUEST VERIFICATION OF SERVICES

Date: ___________

Mrs. Karen Schwarz
4150 Big Spruce Dr.
Akron, Ohio 44333

Dear ____________:

I am finished with data collection. The next step is to request verification of services from the home health care agencies. Enclosed are the names of your clients and signed consent forms authorizing permission for documentation of these services.

I am requesting permission to review charts in order to document services. If you prefer to send me a computer printout of services received during the requested time periods, I can then verify the services.

Thank you very much for your assistance with this study. Please call if you have any questions.

Sincerely

Karen Schwarz, MSN, RN
PhD Candidate, CWRU
Phone: _____________
Appendix Q

Services Received from the Home Health Care Agency

Who is the person involved in the older adult's care from your agency?

Please fill in the blanks the number of times the following services were received by the family unit during the following three month period: ____________________________

1. Registered nurse
2. Licensed practical nurse
3. Home-health aide or personal care attendant
4. Physical therapist or assistant
5. Speech therapist or assistant
6. Occupational therapist or assistant
7. Registered dietician
10. Respite care
11. Volunteer such as friendly visitor
12. Social Service
Appendix R

Scatterplots of Variables with Strain at Pretest

PROBLEM-FOCUSED COPING

EMOTION-FOCUSED COPING
Appendix R (continued)

Scatterplots of Variables with Strain at Pretest

CAREGIVING APPRAISAL
Appendix S

Scatterplots of Variables with Depressive Symptomatology at Pretest

PROBLEM-FOCUSED COPING

EMOTION-FOCUSED COPING
Appendix S (continued)

Scatterplots of Variables with Depressive Symptomatology at Pretest

CAREGIVING APPRAISAL

DEPRESSION

0+ 1.25+ 2.5+ 3.75+
Appendix T (continued)

Scatterplots of Variables with Strain at Post Test

INFORMAL SOCIAL SUPPORT

CAREGIVING APPRAISAL
Appendix U

Scatterplots of Variables with Depressive Symptomatology at Post Test

**PROBLEM-FOCUSED COPING**

**EMOTION-FOCUSED COPING**