12-1-2002

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EXPERIENCES OF OLDER WOMEN FOLLOWING
THE 1997 FLOOD IN GRAND FORKS, NORTH DAKOTA

by

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Bachelor of Arts, University of the Pacific, Stockton, CA, 1993
Master of Arts, University of the Pacific, Stockton, CA, 1995

A Dissertation
Presented to the Graduate Faculty
of the
University of North Dakota
In Partial Fulfillment of the Requirements
for the Degree of
Doctor of Philosophy

Grand Forks, North Dakota
December
2002
This thesis, submitted by Brian Helmowski, in partial fulfillment of the requirements for the Degree of Master of Science from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

(Chairperson)

This thesis meets the standards for appearance, conforms to the style and format requirements of the Graduate school of the University of North Dakota, and is hereby approved.

Dean of the Graduate School

Date
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Title	Experiences of Older Women Following the 1997 Flood in Grand Forks, North Dakota

Department 	Counseling

Degree 	Doctor of Philosophy

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Date 	10-28-02
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ACKNOWLEDGMENTS

As with any human endeavor no person is an island. I am especially indebted to Dr. Sue Jacobs for her professionalism, dedication to students and unselfish mentoring of this fledging psychologist. She is a model of an accomplished woman.

To my committee members for help, guidance, and encouragement.

To Francie Linneman for her friendship, lunch, and her patience in listening to me.

My deepest appreciation to James for loving me, sharing my aspirations, and encouraging me to grow.

Finally, to my parents, my gratitude beyond words for their unwavering love and support and for telling me that I could accomplish whatever I could dream.
ABSTRACT

This study explored the effect of a natural disaster on women 65 years and older. It was a qualitative, open-ended, non-emergent, exploratory study designed to understand the issues faced and the continued responses of older women to natural disaster. Data consisted of individual written narratives and individual interviews. The constant comparison method (Glaser & Strauss, 1967; Lincoln & Guba, 1985) was used to explore emerging themes and sub-themes. The purpose was to discover what difficulties older women experienced, how or if their lives changed, and how or if they continue to be impacted by disaster. Four main themes emerged from the data. They were conceptualizing the event, disruptions, coping strategies and integration of the experience.
CHAPTER I
INTRODUCTION

In 1997 North Dakota experienced one of the region’s worst winters in history. A total of eight blizzards dropped record amounts of snowfall throughout the Red River Valley and the surrounding areas. The subsequent spring thaw sent torrents of water over riverbanks to further assault communities whose physical, social, and mental resources were strained and depleted from months of extreme weather conditions. The region and the people experienced losses of such magnitude that most of the counties in the state were declared disaster areas. The immediate effects were far reaching and losses to property and lives continue to be felt throughout the area. City neighborhoods have been forced to rebuild and restructure old environments. Many homes have been demolished and long-standing neighborhoods lost. It is still possible to drive through neighborhoods and see empty lots where houses once stood along side of a cluster of homes that have been refurbished. Additionally, many long time community residents have relocated and neighborhoods are in the process of building new ties with new neighbors. The emotional and physical impact from losses of community, relationship, life long environments, finances, and support systems continue to be devastating. While people took pride in the fact that no human lives were lost in the flooding itself, the winter weather followed by the spring flood, left individuals and communities struggling to recover with virtually no aspect of life untouched.
Contextual Factors

Contextual factors may make the experiences and subsequently the reactions and the recovery of those in the Red River Valley unique. General factors that require consideration include the magnitude of the destruction, the length of time over which communities and individuals encountered crisis conditions, and the culture of the people of the area. Viewing the event through the eyes of the national television and radio networks as well as local stations, images of destruction were compared to the devastation caused by war. Water invaded almost all dwellings, commercial and residential. Images of firefighters surrounded by water were broadcast to the nation when a downtown fire ravished many buildings. Liz Fedor (1997, p.1), a Grand Forks Herald reporter, wrote; “Traumatized Grand Fork’s residents continued their exodus from flood-ravaged neighborhoods, even as they struggle to cope with the devastation wrought by fires that left the downtown looking like a war zone.” A picture of the burnt out shells of former downtown landmarks accompanied her story.

The infrastructure not only of Grand Forks and East Grand Forks, but also of many surrounding communities was shattered. The devastation was widespread in a region that had endured months of weather related challenges followed by increasingly more serious challenges. Record snowfall, repeated blizzards, and ice storms before the flood depleted community resources. The extended harsh winter weather followed by the fight to contain the rising waters of the Red River left many residents both emotionally and physically exhausted. The Grand Forks Herald in reporting the final flood event quoted a resident, who had gotten only three hours sleep out of the previous 80 hours, as
saying “I don’t lose battles that can be won by hard work, but 52 feet was as high as we could go” (Foss, 1997).

Culturally, survival in an environment of harsh winters has created a group that relies heavily on a community support network of interdependence in facing and solving problems. An illustration of the importance of community was first seen in the effort to cope with the severe winter including the effort to prevent the flood, and secondly in the post-flood experiences of those displaced by the disaster. Friends, neighbors, relatives, and strangers came together in a joint effort to contain the rising waters of the Red River. When the dike gave way and flooding occurred, residents were forced out of their homes, the surrounding communities responded by opening their homes and offering aid to anyone who was in need of assistance. A local radio station broadcast a need for transportation to Minneapolis, Minnesota for several flood evacuees. “Within one minute of airing there was a response and within three minutes there was four (Tiedeman, 1997).” Many people found themselves living together with strangers. One of the study participants told of her evacuation and trip to a stranger’s home where she was housed. In working in the recovery effort, I also encountered individuals who gave shelter and food to those they had never met. These individuals also handed over car keys and provided clothing with complete trust and without any expectation of compensation for their acts. A reporter sent to the area to cover the damage asked a local resident why she so trustingly opened her home to someone she did not know. Her reply was “You’re not from around here, are you?”

Recognition of interdependence appears to come out of shared hardships. This system of interdependent support is a way of life that requires a group effort in raising
barns and crops, harvesting, and keeping roads open during winter storms. Roads into North Dakota towns display signs with the name of the town and the words “Build Community”. A quote from Grand Fork’s major, Pat Owens, is reflective of the culture, “What makes a community a place to live is not the buildings or anything else in that community. It’s the people—the spirit and faith that are in those people. (Fedor, 1997)” It is not unusual to witness town reunions where the physical buildings are completely gone, but former residents come back to share food and conversation in empty lots that had once been homes, businesses, churches, schools, town halls, and community centers. Relationships are formed and maintained through neighborhoods, kinship, work, church, and social gatherings. These relationships often extend for many generations. People know each other well and are interconnected. It may be these relationships that make possible an interdependent support system of people in the area.

In addition, personal characteristics of individuals have a great impact on both immediate reactions and long-term recovery. Age, gender, physical capacities, economic status, supportive relationships, coping styles, and past experiences all play roles that require consideration. In trying to conceptualize the experience of those affected by this disaster, a general knowledge of disasters and their consequences is certainly important, but it is also vital to incorporate contextual factors when trying to understand both the immediate effects and the long-term recovery process.

Focus of Inquiry

As a researcher, I was interested in a holographic and contextual understanding of older women’s flood experiences. I was especially interested in two questions: What are the primary causes of stress associated with a natural disaster?; and How have the
women's lives changed or been impacted by the disaster? My purpose was to present for
inspection to others the patterns of meaning within the words of the participants while
staying as close to the construction of the world as the participants originally experienced
it. While some researchers have used an oral narrative approach (Harvey, Stein, Olsen,
Roberts, Lutgendorf, & Ho, 1995) my research approach involved written accounts
followed by individual interviews to triangulate themes that emerged from the data. I
believe that by first asking women for their flood story in the form of a written narrative,
individuals were able to reflect and conceptualize in their own way and in their own
words without any undue direction or probing on my part. After receiving their written
narrative I examined the text and coded the data into themes and sub-themes. Individual
interviews were then conducted with each participant to discuss the findings and to check
my interpretation of participant's stories for accuracy. In this way each participant
validated my perception as accurate or inaccurate and misunderstandings on my part were
corrected to reflect the intent of the participant. It was through this process of discovery
that the integrity of the study was maintained and presented results became trustworthy.
Chapter II

Literature Review

Living through a natural disaster is often a horrendous experience to those directly and indirectly affected by such an event. Floods, tornadoes, hurricanes and other natural disasters produce stress because they threaten basic survival and fundamental human needs. In trying to understand the individual and group response to disaster, researchers explore what commonalties people experience related to these crisis events.

Crisis Related Stress

Hobfoll (1991) theorizes all traumatic stressors have a rapid loss of resources in common. Events that he includes as sources of traumatic stressors are war, serious unexpected illness, rape, other severe assaults, and natural disasters. In his Conservation of Resource Theory (COR), he posits that individuals strive to obtain, retain, and protect that which they value. What is valued is termed a resource. There are four basic categories of resources: objects (home, car), conditions (job, kinships), personal characteristics (self-esteem, optimism), and energies (knowledge, credit, insurance).

He states that stress occurs when resources are threatened, lost, or individuals invest resources without adequate return. He delineates five ways in which rapid losses of resources are related to traumatic stressors. Traumatic stressors often attack people's basic values, occur unexpectedly, make excessive demands, and require resource utilization strategies beyond those previously developed by the individual. Further, these events leave a powerful
can be especially problematic following a natural disaster, as the resources lost are often the ones held with the highest value by individuals. “These include personal sense of well being, well being of a loved one, trust, and a sense of control” (Hobfoll, 1991).

Kaniasty and Norris (1993) investigated social support as the prime factor in crisis related stress and found that support may operate through many pathways. They examine two models of social support. In the first model, social support acts as a buffer, which protects individuals in crisis from the negative consequences of stressful conditions. The buffer model implies that support systems are like multiple savings accounts. When there is an absence of stress, support systems have little effect, but under stressful conditions support systems can be drawn upon to get the individual through the crisis. The second model, the main effects model, implies that social support has ongoing affects on physical and psychological health independent of the stress process.

Barrera (1986), Lin (1986), and Wheaton (1985) proposed that stressful life events often decrease real or perceived support. In this deterioration model of social support the impact of the stressor on the individual is mediated by stressor-induced erosion of social supports. Disaster events interrupt day-to-day interactions through confusion, psychological defenses, or prejudices. These interactions are the basis for most support. Additionally, old patterns of association may be broken. When support is needed for long periods of time, even if initial support is available, overall support may diminish dramatically. Further, changes in the nature of support systems may have a detrimental effect on recovery.

Researchers have also found indications of a strong connection between stressful life events and changes in social support (Rook & Dooley, 1985). Stressors cause an individual to mobilize support networks. The greater the stressor the greater amount of support needed
and expected. In the instance of a natural disaster, not only is more support often needed and expected, but also many times the composition of support networks change. All these variables occurred in the Red River Valley.

To summarize, in social support models researchers postulate that the individual needs and expects a supportive response from his or her environment when experiencing stressful events. When this response does not meet the needs, demands, and/or expectations of the individual, the ability to recover is detrimentally effected. When support is adequate then the prognosis for recovery is good. Applying these theories specifically to the Red River Valley disaster, the nature and the amount of social support was dramatically altered, usual ways of responding to crisis were limited, and pre/post disaster support systems were depleted. With the Red River Valley flood survivors, one would be led to wonder about the long-term recovery process of those involved, how it evolved and what factors played a prominent role.

Individual Response Patterns

Researchers have found support for the conclusion that there is great variability in the response patterns of individuals following a natural disaster (Phifer, 1990; Tobin & Ollenburger, 1996; Pulschock & Cohen, 1975). Economic status, gender, age, supportive relationships, physical health, individual differences, community structure, and past experiences are found to impact individual variability (Tobin & Ollenburger, 1996).

The magnitude and temporal aspects of the crisis play a role in the stress reactions of individuals (Wright, Ursano, Bartone, & Ingram, 1990). The length of time in which symptoms, such as depression or anxiety, are displayed varies across disaster victims (Warheit, 1985). Personal characteristics also reflect how individuals react to crisis events.
Some people meet and deal with extreme conditions well, while other have difficulty in meeting the demands of even small challenges. Understanding the relationship between a single person's reaction and a natural disaster is complicated by psychological, social, economic, geographic, and environmental factors that are unique to each person (Tobin & Ollenburger, 1996).

Harvey, Stein, Olsen, Roberts, Lutgendorf, and Ho (1995) collected narrative accounts from people who had experienced serious loss during the 1993 Midwest flood. Participants were selected from a larger project in which initial contact was made by telephone between one and four months after the peak flooding. Notes taken during initial contact served as the basis of identifying possible participants for the Harvey et al. study.

Serious loss, as judged by two coders, was defined as material loss in excess of $10,000 and a self-report of having experienced major psychological distress at any point during the flooding. Identification of major psychological distress included depression, anxiety, problems in eating, sleeping, concentrating and/or difficulty in interpersonal relationships. Material losses included loss of home, furnishings, automobiles, livestock, pets, businesses, and loss of work.

Two coders judged 53 potential participants to have experienced serious loss and invited them to fill out a three section open-ended questionnaire. These sections included demographic information, psychological experience of the flooding and its aftermath, and specific ways in which individuals coped with the disaster. Of these 53 individuals, 45 (30 females and 15 males) agreed to participate, writing an average of 12 pages each. The mean age for participants was 47.5 years. Occupations were listed as farmers, small business
owners and workers, homemakers, and manufacturing and retail employees. Average education was 14 years.

Categories drawn from the written narrative accounts of individual psychological experience and coping strategies were developed by two independent coders and achieved 88% inter-rater agreement. These were broken down into three major theme categories. These categories were:

1) General psychological reactions; These excerpts reflected how severely people’s lives were affected including feelings of little control over events and sometimes helplessness. Almost all individuals whose losses were judged to be serious reported these conditions.

2) Reactions reflecting loss and negative coping reactions; including pessimism and interpersonal problems that interfered with coping;

3) Reactions reflecting loss, but also resiliency and positive coping reactions, including emphases on private reflection, confiding, and social support.

Twenty-five of the respondents emphasized the loss and pessimism theme while twenty of the respondents emphasized resiliency and optimism.

Tobin and Ollenburger (1996) examined stress responses following the 1993 flood in Des Moines, Iowa. Results were analyzed from measures of anxiety, depression, and symptoms of post-traumatic stress in 106 adults ranging in age from 23 to 85 years. They hypothesized that levels of stress would be related to gender, physical and mental health, education, income, type of housing, loss of employment, and the experience of finding some positive outcome related to the flood.
They found that four predictors accounted for 53% of the variation in post-traumatic stress. These were anxiety symptoms, employment status, health factors, and attitudes toward the flood. Health of the respondents played a significant role in determining post-flood levels of anxiety and depression with those in excellent health exhibiting lower levels of depression and anxiety than those with fair or poor health. Females had higher, though not significantly higher, levels of anxiety and depression than males and had a greater likelihood of experiencing post-traumatic stress symptoms. Those with incomes above $25,000 and those with higher levels of formal education showed lower levels of anxiety, depression, and post-traumatic symptoms than those below $25,000 and with less formal education. Married, divorced, or separated individuals had higher post-traumatic stress levels than those who were widowed or single. Those renting their houses were more likely to suffer higher levels of stress than those owning their homes. Also, those who could identify some positive outcome, such as making new friends, had significantly reduced levels of post-traumatic stress.

Older-Adults

Most people struggle with and recover from a natural disaster without experiencing severe mental or emotional psychopathology, however, anxiety, depression, inability to concentrate, and other stress related problems are common complaints of disaster survivors (Tobin & Ollenburger, 1996). These symptoms were evident in the residents of the area. The term “flood brain” was understood by mental health professionals and experienced by many individuals. Two of the symptoms of “flood brain” are inability to concentrate and memory problems. In a workshop given to mental health professionals working in flood recovery, these symptoms were noted, by C. Cook,
LSW, as cognitive signs of stress. Following the flood, it was not uncommon for individuals to forget phone numbers and addresses, even their own, or names of those they had known for years.

Difficulty with memory is one of the chief complaints of older individuals and they often take for granted that they will experience some forgetfulness. However, forgetfulness can also cause anxiety in and may be especially threatening to older adults as they often associate it with senility and a loss of independence. Further they may hesitate to share memory concerns following a disaster with others because they do not understand the impact of the experience on cognitive functioning and may see memory difficulties as a threat to their autonomy.

Loss also is a prevalent theme for all people impacted by a natural disaster, but it is one of the most pervasive themes in the lives of elderly people (Grady, 1990; Kalish, 1987; O'Connor, 1994). Kalish (1987) summarized the sources of loss related to grief. These sources of loss include an important life role, a valued possession, a physical capacity, a drop in finances, dreams or hopes, an affiliation or group membership, a pet, different relationships, a change in living environment, and religious, moral, or political beliefs. He goes on to state that while some of these sources of loss can affect younger people, they become increasingly frequent as a person ages. Added to these losses, older adults come to the realization that they cannot do or accomplish many things that were once relatively easy, and that the time remaining in their lives is increasingly short.

Grady (1990) in an article exploring the use of senior centers as a setting for effective counseling surveyed presenting therapy issues in 1988 for 350 adults 55 years and older who participated in counseling at a multipurpose senior center. Those surveyed
were independent living residents of three communities in Michigan. The most commonly expressed concerns were grief, coping with physical limitations, financial depletion, depression, relationships with children, and new living arrangements. Grady summarizes that while everyone in aging experiences some physical loss, accumulated losses create limitations for many that can affect basic survival and strain coping skills to the breaking point. She states, "Losses are an overriding theme for most older counseling clients" (p. 16).

One would be lead by these studies to speculate whether older individuals may experience, react to, and recover from natural disasters differently than younger individuals. Some researchers have focused specifically on the affects of a natural disaster on older individuals (Krause, 1987; Logue, Melick & Struening, 1981; Miller, Turner & Kimball, 1981; Ollendick & Hoffman, 1982; Phifer, Kaniasty, & Norris, 1988; Phifer & Norris, 1989). Others have indicated that older adults suffer adverse physical and psychological affects after experiencing a natural disaster (Bell, 1978; Krause, 1987; Phifer, Kaniasty, & Norris, 1988; Phifer & Norris, 1989). In other research, older adults and those under 35 do better emotionally than adults 35-55 following a disaster (Gleaser, Green, & Winget, 1981; Huerta & Horton, 1978; Price, 1978; Shore, Tatum, & Vollmer, 1986; Thompson, Norris, & Hanacek, 1993).

Huerta and Horton (1978) in a study of flood victims, found that 42% of those under 65 believed that they would never emotionally recover from the disaster while only 29% of those over 65 endorsed this response. Following Hurricane Agnes, Melick and Logue (1985-1986) found that older adults reported lower anxiety and physical stress than did younger individuals. Bolin and Klenow (1982-1983) similarly found that following a disaster the
elderly exhibited a lower incidence of emotional and family problems than younger individuals. Bell (1978), in a study of tornado victims, found that older respondents reported less physical and emotional stress than younger adults and that one week after the disaster younger adults were significantly more likely to describe themselves as fearful and worried than older adults. These findings would indicate that older adults do better following a natural disaster both emotionally and physically.

Thompson, Norris, and Hanacek (1993) interviewed 832 adults at 12, 18, and 24 months following Hurricane Hugo to examine age differences and long term consequences of a natural disaster. Groups were divided into younger (18-39 years), middle age (40-59 years), and older (60+ years). Measures of disaster related stress and present psychological state were taken to assess whether age influenced one’s vulnerability to postdisaster stress. They found a curvilinear interaction between disaster exposure and age. Those 40 to 59 years displayed the most distress following the disaster while younger individuals experienced the least. Modest and sporadic disaster effects were found in older participants. They hypothesize that these findings may be due to the responsibilities that come in middle age. This group may have more roles to fill and therefore experience more distress than those older and younger.

Despite these findings, other information indicates that older adults may be more vulnerable, experience more traumas, and encounter more problems in recovery. Thompson, Norris, and Hanacek (1993) cite two perspectives that support this view. The exposure perspective posits that older adults are less likely to receive adequate warning of an impending disaster and are more likely to be reluctant to evacuate. They are also more likely to experience an injury to themselves or loved ones and have greater disruptions of life
patterns. They also experience a greater sense of depravation as a result of their losses and are likely to experience great economic loss (Bell, 1978).

A second perspective, a resource perspective, posits that coping capacity should decrease with age. Phifer (1990) cites the issues of declining physical health and lower social and economic resources in the older population as reasons for concern. He found those over 65 years of age were most susceptible to post-disaster distress. This finding might be substantiated by other research that indicates that problems before a disaster are exacerbated by the crisis (Hobfoll, 1991).

Kaniasty and Norris (1991) interviewed 222 adults 55 years and older once before and twice following the 1981 flood in southeastern Kentucky. Measures of social support and disaster stress were taken. The relationships between disaster stress, social support, and depression were examined after controlling for the effects of sex, martial status, age, and education. Latent-variable structural modeling techniques of LISREL 7 were used to test the results. The results indicated that post-disaster decline in social embeddedness and nonkin support mediated the immediate and delayed impact of disaster stress. No evidence was found for the mediational role of kin support.

Health also appears to be a major factor in disaster recovery (Thoits, 1982). Pre-crisis health problems may make older adults especially vulnerable to coping with the stress of a natural disaster. The physical and mental condition of an individual before a natural disaster can have a tremendous impact on successful coping (Canino, Bravo, Rubio-Stipic, & Woodbury, 1990). Not only does poor health reduce the physical ability to deal with crisis related events, it also places older adults in the position of having to rely more heavily on already strained support systems. Wood and Cowan (1991) found that emotional and
Psychological stressors are a major factor in the total deaths that may be attributed to a disaster.

Overall, research findings are mixed when looking at the impact of disaster on older adults. This may be because older adults, as a group, are more different than they are alike (Jacobs & Formati, 1998). Another consideration may be that older individuals have a preponderance of health, social, economic, support, or loss related issues that negatively impact them (Bell, 1978; Canino, Bravo, Rubio-Stipic, & Woodbury, 1990; Grady, 1990; Kalish, 1987; O'Connor, 1994; Thoits, 1982; Thompson, Norris, & Hanacek, 1993). On the other hand, older adults have lived long lives in which they have utilized coping skills in a wide variety of circumstances. They have encountered difficulties and hardships and survived and even flourished. Solomon, Reigier, and Burke (1989) found that previous experience with a natural disaster could play an important role in coping. Norris and Murrell (1988) found that having experience in dealing with disaster might protect individuals from negative effects. It seems that the knowledge that one has successfully dealt with hazards can boost self-confidence in one's ability to successfully cope with another. How older women in Grand Forks, North Dakota approached, dealt with, and incorporated the 1997 flood into their life stories may shed some light on the issues faced and the recovery process of older adult women.

Gender

Morrow and Enarson (1996) state, “While gender is a central organizing principle in social systems, limited attention has been paid to differences in disaster related experiences of women and men” (p. 5). Looking at the roles women play in society they contend that to understand how households respond to disaster the first step is to understand patterns of
domestic labor and decision making. Women do most of the care giving work in the family and most domestic decisions fall within the domain of females (Barber & Allen 1992). Care of family members both in times of crisis and in times of recovery typically rests with women. Therefore, understanding the responses of women during and following a disaster becomes vital if one is to understand the overall process of recovery.

Pursuing disaster related experiences of women, Morrow and Enarson (1996) conducted a qualitative sociological analysis of women’s experiences in the most heavily impacted areas of Dade County, Florida following Hurricane Andrew. They found that the care giving demands placed on women expanded dramatically during and following a natural disaster. The responsibility of preparing the family which included stockpiling supplies and household readiness for emergency response was left to women while men focused on fortifying the outside of the property and the community.

In family units where there was no male present, women were forced into positions of being in charge of all aspects of disaster preparedness and recovery. Women in all family units, in order to complete tasks, faced a variety of problems. These included obtaining money for supplies, finding transportation, and doing jobs requiring physical strength. They often lacked the adequate resources necessary to complete their endeavors. In addition to physical demands, women were called upon to meet the emotional needs of family, friends, and community members.

Both within the community at large and individual neighborhoods, women were seen to extend their support beyond their own immediate families to those who were without a support network. This attention to those outside the family extended to neighbors, elderly, and others who were seen to be in need of assistance. In taking on added responsibility to
those outside their immediate family, women further taxed resources already strained by the disaster.

Other themes found by Morrow and Enarson (1996) include women’s vulnerability to exploitation and fraud during the recovery period, concerns for personal safety and security of women and their children, and loss of pre-disaster employment. They also found formal response efforts did not include or effectively utilize women or their networks in leadership roles. Morrow (1997) observed that women’s roles during and after disaster extended to include procuring relief supplies, public or private assistance, insurance benefits, and construction material for their own household as well as others. Women were most often the ones who met with insurance adjusters, building inspectors, contractors, and workers, as well as assisting in home repairs. Morrow noted that approximately one-third of households affected by disaster are not the traditional intact married family unit but consist of many single parents and other family units.

While Morrow did not specifically focus on older women, her findings do raise questions and concerns about the roles women over 65 may play during and following a disaster. A widow living independently may face many of the same situations as those in single parent families with children, and she may also face additional problems. Physically, she may be less able to meet demands or she may have grown children or others to whom she needs to attend. Grown children may have expectations that their mother may provide financially, give guidance, or help with child care during times of crisis. Older women may be expected to obtain family medications or other items without means or support. Friends and family members may be scattered and concerns for their safety or ability to extend or receive support may be impaired. Additionally, these
concerns may continue for an extended period of time and may greatly increase the burden of the older-adult woman during and following a disaster.

Alice Fothergill (1999) conducted field research and sixty in-depth formal as well as informal interviews following the 1997 Grand Forks flood to explore women’s community, family, and work roles before, during, and after the disaster. The age of participants ranged from eighteen to eighty. All interviews were tape recorded and transcribed. Field notes and interview transcriptions were coded according to different conceptual categories. Participants were asked to tell their flood story. Field observations were conducted throughout the thirteen months of the study in a variety of settings and activities. She found that women who experienced the Grand Forks flood negotiated both traditional and non-traditional roles throughout the crisis and that their roles in the community, at home, and at their places of work were all affected by the disaster event. The obligations and expectations of each role produced some role expansion and role conflict. As a result of both the new demands and the role conflict, women began to see themselves differently, as more competent, confident, and capable and worthy of multiple roles and responsibilities, especially in the public sphere.

According to Fothergill women maintained their role in child care and expanded their duties when preparing for evacuation, seeking out community services, and during post-flood clean-up. Fothergill, like Morrow and Enarson (1996), found that women’s duties included finding resources, obtaining assistance from relief agencies, filing insurance claims, and procuring repair work with both initial and follow-up visits. In their work role women often took on additional duties, which expanded their authority and decision-making regular or emergency jobs. In the community they participated in
sandbagging and community support activities. Overall, she found that during a disaster women accumulate more duties within their roles in community, family, and work. She also found that contrary to popular thinking and current scholarship, the occupation of multidimensional life roles can have advantages, which include feelings of competence and self-sufficiency.

Purpose of Study

I designed the current study to examine the immediate and continuing impact of a natural disaster on older women (> 65 years). I used a qualitative, open-ended, non-emergent, exploratory study to understand the issues faced and the continued responses of older women to natural disaster.

The essence of this research was to explore my questions about older women and their experiences following a natural disaster. The first reason to do this research was my own curiosity. In order to explore my questions, I asked each participant to write their personal flood story. The purpose was to discover what stresses older women experienced and how or if they continue to be impacted by the extreme weather which occurred in North Dakota during 1997. A phenomenological method of exploration was chosen. Questions I was especially interested in included: In older women what are the primary causes of stress associated with a natural disaster?; and How have the women’s lives changed or been impacted by the disaster?

Age and gender are important variables in both immediate and prolonged disaster related responses (Bell, 1978; Canino, Bravo, Rubio-Stipic, & Woodbury, 1990; Kalish, 1987; Thoits, 1982). It was my assumption that because other researchers have found that age and gender impacts the individual response to a natural disaster, women
over the age of 65 would be able to provide unique information that could prove helpful in understanding the experience of a natural disaster. Others can then apply this information when designing and implementing recovery strategies.

The results of this study add to the literature on the impact of disaster on aging women and provide information to others who are developing appropriate interventions for older women.
CHAPTER III
METHODOLOGY
Phenomenological Methodology

Strauss and Corbin (1990) define qualitative research as “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification” (p. 17). According to Maykut and Morehouse (1994) qualitative research...generally examines people’s words and actions in narrative or descriptive ways more closely representing the situation as experienced by the participants” (p. 2).

Qualitative research often emerges from a phenomenological position. The phenomenological approach is based on understanding the meaning events have for the persons being studied. This kind of research sees the individual and her or his world as being CO-constituted, in that the world and the person exist together and not apart from each other (Maykut & Morehouse, 1994).

Components of Qualitative Research

According to Strauss and Corbin (1990) there are three major components of qualitative research: data, the analytic or interpretive procedures used to arrive at findings, and the written or verbal report.

Qualitative data can be obtained and research conducted on persons’ lives, stories, and behavior, as well as, organizational functioning, social movements, or interactional relationships (Strauss & Corbin, 1990). To understand the world under investigation,
people's words and/or actions are used as the basis of data collection. Words and/or naturalistic observations are used as they accurately reflect the postulates of the qualitative paradigm (Maykut & Morehouse, 1994). Qualitative researchers are interested in understanding people's experiences with personal meaning tied to context. Exploratory and descriptive focuses are characteristic of qualitative research. Belenky (1992) applied the term interpretive-descriptive research to exploratory studies, which rely on people's words and meanings as the data for analysis. For her, the key role of the researcher is the collection of relevant data and the pulling of meaning from the data.

In comparison to quantitative research, qualitative research involves purposive sampling rather than random sampling. Purposive sampling increases the likelihood that variability common in any social phenomena will be represented in the data. Participants are chosen for inclusion based on the possibility that each will expand the variability of the sample.

The second distinguishing characteristic of the qualitative research paradigm is the analytic or interpretive procedures used to arrive at findings. Findings are derived from data obtained from interviews, observations, documents, books, and videotapes. What the qualitative researcher attempts to find, through the process of interpretation, is how people interpret the world or understand an event or situation as it is constructed by the participant (Maykut & Morehouse, 1994). The task of the researcher is to find patterns within words and/or actions and present those patterns for others to inspect while at the same time staying as close to the construction of the event as the participant originally experienced. The process of interpretation is continuous throughout the study activity as the researcher collects data and is primarily done through an inductive
reasoning process. The researcher does not predetermine what is important, but the data is explored for what is meaningful to the participants. The outcomes of the research evolve from a systematic building of homogeneous categories of meaning deductively derived from the data (Maykut & Morehouse, 1994). The observation and documentation of patterns comes before the hypotheses, that is, discovery comes before proof.

The third component is the written or verbal report. A qualitative research report is characterized by rich description and should provide the reader or listener with enough information to determine whether the findings of the study possibly apply to other people or settings.

Research Design

Data collection involved purposive sampling; I began by approaching people known to my dissertation chair, Sue C. Jacobs, Ph.D. Relatives of others within the Department of Counseling were also approached as possible participants. Possible participants were recruited for inclusion based on the likelihood that each would expand the variability of the sample. Initial contact was made by phone after the referral source had obtained permission from the individual for me to contact them. In the initial contact I briefly explained the nature of the study to individuals and asked them if they would possibly like to participate. If they were interested in participating, I scheduled a time to meet with them and further explain the study. At the time of our meeting each person was given a written explanation of the study. Each person read the explanation and was given the opportunity to ask questions. Each person was asked if she would like to further participate or withdraw. Each person was told that she could withdraw at any time without penalty. Each person willing to participate signed a consent form, which was
reviewed with him or her. Participants also filled out a demographic questionnaire (Appendices A, B, C, and D). Those who gave written consent were asked to write their individual flood story. They were asked to mail the story to me in a pre-addressed stamped envelope which they were given, when they were satisfied with the narrative they had written. They were informed that after receiving their narrative I would examine the story for the themes and sub-themes that would emerge. The procedure for checking the accuracy of my interpretations was explained. Each participant was told that after categorizing the themes and sub-themes, I would call her to set an appointment to discuss the findings. It would be during this discussion that the data would be reviewed and finalized. It was explained that the final interpretation would be that of the participant. They were also asked for possible referrals to others who might be willing to participate in the study. I repeated the process with all possible participants. I warned all participants in advance of writing their flood narrative that participation in the study might elicit painful memories and/or feelings or possibly symptoms of post-traumatic stress. I explained that any participant in need of assistance as a result of their participation would be given a list of appropriate referrals at the time of our individual interview or if they requested before the interview. Each participant was told that if she was experiencing any difficulty she could contact either myself, my chairperson, Sue C. Jacobs, Ph.D., or the graduate school. The numbers for contact were provided in the consent form left with each participant. I ascertained the possible need for assistance with each individual when after coding their narratives, I returned to discuss the themes that I found within their flood story. I did this by asking them if they felt the experience of writing about the flood was painful or had caused them difficulty in any way. No participant called to ask for
assistance before our individual interview. No participant stated she required assistance as a result of her participation in the study. During the individual interview quotes within each participant’s story which comprised their individual themes and sub-themes were discussed. Participants were asked to clarify any misunderstandings on my part. The final interpretation was that of the participant. It was through this process that data was triangulated and the results presented were trustworthy. Each participant was paid $50 for her participation at the time her individual story was discussed.

I collected stories until themes began to reappear with consistency. The process was similar to grounded theory method, which employs constant comparison (Rennie, Phillips, & Quataro, 1988). In other words, I read the stories as they came in, looked for recurring themes and from there decided how many other stories to seek out.

I believe this method elicited appropriate data in that the flood directly impacted those participating. That is, they went through the experience of the rising flood waters, had water come into their homes, were evacuated from their homes as a result of the flood, and were displaced by the flood for at least one month. They also encountered a period of time in which they directly dealt with recovery from the experience. This recovery period included after flood clean-up and/or repairs to their residences, changes in their lives as a result of the flood, return to a permanent place of residence in Grand Forks, and/or continuing adaptations they encountered that are flood related. Continuing adaptations were any changes, either temporary or permanent, in behavior or psychological outlook that came out of the flood experience.
Participants

Participants were women ages 68 to 87 who were living in a single family dwelling either with a spouse or alone within the city limits of Grand Forks, North Dakota at the time of the 1997 flood. One was married and living with her spouse, and 5 were widowed. Participants had been residents of Grand Forks for a range of 34 to 87 years. All participants were at least high school graduates. One participant had attended Business College, one had one year of college, and three had Master’s degrees. All participants owned their homes at the time of the flood. All participants returned to their homes following the flood. The length of time they were displaced from their houses ranged from 4 weeks to 6 months. All participants were Caucasian. No participants were being seen by a mental health professional at the time of the flood. One person had flood insurance to cover repair costs and five did not. Two participants reported that expenses incurred as a result of the flood were under $10,000, two reported expenses of $10,000 to $25,000, one reported expenses of $25,000 to $50,000, and one declined to answer. Two participants reported annual household income as under $25,000 per year and 4 reported household income as between $25,000 and $50,000 per year. One person was employed at the time of the flood but has since retired. None reported serious health problems before the flood. Participants written narratives ranged from two pages to six pages. At the present time two participants still remain in their homes, one has experienced serious health related problems and is in a nursing home and the present location of the three remaining participants is unknown to this researcher.

Analysis
Analysis emerged from the data itself by the process of inductive reasoning. The constant comparison method (Glaser & Strauss, 1967; Lincoln & Guba, 1985) was used. This method combines inductive category coding with a simultaneous comparison of all units of meaning obtained. As each new unit of meaning was selected it was categorized and coded with similar units of meaning. When there were no similar units of meaning, a new category was formed. Using this method allowed for a continuous refinement of initial categories, which could be changed, merged, or omitted with the possibility of new categories being generated and different relationships discovered. It is through the use of the generated categories that I reconstructed the data into a meaningful analysis.

In order to prepare the data for analysis, I first coded each page of the initial stories as they were collected. For instance, the first story was coded with the letter A on the top of each page. Each page was then numbered. This gave me pages with the participant letter and page number at the top of the page. I then numbered each line on each page starting at one and continuing until the lines on the page were exhausted. I then began again at one for the following page and continued the process until all pages and lines were coded. This gave me a document coded A-1, A-2, A-3, and so on at the top of the page with each line on each page having an individual number. When each data page had been coded, I made four photocopies of the whole document in order to keep the original document uncluttered as coding continued. I then read each document in its entirety before attempting to divide it into “chunks of meaning” (Marshall, 1981). Meanings were ascertained by re-reading each sentence or longer sequences, dividing them from other meanings, and recording them on index cards. For instance, the statement: “unquestionably the most devastating event in the history of Grand Forks” was
coded A-1/2. This indicates that this statement came from the first participant, the first page, and the second line. The meaning "Magnitude of the Event" was assigned to this statement. The statement with it’s place of reference was then written on an index card with the heading, "Magnitude of the Event". As a narrative was reread each statement or chunk of meaning along with its location within the narrative was recorded under a sub-theme on an index card. As this and other sub-themes were developed they combined to create a theme such as "Conceptualizing the Event". Some meanings incorporated many lines and these were coded in a way to indicate that the unit of meaning contained many lines. For instance, A-1/1-15, would indicate the first participant, the first page, lines one through fifteen contained one unit of meaning.

After coding her narrative the next step was to schedule an interview with the participant to discuss the themes and sub-themes found within the text. The purpose of this interview, as well as the other data collection and analysis methods, was to provide a trustworthy interpretation of my results. The concept of trustworthiness (Maykut & Morehouse, 1994) in designing and caring out a qualitative study addresses the issues; to what extent is there confidence in the outcome of the study and how much do we believe what the researcher has reported. At the time of the interview I discussed my coding, themes, sub-themes, and derived meanings with the participant. The interview with the participant was the source of triangulation and established the final findings as trustworthy. Participants were asked if they considered a statement to properly belong to a theme, another theme, or to a theme not presented. The final interpretation of participant information remained with the participant. At times meanings were coded under more than one sub-theme and main theme. For instance the statement,
“unquestionably the most devastating event in the history of Grand Forks”, was recorded under the main theme, Conceptualizing the Event, and under the main theme, Integration of the Experience. Originally I had included this statement only under the theme Conceptualizing the Event. In discussing the statement, “unquestionably the most devastating event in the history of Grand Forks”, the participant stated that she felt it belonged in both themes as she was describing both the magnitude of the event and comparing it to other events. Magnitude of the event was a sub-theme under the main theme, Conceptualizing the Experience. Comparison to other events was a sub-theme under the main theme, Integration of the Experience.

At the time of the interview I also inquired if the writing of the story had caused distress to the participant. No participant reported distress. The interview was recorded and transcribed. Recordings were destroyed after transcription.

As interpretations of each individual participant’s narrative were completed and refined the results were combined with other narratives. For instance, the sub-theme “Magnitude of the Event” was combined with other sub-themes under the theme of “Conceptualizing the Event”. As narratives were compiled and refined through the interview process, commonalities from all narratives were grouped together and individual differences were retained. It is from this final grouping that I drew the results of the research.

Finally, while a group session was initially planned only two possible participants were able to meet to discuss the findings. Of the two possible participants only one expressed an interest in a group meeting. Therefore, a group meeting was not held. This meeting was originally planned to allow all participants a time to meet each other and
discuss their experiences. It was also possible that in the process of a group discussion of shared experiences the one person’s story might spark new themes or sub-themes or refine existing themes in one or other individuals.
CHAPTER IV

RESULTS

Four main themes emerged from the written narratives and individual interviews. The first theme was conceptualizing the experience. Unlike some other themes all participants included some statements that were coded under this theme. Participants consistently conveyed a message that this event within their life history was of heroic proportions both physically and emotionally. Participant’s statements placed the event contextually by giving both examples and the corresponding impact of discrete occurrences. Participants clarified events and validated the importance of individual experiences in conceptualizing what had occurred.

Conceptualizing the Experience

Magnitude of the Event

Participants often addressed the magnitude of the event in conceptualizing the experience. In this sub-theme the more concrete or physical aspects of the flood were recounted.

“Like the devastation of war with pitiful bands of homeless refugees.” (B-3/15-16)

“There had never been water in the basement. Not even in 1979 when someone rowed a boat down our alley.” (A-1/30-31)

“In my eighty-five years I had never traveled this road.” (A-1/5-6)
“The most devastating event in the history of Grand Forks.” (A-1/2)

“Mom said ‘Goodness this is the first time in my life I have had to freeze’.”

(F-1/21/22)

“Last winter (1997) was a terrible winter with our heavy snowfalls, snowstorms, and then a very damaging sleet storm the first part of April. Power companies struggled to restore power to thousands of customers. We were fortunate in that we were only without power for fourteen hours.” (F-1/12/17)

Emotional Impact

The second sub-theme under the theme, Conceptualizing the Event, was recounting the emotional impact of the flood.

“The first time we returned it was a shock to find muddy water.” (A-1/25-26)

“Our historic landmark church built in 1911 had a basement full of water as well as some in the sanctuary. It was with sadness and tears that we had out last service.” (A-2/20-21)

“What was it like to have safe, solid things in my life suddenly unsafe and insubstantial. First it was disbelief. Other people in far away places can be evacuated, and I am sorry for them, but this could not happen to me. It was a long time before I could really believe in the flood.” (B-1/6-15)

“I was sorry to lose the furniture that my parents had started housekeeping with in 1910 and to lose two cedar chests and my mothers desk and the Nordic Track ski machine---sorry but not heart-broken.” (B-4/1-6)
“I believe I was in a sense of numbness those first few days as it was so overwhelming and everyone of us were hurting in the same way.” (E-2/9-12)

“It was frantic.” (D-1/3)

“I must remind myself daily to be ‘upbeat’. There are some times my body is so exhausted from trying to always to be strong that if I let myself “feel sorry for me” it wouldn’t be good.” (E-4/22-25)

“The hardest was coming back the first time...There was water to the second step and stuff floating. What a sight.” (E-1/13-20)

“When the day came to haul away the dumpster, I will never forget (sic). I had to force myself to believe that this was just stuff.” (E-3/3-5)

“I felt so helpless.” (F-1/27)

“Water was half way up on the side of the (car) door - how scary.” (F-3/23-24)

“We went home totally exhausted.” (F-2/30)

**Recounting Details**

The third sub-theme was recounting details. Four of the participants included a detailed list of their evacuation, their absence from their home, and their return home. If this was included it was the longest part of their written narrative. One participant started recalling details that began early in the winter; and in addition to the events that she endured, she also gave an accounting of the help she had given to others pre and post-flood. Three participants focused on the events of the evacuation and the return to Grand Forks. Five discussed in detail the clean up and the process of procuring help and resources following the flood.
“Early in the morning of April nineteenth word came via the radio and sirens that all the sandbagging had been in vain. The battle had been lost and we were asked to evacuate. I went with long time friends...to the Radisson Hotel in Fargo. We left at about 1 p.m. and traveled in a bumper to bumper caravan. The regular highway was flooded so it took three hours instead of the usual hour and one half.” (A-1/7-13)

“On April eighteenth it was sandbag dikes, bigger and better by the hour...I was frantic, racing up and down the basement steps to rescue what we could...an hours rest, then a call for a mandatory evacuation. I set out in...car with his friend and the two giant lizards in their carrying cages. We went to the Air Force Base to a man’s dormitory, where women and pets were welcome. Late the next afternoon...and I, with the Savanna monitors, drove to his hometown, Madison, Minnesota. His parents welcomed me and I spent a pleasant week in that nice little town. Then it was on to a suburb of St. Paul...and after that by Amtrak to...Wisconsin to...On May twelfth I returned to Grand Forks.” (D-1/1-19)

“My next door neighbor used another neighbor’s equipment to pump the water out of the basement (two hours a day so the walls would not cave in)... They took things out of north basement window, a south window, and the kitchen door. Much of it came out in black plastic bags. Everybody’s berm looked the same--piled high with rubble. After all that was done, it took two fellows a day to sanitize the basement.” (A-2/1-5)
"There was quite a time lapse, summer was going and we couldn't do the insulation, finishing, or painting until the wiring was done." (C-1/41-45)

About two p.m. I called our office and we, the division manager...and I decided we would have to try and get to our building. The only bridge open was the Kennedy bridge on highway two, We got almost to the building and ran into a barricade. We tried to go on roads east and south of the city but both entrances were flooded." (F-2/12-15)

"...called about six forty-five asking me to try and rescue...parents. It was impossible to reach them so I drove as far as I could and then gave the message to the fire truck who was announcing mandatory evacuation to an area."(F-2/45-47)

"We called Eldercare to check on..." (F-3/26)

"Friday evening, April eighteenth, I felt so secure because they had moved the...home to ...across the street so I figured our area was a higher elevation. Saturday morning the nineteenth about three a.m. ...arrived. Both their car and their pick-up were packed with non-replaceable items. They were mandatory evacuated. It was quite a sight to see all the cars coming bumper to bumper from the south on... Street turning left to exit on.... Ave. I had packed all our meds (sic) and a change of clothing so we could be ready to go. Cars were gathering on the street in front of the... ready to evacuate. I'll have to explain a street scene, which I will never forget, in front of my house. My neighbor and I were out there talking and the manhole covers started to steam. He said they were frozen. Before long the steam was four to five feet high. I told him to watch the pavement. Dampness
started to creep from the berm onto the street and in minutes there were patches of water up and down the street. By ten-thirty a.m. water was about two feet deep in the street...We started our journey to Thompson...About eight vehicles had driven on my sidewalk and berm because of the water depth. Nation Guard vehicles as well. We started south on my berm and of all things I got stuck right by the fire hydrant.” (F-2/34-44)

“We got an overdose of senior fraud and abuse.” (C-1-34/35)

Sources of Information

The last sub-theme under conceptualizing the event was sources of information.

Two participants mentioned sources of information in their narrative.

“Word came via the radio and sirens.” (A-1/7)

“two different accounts from FEMA and the Army Corps of Engineers. A FEMA representative advised me to take what I could get and run because he said we will have another flood next year and the year after because they will not have time to do what they want to do before freeze up time. However, a man with the Army Corps of Engineers making a survey has said this is a one-time Noah’s Ark deal and that it will never happen again.” (A-2/36-40)

“My neighbor and I were out there talking...” (F-2/41)

“I hadn’t slept all night listening to the TV and the radio giving warnings and all the copters (sic) hovering over us. I decided to go over to the school to see what was going on and at the same time I heard they were evacuating...residents to...” (F-2/1-3)
Disruptions

The second major theme was disruptions. Sub-themes included home, community, and neighbors/friends. Some units of meaning in this theme were also included in other themes. For instance, in the main theme, Conceptualizing the Experience, under the sub-theme, recounting details, participants talked about their evacuation and the process of putting their homes back together. Some of these statements were also coded under the main theme, Disruptions. In coding the narratives and in discussion in the follow-up interview with each participant, participants expressed that these belonged under more than one theme. In this theme participants acknowledged the physical disruptions to basic living. Further and more pervasively they spoke of disruptions to the structure of relationships within their lives and the community as a whole. Women seemed to be saying; “This is what happened to me. I am part of this community and it happened to all of us.” Unlike Lilly Tomlin’s quip, “We’re all in this alone.”, most participant’s narratives reflected how much they felt the experience was a group experience.

Home

Every participant included statements about disruptions to home. All had statements about the loss of basic living necessities. One person included a poem she had written about the event.

“I went to the faucet to get a drink

Forgetting for a moment there was no sink.

I went to the bedroom to turn on the light
But darkness prevailed that long summer night.

I went to my cupboards and they were bare

As a matter of fact they weren’t even there.” (C-2/1-6)

“After nine days we drove back to Grand Forks almost every day to do what we could. Fargo was our home for three weeks until we returned to spend three weeks in dormitory rooms at U.N.D. Then FEMA located a spankin’ (sic) new trailer on the driveway where I lived for four and one-half months.” (A-1/20-22)

“The house had a basement flood, like most houses in town. Luckily the main floor kept dry. With no heat, electricity, or usable water, I could not stay there so I lived in an apartment just a ten minutes walk from the house where I spent a (sic) hour or so every day. When heat was no longer essential, I moved home.” (D-1/20-24)

“The first floor furniture was stored in a new storage space at the south end of town while the floors were torn out, dried and replaced with new sub-flooring and new floor coverings.... A new electric panel was installed and the wiring in the basement was replaced.” (A-2/10-13)

“We slept in four different beds that first week.” (F-3/31)

Community

Five individuals mentioned the disruptions to community. In this sub-theme as in the others, participants related not only physical disruptions, but also disruptions to relationships.
“Twelve-thousand Grand Fork’s people in Fargo and the rest scattered to almost every state in the Union.” (A-1/15-16)

“Four houses in the block behind me will be bought and moved out or destroyed. If a house had more than fifty-percent damage it was almost impossible to get a permit to rebuild. The same is true in the block just north of me. There are so many sad stories. Some people lost their homes and their jobs.” (E-1/18-22)

“This is a beat-up community.” (D-1/33)

“Many houses in the areas near the river have been destroyed and there will never be houses there again. The debris has been hauled away, basements filled, and the areas have been seeded.” (A-3/22-24)

“Six-hundred homes taken out.” (A-4/2)

“It was so sad—everyone had to vacate and never did get to move back into the building.” (F-1/30-31)

“That was another sad experience because several people were sitting there with blankets because of power outages in their homes.” (F-1/32-33)

Friends and Neighbors

When talking about disruptions to friends and/or neighbors the main focus was on disruptions to relationships, some of which had been lifelong.

“We have had to say good-bye to some of our friends who have moved away.” (A-3-30)

“Scenery changed around me. The city took down the BIG cottonwood tree which had been my neighbor to the south.” (D-1/35-36)
“My best friend who lived a half a block away died (unexpectedly) so it has been very stressful since the flood.” (E-4/14-15)

Coping Strategies

The third major theme was Coping Strategies. Sub-themes included use of humor, religion/faith, identification and use of support systems, and self-care. In this theme women continued to convey their sense of connectedness to others as well as the importance of others to a sense of well-being. Five of the participants pointed out that they were not alone but could draw on sources of support that encompassed relationships from family to federal agencies. Their ability to cope with the disaster appeared to come through their security in belonging to a larger group that offered both physical and emotional assistance.

Use of Humor

Three participants used humor when writing about their experience.

“One retired professor said he had a single room with five hundred people in it. There were fourteen people, three dogs, and a cat in our group.” (A-1/13-15)

“When the sun shines, the summer in North Dakota is wonderful.” (D-1/45)

“We had a terrific two days carrying out and gutting the basement.” (F-3/35-36)

Religion and Faith

Three participants spoke about the role of an organized religion or faith in a higher power in coping with the disaster and its aftermath. One individual who endorsed this sub-theme placed it in the position of the support system through which as other supports came.
"The Lord has been good to me through the help and support of my family, church, neighbors, friends, volunteers and Uncle Sam." (A-1/4-5)

"We were all safe and loved ones were so kind and helpful. The Lord was watching over us." (E-3/7-8)

"The Federated Church of which I am a member...was not harmed, but from all over the country came letters of support and gifts of money from churches of these denominations. Most of the money was not used by our own members but made available to others in the community...Cards and letters were addressed to ‘a member of the church’." (B-2/8-17)

**Use of Support Systems**

In this sub-theme support systems were identified which included family, friends, volunteers, neighbors, local, state and federal agencies, local and national organizations, churches, businesses. Spiritual, emotional, financial, and physical support systems were noted. This sub-theme seemed to be a fundamental focus for many participants and had more individual references than any other sub-theme. All but one participant wrote about receiving help from a support system.

"A delightful and capable young man from the University Foundation (which really owns the house, though I can live here as long as I like) has been making arrangements for the work of clearing and cleaning the basement and planning for a new electric panel, water heater, furnace, windows, doors, and walls. Insurance and FEMA will help with the cost, and fine volunteer workers have come from all over the country." (D-1/25-31)
“Our whole community...appreciates so much what volunteers have done for us.” (E-2/1-2)

“Loved ones were so kind and helpful.” (E-3/6)

“It seemed like National Guard came running from all over. What a sight! They were heaving those heavy sandbags above their heads ten to fifteen feet toward the dike.” (F-2/24-25)

“There was so much to do. Many volunteers from the neighborhood came to help.” (F-2/9-11)

“...went two driveways south and the fireman walked beside our left front bumper to direct us left and right.” (F-3/14-15)

“...son had ordered a large dumpster delivered to our driveway.” (E-2/23)

“...a great outpouring of love and concern. In...the drug store gave me a twenty-five dollar credit card...At the clinic where I inquired where to buy hearing aid batteries, I was given several cards of the small but necessary items.” (B-1/16-25)

“Back in Grand Forks there was no end to the help from a team of workers from Nebraska, from a group of Sunday school girls from New Rochester.” (B-2/1-3)

“A family friend who had moved to...spent several weeks here...helping.” (B-2/3-5)

“The minister insisted I keep the money to help with expenses.” (B-3/1)

“A national women’s organization...sent boxes of nice useless pretty little things like Christmas ornaments.” (B-3/4-7)
"...the meals from the Red Cross and the Salvation Army trucks that came into the neighborhood when we were tired and hungry" (B-3/10-13)

"The neighbors met me with hugs and said "we'll help' and they have. They suggested that because I couldn’t do the work myself, I should get a contractor. They helped me find a good one and we signed up early in the game.” (A-1/33-36)

"The FEMA (Federal Emergency Management Agency) located a spankin’ (sic) new trailer on the driveway where I lived for four and a half months.” (A-1/21-22)

"Many people went to the Air Force Base to sleep on cots.” (A-1/12)

"I went with our long-time friends...to the Radisson Hotel in Fargo...They live near me and have been looking out for me for the last thirty-one years since...has been gone.” (A-1/8-9)

"I appreciate my good neighbors and friends. Since we have survived many of the same problems, we are more understandings of each other than ever.” (A-3/28-30)

"There again there were buses of volunteers, people came from every where to help.” (F-2/28-29)

**Self-Care**

Self-care was the last sub-theme under the theme, Coping Strategies. Two women wrote of things they had done for themselves to help alleviate the stress of the experience. It is interesting to note that even things done purposively for self were done with others.
"As for me, I am fine. I am taking time out for all the fun activities and never say no when a friend suggests something that sounds interesting." (A-3/27-28)

"When we finished, we sat on the deck drinking orange juice and taking our time." (F-3/21)

Integration of the Experience

The fourth main theme was integration of the experience. Sub-themes were comparison to other events, identification of positive aspects, identification of negative aspects, continuing impact, and, perspective taking. One participant submitted as her narrative the letter she had written to friends and relatives the winter following the flood as her flood story. Her narrative was much more detailed when describing the events of the flood and her evacuation and return to her home than those of other participants. Her narrative started with the severe winter weather in 1997 and ended with the move back into her home. In interview, this woman stated that her narrative was meant to be a factual rather than interpretive account and therefore did not think any of her statements belonged to this theme. None of her narrative was therefore coded under this theme. Four wrote of a holistic integration into a life experience. These women spoke of coming to realize what was most important in life to them. They related that it was not the physical buildings that they called home or their possessions, but the human connections they forged over a lifetime that were important. One participant reported only a series of negative experiences in which she encountered difficult interactions with those on whom she had relied. She expressed anger at others and a wish to do things differently if ever confronted by a similar experience.
Comparison to other Events

Two participants compared this event to other events. One participant compared the flood to other personal experiences and one compared it to group history.

"Unquestionably the most devastating event in the history of Grand Forks." (A-1/2)

"The loss of my parents many years ago, the loss of my husband five years ago, my brother's handicaps, and my loss of a bright future to this technical age to which I am a stranger, all this can be black if I let it." (B-4/1-6)

Identification of Positive Aspects

Four participants spoke of the positive aspects of their flood experience. One participant made no mention of any positive outcome.

"I am pleased that my new house is a place where I enjoy living. I like the fresh paint, the new living room drapes, and the floor coverings." (A-2/45-46)

"I am thankful to have had the chance to rebuild." (A-2/31)

"The first time the contractor came he said, 'This is the best I have seen.' When he left he said, 'It will look like new' and he was right. In fact, some of it is better than it was." (A-1/37-38)

"A real outpouring of love and concern. This was the real thing." (B-1/18-19)

"While I miss my husband every day, I am truly grateful that he did not have to go through the flood." (B-4/7-9)

"If I had been really alone, really destitute.... I would have suffered terribly and I tried to imagine such a situation." (B-3/23-27)
"I am fortunate that the damage was no worse and that there has been so much help." (D-1/32-33)

"I remember one morning it was cold, rainy, and no hot water. I was sitting on the deck soaking some clay from some special dishes in the basement and I thought, you know our whole community will become better prepared, homes looking nicer and appreciate so much more what volunteers have done for us. I believe this is the case. Our city is cleaner looking - many repairs- painted homes and much more.” (E-3/11-20)

**Identification of Negative Aspects**

Four participants identified negative aspects of the flood as part of their integration.

"The carpet was wet and squishy, and the hardwood floors were ruined. Water did not get into the upholstery, but they found mold in the back of my hide-a-bed in my first floor bedroom. The big machine gobbled it up in one bite.” (A-1/26-28)

"The safe solid things in my life suddenly became unsafe and insubstantial.” (B-1/6-8)

"We got an overdose of senior fraud and abuse.” (C-1/34-35)

"I must remind myself daily to be ‘upbeat’. There are some times my body is so exhausted from trying to always to be strong - that if I let myself ‘feel sorry for me’ it wouldn’t be good.” (E-4/22-25)
Continuing Impact

Four participants mentioned a continuing impact from the flood. Common responses described health-related problems, losses to community, and/or life style changes.

“Eighteen months after the flood of 1997, East Grand Forks and Grand Forks are recovering nicely, but many people are still hurting and just now rebuilding their basements. Many homes near the river have been destroyed, and there will never be houses there again...In our neighborhood, seven houses have been demolished, and at least five more will be taken away.” (A-3/20-25)

“I moved from the house to...in...The flood made it easier to come to that decision. I would have moved anyhow, but perhaps not just then.” (B-4/15-19)

“I must also add that I think the flood was very hard on older people. I notice the obituaries of many. They had lived at certain nursing homes since 1997. As I said before...died suddenly. He had been in the hospital for one thing after another since the flood.” (E-5/7-14)

“We got so sick with breathing problems that we still have colds; headaches and nose bleeds. There appears no end to the breathing problems.” (C-3/33-35)

“We have been under doctors care ever since the fall (October, 1997).” (C-4/1-2)

Perspective Talking

Five participants made comments that were coded under this sub-theme. The participant that made no reference to her perspective concerning the flood was the
participant who had used her letter to friends and relative shortly following the flood as her flood narrative.

"As for me I am fine and thankful to be back in my house, which has been my home for forty-four years. I appreciate my good neighbors and friends. Since we have survived many of the same problems, we are more understanding of each other than ever." (A-3/27-30)

"On the whole I feel fortunate, and rich in friends and memories." (B-5/6-8)

"I would like to have known what I know now; well, part of it; but some of it I wish I didn’t know at all, that is if there is another such tragedy I would do things differently." (C-1/1-5)

"We got lemons so we made lemonade." (D-1/46)

"It’s hard to leave the house...and it's hard to cut down on the accumulations of the years...after all, its only stuff." (D-1/35-42)

"Life is better for me today than the day after the flood." (E-4/20)
CHAPTER V
DISCUSSION, SUMMARY, CONCLUSIONS

Discussion

Theme Relationships

The themes connected as each woman told her story. A picture of the whole experience for each woman was revealed in the recounting of individual memories. Most women began to convey the process by which they came to understand their experience by giving personal information about the magnitude of the event in their life and then recounting some aspect of the flood’s emotional impact on them.

“In my 85 years I had never traveled this road.” (A-1/5-6)

“It was a shock to find muddy water the first time we returned.” (A-25-26)

“Last winter (1997) was a terrible winter with our heavy snowfalls, snowstorms, and then came the damaging sleet storm the first part of April.” (F-1/12-15)

“I felt so helpless.” (F-1/27)

This process appeared throughout stories, as first women described something they remembered and then connected the event to the emotional or physical impact on them. When most women spoke of the impact of the flood, it was the disruptions, both physical and emotional, to relationships with friends, neighbors, social and religious groups, and community that were most disturbing.
“What was it like to have safe solid things in my life suddenly unsafe and insubstantial (sic). First it was disbelief. Other people in far away places can be evacuated and I am sorry for them, but this could not happen to me. It was a long time before I could believe in the flood.” (B-1/6-15)

“It was so sad—everyone had to evacuate and never did get back into the building.” (F1/30-31)

“Our historic landmark church built in 1911 had a basement full of water as well as some in the sanctuary. It was with sadness and tears that we had our last service.” (A-2/20-21)

“My best friend who lived a half a block away died so it has been very stressful since the flood.” (E-4/14-15)

Again and again women spoke of an event and then wove the event into how her relationship with others was changed, strengthened, or lost. Individual women gave more or less detail before conveying the impact of the flood on her life and the emphasis each woman placed on specific aspects of the flood conveyed the validity of their experience.

The women in the study used a variety of coping strategies to get them through the flood and its aftermath. These strategies appeared to be extensions of previous ways of coping with difficulty and are reflective of individual personalities. Five of the women spoke of the importance of support systems in the flood and in the recovery process. One woman did not mention support systems as an aid in the recovery process, but rather gave
a detailed account of how those on whom she had relied had let her down. Humor, self-care, and a higher power were also mentioned.

"The Lord has been good to me through the help and support of my family, church, neighbors, friends, volunteers and Uncle Sam." (A-1/4-5)

"The neighbors met me with hugs and said ‘we’ll help’ and they have.” (A-1/33-34)

"...a great outpouring of love and concern. In...the drug store gave me...at the clinic...I was given...." (B-1/16-25)"

"A delightful and capable young man from the University Foundation...has been making arrangements for the work of clearing and cleaning the basement ...and FEMA will help with the cost, and fine volunteer workers have come from all over the country.” (D-1/25-31)

"When we finished, we sat on the deck drinking orange juice and taking our time.” (F-3/21)

"We got an overdose of senior fraud and abuse.” (C-1/34-35)"

For all women in the study stress was mediated, either successfully or unsuccessfully, through their connectedness or lack of connection to others. For those women whose relationships remained strong, the flood experience appeared to validate their self-worth, alleviate stress, and bolster self-esteem. Women who acknowledged strong connections to others were for the most part able to put their flood experience into perspective and integrate it into their life story by acknowledging the negative and focusing on the positive. They also reported higher post-flood life satisfaction.
In short, the themes conveyed the message that a huge event occurred, disruptions to lives were tremendous and were both physical and emotional, but self-worth, acceptance, and value was validated by the willingness of others to help in times of need. It was the connectedness to others that was most important and the means through which the experience was resolved and integrated into a life experience. Their words make it clear the fusion of connectedness, security, and well-being.

“As for me I am fine and thankful to be back in my house, which has been my home for forty-four years. I appreciate my good neighbors and friends. Since we have survived many of the same problems, we are more understanding of each other than ever.” (A-3/27-30)

“We were all safe and loved ones were so kind and helpful. The Lord was watching over us.” (E-3/7-8)

**Impact**

Most participants spoke of the flood as a momentous event in their lives with both negative and positive outcomes. Women’s narratives disclosed flood experiences where virtually no aspect of pre-flood daily existence remained unaffected. The women in the study spoke of emotional and physical upheavals that included disruptions and losses related to home, community, neighborhoods, and friendships. However, despite the magnitude of the event in the lives of the participants, four of the women in the study reported doing well post-flood and pointed out that the positive aspects of the experience outnumbered the negative ones. In our interview one woman stated that her narrative was meant to be a factual account of the flood and her return home and not meant to give
positive or negative connotations to her experience. Overall, however, the narratives voice an experience in which the women encountered a natural disaster, successfully met the challenges posed by the disaster, and then integrated the experience into a life history.

“I am pleased that my new house is a place where I enjoy living. I like the fresh paint, the new living room drapes, and the floor coverings.” (A-2/45-46)

“I remember one morning it was cold, rainy, and no hot water. I was sitting on the deck soaking some clay from some special dishes in the basement and I thought, you know our whole community will become better prepared, homes looking nicer and appreciate so much more what volunteers have done for us. I believe this is the case. Our city is cleaner looking - many repairs- painted homes and much more.” (E-3/11-20)

“A real outpouring of love and concern. This was the real thing.” (B-1/18-19)

“I am fortunate that the damage was no worse and that there has been so much help.” (D-1/32-33)

“We got lemons so we made lemonade.” (D-1/46)

“On the whole I feel fortunate, and rich in friends and memories.” (B-5/6-8)

“Life is better for me today than the day after the flood.” (E-4/20)

While the narratives of most women came to focus on their positive experiences, they included a realistic view of their continued struggle to return to pre-flood life satisfaction. One participant did not identify any sources of social support nor did her narrative contain descriptions of positive interactions with friends, family, or community. It is interesting to note that in her narrative she identified only negative aspects associated
with the flood which were and continue to be stressful for her. She did not state any positive outcomes from the experience. In discussing her story with her, her sense of betrayal by others was evident. She expressed surprise, anger, and sorrow that in her perception, others had treated her poorly.

"We got so sick with breathing problems that we still have colds; headaches and nose bleeds. There appears no end to the breathing problems." (C-3/33-35)

"We got an overdose of senior fraud and abuse." (C-1/34-35)

"I would like to have known what I know now; well, part of it; but some of it I wish I didn’t know at all, that is if there is another such tragedy I would do things differently." (C-1/1-5)

"I moved from the house to...in...The flood made it easier to come to that decision. I would have moved anyhow, but perhaps not just then." (B-4/15-19)

"I must also add that I think the flood was very hard on older people. I notice the obituaries of many. They had lived at certain nursing homes since 1997. As I said before...died suddenly. He had been in the hospital for one thing after another since the flood." (E-5/7-14)

"Eighteen months after the flood of 1997, East Grand Forks and Grand Forks are recovering nicely, but many people are still hurting and just now rebuilding their basements. Many homes near the river have been destroyed, and there will never be houses there again...In our neighborhood, seven houses have been demolished, and at least five more will be taken away." (A-3/20-25)
The findings of this study, like other research, are mixed when looking at the impact of disaster on older adults (Bell, 1978; Canino, Bravo, Rubio-Stipic, & Woodbury, 1990; Grady, 1990; Kalish, 1987; Kaniasty, & Norris, 1988; O'Connor, 1994; Thoits, 1982; Thompson, Norris, & Hanacek, 1993). Some investigators have reported findings that indicate older adults suffer adverse physical and psychological affects after experiencing a natural disaster (Bell, 1978; Krause, 1987; Phifer, Kaniasty, & Norris, 1988; Phifer & Norris, 1989). Other researchers have concluded that older adults and those under 35 do better emotionally than adults 35-55 following a disaster (Gleaser, Green, & Winget, 1981; Huerta & Horton, 1978; Price, 1978; Shore, Tatum, & Vollmer, 1986; Thompson, Norris, & Hanacek, 1993).

Contextually, participants spoke most often of losses or disruptions to home, relationships, and community. This would support the work of Kalish (1987) and Grady (1990) who found that sources of loss in older adults included among other things a valued possession, an affiliation or group membership, different relationships, and a change in living environment. But unlike the work of Kalish and of Grady most participants in this study did not report many negative long-lasting effects from these losses. On the contrary, most of the women in this study reported many positive outcomes both for themselves and to the larger community.

Most women in this study attributed their recovery from losses to their trust in continued support and an embeddedness in secure support systems that included family, friends, neighbors, religion, and the community. So while these women acknowledged the losses they had suffered most reported that they had recovered or expected to recover
from these losses without experiencing long term psychological harm. This would support previous findings that older adults do well psychologically following a natural disaster (Gleaser, Green, & Winget, 1981; Huerta & Horton, 1978; Price, 1978; Shore, Tatum, & Vollmer, 1986; Thompson, Norris, & Hanacek, 1993).

Several other factors had a significant impact on women’s lives. The first was that health appeared to be impacted in a negative way. The second was the make-up of the community in which the women lived was changed. The third factor was losses in relationships.

Health concerns are a factor that researchers have found to impact older adults following a natural disaster. Wood and Cowan (1991) found that emotional and psychological stressors are a major factor in the total deaths that may be attributed to a disaster. Again the results of this study are mixed when looking at the impact on women’s health following the 1997 flood. Two participants related that health problems were part of the continuing negative impact of the flood. Of the two, one discussed the impact of the flood on the health of others and one spoke of her own health-related problems.

While other women did not specifically comment on a negative impact to their health or to the health of others, one woman in this study has experienced severe health related problems. She now resides in a nursing home and of the original six women who participated in this study only two presently reside in the homes they occupied at the time of the flood. These two women are the youngest and oldest participants in the study. The oldest participant is married and living with her spouse. One must note that half of the
participants were well into their eighties when the flood occurred but all participants had lived independently before the flood and all had returned to their homes following the flood. None of the women had reported major health related problems before the flood. No clear causal evidence for a decline in health can be established. It may be that because of their advanced age a decline in health would have come regardless of their disaster experience. However, as stated in Merck Manual of Geriatrics (Second Edition, 1995) “significant stress can interact with and may even affect immune competence and interact with chronic medical conditions” (p. 255). In light of the research on stress related illnesses and anecdotal evidence presented by the participants in this study, it seems more likely that the stress related to the extreme winter weather of 1996-1997 followed by the flood negatively impacted individuals with long term consequences to health.

Another area in which participants spoke of a continued impact of the flood was in kinships. These kinships were with neighbors and friends. One participant reported that her best friend died unexpectedly, another stated that many of her friends and neighbors had moved away, while a third reported that her decision to move to a retirement home was made more difficult because she would loose neighborhood friends. Again these reports support the research of Grady (1990) and Kalish (1987) who report that loss is a common theme in the lives of older adults and these losses are often to relationships and living environments.

The last area in which women noted a significant long lasting impact to their lives was in loss of community. Several women spoke of neighborhoods that had been lost, a population decline in the community in general, and loss of community housing. Women
used words like sadness, sorrow, and loss when describing the changes the community had undergone. Whether women were discussing coping strategies, conceptualizing the experience, or integrating the experience, they attributed their connectedness to concentric rings of relationships. The thread that connects the themes is relationship.

**Disaster Related Stress**

The interconnectedness most participants talked about experiencing with their families, friends, and community was a focal contextual factor to emerge in narratives. It was through these interconnections that most dealt with flood related stress. The sub-theme, support systems, in which women acknowledged the support they received, or did not receive, contained the most individual references, signifying the importance of support systems in dealing with the stress of the flood. In reading the narratives and in speaking with the women most conveyed a sense of belonging to a larger group that pulled together in times of hardship. This may be a regional understanding of disaster response or be related to a gendered response that is embedded in the significance of relationships in women’s lives. Contextually, the focus on the importance of a group or relational response rather than an individual response to disaster may be the most significant finding associated with this research.

Five of the women spoke of the pre-flood fight to contain the rising waters of the Red River, the evacuation from Grand Forks, and the recovery process by pointing out the contributions of others and often used the pronoun “we”. These were the women who also reported that they were recovering well. When most spoke of post-flood stress and concerns their comments were directed at the continued struggles of friends, neighbors,
or others within the community. This finding is consistent with Gilligan’s (1982) theory on women’s moral development which links female identity to connectedness and relationships and female morality as based on the ethic of care.

Kaniasty and Norris’s work (1993) on social support as the prime factor in crisis related stress is also supported when examining the responses of participants to the stressful events related to the flood. In their buffer model of social support Kaniasty & Norris (1993) imply that support systems are like multiple savings accounts. When there is an absence of stress, support systems have little effect, but under stressful conditions support systems can be drawn upon to get the individual through the crisis. Like Kaniasty and Norris (1993), in this study I found that support systems operate through many pathways. The interconnectedness of the women in this study to family, friends, and community appears to have acted as a buffer which protected them both pre- and post-flood from many of the negative consequences of stressful conditions. While they spoke of financial and physical losses, in their eyes these losses were mitigated by the support of the group. One individual described her contemplation of the impact of the flood without her connected to others. “If I had been really alone, really destitute.... I would have suffered terribly and I tried to imagine such a situation” (B-3/23-27). In speaking with this participant she stated that she was trying to convey that while the loss of material possessions was difficult to endure, she felt that her connectedness to and the support of others were her most valued possessions.

The research of Rook and Dooley (1985) also appears to be supported. They found a strong connection between stressful life events and changes in social support
with stressors causing an individual to mobilize support networks. Further the greater the stressor the greater support is needed and expected. In the instance of a natural disaster, not only is more support often needed and expected, but many times the composition of support networks change. Women reported that they drew on many avenues of support during and after the flood with women who were more successful in finding and accepting diverse means of support reporting better post-flood outcomes and reduction of stress.

While the experiences of most of the women in the study seem to support the work of Kaniasty and Norris (1993) and Rook and Dooley (1985), the work of Barrera (1986), Lin (1986), and Wheaton (1985) may also be supported. Their work that posits that stressful life events often decrease real or perceived support may be found in the experience of the one woman having a difficult recovery. This participant spoke only of her continued disappointment in those on whom she had relied to help with post-flood recovery. She and her husband had been able to respond to the initial evacuation without assistance and had aided another older woman in this stage of disaster response. Upon the couple’s return to Grand Forks she found that she had water damage. It was in the use of outside assistance for the repair of the damage that she began to experience difficulties. Her interactions with both volunteers and repair persons were conflicted and a subsequent lawsuit she brought was not settled in her favor. The result has been that she has continued to express a high level of stress. The narrative of this participant voices the continuing negative impact from her flood experience and includes severe health problems. Her reported experience supports the research of Bell (1978) and Krause
(1987) which finds that older adults suffer adverse physical and psychological affects after experiencing a natural disaster.

It may also be that this participant is a highly independent and self-reliant individual. She may, as she reports, have encountered more than her share of “senior fraud and deceit”. If this is the case she may feel let down by those on whom she had expected to depend and trust. Morrow and Enarson (1996), Morrow (1997), and Fothergill (1999) found that in a disaster women’s roles include procuring relief supplies, public or private assistance, insurance benefits, and construction material. This participant met with insurance adjusters, building inspectors, contractors, and workers and there is some research to suggest that women are indeed targets of deceptive business practices. Pursuing disaster related experiences of women, Morrow and Enarson (1996) found that women are more vulnerable to exploitation and fraud during the recovery period following a natural disaster and the experience of this participant may reflect this happening.

Summary

I designed this qualitative inquiry to discover contextual factors that played a major role in the experience of a natural disaster for women over the age of sixty-five. By asking women to write their flood story contextual factors that were prominent to participant’s experience emerged. By using a study design in which I first asked participants to write their story in their own words and then returned to the women after narratives were coded for verification of themes and sub-themes, I eliminated my biases as much as possible. Written narratives were coded and studied for themes in a
qualitative method described by Maykut and Morehouse (1994). By returning to participants to discuss the themes found in their narratives the final interpretation of their accounts remained with them. The narratives were grouped into themes and accompanying sub-themes. Themes that emerged included Conceptualizing the Experience, Disruptions, Coping Strategies, and Integration of the Experience. I was especially interested in giving voice to the primary sources of women’s flood related stress and to the impact of the disaster on the lives of older women.

Limitations

There are several factors, which affected the outcome of this research. The first is the two and one-half year length of time over which participants were asked to write their flood story and then were interviewed. A variety of things surely occurred during this time period that affected women’s responses. Individuals who responded earlier in the study were at a different place in the recovery process than the last participant. This difference in time frame produced narratives with differences both in history and in maturation. The extended length of time over which data was collected also affected mortality of the participants and in the end made a group session not possible.

Secondly, women conceptualized what I was asking them to do differently and responded to my request that they write their flood story in different ways. As previously noted one woman submitted a narrative that she had written to friends and relatives shortly following the flood. This narrative focused on the actual events that occurred pre-flood and immediately following the flood. Even though she was asked to participant a full year following the flood she presented her flood experience without including much
post-flood description. While her narrative contained great richness in the details of stress related events which occurred during the actual flood itself, her narrative contained little concerning the stress of continued recovery or long term impact of the flood. Another participant wrote only of her post-flood experiences and difficulty in recovery. A third started with a letter she had written to friends and relatives and then added a successive letter and lastly added some concluding thoughts. While the different approaches at one time added to the richness of the study by allowing participants to conceptualize what the term “flood story” meant to them, it also gave perspectives from very different starting and ending points.

Selection of the participants themselves may have affected the outcome of the study. The selection process was consistent with sound qualitative procedures but one must note that all participants in this study were Caucasian, middle-class, independently functioning women who lived in single family residences and reported to be in good health both physically and mentally at the time of the flood. All of the women had lived in the community in excess of thirty years, and some had lived in Grand Forks or the surrounding area their whole lives. All had at least a high-school education and most had some post-secondary education.

The selection process itself may have limited the scope of differences among study participants by expanding the participant pool to other women known either by a participant or those known to someone in the Department of Counseling at the University of North Dakota. The applicability of the findings of this study are therefore narrowed when speaking of the flood experiences of older women in general.
In addition to the mentioned similarities of participants there were differences that had an impact of study outcome. Qualitative research strives to be inclusive rather than exclusive but one must note the range in the ages of participants was 68 to 89 years of age. While the range of ages gives breath to the research data by giving voice to the experiences of older women on a continuum of ages, one of the general criticisms of research done with older adults is that there is no standard for what is considered to be “old age” (Fasley, 1990). While older adults are more different than they are alike (Jacobs & Formati, 1998) it could be argued that the flood experience is inherently different for a woman age eighty-seven and a woman age sixty-eight based on the age related differences alone. Therefore, when trying to give voice to older women’s flood stories care should be taken to be inclusive but not overly inclusive thus lumping the experiences of older women into a single group instead of recognizing the differences in age related experiences. One younger woman in the study cared for her elderly parents and held down a job at the time of the flood. She was responsible for her parents, herself, and job related demands. Friends called her to check on the welfare of other older adults about whom they were concerned. Her experience was considerably different from the older women who did not drive and were responsible for securing a means of evacuation, return, and recovery that was totally dependent on the support systems they could engage. Also at the time of this writing only the youngest and oldest women in the study can be located and are still living in the homes they occupied at the time of the flood. It may be that the flood experience had more severe long lasting effects on some of the participants.
This study was also limited in that the number of participants was small (N=6). Again while the manner of seeking out and including participants was consistent with sound qualitative principals and the original research design of the study, the small number of participants limited the amount of data collected and therefore the findings of this study. Using a quantitative approach, which would have allowed for a large sample could have provided more widely accepted generalizable results about older women and disaster. Using the qualitative approach provided richer more contextual information about particular women’s real life experiences. The task of this study was to discover the contextual and perspective! flood experience for older women using the human-as-instrument for the collection of data (Lincoln & Guba, 1985). Lincoln and Guba (in Maykut & Morehouse, 1994) argue that “a human instrument is responsive, adaptable, and holistic. Further, a human investigator has knowledge based on experience, possesses an immediacy of the situation, and has the opportunity for clarification and summary on the spot. Finally, A human investigator can explore the atypical or idiosyncratic responses in ways that are not possible for any instrument which is constructed in advance of the beginning of the study” (p. 26).

Lastly, this study was limited in that the final exploration of the data was limited to my original questions. Given the richness of the women’s narratives many avenues could have been explored. Instead of including the richness in breadth of findings of the study, some of the possible findings contained in the data were noted for future research studies.
Conclusions

In this study I attempted to procure some insight into the impact of the 1997 Grand Forks flood on women over the age of sixty-five and into the nature of stressful events experienced by older women. Some previous research was supported, some new finding emerged, and the richness of the narratives gave rise to further research questions.

Women spoke of a continued impact from their flood experience which included changes to their living environment, health related problems, changes to the community as a whole, and the loss of long standing relationships. They identified positive and negative flood related experiences and outcomes. For most women in the study the positive came to outweigh the negative, although for one woman the struggle to overcome her adverse flood related experiences continued as the focus of her efforts.

One finding to emerge consistently from the data was the connectedness most women felt to others and to the community at large. It was from this connectedness women drew strength and identified support systems to help them surmount the difficulties brought about by the flood. The ability to identify and draw on both new and established support systems was linked to positive recovery statements. All women in the study spoke of challenges to their sense of control and to their well being. Five of the women in the study conveyed a sense of trust in themselves and in others that sustained them throughout the experience. Contextually, this interconnectedness appears to come from a sense of group effort in combating hardship. Participants perceived that they were not alone but part of a larger group facing the flood and it was on this that they relied. This perspective came through again and again in their narratives. This trusting group
response was also noted by people from outside the area and the statement “You’re not from around here, are you?” conveys a cultural understanding of the nature of response not shared by those from other parts of the country. Five women acknowledged that the connections they had forged throughout their lifetime were their source of support in facing and managing their flood experience and it was these connections that they valued most highly. In their integration of the experience into their lives the focus was not on what was lost but on the recognition of what they retained.

**Implications for Future Research**

Based on the richness of description in the participants’ narratives in this study the implications for future research are expansive. One avenue that could be explored is the importance of sustained relationships throughout one’s lifetime. Feminist research supports the importance of relationships in women’s lives (Gilligan, 1982). Roslyn Mickelson (1997) states “Women’s experiences are characterized by systems of interdependence, relationships, and networks” (p. 320). This could be explored further to specifically look at the impact of disasters on relationships or look at the comparative importance and use of relationships for men and women in coping with a disaster. Again contextually, the focus of the participants on the importance of a group or relational response rather than an individual response to disaster may be the most significant finding associated with this research. This may be a regional understanding of disaster response as implied by the statement “You’re not from around here, are you?” or be related to a gendered response as suggested by Gilligan (1982) that is embedded in the significance of relationships in women’s lives.
The findings of this study also revealed the importance of support systems in successfully responding to a disaster. In Hobfoll's (1991) Conservation of Resource Theory, social support is considered an asset to the extent that it functions to promote the preservation or recovery of other valued resources. Given the significance of support systems in the recovery process for the women in my study, clearly defining social support is imperative. This is especially true for women where social networks may present as supportive but in essence may be more of a burden or caregiver responsibility than support. Morrow (1994) found that urban families “tend to be embedded in kinship networks which can be a valuable resource when disaster strikes” (p. 8). This was true for most of the women in my study as many identified family members as providing needed assistance. Other sources of support were also mentioned which included government and private agencies, friends, neighbors, volunteers, and other professionals. While this was true for the majority of women in the study, one woman found that these sources of support for others were a source of increased stress and further trauma. Clearly defining and identifying what is actually supportive is important not only to the individual in the recovery process but also to agencies that implement and design disaster response plans.

Another approach one could explore is the nature and use of support systems in the resolution of grief related to losses following a natural disaster. This area of further study especially intrigues me. I was often struck by the words of the women in the study as appropriate to a grieving process and given the nature of their experiences it seemed probable that they were experiencing grief related to their losses.
As previously stated one of the most prevalent themes in the lives of elderly people is loss (Grady, 1990; Kalish, 1987; O'Connor, 1994). O'Connor (1994) looked at salient themes in life reviews of 134 independent living frail elderly over the age of 65 and found a common factor in all interviews to be feelings of unresolved grief over issues related to a variety of losses.

Catherine Sanders (1981) explored the social and situation factors that interfere with grief resolution and found that lack of social support or concurrent losses complicate the grieving process. Social support has been found by researchers (Fasley, 1990; Gerber, Rusalem, Hannon, Battin & Arkin, 1975) to be an important part of resolving grief related to loss. Fasley (1990), in his review of the literature, found that irrespective of the theoretical approach taken in treatment, benefit seems to be derived from social support. He also states that this support may be in the form of a supportive and reassuring environment in which the individual is provided with the opportunity to talk about the loss, and the needs of the individual are addressed. Furthermore, he states that most research exploring the effectiveness of treatments in the management of grief has been done with general adult populations and gives little indication of applicability to those over 65. This is especially significant when looking at appropriate treatment approaches or defining normal verses atypical grief resolution. Fasley concludes that there are large gaps in our knowledge concerning grief in old age, with much of what is known coming from anecdotal clinical observations or extrapolations from research with younger adults.

While research has been conducted on the use of support systems in the grieving process and in a natural disaster, further research is needed to explore the specific role in
a natural disaster of support systems in the grieving process of older women. This research could lead to more appropriate treatment protocols for older women experiencing difficulty and to the inclusion of the needs of older women in disaster recover plans.
APPENDIX A

Experimenter Protocol for Study

Hi, (name), I am Jean Formati and I am a graduate student at the University of North Dakota in Counseling Psychology. Your name was given to me by (name) as a possible participant in some research I am doing. I am working on a study about the experiences of women over the age of 65 during and after the flood in Grand Forks in April of 1997. I am asking you to participate in my study because you lived in Grand Forks at the time of the flood and continue to reside in Grand Forks now. The purpose of the study is to explore the experiences of women 65 years of age and older during and after the 1997 flood. I would be asking you to write the story of your experiences during the flood and if or how the flood continues to impact your life today. I would meet with you after you had written your story to discuss it. I would also ask you to participate in a group discussion of the results of the study. It should take you no more than a total of 3 hours of your time. You would be compensated $50 for your time. Of course all information gathered in the research will be confidential. Hopefully this project will help those working in disaster relief to better understand the experiences of women over 65 during and after a natural disaster.

Do you have any questions about what the study might entail? If you are interested I would like to schedule a time to meet with you either at your home or at the
Department of Counseling at the University, so that I can explain the study in more detail.
APPENDIX B

Informed Consent

Experimenter Script for Contact with possible Participants to Explain the Study, Obtain Informed Consent, and Distribute Materials to be Used by Participants who give Informed Consent

Hi, I am Jean Formati and I am a doctoral student at the University of North Dakota in the Department of Counseling. I am conducting a study concerning the experiences of women over 65 years of age and older during and after the flood in the Red River Valley in April of 1997. This study is required for my degree at the University of North Dakota. It is being supervised by Dr. Sue C. Jacobs of the University of North Dakota Department of Counseling.

I am here to ask you to participate in my study because you lived in Grand Forks at the time of the flood and continue to reside in Grand Forks now. The purpose of the study is to explore the experiences of women 65 years of age and older during and after the flood. If you decide to participate in this study you will be asked to fill out a questionnaire with some basic personal information such as; age, marital status, years of education, and approximate household income. You will also be asked to write a narrative about your experiences during the flood and how or if the flood continues to impact your life.
The length of time it will take you to write your story will vary from person to person. I will read your story and try to find general themes or occurrences. I will then meet with you to discuss your experiences and ask you if my perceptions of your story are correct. You will have the final say in this discussion of my understanding of your experiences.

For instance, in reading your story I may find that you lost contact with friends and/or family members as a result of the flood and this continues to impact your life today. You may agree or disagree with my perception and during our discussion correct any misunderstanding I may have of your experiences.

The discussion will take approximately one-half to one hour of your time. This discussion will be taped and transcribed in order that I can accurately describe individual experiences. Francie Linneman, the Department of Counseling secretary, will complete the transcription from tape to written copy. She is aware of her responsibility to maintain the confidentiality of her work. Should she either by sound of voice or content on the tape be able to identify you, she has agreed not to divulge any information about the study or the person. You will not be identified by name on the transcripts or tapes but by number only.

If the use of Francie Linneman as a transcriber is not acceptable to you we can come to an agreement on another person to transcribe the tape. All tapes will be destroyed after I have checked the transcripts for integrity. After our meeting to discuss your flood story, you will receive $50 as compensation for your participation in the study.
You will also be invited to participate in a meeting in which all of the participants in the study come together with myself to discuss their experiences during the flood and how or if their lives have changed as a result of these experiences. This meeting will also be taped by myself and transcribed by Francie Linneman or the person we have designated. The same procedure that was described to you for the transcription of our meeting to discuss your written flood story will be used in transcribing this tape.

Most research materials will be kept in a locked cabinet for which only I will have the key. Signed consent forms will be kept in a secure place at the University of North Dakota Department of Counseling and will be destroyed after three years by Dr. Sue Jacobs, my dissertation chair. The tapes will be destroyed immediately following accurate transcription. The list that contains your name and phone number will be destroyed at the time of completion of the study. This list is not tied to any other materials and will be kept in my locked file cabinet until it is destroyed. All other research materials will be retained for use in possible further research.

Do you have any questions at this point? Feel free to stop me at any time and ask any question you may have.

I also must caution you that in writing or talking about your experiences during and following the flood, you may experience painful memories. The possibility exists that this may cause you psychological difficulty, emotional distress, and/or Post Traumatic Stress symptoms. I will ask you if this has occurred when we meet to discuss your written narrative. If you report difficulty, I will refer you to a mental health provider within the area by giving you a list of possible mental health providers from which you may choose.
I will not pay for these services, but I will provide you with a list that includes both pay for services and free services. Should you report any difficulties to me, I will call you within one week of our meeting to ask you if you need further assistance. You will also be provided with both my and my dissertation chair’s phone number which you may call at any time with any type of query. You can withdraw from the study at any time and for any reason without any penalty.

I will also be asking all participants to sign an explanation of the study and informed consent form. I will go over this form individually with you and you will receive a copy of this form. Almost all information will have a number in place of a name and all information will be recorded by that number only.

Do you have any questions?

Handout consent form.

This is the explanation of the study and consent form for your participation in the study. I will go over this with you and if you have any questions at any point please stop me.

Go over consent form. Do you have any questions?

If you would like to participate in this study would you now sign the explanation of the study and consent form. (Consent form signed) Here is your copy of the consent form.

Here is a packet with your demographic questionnaire, a stamped enveloped addressed to myself, and paper labeled with your identification number in the study on which to write. If you want to use other paper please do not place your name, phone
number, address, or any other identifying information on the paper. Please place only your assigned number at the top of any other paper you may use. I have done this to ensure your stories and your answers will be kept as confidential as possible. Only I will know whose identification number goes with each participant. I need to know this in order to schedule a time for our discussion after you have written your story.

When you are finished with your story place it in the envelope and mail it. I will call you approximately one week after I receive the mailed copy of your story to schedule a time for our discussion. If I have not heard from you in about two weeks from today, I will give you a call to inquire if you are still interested in participating, or if there is some difficulty that has arisen.

Do you have any questions?

Remember each paper has a number instead of a place for your name and all information is recorded by that number only. If you have any questions at any time as you are completing the questionnaire or writing your story at home please call one of the numbers listed on your copy of the explanation of study and consent form and I or my dissertation chair, Dr. Sue C. Jacobs, will do our best to answer you. You are welcome to call at any time during the study with questions or concerns.

I want to thank you in advance for participating in this study. It will provide researchers with information about how women 65 years of age and older deal with and continue to be impacted by traumatic events they experience. There is some evidence that age and gender impact the experiences of individuals in natural disasters and that older women approach and respond to crisis events differently than younger women or men in
general. This study may provide information that will contribute to the development of appropriate helping techniques for older women experiencing a natural disaster.

Do you have any questions?

When the dissertation is completed, if you are interested, I can send a copy of the results to your home. You may request the results by providing me with your address. I will destroy your address when I mail the results out to you and your address will not be tied to any research materials. I expect to finish the study before the end of August, 2001. Again, thank you for participating.
APPENDIX C

Explanation of Study and Consent to Participate

Title of Project: Experiences of Older Women Following the 1997 Flood in Grand Forks, North Dakota

My name is Jean Formati. I am a doctoral student in Counseling Psychology at the University of North Dakota and I am conducting this research project as part of my degree requirements. Additionally results may be published in a public forum. The research is on the experiences of older women during and after the 1997 flood in Grand Forks, North Dakota. This study is being supervised by Dr. Sue Jacobs, my faculty chairperson, Department of Counseling.

You were selected as a possible participant because you lived in Grand Forks in the time period preceding and following the flood and are a female who was at least age 65 at the time of the flood. This research is designed to look at the impact of a natural disaster on the lives of older women.

If you decide to participate, you will be asked to write your story of the experience and how you continue to be impacted by the experience (if you are). You will also be asked to fill out a brief personal information sheet. I will read your flood narrative in order to explore themes and/or common experiences of older women. I will then meet with you to discuss my understanding of your narrative. After I have met with all participants individually, you will be asked to participate in a group meeting with other
participants to discuss the event and the research outcomes. I cannot estimate the amount of time it will take you to write your story. The study will take about one-half to one hour of your time to discuss your account with me and approximately one hour of your time to meet with the group.

Your name will not be placed on any of the materials compiled and all information will be recorded by number only. I may use quotes from materials gathered but no quote will be connected to any name.

At the meeting to discuss your narrative, we will both have a copy of your written experience. You and I will discuss the content of your narrative and come to an agreement about meaning. You will have the opportunity at this time to exclude any quote or information. The meeting to discuss your narrative and the group meeting will be tape recorded in session and transcribed by the Department of Counseling secretary, Francie Linneman. You will not be identified by name on any tape. Ms. Linneman will maintain confidentiality concerning the study materials and/or participants. If you wish to have transcription done by someone else, we will come to a mutually agreed upon person to transcribe your taped material.

Most research materials collected will be stored in a locked file cabinet for which only I have a key. Consent forms will not be stored with other research. They will be stored in a secure place in the Department of Counseling and three years following the completion of the study Dr. Sue Jacobs, my dissertation chairperson, will destroy these forms. Tapes of sessions will be destroyed immediately following correct transcription.
The richness of written narrative may be especially useful in possible future research such as comparing narratives of flood survivors and those who have experienced other disasters. Therefore I will continue to retain narrative and transcripts in a secure place for possible future use.

Your participation in this study is entirely voluntary, and there will be no penalty if you decide not to participate. You may withdraw at any time during the study without penalty. You will be given $50 as compensation for your participation in the study at the time our individual meeting. Additionally, your participation will help researchers to better understand the impact of traumatic events as a person ages.

There is little or no risk involved in participating in this study. However, participation in this study may elicit painful memories, feelings, or Post Traumatic Stress Disorder symptoms. At the time of our meeting to discuss your individual narrative, I will ask you if as a result of writing your flood story you experienced any psychological or emotional difficulties or upset. Should you experience any of these difficulties as a result of your participation, you will be given a list of possible mental health providers who may provide services to assist you. This list will contain services that are for fee, based on a sliding scale, and free.

If you have any questions about the research at any time, please call Mary Jean Formati M.A. (701) 543-3804 or Sue C. Jacobs, Ph.D., Department of Counseling Psychology, University of North Dakota, (701) 777-2729. Your signature below indicates that you have read and understood this form, that you willingly agree to participate in this study.
I have read the explanation and agree to participate. I will receive a copy of this form. I am not giving up any legal rights.

(Signature)

(Date)
APPENDIX D

Demographic Questionnaire

The following questionnaire will ask to fill out some basic information about yourself. Please answer the questions as carefully as possible. However, if you are not sure of the exact answer do not worry, but respond as well as you can.

1) AGE: ____________

2) MARTIAL STATUS:
   _____Married _____Widowed _____Single

3) MARTIAL STATUS AT THE TIME OF THE FLOOD:
   _____Married _____Widowed _____Single

4) HOW LONG HAVE YOU LIVED IN GRAND FORKS?
   _____Years _____Months

5) HIGHEST DEGREE OF EDUCATION:
   ___________________________________

6) AT THE TIME OF THE FLOOD DID YOU
   _____RENT _____OWN YOUR HOME?

7) WERE YOU DISPLACED FROM YOUR RESIDENCE BY THE FLOOD OF 1997?
   _____Yes _____No
8) IF YES, DID YOU EVENTUALLY RETURN TO YOUR ORIGINAL PLACE OF RESIDENCE?

_____YES_____NO

9) HOW LONG WERE YOU DISPLACED?:

_____Not Displaced

Time Displaced _____Weeks _____Months

10) EXPENSES YOU INCURRED AS A RESULT OF THE FLOOD WERE:

_____Under $10,000 _____$10,000 to $25,000

_____$25,000 to $50,000 _____Over $50,000

11) DID INSURANCE COVER FLOOD RELATED COSTS?

_____YES_____NO

12) YOUR ANNUAL HOUSEHOLD INCOME IS:

_____Under $25,000 _____$25,000 to $50,000

_____$50,000 to $75,000 _____Over $75,000
APPENDIX E

Themes and Sub-Themes

I. Conceptualizing the Experience

   Magnitude of the Event
   Emotional Impact
   Recounting Details
   Sources of Information

II. Disruptions

   Home
   Community
   Neighbors/Friends

III. Coping Strategies

   Use of Humor
   Religion/Faith
   Identification and Use of Support Systems
   Self-Care

IV. Integration of the Experience

   Comparison to Other Events
   Identification of Positive Aspects
   Identification of Negative Aspects
   Continuing Impact
   Perspective Taking
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