

**Gerontology and Emergency Management:  
Discovering Pertinent Themes and Functional Elements  
Within the Two Disciplines**

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**Abstract**

In this chapter, the confluence of Gerontology and Emergency Management is considered. Both disciplines have facets that are mutually complimentary. The chapter illustrates the psychosocial issues, practical considerations, and the applicability of gerontology within emergency management, and vice versa. Other elements that provide insights, such as future collaborations between the two fields of study, are given consideration, as well as the overlapping features of other disciplines such as public health, psychology, economics, and social work. Potential means of expansion of collaboration between the two disciplines that extends beyond typical natural disasters are also explored.

**Introduction**

At first blush, the nexus between gerontology and emergency management may not automatically conjure much of an ostensible affiliation. After all, the study of aging might not be generally associated with the discipline of planning for extreme events such as natural disasters. However, the coalescence of these two domains warrants examination beyond what might automatically engender consideration at first: the vulnerabilities that older adults may possess, in terms of their health status, psychological issues, utilization of services, and financial resources, placed in the context of preparing

for and surviving the aftermath of life-threatening, calamitous events. In truth, there have been several connections between gerontology and emergency management; there are also overlapping characteristics between these fields within the domains of public health, psychology, social work and economics. It is advantageous to combine gerontology and emergency management for the mutual benefits each discipline dispenses, as well as to implement those assets that have not been as widely employed, such as the strengths and abilities of older adults to assist in the preparation for and the aftermath of natural disasters.

### **Adjuvant Benefits Involving Gerontology and Emergency Management**

The field of gerontology has provided many avenues of collaboration for emergency management. Information about vulnerable populations and their need for additional assistance in the advent and wake of natural disasters is a starting point. Gerontology can offer perspectives on those older adults with special needs (medications, mobility, physical setting, monetary, ability to recover, and predisposition to stress). This information can be extrapolated for use with vulnerable populations such as disabled adults or individuals in frail or poor health. Also, gerontology can provide information on the contingency plans that long-term care facilities use in other emergency situations (coping with power outages, distribution of medications, handling and storing food or disposable products, evacuation procedures for those in wheelchairs or who are unable to mobilize independently). The study of gerontology offers multiple opportunities for providing beneficial insights into assisting vulnerable populations before, during, and after a disaster; however, the field can also serve to demonstrate the benefits of

employing the unique perspectives, strengths, and skills of older adults who experienced disasters and survived. Other disciplines can provide additional perspectives within the realms of gerontology and emergency management, in terms of their relevance to vulnerability and disasters; yet, the implementation of how older adults have made accommodations for disaster-engendered losses is a technique that justifies additional research. In other words, viewing and utilizing older adults as survivors, not just victims, is an asset that gerontology can add to the field of emergency management.

### **Perspective on Vulnerability and Disasters**

#### Public Health:

A primary consideration of older adults and their experience with natural disasters is their ability to survive with a minimum of property damage or personal injury. From this contemplation a central theme emerges: older adults' ability to exit safely in the event of an emergency. Older adults may be vulnerable in a number of ways. Their physical condition or pathological factors can affect an older person's ability to escape a disaster safely, thus making them more susceptible to the effects of a natural disaster. As Eldar (1992) points out

elderly persons may have locomotor, sensory or cognitive impairments restricting their activities. Some impairments-such as those of sight or hearing- may limit them in perceiving warnings and emergency instructions; others will reduce their ability to carry out recommended self-protected actions (getting under tables during an earthquake or tornado-shaking) or their speed and agility in leaving a room or building (in a fire). When a disaster occurs, even without collapse or major damage, buildings and their surroundings may become unsafe and previously innocuous elements of the interior environment can become dangerous and result in injuries from broken glass, falling electrical fixtures, moving equipment and furniture. Elderly persons with functional

limitations will face greater risks in this changed environment than able bodied and younger individuals (355).

Obviously there is a need to assist those older adults with limited functional capacity and chronic impairments; however, not all older adults have physical or health-related difficulties. According to a report from the National Center for Health Statistics (2004), 76% of non-Hispanic white, 59% of non-Hispanic black, and 63% of Hispanic adults, aged 65 and older, reported having health that is good to excellent. The report also demonstrates that among adults aged 65 to 74, 80% of non-Hispanic white, 62% of non-Hispanic black, and 65% of Hispanic origin indicate their health as good to excellent. The same report found that among those aged 65 and older; the majority does not indicate a problem with hearing or seeing. Only 47% of men and 30% of women in this age group reported trouble hearing; 16% of men and 19% of women in this age group indicated trouble seeing. These results may suggest that the majority of older adults would be capable of escaping and surviving a disaster.

The surroundings in which older adults live require assessment for potential evacuation routes and exits. Those who live alone require additional attention and support, in regard to evacuating safely, or at least having a plan in case of a disaster. Older adults, who reside in continuing care retirement communities, assisted living facilities, or nursing homes, should be able to rely on the administration of their facility to provide information and direction as to the proper procedures for escaping a disaster. Additionally, the facility should have contingency plans in place to allow for the secure departure of older adults who require additional assistance to exit the facility. In this case, emergency management planners would have an interest in the procedures and

preparation plans utilized, for older adults residing alone, and those within a retirement or long term care facility.

Emergency management personnel responding to disaster situations must be especially careful with those older adults suffering from a variety of ailments who require assistance with keeping track of medications or other items mandatory for maintaining their health. Personnel must also be able to communicate effectively with individuals suffering from visual and auditory impairments, in addition to the emotional response that is bound to occur when a person's home and belongings are damaged or destroyed. The field of emergency management can certainly provide strategies and guidelines for assisting older adults who need help planning for disasters, especially those who have physical impairments or cognitive challenges, as well as those who live alone. There is some information available about emergency procedures relative to older adults living independently at home who may have mobility limitations, physical difficulties, or visual impairments (American Red Cross 2004, United States Administration on Aging 1995), to say nothing of the condition of their home environment, and its ability to provide a quick exit in an emergency. These factors can certainly influence a person's ability to respond to a disaster.

Secondly, with advancing age, changes in health status occur. Lung capacity is reduced, which can be problematic in the event of dust and particles in the air after a disaster. A change in hearing is also common as people age. The effect of hearing deficits can impair older adults' ability to hear certain tones or discern announcements given in an area with substantial background noise, which can prevent them from responding to emergency sirens. Another change accompanying aging is that of smell. There may be an

inability for older adults to detect spoiled food and, inadvertently consume it (United States Administration on Aging, 1).

Susceptibility to illnesses is another component. Older adults may be more prone to the after-effects of a natural disaster. Tanida (1996) states that after the 1995 earthquake in Hanshin, “many elderly people caught diseases such as ‘shelter pneumonia’ because of the unhealthy environment and dehydration” (1134). In the event of non-functioning air conditioning or heating units after a disaster, older adults may not be able to perceive the changes in temperature. This can result in hyper/hypothermia. The field of public health could assist both gerontology and emergency management professionals by assisting planning efforts to minimize the effects of disasters, especially those related to environmental hazards.

The effort to alleviate the consequences of natural disasters is the first step in assisting older adults to effectively cope with disasters and remain as physically healthy as possible. Ollenburger and Tobin (1999) indicate that “individuals in poor health and who have difficulty getting around are restricted in the actions they can take to mitigate hazard losses, which can lead to higher stress levels” (66). In addition to preserving physical health, maintenance of older adults’ mental health is of crucial importance, given the elements of preparing for and surviving the aftermath of a disaster. There are many components of mental health and vulnerability that are unique to older adults, which compels the use of psychology and its expertise.

### Psychology

Older adults can be extraordinarily vulnerable to the effects of a natural disaster, in terms of psychological response. As Langer (2004) illustrates,

most older people will inevitably suffer multiple losses. Some will need to learn the roles and responsibilities of becoming widows or widowers. Other losses might include loss of mobility or independence. Older adults who develop health problems will necessarily have to adjust from an unrestricted lifestyle to one with greater confinements. As individuals experience a diminution in control and an inability to solve their problems independently, fear – such as fear of the onset of additional health problems, of living alone, or of becoming a crime victim-can become a major concern. How each person copes with these life changes will often depend on individual differences as well as the “modus operandi” that has been the vehicle for overcoming crises in the past (277).

Given the accumulation of other losses, another loss, especially one of this nature, can be more traumatic and devastating. After the Hanshin earthquake in 1995, “suicide by elderly victims occurred at a rate of almost once a month. In addition, some elderly people were found dead in a ditch, presumably because they were lost in a new territory” (Tanida, 1996, 1134). Healthy psychological responses to disasters are important to surviving a disaster, and all of the losses intrinsic to it. Oriol (1999) points out “apathy or helpless stoicism may be among the likely reactions, based largely on the attitude that they will never be able to recover or replace losses ranging from property damage to death of friends or family” (28). Being able to safely evacuate a home environment would certainly improve a person’s response to a natural disaster; not knowing how to escape or where the safest place in the home is to survive when a disaster strikes can certainly result in psychological trauma, and can affect the ability to cope with additional losses or in the event of extensive damages to the home environment. The natural state of an older adult’s home is also a factor to consider. The home environment should be evaluated for its potential evacuation routes, safety, and ability to withstand impending damage. The safety of the older adult to remain in the home environment is a factor, especially if he/she does not want to leave.

Another significant factor in extenuating losses involves an older adult's financial resources. Langer (2004) notes that "economic status is a powerful determinant of an elderly person's ability to cope; intelligence and education also play a considerable role, as does an individuals' degree of physical and mental health" (278). As such, the realm of economics provides insights into surviving a natural disaster.

### Economics

Another potential vulnerability is the financial status of older adults who may not have the means to rebuild or recover from the effects of a disaster that destroys their home and belongings. Those who are already in dire financial straits can suffer more than economic losses. In the devastating 1995 Hanshin earthquake, Tanida (1996) illustrates that "77% of victims were crushed to death, and a greater proportion of elderly people died from burns or penetrating injuries. Many of the elderly people lived in inexpensive old wooden houses of their own or in tenements" (1133). To make matters worse, according to Tanida, "elderly people tended to sleep in ground floor rooms, which were especially prone to collapse in this earthquake" (1133). There were over 6,000 deaths caused by the quake, and "about half of the deaths were people aged 60 and older" (Hirayama, 115). In terms of ability to rebuild and recover from the devastation caused by this earthquake, those older adults who survived faced enormous obstacles. Many of those directly affected could not rebuild for financial reasons, and Hirayama (2000) states "a problem in the disaster area is not the shortage of loans but the lack of credit among the elderly victims" (125).

Typically, retired older adults are living on fixed incomes, and do not have financial means to replace belongings in the event they are destroyed. In particular, older women are especially vulnerable to the effects of financial loss, as they are more likely to be without a pension, especially since they may not have worked for pay during their young adult life. Also, they usually live longer than their male counterparts, suggesting they need more financial resources for survival. Women may suffer more financial devastation if their house is destroyed from the effects of a natural disaster. Ollenburger and Tobin (1999) indicate

the economics of aging place many women in extremely vulnerable positions which influences their ability to cope with the unexpected consequences of natural disasters. This economic vulnerability of women, who may be the sole support for themselves and/or for their children, had been described as the feminization of poverty. Consequently, natural disasters can perpetuate the poverty trap for women as demonstrated by some of the recent research looking at women and other marginalized groups in hazardous areas (66).

Another part of the problem is that older adults who experience losses of any kind may downplay or their difficulties due to the level of distress caused by having to admit a problem exists. A failure to handle their problem independently makes them reluctant to acknowledge help is needed (Langer 2004). The devastation caused by a disaster, financially speaking, leads to an examination of what services are available and, more importantly, used, by those in greatest need after a natural disaster strikes.

### Social Work

An analysis of the utilization of services designed to assist victims of natural disasters yields unsatisfactory results. For example, in the aftermath of the Hanshin earthquake, Tanida (1996) points out that “elderly people tended not to proclaim their

problems unless they were questioned specifically. Thus, the superficial survey by the medical teams failed to notice the problems of elderly people in shelters” (1134).

Additionally, as Tanida continues, those who provided care for the older adults were also victimized by the disaster and rendered unable to offer their usual services.

Unfortunately, the situation was exacerbated to the extent that those older adults were receiving little, if not inadequate, care for an extended period of time (Ibid, 1135).

The viewpoint that older adults do not seek care after disasters is supported by Langer (2004), who states, “the at-risk elderly do not usually self-refer. If they receive help, it is typically because someone else obtained it for them” (278). There are many reasons for a low utilization rate of services by older adults trying to recover from the effects of a natural disaster. Langer (2004) further explains that

American culture places a high premium on independence and self-reliance, and, as a result, people feel uncomfortable when they need to ask for assistance. For the current cohort of older adults who survived such hardships as the Depression, this admission might be difficult. Maintaining independence is one of the most frequently occurring life themes. Many older people worry that they will lose their independence and their value in society through reliance on a fixed income or through a loss to maintain their own home (279).

Another difficult aspect of utilization of services involves forced relocation and its relevance to social work. Sanders, Bowie, and Bowie (2003) suggest “geriatric social workers are often a frontline service for older adults who have experienced a forced relocation following a natural disaster. Additionally, the social work profession is involved in the long term problems that forced relocation can cause for older adults” (25). Forced relocation is especially traumatic for older adults who rely on informal care for support, such as African Americans. A lifetime spent developing a support system within a community, can be abolished in the event a person has to move to another location in

order to have a home. For those whose experience with the health care system raises suspicion and distrust, the change in their home is even more problematic.

In light of the health, psychological, economic, and service utilization issues, there are many prospects for the field of emergency management to converge with gerontology to improve not only how older adults experience, survive, and move beyond natural disasters, but how they can and will help others coping with the same event.

### **Recommendations for Emergency Management**

First and foremost, the field of emergency management could support gerontology in an effort to apply practical guidelines for older adults in the event of natural disasters. A guide or directions for preparing for the advent or aftermath of an emergency could be developed collaboratively, and could involve public health professionals, especially in the case of long-term care facilities. Saliba, Buchanan and Kington note that “nursing facilities often are overlooked as a health resource and generally are not incorporated into disaster-relief plans” 1436. To exacerbate this problem, nursing homes may experience an overload in capacity of residents in the event that hospitals are damaged by a disaster and hospital personnel attempt to transfer their patients to the safety of a facility (Ibid, 1438). Again, social workers frequently encounter this scenario as they attempt to assist older adults in their quest for assistance. Given the fact that public health, social work, emergency management, and gerontology professionals have a stake in this situation, it is only natural that these disciplines work together to address and resolve this critical situation.

The discipline of emergency management could provide the impetus for the gerontological field to focus more energy on assisting older adults before, during, and after events such as these. Most of the gerontological literature and research appears to be directed at the psychosocial effects of natural disasters on older adults, but there is little, if any, information provided on how to prepare for an event. There is no doubt that natural disasters can be traumatic, devastating, and tragic, especially for older adults. Concentrating more information as to how best to prepare beforehand would go a great way in helping to mitigate the effects of such an episode.

Also, the field of gerontology would certainly help the emergency management discipline address the unique effects a natural disaster can impose on older adults. The unique health, psychological, economic, and service-related issues facing older adults before, during, and after a natural disaster, could be mitigated through the collaboration of gerontology and emergency management professionals to address those issues.

Finally, older adults who have coped with natural disasters and the losses inherent to them can certainly provide insights into how to help other elders survive these events. By working with these individuals, emergency management professionals can determine the most effective and beneficial means to assist those older adults in need of assistance when disasters occur.

### **Future Areas of Investigation**

A realm in which gerontology would benefit from the field of emergency management is the handling of disasters that affect older adults more frequently. Extreme temperatures, both hot and cold, have a significant impact on older adults, as the

ability to perceive changes in temperature decreases with age. The heat wave that occurred in Chicago 1995 provides a stark reminder of how vulnerable older adults that live alone can be (Klinenberg, 2002).

Also, the prevention of fires in the home, particularly in older adults' homes would be useful. According to the United States Fire Administration (2001), fires and burns are the sixth leading cause of death among older adults, who are also "far more likely than the rest of the population to die or be injured in a fire" (4). The health hazards posed by this type of emergency, to say nothing of the financial and emotional costs, are worthy of consideration. In any case, the classification of what constitutes a disaster can be expanded to include droughts, freezing temperatures, and fires. These scenarios can have a psychological and financial effect on older adults, as well as affecting their health, and usually generates a need for assistance, similar to other natural catastrophes.

Although these calamities typically do not generate as much attention or publicity as a hurricane, tornado, or earthquake, older adults are still at risk. The efforts of gerontology and emergency management experts could certainly provide much needed solutions to these and other dangerous situations. Despite the importance of assisting older adults after calamitous events, it is critical to also understand the unique strengths, talents, abilities, and resources that older adults possess, and not simply believe they are only victims of natural disasters. Maintaining a balance between identifying the singular needs of older adults after a natural disaster has occurred and meeting those needs, while also realizing the strengths and abilities of these older adults for their potential to assist in the aftermath of a natural disaster, is imperative.

Most importantly, older adults can also be recruited for their expertise from experiencing disasters in the past. Additionally, there are many older adults who volunteer for the American Red Cross; in fact, “sixty-five percent of American Red Cross volunteers are age fifty-five or above” (Oriol, 1999: 31). Based on the willingness of older adults to volunteer, not to mention their experience with disasters, it seems quite natural to deploy them into service after a disaster. Older adults offer strength, familiarity, and assurance to other older adults, especially if they have previously experienced and survived a natural disaster. By their nature, older adults are survivors. As the Project COPE (1992) “Voices of Wisdom: Seniors Cope with Disaster” Videotape so eloquently stated:

Senior citizens today are a sturdy, reliable generation. We’ve proven time and again our ability to survive everything from the Great Depression to world wars and the threat of nuclear holocaust. We’ve lived through droughts, floods, and all sorts of other natural disasters. We’ve given birth, supported our families, and stood by our loved ones through personal and financial losses. We are proud, tough, and resilient.

The discipline of emergency management can provide the field of gerontology with an opportunity to promote one of the country’s best natural resources – older adults – to assist others after a natural disaster.

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