THE RELATIONSHIPS BETWEEN LEISURE EXPERIENCES AND PSYCHOLOGICAL RECOVERY FROM DISASTER: A CASE STUDY OF THE GREAT EAST JAPAN EARTHQUAKE AND TSUNAMI

BY

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THESIS

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ABSTRACT

The world has witnessed the rapid increase of natural disaster occurrences toward to the beginning of the 21st century according to the Office of Foreign Disaster Assistance/Centre for Research on the Epidemiology of Disasters. While the leisure literature has suggested that leisure can help people to transcend negative life events such as traumatic injury (e.g., Kleiber, Hutchinson, & Williams, 2002), relationships between leisure and disaster experiences have been significantly underexplored. Therefore, in this study, I attempt to fill up this gap in the literature through a case study of the Great East Japan Earthquake and tsunami, which occurred on March 11th, 2011. In June of 2012, I had conducted public observation as a disaster volunteer for approximately one month. Subsequently, 21 in-depth interviews were conducted mainly over the phone. Out of the 21 interviews, 16 were with disaster survivors, and five were with local disaster volunteers.

Analyzing their narratives, there emerged two major themes from their disaster experiences: negative psychological impacts of the disaster and roles of leisure experiences in their psychological recovery process from the disaster. Among the survivors, the disaster has negatively influenced their mental health both directly through traumatic experiences and post-disaster stressors and indirectly through exacerbating leisure constraints. On the other hand, leisure has played three distinct roles in their post-disaster psychological recovery process: leisure stress coping, leisure symbolic coping, and leisure and resilience. Moreover, through the narrative analysis, I found that there is a core meaning of leisure that underlies all the three key functions of leisure, which is, namely, leisure as a context for social interaction and enjoyable experience. It is suggested that it is important to examine positive psychological effects of leisure from a more comprehensive conceptual framework. Practically, a number of suggestions
for practitioners, such as counselors, social workers, and volunteers, can be drawn from this study. This study indicates an urgent need to collaborate with researchers at the international worlds from various disciplines and accumulate the literature on leisure and disaster immediately.
To Ayana, my family, and all the people who have been affected by 3.11
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CHAPTER 1
INTRODUCTION

The World Natural Disaster Trend

The occurrence of natural disasters has increased toward the beginning of the 21st century at the global level according to the Office of Foreign Disaster Assistance/Centre for Research on the Epidemiology of Disasters (OFDA/CRED) International Disaster Database. In this thesis, natural disasters are defined as natural events that cause massive destruction, such as hurricanes, typhoons floods, earthquakes, and tsunamis. In the literature review by Norris et al. (2002), the researchers distinguished natural disasters from other two major types of disasters, namely technological disasters (e.g., nuclear crises, oil spills, and dam collapses) and mass violence (e.g., terrorism, wars, and conflicts). It is noteworthy that while both technological disasters and mass violence are human-caused, technological disasters are different from mass violence in that “the latter has the additional element of intention” (Norris et al., p. 208).

While natural disasters may result in a large number of deaths, they also influence the psychological well-being of disaster survivors, exposing survivors to various traumatic experiences and chronic stressors, such as bereavement, injury, fear of death, separation from family, economic loss, damage to property, and displacement (Norris et al., 2002). These intense stressors are likely to cause severe mental illness, such as post-traumatic stress disorder (PTSD) (e.g., DeSalvo et al., 2007; Kun, Han, Chen, & Yao, 2009) and complicated grief (e.g., Ghaffari-Nejad, Ahmadi-Mousavi, Gandomkar, & Reihani-Kermani, 2007; Shear et al., 2011). A stressor, in this study, is defined as a stimulus, or cause, that leads to psychological stress, an emotional arousal when a particular relationship between a person and his or her environment is “appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being”
(Lazarus & Folkman, 1984, p. 19). It is closely related to but distinguished from a traumatic experience that is too shattering to cause trauma, “a violent shock that is capable of producing an impact that the individual cannot resist” (Braga, Fiks, Mari, & Mello, 2008, p. 68). A critical difference between post-disaster stressor and traumatic experience in this study is that in the latter quality of an experience, or in other words a meaning of the experience, is more important as a determinant of the extent to which the experience undermines psychological well-being.

Although natural disasters are found to significantly undermine the mental health of disaster survivors, the literature indicates that professional supports may not be effective in dealing with these problems. One explanation is that most people with such conditions do not seek professional treatment in the wake of disasters (e.g., DeSalvo et al.; Kuo et al., 2003). This suggests that it is necessary to establish another way to help disaster survivors regain mental and emotional health after natural disasters and to accelerate the academic research on it.

One method to facilitate psychological recovery from disaster experiences can be quality leisure experience. In the leisure field over the last 20 years, it has been well documented that leisure can help people cope with a variety of stresses (i.e., daily hassles, chronic stress, and life events) (e.g., Iwasaki, 2001; Klitzing, 2003; Loy, Dattilo, & Kleiber, 2003). As Hood and Carruthers (2002) conceptualized, leisure can play two roles in the stress coping process: decreasing negative demands (e.g., distraction) and increasing positive resources (e.g., hope and humor). In the psychology literature, Park and Folkman (1997) proposed the concept of meaning-based coping that one achieves congruency between global meanings (i.e., beliefs and goals in one’s life) and situational meanings (i.e., a series of appraisals of person-environment transactions). Based on this notion, several researchers in the leisure field have suggested that leisure can facilitate such meaning-making processes and positive reappraisal of stressful events.
as well as mitigate negative impacts of stress (e.g., Hutchinson, Yarnal, Staffordson, & Kerstter, 2008). For example, based on the research on people with traumatic injury (e.g., spinal cord injury), Kleiber, Hutchinson, and Williams (2002) argued that leisure can play important roles in self-preservation and personal transformation in the wake of traumatic life events in addition to self-protection by providing distraction and generating positive feelings. Furthermore, it has been argued that leisure can enhance resilience to adversity through increasing self-determination and social support (e.g., Coleman & Iso-Ahola, 1993; Iwasaki, Mactavish, & MacKay, 2005; Kleiber & Hutchinson, 2010). Integrating the three positive psychological effects of leisure above (i.e., coping, meaning-based coping, and resilience), McCormick and Iwasaki (2008) proposed the notion of leisure and transcending life challenges that leisure helps “coping with stress, adapting to life challenges, healing from trauma, as well as enhancing the quality of one’s life” (p. 5) in order to conceptualize positive psychological effects of leisure more comprehensively. Thus, the researchers have suggested that leisure has the potential to help disaster survivors transcend their traumatic life events in many respects, such as coping with disaster-related stress, creating important meanings in their lives, and enhancing their resilience to future disasters.

**The Great East Japan Earthquake and Tsunami**

The Great East Japan Earthquake (GEJE) occurred on March 11th of 2011. Its magnitude was 9.0, which is the fourth largest earthquake in human history according to the Japan Meteorological Agency. This earthquake caused a massive tsunami, whose height reached approximately 10 meters (i.e., 32.81 feet). Even though this study is focused on the two natural disasters (i.e., the earthquake and tsunami), it should be noted that the tsunami struck the nuclear power plant in the coastal area in Fukushima prefecture, called the Fukushima Daiichi power
plant, which resulted in the worst nuclear crisis over the past quarter of the century. This nuclear disaster was categorized as level 7, the highest level given by the International Nuclear Event Scale (INES), the same level as the Chernobyl’s nuclear accident in 1986. Hence, it was a unique combination of major natural and technological disasters. While they are not certain of the exact number of casualties and wounded due to the unprecedented level of devastation, the Government of Japan’s Cabinet Office reported that 15,868 people were killed, 2,847 people are still missing and 6,109 people were injured as of August 28th, 2012. According to the National Police Agency, more than 90 percent of the casualties were attributed to drowning. The Cabinet Office also reported that 129,340 house units were completely destroyed, 264,035 units were half destroyed, and 726,089 units were partially damaged by the disaster. The same agency also reported that 343,334 people evacuated due to the disaster, going to emergency shelters, relatives’ and friends’ houses, public housing, and temporary housing.

While the statistical numbers about the devastation of the GEJE and tsunami indicate that the entire country and citizens were affected by the massive disasters indirectly, it should be noted that most of the physical and direct influences were concentrated in the three prefectures in the northeastern region, namely Miyagi, Iwate, and Fukushima prefectures. The casualties and missing persons in these three prefectures consist of more than 99% of the total numbers, and the number of injured people in the prefectures covers more than 73% of the total number of the injured people. As for the damages to house units, more than 96% of the complete destruction was caused in the three northeastern prefectures.

**Purpose of the Study**

Despite such potential relationships between leisure experiences and psychological recovery in the wake of a natural disaster, the topic remains underexplored. To my best
knowledge, there is only one unpublished doctoral dissertation specifically focused on both leisure and natural disaster (Jackson, 2011). Therefore, the purpose of this study is to fill this gap in the literature by studying the relationships between leisure experiences and recovery of mental health after a natural disaster occurs through the case study of the GEJE and tsunami. This study focuses on the combination of the earthquake and the subsequent tsunami, which struck the northeastern region in Japan and caused the unprecedented level of devastation on March 11th, 2011. The objectives of this study are: 1) to explore the relationships between traumatic experiences related to the GEJE and tsunami and the psychological well-being of disaster survivors, 2) to examine how, if at all, the disaster affected the leisure patterns of survivors, and 3) to explore the relationships between leisure experiences and psychological recovery from the exposure to the disaster from multiple theoretical perspectives, including leisure stress coping, transcending life challenges, and resilience.
CHAPTER 2

LITERATURE REVIEW

Leisure and Transcending Life Challenges

Leisure and transcending life challenges is the underling notion that explains how leisure function in a long-term and multi-staged process of psychological and emotional recovery from a traumatic life experience. Although McCormick and Iwasaki (2008) proposed the notion of leisure and transcendence of life challenges as an overarching idea, three major concepts relevant to this study, namely stress coping, transcendence of negative life events, and resilience/strength, have been developed separately in the leisure literature over the past 20 years. Figure 1 below illustrates how the three notions on leisure and its psychological benefits can be utilized to illustrate the psychological recovery process from experiencing a major natural disaster.

Through the following review of the relevant literatures, I will attempt to examine how each concept can explain leisure’s influences on psychological recovery process after disasters and how differently but cooperatively they can contribute to the phenomenon.

Figure 1. A map of the three concepts relevant to the study in a context of the psychological recovery from being exposed to a major natural disaster.
Leisure and Resilience/Strengths

One of the first studies that focused on the relationships between leisure and stress mitigation was the one by Coleman and Iso-Ahola (1993). In their study, the researchers proposed that self-determination and social support that people can obtain through leisure experiences buffer negative influences of stress and help them to maintain their well-being. Coleman (1993) found support for the buffering effect of self-determination disposition generated through leisure activities while he did not find support for the buffering effect of social support. Conversely, the study by Iso-Ahola and Park (1996) found that leisure-generated friendships moderated negative effects of stress on mental health, yet they did not find significant support for the buffering effect of self-determination. However, there are a few studies that did not find support for the buffering theory. For instance, Zuzanek, Robinson and Iwasaki (1998) found physical activity contributed to enhanced health directly and to increased stress, and did not support the buffering mechanism of leisure and stress. More recently, the empirical study by Iwasaki and Mannell (2000b) did not find strong support for this buffering effect of leisure on psychological well-being, compared with other models.

It is noteworthy that Coleman and Iso-Ahola (1993) also indicated that the increase of social support through leisure activities might counteract self-determination and decrease a sense of control and competence, which can conversely worsen the negative influences of stress on mental health. In line with this counter-effect of social support, Caltabiano (1995) indicated that social leisure might increase the dependency of participants and counteract self-determination. This stream of research on the stress mitigation effects of leisure-generated social support and self-determination is the basis of leisure and the transcendence of life challenges, especially on human strengths/resilience to adversity.
In more recent studies, Iwasaki and his colleagues found more empirical support for the buffering effects of leisure-generated self-determination and social support. Iwasaki (2003), in his study on police and emergency response service workers, found that the leisure coping beliefs (LCBs) (i.e., an equivalent notion of resilience, such as self-determination and social support) have indirect positive influences on immediate adaptive outcomes function, mediating the leisure coping strategies (LCSs) (i.e., behavioral or cognitive coping through leisure, such as leisure companionship, palliative coping, and mood-enhancement). At the same token, Iwasaki (2008) found support for the health-protective buffer effects of leisure in spite of differences in gender and age. He also found that the LCBs have significant direct and indirect impacts on general health, and have immediate adaptive outcomes, mediating the LCSs. In their qualitative study on various minority groups (e.g., racial/ethnic minorities, gays and lesbians, and people with disabilities), Iwasaki, Mactavish, and MacKay (2005) identified human strengths and resilience as underlying key components of their stress survival strategies.

In this way, the literature on leisure and resilience was first conceptualized based on the stress buffering effects of leisure-generated self-determination and social support. Over the past two decades, an empirical support was found for this psychological effect (e.g., Coleman & Iso-Ahola, 1993). However, there is still inconsistency regarding the significance of its effect (e.g., Iwasaki & Mannell, 2000b). Moreover, it has not been explicitly answered if more leisure-generated friendships and social support can counteract the positive effects of self-determination. Furthermore, as the notion of resilience and strengths have been recently introduced (e.g., Iwasaki et al., 2005), it is necessary to explore other possible factors except for self-determination and social support that can be built through leisure experiences and contribute to maintaining psychological well-being.
Leisure Stress Coping

In addition to the concept of resilience that leisure-generated byproducts (e.g., self-determined disposition and social support) buffer negative impacts of stress, there is literature on the theory of stress and coping that leisure experiences per se can help people cope with stress. In her study, Caltabiano (1994) found that among the various types of leisure activities, three activities, namely outdoor sports, social leisure, and cultural leisure, are perceived as having stronger potential to reduce negative influences of psychological stress. In the following study, Caltabiano (1995) found that these types of leisure functioned differently according to the extent of stress in people’s lives and that some leisure, such as social and cultural leisure, exacerbated the negative effects of stress in certain situations.

In their longitudinal study of two major health-related surveys in Canada, Iwasaki and Smale (1998) found that the increase of importance of leisure goals led to the enhancement of positive psychological well-being and the reduction of negative psychological well-being rather than leisure participation per se. Moreover, they found that leisure negatively influenced psychological well-being related to gender and life events, such as marriage, unemployment and employment, and widowhood. Likewise, Zuzanek et al. (1998) found that the perception of being physically active predicted improved health better than actually being physically active. In the aforementioned studies, the researchers explored the potential influences of leisure experiences per se or closely related factors (e.g., leisure goal or subjective physical activeness), which led to the development of leisure stress coping theory. However, it is also noteworthy here that the studies above showed some inconsistency that leisure may have negative influences on mental health under certain circumstances.
A significant development of research on leisure stress coping was made by Iwasaki and Mannell (2000a, 2000b). Iwasaki and Mannell (2000a) proposed the notion of “hierarchical dimensions of leisure stress coping” in which different types of leisure stress coping are described at three levels of specificity” (p. 165, emphasis in the original) (see Figure 2). At the most general level, they suggested two major roles of leisure in stress coping: leisure coping beliefs (LCBs) (i.e., “people’s generalized beliefs that their leisure helps them cope with stress”) and leisure coping strategies (LCSs) (i.e., “actual stress-coping situation-grounded behaviors or cognitions available through involvements in leisure”) (pp. 165, 167). There are two subcategories under the LCBs, namely leisure autonomy and leisure friendships. Leisure autonomy is further divided into self-determination and empowerment. Leisure friendships are also divided into four subgroups, that is, emotional support, esteem support, tangible aid, and informational support. On the other hand, the LCSs are divided into leisure companionship, leisure palliative coping, and leisure mood enhancement.

In the follow-up study, Iwasaki and Mannell (2000b) found stronger support for the direct effects model (see Figure 3), the indirect effect model (see Figure 4), and the process model (see Figure 5) rather than the buffer model (see Figure 6). They also found that leisure autonomy was directly associated with the decrease of depressive symptoms and increased psychological well-being, that leisure friendships were directly and indirectly related with enhanced mental health, and that the LCSs had different mediating effects on the relationship between stress and psychological well-being depending on the types of stressors. Iwasaki (2001) found that the LCBs were significantly associated with increased immediate coping outcomes, decreased mental illness, and enhanced psychological well-being. As well, the LCSs were found to be significantly related to immediate coping outcomes. In their longitudinal study on police and
emergency response service workers, Iwasaki, Mannell, Smale, and Butcher (2002) found that the LCSs, namely leisure mood-enhancement, companionship, and palliative coping, were significantly related to stress reduction, coping effectiveness and satisfaction, and mental health among the samples in the potentially highly stressful occupations.

Figure 2. The hierarchical dimensions of leisure stress coping (Iwasaki & Mannell, 2000a).

Figure 3. The direct effect model (Iwasaki & Mannell, 2000b).
The last decade has witnessed a significant amount of empirical research on leisure stress coping. In particular, the stress coping framework has been applied to various issues, such as outdoor recreation (Miller & McCool, 2003), college athletics (Kimball & Freysinger, 2003),
spirituality (Heintzman, 2008, 2009), traumatic injury (Loy et al., 2003), and homelessness (Klitzing, 2003, 2004). Moreover, a number of studies have examined the relationships between leisure stress coping and demographic variables, such as gender (Hutchinson, Yarnal, Staffordson, & Kerstetter, 2008; Iwasaki, MacKay, & Mactavish, 2005), socio-economic status (SES) (Dhar, 2011), disability (Mactavish & Iwasaki, 2005), sexuality (Iwasaki & Ristock, 2004), race/ethnicity (Iwasaki & Bartlett, 2006), and specific occupations (Iwasaki, Mannell, Smale, & Butcher, 2005). In particular, a series of studies on a number of different minority groups (i.e., aboriginal Canadians with diabetes, individuals with disabilities, and gays and lesbians) explored the intersection of stress generation, stress coping and multifaceted identities (Iwasaki, Bartlett, Mackay, Mactavish, & Ristock, 2008; Iwasaki, Mackay, Mactavish, Ristock, & Barlett, 2006).

Thus, this stream of studies has been focused on how leisure experiences per se can help people cope with stress. The literature was significantly advanced by Iwasaki and Mannell (2000a, 2000b), who proposed the concepts of the LCBs and the LCSs. More recently, the researchers on this topic have clarified the intersection of leisure stress coping with other relevant issues in the leisure field, such as outdoor recreation and college sports (e.g., Kimball & Freysinger, 2003; Miller & Mccool, 2003). Also, recent empirical studies have revealed that the phenomenon of leisure stress coping is salient among people with different backgrounds, such as race/ethnicity, SES, gender, sexuality, disability, and occupations (e.g., Hutchinson et al., 2008; Iwasaki & Ristock, 2004; Mactavish & Iwasaki, 2005).

**Leisure and Transcending Negative Life Events**

While these studies examined how leisure helps people cope with stress from daily hassles and normative life stressors, the relationships between leisure experiences and
transcending negative life events remained underexplored. In addition to simple coping, such as diversion, Kleiber et al. (2002) and Hutchinson et al. (2003) proposed three major functions of leisure in the process of transcending negative life events based on the studies on people with spinal cord injury (SCI). These are: 1) leisure as a source of sense of continuity in life or normalcy, 2) leisure as a source of motivations to sustain coping, and 3) leisure as a context for personal transformation.

The bigger disruption negative life events cause on continuity in life, the more difficult it is to regain the exactly same state prior to the events. However, the literature suggests that it is not necessary to participate in the exactly same activities to feel a sense of continuity (e.g., Atchley, 1989). Atchley argued that the internal continuity, which is closely related to the notions of self and identity, can be maintained even though there are changes in external continuity, such as continuity of skills, activities, environments, roles, and relationships.

This is salient in the leisure literature as well. In their qualitative study on the people with SCI, Lee, Dattilo, Kleiber, and Caldwell (1996) found that “the meaning of continuity from the data goes beyond the sameness of the contents, styles, and situations of activities” (p. 217) and that continuity meant 1) aspiration for similar actions in the future, 2) approximation to the previous activities, and 3) negotiation of a variety of constraints for the interviewees. At the same vein, Nimrod and Kleiber (2007), in their study on older participants in the program called Learning in Retirement, found that involvement in new activities had the effect of self-preservation, as well as the one of self-reinvestment, which generated a sense of renewal. In their study on the women caregivers of cognitively impaired parents, Dupuis and Smale (2000) found that leisure was manifested as an opportunity for reclamation with which the care-givers preserved or renewed a sense of self apart from the care-giving role and cope with long-term
stressful situations. Hutchinson et al. (2003) found that it was important for their study participants with SCI to have some enjoyable leisure activities that were symbolically connected to a sense of self or normalcy prior to their traumatic injuries. They also found that returning to the previous activities, such as work and school, provided a sense of continuity of self or life “in spite of changes in functional abilities, relationships, and roles” (p. 150).

In addition, leisure, which is inherently expected to be enjoyable to a certain extent (e.g., Shaw, 1985), can generate optimism or positive feelings that motivate people to sustain coping or transcending negative events. Incorporating the notion of positive affect in the coping model proposed by Lazarus and Folkman (1984), Folkman (1997) hypothesized that positive psychological states help people sustain coping efforts based on their studies on the care-giving partners of homosexual or bisexual men with AIDS (Folkman, Chesney, & Christopher-Richards, 1994; Moskowitz, Folkman, Collette, & Vittinghoff, 1996). Such positive affects were generated through positive reappraisal (i.e., a cognitive process where people concentrate on positive aspects of what happens or happened), problem-focused coping (i.e., situation-specific thoughts or behaviors that solve the cause of stress), and positive daily events (i.e., infusing enjoyable moments into daily life) (e.g., Folkman & Moskowitz, 2000a; Folkman & Moskowitz, 2000b).

In the leisure literature, based on the analysis of three different data sets on people who experienced traumatic injury or life events, Hutchinson and Kleiber (2005) argued that enjoyable and daily casual leisure plays a role of “something to look forward to” (p. 7) and gives hope or optimism in life that helps people to keep coping and transcending their traumatic experiences. This notion of daily leisure as something to look forward to was echoed by the female participants in the Red Hat Society in the study by Hutchinson et al. (2008). In the study, the women who experienced transitional periods of their lives and faced a variety of stressors found
that the activities in the Red Hat Society “gave them something to look forward to” (p. 989) under circumstances where they do not have control over the stressors. Similarly, in their study on families that experienced divorce, Hutchinson, Afifi, and Krause (2007) found that enjoyable family leisure experiences strengthened a sense of family and encouraged them to overcome their family issues together.

The other meaning of leisure in the wake of negative life events is personal transformation (Kleiber et al., 2002). This is based on the notion of post-traumatic growth (PTG). Tedeschi and Calhoun (2004) defined the PTG as “positive psychological change experienced as a result of the struggle with highly challenging life circumstances” (p. 1). In a different study on university students who experienced negative life events (e.g., bereavement, accidents, and divorce) in the past five years, Tedeschi and Calhoun (1996), found that the sample students experienced the PTG at least in five domains, such as a greater appreciation of life, perceived more new possibilities, increased closer relationships, a greater sense of personal strength, and spiritual development.

In the leisure literature, Hutchinson et al. (2003) found that leisure and recreation are contexts for the people who experienced traumatic injuries (e.g., SCI) to achieve various domains of the PTG, such as giving hope and new possibilities, connecting with others based on shared experiences but not on disabilities, and providing a sense of personal strength such as competence or independence. Likewise, Hutchinson and Kleiber (2005) argued that relatively enjoyable casual leisure functioned as a vehicle for personal growth by facilitating people to open up themselves to new activities and new appraisals of self and life. In their study on patients of critical diseases (e.g., cancer), Unruh and Hutchinson (2011) revealed that the study participants found various spiritual meanings (e.g., garden as a spiritual place, and gardening as
spiritual journey, stewardship, and expression of inner being) in gardening that helped them cope with their negative life events. In their study on former and current users of rehabilitation centers who suffered from SCI and showed some external evidence of the PTG (e.g., finding part-time jobs and athletic achievement), Chun and Lee (2010) found that leisure contributed to the PTG in major five ways. They include “1) providing opportunities to discover unique abilities and hidden potential, 2) building companionship and meaningful relationships, 3) making sense of traumatic experience and finding meaning in everyday life, and 4) generating positive emotions” (pp. 402-403).

Thus, the stream of studies regarding leisure and transcending negative life events has extensively examined the meanings of leisure closely related to the transcendence process; three major meanings identified in this literature are leisure as a context to obtain a sense of continuity and normalcy, as a source of motivation to sustain coping and transcending, and as a vehicle for personal transformation (e.g., Hutchinson et al., 2003; Kleiber et al., 2002). These studies indicate that leisure is not only a method for stress mitigation (i.e., leisure stress coping), but also a factor that can contribute to the psychological recovery from negative or traumatic experiences in more holistic and long-term ways.

To sum up, the literature on how leisure can help people manage psychological difficulties has been developed somehow separately. In the leisure stress coping literature, the focus has been on stress mitigation effects of leisure, such as distraction and humor (e.g., Iwasaki & Mannell, 2000a). While in the coping process it is important whether people regard leisure as a coping strategy and if it actually brings coping outcomes, several leisure researchers have found that it is also significant to research what the leisure experiences mean. Incorporating arguments from positive psychology, leisure scholars have also explored the importance of
certain meanings or functions of leisure experiences (i.e., source of motivations and normalcy, and vehicle for personal growth) in a more holistic psychological recovery from a negative life event (e.g., Kleiber et al., 2002). Moreover, there has been the literature on leisure and resilience to adversity that is an aspect of human personality or capability and different from coping which is defined as a skill (e.g., Coleman & Iso-Ahola, 1993). This stream of studies indicate that leisure can contribute to psychological well-being in a very long run by making people more resilient with increased self-determination and social support. McCormick and Iwasaki (2008) and a few other researchers in this field recently proposed the notion of leisure and transcending life challenges as a more comprehensive concept that encompasses all the notions above.

Natural Disaster and Stress Coping

To my knowledge none of the existing studies have specifically dealt with the relationships between leisure experiences and psychological recovery from natural disasters. However, the disaster literature indicates the connection to the leisure literature, specifically on leisure and transcending life challenges, showing that disaster survivors utilize leisure-like activities for their stress coping. There are mainly four leisure-like experiences identified as prevalent coping strategies in the literature: distractive, altruistic, self-destructive, and religious activities. Moreover, the literature also suggests how resilience factors, such as self-determination and social support, can function in a post-disaster context.

Distractive Coping after Natural Disasters

Despite the chaotic situations that usually accompany disasters, the most frequently engaged leisure-like activity appears diversionary or avoidant in its nature. For example, in their study on the survivors of the earthquake in 2001 in El Salvador, Vazquez, Cervellon, Perez-Sales, Vidales, and Gaborit (2005) found that 93.9% of their samples found that entertainment in the
emergency shelter was helpful in generating positive emotions and successfully coping with stress. Henderson, Roberto, and Kamo (2010) found that self-distractive coping was the most frequently employed coping strategy among older Katrina survivors. However, in a few studies, this coping style was correlated with mental illness and lower psychological well-being (e.g., Glass, Flory, Hankin, Kloos, & Turecki, 2009). Interestingly, Glass et al. also found that hope moderated the relationship between avoidant coping and general distress. This finding may be consistent with one of the four propositions by Kleiber et al. (2002) regarding buffering with optimism.

Altruistic Coping after Natural Disasters

Another common leisure-like activity in which people often engage during disaster periods is volunteering. For instance, Lemieux, Simon, Plummer, Ai, and Richardson (2010) found that 93.7% of students who participated in their study engaged in volunteer activities after Katrina. Volunteering after negative life events can be explained by the fact that leisure, especially volunteering activity, can “provide an opportunity for promoting life balance by assuring that one is helping others rather than one-directionally being helped by others” (Iwasaki et al., 2005, p. 96). In a different study, Iwasaki, MacKay, and Mactavish (2005) found that “a different kind of stress,” (p. 22) positive stress or eustress, from volunteering might be effective in coping with negative stress, or distress.

Self-destructive Coping after Natural Disasters

Self-destructive coping behaviors were also evident in the wake of disasters. For instance, Lanctot et al. (2008) found that there was a significant increase of cigarette consumption and relapse of smoking behaviors among Katrina evacuees. Likewise, Kishore et al. (2008) revealed that among university students, faculty, and staff who participated in their study, 15.7% increased
alcohol consumption, and 13.2% increased nonprescription drug use following Katrina. In their longitudinal study on local villagers in Yu-Chi, Taiwan, who survived the Chi-Chi earthquake in 1999, Chou et al. (2007) found that drug abuse or dependence had increased from 2.3% at 6 months after the disaster to 5.1% at three years after. In their study on Katrina survivors, Sneath, Lacey, and Kennett-Hensel (2009) found that among survivors, disaster-induced depression was significantly related to impulsive and compulsive consumption. The survivors engaged in such behaviors in order to enhance poor state of minds, compensate their losses from the disaster, and restore their sense of self. Lemieux et al. (2010) found that 16.9% of social workers surveyed in their research used substances for stress coping after Katrina and Rita, and that the use of substance was more prevalent among those who suffered mental illness than those who did not.

**Religious Coping after Natural Disasters**

The other prevalent coping style was religious coping. Tausch et al. (2011) found that religious coping in the aftermath of Katrina and Rita had three major dimensions: church-based faith community, religious practices such as prayers, and religious beliefs. Wadsworth, Santiago, and Einhorn (2009) acknowledged both negative (e.g., pleading for intercession) and positive (e.g., seeking support from religious community) religious coping styles, and found that more resilient Katrina survivors utilized less negative religious coping styles. Vazquez, et al. (2005) found that 88% of their earthquake survivors in El Salvador reassessed their traumatic experiences from religious perspectives. Similarly, in their study on the survivors of the tsunami in India, 2004, Pajakumar, Premkumar, and Tharyan (2008) found that four of the six focus groups concluded that spiritual coping was the most helpful and meaningful coping for them. Moreover, they also found that religiosity led to post-traumatic growth, such as enhanced existential values that they are closer God, and generation of happiness through prayer.
However, Brown et al. (2010) found that religious practices, namely the frequency and use of prayers, were negatively related to psychological function.

**Resilience and Natural Disaster**

Relating to resilience factors, the importance of self-determination or sense of control appears applicable to stress coping in the wake of natural disasters. For example, in the study on survivors of the Southeast Asian earthquake and tsunami in 2004, Tang (2006) found that active coping (i.e., making actual actions to improve the situations) is positively correlated to positive adjustments measured by the post-traumatic growth inventory and is negatively related to negative adjustments measured by the instruments regarding psychiatric morbidity. Likewise, in their study on female relief volunteers in the wake of the Southeastern Asian earthquake and tsunami, Bhushan and Kumar (2012) found that proactive coping was significantly and positively correlated to a positive psychological outcome (i.e., post-traumatic growth). Based on his literature review on Katrina and stress coping, Whaley (2009) argued that it is necessary to facilitate disaster survivors to narrate and analyze their traumatic experiences in a group setting, which can provide them with “an opportunity to develop a plan of action that is proactive, thoughtful and deliberate, instead of reactive and automatic” (p. 473).

Nonetheless, the literature also suggests that the effectiveness of self-determination can be significantly limited in post-disaster chaotic situations. For instance, Spence, Lachlan, and Burke (2007) showed that in the wake of Katrina it was difficult for displaced persons in emergency shelters to engage in physical activity, and that the attempts to participate in physically active recreation, conversely, increased stress levels. By the same vein, in their study on adolescent survivors of a wildfire in Greece in 2007, Papadatou et al. (2012) found that control-oriented coping strategy had a significant and positive correlation to PTSD symptoms.
The researchers explained that this might be because the adolescent survivors could not succeed in such coping due to limited coping resources and conversely perceived more trauma and helplessness.

As for social support, Tausch et al. (2011) also suggested that it might be difficult to benefit from social support after major natural disasters because communities are torn up and large-scale devastation decreases community members’ ability and resources to support others. Nonetheless, there are a few studies that provided examples of social support among disaster survivors and showed its significance even in post-disaster contexts. In a study on adult survivors of the 2004 Southeast Asian earthquake and tsunami, Tang (2006) found one of the best predictors for positive adjustment was frequent social support seeking. Spence et al. (2007) found that female Katrina evacuees who utilized talking as a coping strategy experienced greater reduction of psychological stress. The researchers acknowledged that “sharing stories and experiences or just simply talking to others during a crisis may have several benefits” (p. 667). Likewise, Rajkumar et al. (2008) reported that the local communities in India struck by the tsunami in 2004 had social gatherings to cope with the loss as a group. Among their 20 female disaster volunteer samples that worked in the wake of the earthquake in India in 2004, Bhushan and Kumar (2012) found that coping through relating to others was one of the important determinants of positive psychological adjustment (i.e., post-traumatic growth).

However, seeking social support in the wake of disasters should be carefully examined as some literature indicates that it could also be associated with negative psychological outcomes (e.g., Lemieux et al., 2010). For instance, Vigil and Geary (2008) acknowledged that extra-familial support might have reminded their adolescent Katrina survivors of their traumatic experiences through conversation with people from outside of the community, and might have
increased the perception of stigma and demoralization. This can be explained by the counteractive effects of social support to self-determination (e.g., Coleman & Iso-Ahola, 1993).

In summary, the disaster literature has suggested that even in the wake of major natural disasters, leisure-like activities can play important roles in stress coping process. There are mainly four leisure-like behaviors identified in this literature review: namely, distractive, altruistic, self-destructive, and religious behaviors (e.g., Henderson et al., 2010; Lemieux et al., 2010; Spence et al., 2007; Tausch et al., 2011). However, the effects of such coping styles should be closely examined. In particular, distractive, self-destructive, and religious coping were found to have significant positive correlation to increased stress or PTSD symptoms in the literature. This does not necessarily mean that they are maladaptive coping, but also indicates that disaster survivors who suffer from high levels of stress and mental illness tend to employ such coping methods.

**Japanese Ethnicity and Stress Coping**

The literature regarding Japanese and Japanese American coping strategies has suggested that this population may have a few unique factors that can positively and negatively affect their stress generation and coping process. These include fatalism, purpose in life, and familism. The literature also indicates that this ethnic group may have culturally unique coping tendency to utilize certain coping strategies more frequently compared to other ethnic groups.

**Fatalism**

One of the unique factors that can affect stress generation and coping styles among the Japanese descent is fatalism. This is well-represented by the phrase, “shijikata ga nai (it cannot be helped),” which appears to be rooted in Japanese culture and mentality. In his cross-cultural study, Kawanishi (1995) found that the Japanese subjects were more likely to attribute their
stressful life events to their bad luck, and to attribute successful coping to good luck more frequently than their Anglo counterparts. Kawanishi assumed that such a sense of fatalism might “reflect the Buddhist tradition” (p. 57). Similarly, Nagata and Tsuru (2007) indicated that this notion of “shikata ga nai” might influence the coping process of the second generation Japanese American (Nisei) whose parents were interned during World War II. They found that “an external attribution of control to chance/fate was associated with lower self-reported coping” (p. 228), and argued that while this sort of stance was realistic and adaptive immediately after the incarceration, such fatalism has made it difficult for the Nisei to accept and overcome their traumatic experiences in a long run.

**Purpose in Life/ “Ikigai”**

Another unique factor in coping for this population might be “ikigai” or the purpose in life (PIL). The premise of this notion is that “everything changes; you only get one chance at life; every person should achieve meaning in one’s life” (Ishida, 2011, p. 773; Ofman, 1980). In their study, Ishida and Okada (2006) found that stronger PIL scores were significantly and negatively correlated to anxiety and psychiatric/somatic symptoms. Ishida and Okada (2011) found that the strong PIL appeared to be nurtured through the experiences of beautiful nature and empathetic understanding by parents and teachers during various developmental stages among the Japanese university student samples. In more recent works, Ishida (2011, 2012) argued that many of the disaster survivors of the GEJE and tsunami maintained their ikigai or PIL even under severe living conditions, which led to their successful coping with their traumatic disaster experiences.

**Familism**
The other important factor for stress generation and coping may be familism. In their cross-cultural study on ethnic caregivers, Knight et al. (2002) found that among Japanese Americans the Asian cultural values were significantly correlated to familism and caregivers’ burden. Moreover, familism was found to have positive association with depression scores. Similarly, Shibusawa and Mui (2001) revealed that the possibility to become dependent on their family was a source of distress for elderly Japanese Americans although, based on the existing literature (e.g., Keifer, 1974), the authors’ expectation was that traditional emphasis on interdependence in Japanese culture may facilitate the elders’ to rely on their family. In addition, in their cross-cultural comparison between Japanese and Indian students who experienced bereavement, Bhushan, Kumar, and Harizuka (2011) found that Indian students were more likely to employ more adaptive and proactive coping strategies, while Japanese students were more likely to use reflective coping styles, attributing them to the Buddhist-oriented family values in Japanese culture.

On contrary, in the study by Schreiner and Morimoto (2003), Japanese family caregivers were more likely than American counterparts to obtain a sense of mastery in spite of their care-recipient’s higher dependence. This finding indicates that a coping resource, sense of mastery, would be attained in different ways between Japanese and American caregivers depending on their cultural backgrounds. Furthermore, the study by Sakamoto, Tanaka, Neichi, Sato and Ono (2006) showed that social support seeking from family was used more frequently to cope with depression and suicide ideation among people in a Japanese rural area. Therefore, the findings regarding the importance of family in stress generation and coping strategies are inconsistent, which implies that we should carefully examine how family-related social expectations and
support from family affect stress generation and coping resources among the Japanese descent, both Japanese nationals and Japanese Americans.

**Culturally Unique Stress Coping Tendency**

The literature also suggests that the Japanese have distinct tendencies to utilize certain stress coping strategies compared with other ethnic groups. For example, in their cross-cultural study (European Canadian versus Japanese university students), Tweed, White, and Lehman (2004) found that Japanese people utilized more internally targeted control strategies, such as waiting, self-control, reappraisal, denial, and repression, than their European Canadian counterparts, and related these strategies to collectivist, high-power distance, Buddhism-influenced, and Taoism-influenced culture in Japan. In her study about the victims of domestic violence, Yoshihama (2002) found that compared to U.S.-born counterparts, Japan-born women were less likely to employ “active” coping strategies (e.g., confrontation and help-seeking from friends). She concluded that this result might come from “a stronger degree of cultural proscription against these ‘active’ acts for the Japan-born” (p. 446).

In this way, the literature shows that Japanese ethnicity and its culture can significantly affect stress generation and coping processes among Japanese people. It has suggested that there appears to be several important notions unique to the Japanese culture: namely, fatalism, ikigai or PIL, and familism (e.g., Ishida, 2012; Kawanishi, 1995; Knight et al., 2002). There is also a tendency for Japanese people to employ less active coping styles compared to their foreign counterparts (e.g., Tweed et al., 2004; Yoshihama, 2002). This indicates that the stress coping mechanism among Japanese population should be carefully examined considering unique influences of their ethnicity and culture.
This study will be able to contribute to these literatures in many respects. It will contribute to the leisure literature by examining the relationships between leisure experiences and stress coping in the post-disaster context as well as by providing insights into the unique leisure stress coping styles among Japanese people. It will also enhance the disaster literature by deepening the understanding of how one of the behavioral coping resources, namely leisure behaviors, can affect stress generation and coping process in the wake of the natural disaster. Moreover, this study will add empirical knowledge on the GEJE and tsunami, quite recent major natural disaster, on which only a few empirical studies have been conducted. Finally, for the literature on stress coping among Japanese, this study will give a unique contribution in that it attempts to examine the post-disaster experiences from Western leisure perspectives.

Theoretical Frameworks

The five key roles of leisure in helping people transcend negative life events proposed by Kleiber and Hutchinson (2010) are employed in this study as guiding theoretical frameworks. These are namely: leisure for positive distraction, as a source of hope and optimism, as a sense of self, as a facilitator of personal transformation, and as a resource of resilience. They are used because it seems that they are the most inclusive frameworks in the literature, which encompasses the three major concepts in the literature review, such as leisure and resilience, leisure stress coping, and leisure and transcending negative life events.

The first role of the five (i.e., leisure for positive distraction) is equivalent to the leisure stress coping theory where leisure activities per se function to mitigate negative influences of stress by decreasing negative demands or increasing positive resources (Hood & Carruthers, 2002). The latter three functions (i.e., leisure as a source of hope and optimism, as a sense of self, as a facilitator of personal transformation) are based on the literature on the transcendence
of negative life events (e.g., Hutchinson et al., 2003; Kleiber et al., 2002). This literature suggests that leisure can have more lasting positive impacts on the transcendence process, providing important meanings in life of people experiencing negative life events. Finally, the last role as a resource of resilience is based on the notion of leisure and resilience (e.g., Coleman & Isho-Ahola, 1993). This concept explains that leisure-generated self-determination and social support mitigate the negative influences of stress in the long run (e.g., Coleman, 1993; Iso-Ahola & Park, 1996; Iwasaki, 2003, 2008). The latter two perspectives were employed in this study specifically because in a pilot study in New Orleans with Japanese and Japanese American people who were affected by Hurricane Katrina, I found that the stress coping theory (i.e., the first role of the five) might not be comprehensive enough to understand the dynamic relationships between leisure and psychological recovery from a disaster experience (Kono, 2012). I believe that the concepts of resilience and transcendence of negative life events will let me to explore psychological recovery process from more long-term perspective. Also, they will enable me to explore the subjective meanings of leisure experiences in the process.

While the five roles of leisure were developed based on the studies regarding different types of stressors, such as chronic stress or traumatic injury (e.g., Brock & Kleiber, 1994; Coleman & Iso-Ahola, 1993; Hutchinson & Kleiber, 2000; Iwasaki & Mannell, 2000a, 2000b), I believe they are applicable to the post-disaster context because the disaster literature shows distractive coping strategies and needs for hope and continuity are salient in the aftermath of disasters (e.g., Badakhsh, Harville, & Banderjee, 2010; Glass et al., 2009; Henderson et al., 2010). Moreover, I conducted a pilot study in New Orleans area with Japanese and Japanese American people who were affected by Hurricane Katrina, and found empirical support for the applicability of the first four roles of leisure (Kono, 2012). Moreover, in the pilot study, I also
suggested that the four roles might not inclusive enough to capture the complicated and long-term relationships between leisure and disaster experiences. While the disaster literature shows that resilience components, such as control and social support, are important factors in the post-disaster psychological recovery process (e.g., Bhushan & Kumar, 2012; Whaley, 2009), the leisure literature also suggests that leisure can play a role as a context to gain and regain such resilient personality (e.g., Coleman, 1993; Iso-Ahola & Park, 1996). Thus, I believe that the five functions of leisure are suitable as a theoretical framework to capture the relationships between leisure experiences and psychological recover in the wake of disaster experiences.
CHAPTER 3

METHODS

Pilot Study

Prior to this study, I conducted a pilot study on Japanese and Japanese American Katrina survivors in New Orleans. In the pilot study, stress coping theory was employed as the main guiding theoretical framework (Lazarus & Folkman, 1984). On the basis of a suggestion that the meanings of leisure experiences may be more important than what people actually do in the process to transcend negative life events (Hutchinson et al., 2003), I examined whether the four propositions of meanings of leisure by Kleiber et al. (2002) are applicable to a post-disaster context. These proposed meanings include 1) leisure as buffer of stress by giving diversion, 2) leisure as buffer of stress by generating optimism, 3) leisure as a source of continuity in life, and 4) leisure as a vehicle for personal transformation. Along with the suggestion from Folkman and Moskowitz (2000a) that the qualitative study design has benefits to explore the relationships between the stress coping process and positive affect, in-depth interviews were employed in the pilot study. Face-to-face semi-structured interviews were conducted in March of 2012 with five Japanese nationals and four Japanese Americans in New Orleans who were directly affected by the hurricane. The survivors with Japanese ethnicity were targeted in order to understand the relationships between leisure coping from a disaster experience and Japanese ethnicity.

Two major findings from the pilot study that are relevant to this study are 1) support for the four propositions by Kleiber et al. (2002) to the post-Katrina context among the Japanese and Japanese American survivors and 2) inadequacy of the stress coping theory to capture the complex and lasting relationships between leisure experiences and transcendence of disaster experiences.
First, it was found that the four meanings (i.e., positive distraction, hope/optimism, source of continuity and normalcy, and vehicle for personal growth) were salient in the post-disaster leisure experiences among the Japanese and Japanese American interviewees. However, I found several interesting differences in leisure’s meanings related to a post-crisis context and to their race/ethnicity. For example, leisure provided a greater sense of continuity or normalcy in various ways, such as the continuation of activities (e.g., daily exercise), friendships surrounding leisure activities (e.g., socialization with co-workers), reopening of leisure sites (e.g., local bars and restaurants), and resumption of local events (e.g., Mardi Gras and Saints home games).

Nonetheless, the interviewees also had a clear awareness that their life conditions have not and will not become exactly the same as what they used to be before the disaster hit the city because of its unprecedented level of devastation. This was well represented by the word “new normalcy” used by one of the interviewees. Therefore, it can be argued that leisure functions as a source of internal continuity though some external continuity has remained disrupted by the hurricane and its lingering influence.

The other interesting finding was that several interviewees, both Japanese and Japanese Americans, have experienced increased awareness of their Japanese roots through participating in Japanese traditional leisure activities, such as haiku (i.e., Japanese traditional short poetry) and cherry blossom watching. The alternative roots of being Japanese was particularly important for them in the post-disaster context in which their American roots in the city were severely destroyed by Katrina. This was categorized as a part of personal transformation in my pilot study, but this indicated that there might be a unique way personal change happens in the wake of traumatic experiences among multi-ethnic or racial groups.
The finding regarding personal transformation in the pilot study also clarified relationships between leisure experiences and post-traumatic transformation. There are two ways in which leisure contributed to such transformation among the participants. First, as the concept of post-traumatic growth (PTG) posits (Tedeschi & Calhoun, 2004), several of the participants experienced positive changes due to struggling with the disaster experiences, such as a greater sense of appreciation of life and of intimate relationships with significant others. For them, such changes were manifested through leisure experiences in ways such as increased leisure time to enjoy life more actively or increased social leisure. On the other hand, as leisure researchers have argued (e.g., Hutchinson et al., 2003; Kleiber et al., 2002), there are several other examples in which leisure appeared to facilitate such positive changes in the wake of the disaster. For instance, traditional Japanese leisure activities facilitated some of the interviewees to become more aware of their alternative ethnic roots as Japanese. This finding indicates that the relationships between leisure and personal transformation should be carefully examined.

The second major implication from the pilot study to this study was that leisure stress coping might not be inclusive enough to understand possible lasting and complicated relationships between leisure and psychological recovery from experiencing a major natural disaster. As defined by Lazarus and Folkman (1984), people should have three conscious appraisals in their stress coping processes. One is the primary appraisal of stressors, which means that people need to appraise if they are in stressful situation or not. The secondary appraisal is one for the availability of coping resources and the effectiveness of coping strategies. Finally, they re-appraise the coping outcomes. However, while almost all the interviewees found their leisure experiences helpful for their psychological recovery processes, a few of them articulated that they did not perceive the availability or effectiveness of leisure as a coping
resource during the actual coping processes. Such phenomenon was also found in the study by Klizing (2004) on leisure stress coping among homeless women. It is possible that this was because the survivors experienced the disaster more than six years ago and perhaps they could not remember the details of their conscious appraisal processes. However, it also indicates that leisure might have positive psychological effects that stress coping theory does not fully explain. Therefore, it is necessary to utilize more comprehensive theoretical frameworks to better understand the relationships between leisure and psychological recovery from a disaster.

Methodology

Phenomenology was employed as the methodology in this study. According to Howe (1991), phenomenology is a useful methodology for leisure researchers to explore the meanings of leisure experiences since it allows us to take our participants’ roles and examine “his or her experiences by identifying with the life of the participant” (p. 58). Therefore, phenomenology was employed in this study to explore what it has been like to experience the Great East Japan Earthquake (GEJE) and tsunami and whether and how leisure has helped them transcend their traumatic disaster experiences. In-depth interviews were employed as a main data collection method. According to Ragin and Amoroso (2011), in-depth interview allows researchers to “delve into ideas with the people,” deepening understanding of interviewees’ accounts (p. 123). In this study, semi-structured in-depth individual interviews were employed in order to explore how disaster survivors have made sense of their traumatic experiences and how they defined roles and meanings of leisure in relation to psychological recovery from the GEJE and tsunami in their own languages.

Background of the Study Site
The study was mainly conducted in the city of Ishinomaki and in the town of Minamisanriku in Miyagi prefecture, Japan. Miyagi prefecture is one of the three prefectures in northeast Japan that have suffered the greatest damage from the GEJE and the subsequent tsunami. Actually, Miyagi is the prefecture that had the greatest devastation in terms of casualty/injury and damage to housing units. According to the Headquarters for Emergency Disaster Control (HEDC) as of August 27th in 2012, in the prefecture, 9,525 people were killed, 1,426 people are still missing, and 4,136 were injured by the disaster. The HEDC also reported that 85,211 house units were completely destroyed, 151,015 units were half destroyed, and 223,961 units were partially damaged by the disaster.

Figure 7. A map of Tohoku region which has locations of Ishinomaki (red circle), Minamisanriku (blue circle), and the Fukushima Daiichi Nuclear Power Plant (pinpoint) with a 100-kilometer (62.14-mile) radius from the power plant.
In terms of population, Ishinomaki is the second largest city in Miyagi prefecture next to the capital city, Sendai. According to the Miyagi Prefectural Government, Ishinomaki city had 149,204 residents on July 1st in 2012. However, the prefecture reported that the population in Ishinomaki has decreased by 11,109 since March 1st in 2011. While there would be various factors that attributed to the population decrease, arguably, the disaster and its lingering effects appear one of the main causes. Ishinomaki also has the second largest economy in Miyagi prefecture, and has the largest fishery industry in the prefecture (Disaster Reconstruction and Planning Division of Miyagi Prefectural Government, 2012). Geographically, Ishinomaki city is located on the plain around the outlet of the Kyu-Kitakami River to the Pacific Ocean. The city also has the sawtooth shoreline on its east side. While its climate is relatively moderate in March, its monthly average temperature is 3.7 degree Celsius (i.e., 38.66 degree Fahrenheit) and it has an average 9-centimeter (i.e., roughly 3.54-inch) snowfall. These characteristics indicate its vulnerability to a massive tsunami, especially over the winter. In the GEJE and tsunami, in the city of Ishinomaki alone, 3,449 people were killed, including both direct and indirect deaths, and 491 people are still missing as of July 31st in 2012 (Miyagi Prefectural Government). The disaster completely destroyed 22,357 house units, half destroyed 11,021 units, and partially damaged 20,364 units.

The other study site, Minamisanriku, is far smaller than Ishinomaki. As of December 31st 2011, 15,488 people resided in the town (Minamisanrikuchyo, 2012). According to data from 2009 fiscal year (i.e., April of 2009 to March of 2010), Minamisanriku is less than 10% of Ishinomaki in terms of economy size (i.e., the gross production in the city and town) (Miyagi Prefectural Government). While Ishinomaki had a gross production of 497 billion yen in 2009, Minamisanriku produced 39 billion yen. However, it is similar to Ishinomaki in that it also has a
relatively large agricultural industry, especially fishery industry. The two areas are also similar geographically; the east coast of Minamisanriku is a form of a sawtooth shoreline. While Ishinomaki is located on a larger plain, in Minamisanriku, the residential areas are concentrated on narrow flat areas near the coastline. Since the two areas are in close proximity, they have similar climates. In the GEJE and tsunami, in Minamisanriku alone, 610 people were killed either directly or indirectly and 238 people are still missing as of July 31st in 2012 (Miyagi Prefectural Government). As for the material damage, 3,142 house units were completely destroyed, 174 units were half destroyed, and 1,209 units were partially damaged by the disaster.

In June of 2012, I worked as a disaster volunteer in Ishinomaki city. I belonged to one of local volunteer organizations for 30 days. My responsibilities included cleaning up debris and houses, sowing sunflower seeds in the heavily devastated area, reconstructing individual gardens in older survivors’ homes, and creating and maintaining a playground for disaster survivor children. The volunteer team also has works such as visiting and providing mental care for temporary housing residents as well as holding a weekly gathering for middle-aged female survivors who lost jobs to do handicrafts together.

Most of the participants in this study were recruited through the volunteer project in which we reconstructed gardens that were destroyed by the tsunami and abandoned by older survivors. The leading volunteer of this project found that gardening was one of the most popular leisure activities in this area before the tsunami struck. The project aims for reconstructing a garden and providing a place where older survivors can stay physically active while having daily fun. In the project, we collected monetary donations from people all over the country and purchased flower seedlings, seeds, soil, and fertilizers to reconstruct gardens. Since
these gardens were covered by seawater and have much salt in their soil, it is necessary to change such soil with, or at least add, salt-free soil and add some fertilizer.

With donation, we visited disaster survivors (mostly older adults) who had been identified as those “at risk” by the project leader who has expertise on both Western and Eastern medicines and has worked as a professional practitioner of acupuncture and moxibustion. He and some other volunteer members have visited all the residents in a targeted area in Ishinomaki city and communicated to know their living situations. Once they found people who are at risk of health problems, such as mental illness or lifestyle-related illnesses, they are invited to join the project with which they can have their gardens reconstructed for free. Several (usually three to five) volunteers reconstruct the gardens with the residents. Through working together, we establish rapport with the survivors at risk to keep checking on them. The results of each project (i.e., pictures taken and comments from the survivors) are conveyed to the donor(s) for the project to create networks between survivors and non-survivors across Japan. At the end of my stay in June of 2012, the project had reconstructed about 20 individual gardens.
Figure 8. A scene of the Minami-hama area that had approximately 2,000 houses existed before the tsunami and where I engaged in cleaning debris and sowing sunflowers.

Figure 9. A scene of the Jyusan-hama area where all the 24 houses were completely destroyed and 8 people were killed by the tsunami.
Figure 10. The playground in Ishinomaki created by the volunteer team.

Figure 11. Female survivors and volunteers who came to the weekly handicraft event.
Figure 12. A couple of survivors and a volunteer who were working on the reconstruction of their garden.

Figure 13. A survivor, volunteers, and neighbors who were making a flowerbed of sunflowers in her garden.
Figure 14. A scene of the temporary housing in Minamisanriku.

Figure 15. Housing residents who were enjoying a concert event at the housing.
Figure 16. A housing resident who showed me vegetables she was growing in front of her housing room.

**Sampling and Participants**

Purposeful sampling was used in the study (Patton, 1990). This sampling method allowed me to selectively recruit local people who were directly affected by the GEJE and tsunami, and who are sufficiently heterogeneous in terms of gender, age, and SES (Maxwell, 2009). In this study, a disaster survivor is defined as a person whose life was significantly affected by the GEJE and tsunami. This relatively loosely defined criterion allowed for a variety of disaster experiences among the participants, such as bereavement, economic loss, witnessing traumatic events, fear of death, displacement, multiple relocations, separation from significant others, and injury.

There are two groups of participants in this study; one is a group of survivors who currently reside in their own houses and the other is a group of survivors in temporary housing. Nine interviewees who currently live in their own houses were recruited through my volunteer
works. They were asked to participate in the study by me in person. Seven current residents in temporary housing agreed to participate in the study. A key informant, who is the vice leader of the resident association in one of the largest temporary housing complexes in Minamisanriku, provided me with information about social or recreational events in the temporary housing. I attended the events where I could socialize with residents and ask them to participate in the study. Five of the seven interviewees in the temporary housing were directly asked to participate in the study by me. The other two interviewees were contacted via one of the other five housing residents through snowball sampling to obtain more middle-aged interviewees. Thus, a total of sixteen disaster survivors agreed to participate in the study.

Interviews with the survivors were conducted over the phone after I finished my one-month volunteer work in Ishinomaki. Phone inters were used because it was impossible for me to interview them while I was working as a member of the volunteer team. Additionally, in this type of post-disaster context where survivors have experienced interpersonal conflicts and suffered from chronic stress, it took a longer time for me to establish enough rapport to ask them to participate in this study. Through the data analysis process, many words and phrases overlapped across the transcripts, which arguably indicates that data saturation was achieved to certain extent in the 16 interviews.

I also interviewed five local volunteers who spent at least eight months in Ishinomaki. Due to convenience, I contacted volunteers within the volunteer organization for which I worked. Volunteers who have engaged in working directly with disaster survivors were asked to participate; those who were involved in physically demanding work and did not have extensive interaction with survivors were not included in the study. Three of the five interviews with the volunteers were conducted face-to-face because we had discretionary time after volunteer work.
However, the other two interviews were conducted over the phone since the interviewees were extremely busy during my stay as the leaders of their volunteer projects. Table 1 below summarizes the recruitment and interview procedures for the two different groups of interviewees, the survivor interviewees and volunteer interviewees, and illustrates the differences between the survivors currently in their homes and the temporary housing residents.
Table 1  

*The Recruitments and Interview Styles in the Study*

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Recruitment</th>
<th>Interview Style</th>
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<tbody>
<tr>
<td>Volunteers (n=5)</td>
<td>-Recruited from the volunteer team that I worked for. -Volunteers who had long-term interaction with disaster survivors were selected</td>
<td>-3 interviews were face-to-face while I stayed in the team after volunteer works -2 interviews were done over the phone due to the interviewees’ preference 2-3 weeks after I left the region</td>
</tr>
<tr>
<td>Disaster Survivors (n=16)</td>
<td>-A key informant introduced me to recreational and social event at the housing, and I recruited people at the events -I also did snowball sampling to have more younger interviewees</td>
<td>-All the interviews were done over the phone 2-3 weeks after I left the region</td>
</tr>
<tr>
<td>Survivors in temporary houses (n=7)</td>
<td>-Recruited directly by me through volunteer work</td>
<td></td>
</tr>
<tr>
<td>Survivors in their own houses (n=9)</td>
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</table>

While I attempted to reach an equal numbers of men and women, 11 out of the 16 survivor interviewees were women. There are some possible explanations for the gender imbalance. First, the survivors who sought help from the volunteer organizations appeared to be predominantly women. This might be because seeking help from others, even volunteers, might
be considered feminine in the Japanese culture. Second, in the temporary housing, I recruited residents through social and cultural events. Participants in those events were, again, predominantly women. As the volunteer interviewees in this study acknowledged, many of the events are disproportionately preferred by women, such as tea socials, handicrafts, and cooking class. There are only a few events mainly for men such as do-it-yourself. Finally, in the Japanese culture, it is sometimes considered shameful to share private issues with others, and this is especially true among older men. This is related to gender norms in the country.

As for age, the majority (9 out of 16) of the interviewees were older adults (i.e., older than 65). Indeed, it was very difficult for me as a volunteer to interact with younger or middle-aged survivors who go to school or work during the day. Another possible reason is that older residents of the temporary housing joined social and cultural events more than younger counterparts because they had more time during the daytime and these events were designed for the elderly.

Another cultural influence was seen when I asked about income and educational levels. I asked for such information in a few interviews conducted earlier. However, I soon found that the interviewees appeared very uncomfortable to answer them, and that such questions made the rest of interview quite awkward. This might be explained by social norms that it is culturally impolite for younger people (i.e., me in this case) to ask for such information from older adults (i.e., all the interviewees in this study are older than me). Also, it can be related to the Japanese culture in which people do not share private information with strangers. Another possible explanation might be that there have been some fraud cases in these areas after the disaster and the survivors are sensitive to disclose such information to strangers. Hence, I gave up asking about such information after I finished a first couple of interviews. For income level, I found
that the significance of the information is questionable because most of the older interviewees were retired and lived with the national pension system and others lost their jobs due to the disasters. Instead, I asked about their current occupations when they were still working, which provides rough ideas of their current income levels.

I obtained verbal consent from all of the 21 interviewees in this study, including both disaster survivors and volunteers. This was largely because the survivors were clearly reluctant to sign any documents due to the fraud cases described above. However, all the information in the consent letter was clearly conveyed to the interviewees twice before the interviews. As for the interviewees who I recruited directly, I explained the purpose of the study, how the interviews will be disseminated, and how their privacy will be protected. They were once again informed of the purpose of the study and confidentiality right before I conducted the interviews over the phone. For the two survivors who were recruited through the other survivor interviewee via the snowball sampling, I first explained them the purpose of the study, how it will be disseminated and how confidentiality will be protected over the phone. Then, they had a plenty of time (i.e., approximately one week) to ponder their participation in the study. I contacted them again over the phone and obtained verbal consent after explaining the purpose and confidentiality again right before we started the interviews.

**Data Collection**

In-depth interviews were employed as the primary data collection method for the study. Sixteen interviews were conducted with the disaster survivors, and five interviews were conducted with the volunteers. The interviews were semi-structured, where I asked some open-ended questions related to the topic and the interviewees were encouraged to answer freely. All the interviews, both face-to-face and over the phone, were conducted in Japanese and audio-
recorded. The average time of the interviews was approximately 50 minutes. All 16 interviews with the survivors and two with the volunteers were conducted over the phone. The three face-to-face interviews with the volunteers were conducted at the end of my stay in Ishinomaki, allowing me to build up sufficient trust with them. I conducted all the phone interviews two to three weeks after I left the city (see Table 1).

The interview questions were developed based on several existing qualitative studies (e.g., Iwasaki et al., 2006; Iwasaki et al., 2008) and the pilot study in New Orleans (Kono, 2012). Three main objectives of key questions were to collect information on: 1) how the GEJE and tsunami affected the psychological well-being of the survivors (i.e., what kinds of stressors and traumatic experiences the disaster caused), 2) how the disaster influenced leisure behaviors and experiences among the survivors, and 3) how leisure experiences, if any, helped the survivors cope and transcend their disaster experiences, or failed to so. Some examples of the key questions are: Please tell me about your experiences during and after the GEJE and tsunami. What did you do? How did you survive?; How, if at all, did your leisure behaviors change after the disaster?; What were the techniques that you used to deal with stress or trauma related to the disaster?; What role, if any, did leisure play in helping you deal with stress or trauma related to the disaster? Probes were asked in order to facilitate the interviewees to elaborate on the topics further. The lists of questions for the survivors and volunteers both in English and Japanese are in the Appendix (see Appendix A, B, C, & D).

In addition to the primary data collection, I also observed the behaviors, experiences, and lives of disaster survivors in Ishinomaki over one month as a volunteer. Through the volunteer activities described above, I interacted with a number of disaster survivors. Also, I worked with core members of the volunteer organizations most of whom settled and started volunteering work
in Ishinomaki right after the GEJE and tsunami occurred. All the relevant information that I observed or heard was “jotted down” in the research journal. I also reflected on my volunteer work experiences everyday while I stayed in Ishinomaki. Moreover, some of the informal conversations with disaster survivors were audio-recorded with verbal consent to do so. They were not transcribed and utilized as a formal source of data; however, they were considered as a supplemental source of information. Furthermore, while I stayed in Ishinomaki, I gathered local newspaper articles and magazines as another source of information. All of those additional sources of information were used to make my description of the context “thicker” (Geertz, 1973).

**Data Analysis and Trustworthiness**

The audio-recordings of interviews were transcribed by me as soon as possible. The transcription was conducted in Japanese first, and direct quotes that explicitly represent themes I found through the data analysis process were translated into English by me. The transcripts were not translated before the analysis because employing phenomenology as the methodology for the study, I assumed that the interviewees’ accounts represent what they experienced. Therefore, translation before the analysis could have added my interpretation to their narratives. The translation was attested by an independent professional translator who has extended translation experience between Japanese and English. Constant comparison was employed in the study (Glaser & Strauss, 1967), which means that while I conducted interviews, I constantly compared the contents of the interview completed and examined any emergent themes. As emergent themes were identified, they were explored further in the following interviews. While none of the main questions were changed or dropped, some of them were phrased in different ways to explore the themes, or make them better fit with the survivors’ experiences. A few probes were dropped or added in the later interviews for the same reason. Once all the interviews were
transcribed, I started the coding process. The process was threefold: open, axial, and selective coding (Strauss & Corbin, 1998). First, all the transcripts were read through multiple times to obtain an overall understanding of the content, and to identify common phrases and words that recur within and across transcripts. Next, such repetitive themes were clustered with similar themes to create major/overarching themes. Finally, selective coding led to the reduction of themes and identification of the relationships among them (i.e., core and sub-themes).

There are several strategies utilized for improvement of trustworthiness in this study. First, while I was conducting observations as a volunteer, I had written the research journal every day to become as self-reflexive as possible and critically ponder on preoccupations and ethical issues. For example, through this process, I realized that only a few survivors perceived the reconstruction in their lives while media reported that the reconstruction had advanced significantly. Moreover, I increased an awareness that there is considerable diversity among survivors, such as those in their own homes and in the temporary housing.

Furthermore, data source triangulation was employed as the main avenue to enhance trustworthiness in the study. This was because it was very difficult to implement member-checking since most of the survivors interviewees did not have an access to the internet and I could not stay in Japan long enough to get quality feedback after the interviews. The data source triangulation is defined as “comparing and cross-checking the consistency of information derived at different times and by different means within qualitative methods” (Patton, 1990, p. 467, emphasis in original).

In this study, the triangulation process was two-fold. On one hand, in-depth interviews were conducted with two different groups of people, survivors and volunteers, who experienced the disaster and post-disaster situation from different perspectives. Quotes from both survivors
and volunteers are presented in the following result section. Additionally, different types of qualitative data were collected, including interviews, observation, and written documents. While contents of these written documents are not quoted in the finding section, the contents were coded and recurring words and phrases were clustered into themes. For example, interviews with disaster survivors in local newspapers reported that older survivors “enjoy social interactions with grandchildren and neighbors” and look forward to having tea socials and going to day services. As for negative impacts of the disaster, local newspapers also reported that rooms in temporary housing are “too small for four adults to live together,” which consisted of a theme named life in a limited space as a post-disaster stressor. The observation data and the content of the research journal were coded in the same way as the interview data. Recurring key words and phrases were compared with the other data sources. While the document and observation data played significant roles as resources for triangulation, it should be noted that they also helped me better understand local contexts and describe them in a “thicker” manner.

Moreover, in the data analysis process, a sort of analyst triangulation was utilized. This means that the findings were shared with my advisor (she is also one of my committees) multiple times and we discussed if all the themes made sense. However, it should be noted that her contribution was limited because the raw data were in Japanese and could not be shared with her before translation, a type of interpretation.

Finally, in the interviews, I paid great attention in order not to guide my interviewees’ narratives. Since this topic, leisure and disaster, is significantly unexplored, it was particularly important to do so. For instance, I did phrase my questions about factors that have contributed to their psychological recovery process without using the word, leisure, first. By doing so, I could let the interviewees talk about as many important activities or experiences as possible, some of
which were not regarded as leisure by the interviewees but could be defined as leisure by me as a researcher. This was important because through the observations I found that the word, leisure, is associated with expensive activities, such as traveling, watching professional sports, and going to resorts, among many of survivors in the region. Also, I asked questions about both positive and negative effects of leisure (see Appendix A, B, C, & D). This allowed me to avoid from capturing leisure as an absolute positive factor in the psychological recovery process in the wake of disaster.

Participants’ Profiles

The main purpose of this section is to familiarize readers with the participants in this study. There are a total of 21 interviewees in the study. All the interviewees, including both survivors and volunteers, are Japanese. Of those 21, 16 are disaster survivors and 5 are volunteers. All the interviewees’ names used in the following sections were randomly assigned pseudonyms. For the survivor interviewees, I provide information on their sex, age, housing status (i.e., in own home or temporary housing), marital status, occupation, disaster experiences, favorite leisure, and other noteworthy characteristics. For the volunteer interviewees, I describe their sex, age, main responsibility, and duration of their stay. As explained in the previous section, I did not have the opportunity to conduct member checking. Therefore, the information in this section is based on in-depth interviews, my research journal, and notes of observations. To ensure confidentiality in this study, I provide less information rather than violate their privacy. The descriptions below are in alphabetical order of their pseudonyms.

Disaster Survivors

Hanako. Hanako is a 75-year old woman who lives in her renovated home in Ishinomaki. She was recently widowed because her husband was killed by the tsunami. He died of
hypothermia in front of her while they tried to escape from the wave. She was also swamped by the tsunami. She is a housewife. She enjoyed traveling and gardening before the disaster. She was also a very social person who loved to entertain others in conversation. However, bereavement was so traumatic for her that she became “mentally crazy.” She still took tranquilizer and sleeping pills when we had the interview. I still vividly remember that she stated that she does not “have anything to do in life now” when I visited her for the first time.

Kasumi. Kasumi is a mother of three children. She is 40 years old. Her home in Minamisanriku was completely destroyed by the tsunami, so currently she lives in temporary housing with her children and husband. In the same housing, there are also her parents who sometimes take care of the children. She was divorced once and remarried to her current husband. To earn a little more money, he changed his job from a fisherman into a tanker crew so he is rarely at home. Today, she is not working because there are not enough nursery schools that can take care of babies. She gave birth to her youngest son five days after the disaster. That is why she could not evacuate to an emergency shelter and had to be relocated six times within two and half months.

Katsuko. Katsuko is a mother of three sons, and an older sister of Shigeru, who is described below. All the sons already launched their own families. Katsuko is 72 years old, and she was disabled when she was in her early 20s. Her lower body is paralyzed and she is in a wheelchair. She experienced divorce in middle age. As she said in the interview, she could go through these negative life events because she is “a strong-minded person.” In the disaster, she lost 30 people whom she knew well, including sister-in-law and cousins. While she survived, she experienced miserable living conditions for one week after the disaster. She worked as a barber for a long time, but she was retired before the disaster. She loves cooking and sewing.
When I visited her for the first time, she let me eat pickled plum and proudly showed me a skirt she made.

Matsuyo. Matsuyo is a 75-year old woman who resides in her renovated home in Ishinomaki with her husband. She is a housewife. She and her husband are participants of the garden reconstruction project. Volunteers, including me, reconstructed their garden, and she enjoys gardening with her husband. When we visited her, she proudly showed many trophies of abacus competitions that had been won by their daughter. She told us that those trophies were found in sludge. She lost her brother in the disaster. On that day, she and her husband luckily visited an area that was not stuck by the tsunami and did not see it come. However, they were displaced for seven months. In the meantime, she stayed at a nearby school while cleaning up their home.

Mariko. Mariko is a 72-year old woman who lives in her renovated home with her husband. She has two sons whose wives’ parents were all killed by the tsunami. She also has a grandchild. She was engulfed by the tsunami on the first floor in her home, and survived by climbing up to the rooftop with a fine string from the ceiling. Her family now faces severe economic problems because they lost revenue as a landowner and the tax exemption on disaster-stricken real estate will be gone soon. Mariko is a very cheerful and active person who enjoys many leisure activities, such as international and domestic traveling, swimming, and outdoor recreation. She and her husband also participated in the garden reconstruction project. We made a little farming field particularly for her husband.

Noriko. Noriko is a 50-year old female resident of the temporary housing. She is married and works in both fish farming and fishery industry reconstruction project. She is one of the two survivor interviewees who was recruited through snowball sampling in order to have
more middle-aged survivors. While I did not meet her face-to-face, I contacted her over the phone twice, including once for the interview. She has experienced conflicts over aid especially when she was in a shelter.

Sachiko. Sachiko is a 60-year old woman who lives alone in her renovated home in Ishinomaki. She is single and retired. She was actually chased by the tsunami and luckily rescued by neighbors. Eight years ago, she suffered from cancer. In August of 2011, five months after the disaster, a metastasized cancer was found in her adrenal gland. Due to medical mistreatment, the cancer exploded and seriously undermined her health conditions. She is one of the participants of the garden reconstruction project, and when the project leader visited her for the first time, she cried saying, “Thank you so much for coming.” We created a flowerbed that was full of sunflowers last August. She is seemingly introverted but actually likes joking and laughing a lot.

Satoko. Satoko is the mother of Takako, who is also one of the participants in this study. She is 67-year old and resides in the temporary housing alone. She lost her husband a month before the disaster due to disease. She also lost her mother and two brothers in the tsunami. She has worked in seaweed farming for a long time and recently resumed her fishery business in her original community. She has taken a leadership position in organizing warm meal services, holding social and recreational events, and ensuring that the elderly in the housing do not die in solitude. She is one of the loudest and most cheerful residents. Now, her goal is to get out from the housing as soon as possible and return to her original community.

Shigeru. Shigeru is an older brother of Katsuko. He is 75 years old and lives in a home in Ishinomaki that was given to him by his oldest son. He was an owner of a ramen noodle shop. His wife and sister were killed by the tsunami. He has blamed himself for their deaths because
he thinks that they could have survived if he had told them to evacuate as soon as possible. Now, he is working on a project in which he will visit all over Japan and serve Ishinomaki yakisoba noodles. His wife won second place in the national local food competition with this noodle recipe a year before the tsunami, and they promised that they would participate in the event together in 2011 and win first place. The promise could not be kept. Today, serving the noodle represents repaying for the support he has received and atonement for their deaths.

Takako. Takako is a mother of two children, and recently became a grandmother. Her son was relocated to Fukuoka prefecture (i.e., the southern region of Japan) after the disaster and had a new baby last year. Her daughter is in a high school and applying for college. Takako is a daughter of Satoko. She is a 45-year old housewife. Her home was completely destroyed and she now lives in temporary housing. Her grandmother and uncles were killed by the tsunami. She was “mentally unstable” immediately after the disaster because she had to go back and forth between Miyagi and Iwate (i.e., where she was evacuated) prefectures to search for the missing family members. She also had to check dead bodies in morgues to find them. Because her family has been separated since the disaster, she hopes to get back to a normal life in which all the family members are together. Today, looking at photos of her granddaughter is healing for her.

Takashi. Takashi is a 73-year old man who lives in his renovated home with his wife and son’s family. He was working as an electrician, but was retired before the disaster. He evacuated to a school near his home and did not see the tsunami come. His home was severely destroyed by the tsunami, but he could clean and renovate it with minimal help from a carpenter and volunteers. This was because he was a professional electrician and has some expertise on house structures. He is a very serious marathon runner who ran in some international marathon races.
However, he could not run a marathon or even practice while he engaged in restoring his home. Another hobby for him is to maintain his beautiful garden that was made by his father. Although the garden was covered by the tsunami, there were many beautiful flowers and magnificent trees when I visited his home.

Tomio. Tomio is a 72-year old man who currently resides in his renovated home in Ishinomaki alone. His wife was killed by the tsunami. While he was a farmer when he was young, he then got revenue from real estates that he inherited from his father. In the disaster, he experienced “the nadir of his life.” He lost his wife. He lost his real estate. He got kicked out of shelters. He got all of his savings pick-pocketed a few months after the disaster. He lost more money in some fraud, which devastated the relations with his son’s family. He has health concerns and goes to a hospital twice a week. Today, his fun is to go to a day service weekly where he can interact with people in his age group. We also created a little farming field for him through the project.

Tsutomu. Tsutomu is a 43-year old man who lives on the second floor of a storehouse in the backyard of his home in the Jyusan-hama area. His home was completely destroyed and the rest of his family lives in a nearby temporary housing. He is single and makes a living as a musician/novelist/scenario writer. The community had 24 households before the tsunami, but eight people were killed and all the people except for Tsutomu have not returned to the area. Since the disaster, he has made many flowerbeds in the community to send a message to the former residents and other disaster survivors that “while this kind of thing [i.e., the disaster] happens, we can and should live.”

Tsuru. Tsuru is a 78-year old female resident in the temporary housing. She is a housewife. In the disaster, her cousin and nephew were killed. On that day, she was in the
Shizugawa area, one of the two large communities in Minamisanriku, which is now known for the devastation from the disaster. She luckily survived but witnessed many traumatic events. I met with her at the cafeteria called Azumare in the housing area. She is very talkative and loves gardening. She also enjoys traveling and watching the Japanese traditional dance.

Yasushi. Yasushi is a 64-year old male resident of the temporary housing. He lives with his wife. His daughter’s family also resides in the housing. He was working as a taxi driver but is unemployed due to the disaster. He is the president of the residents’ association of the housing. During the disaster, he watched the tsunami destroy a whole community while he was evacuating. He saw “the sea ebbed about 200 meters” before the second wave. He loves do-it-yourself (DIY). Also, he is a big fan of collecting classic cars. He has been the president of the classic car club in his community for 19 years.

Yukari. Yukari is a 39-year old mother of two children. Since her home was destroyed by the tsunami, she lives in housing. She is married and works in the medical field. She is the other research participant who was recruited via snowball sampling. Although I did not meet her face-to-face, I had conversations over the phone three times including once for the interview. On the day of the disaster, she was at her workplace in an inland area and could not return to Minamisanriku for a few days. Since the disaster, she has spent busy days dealing with paperwork, working at a hospital, and taking care of her kids. However, through the disaster experience, she realized that the most important thing in her life is normal time that she took for granted, time with her children.

Disaster Volunteers

Eri. Eri is a 33-year old female volunteer who first came to Ishinomaki on April 2nd of 2011. While she first engaged in cleaning up debris and sludge in homes damaged by the
tsunami, she decided to support children who were affected by the disaster because she has a background as a nursery school teacher. Through surveys and interactions with survivors, she found that there were not enough places where children can play freely. Playgrounds were not cleaned up because homes and other facilities were prioritized. Since September of 2011, she has engaged in creating a playground for local children in Ishinomaki. Also, she has been involved in a project to let female survivors gather weekly and enjoy handicrafts.

Karina. Karina is a 27-year old female volunteer who also came to Ishinomaki in April of 2011. Similarly, she first engaged in cleaning debris and sludge until the end of August of 2011. While she was looking for a disaster area where physically demanding volunteer work was still needed, she came to know that there are communities where volunteers provide opportunities for survivor women to get together and do handicrafts. When she came back to Ishinomaki in the middle of October in 2011, she started to engage in the project in Ishinomaki. Now, she is also involved in a project that branched out from the original project where female survivors sell what they made and get revenues.

Kento. Kento is a 32-year old male volunteer who came to Ishinomaki in October 2011. Before that, he was working as a professional practitioner of acupuncture and moxibustion. He is also quite familiar with both Western and Eastern medicines. Immediately after he arrived, he got involved in a project called “yorisoi,” or attentive listening, in which volunteers visit all the houses in a targeted area to check whether there are older adults who live alone or any survivors who are mentally at-risk. In May 2012, he started the garden reconstruction project described earlier whose targets are survivors currently in their own homes.

Sarina. Sarina is a 31-year old female volunteer who came to Ishinomaki in March of 2011. She also engaged in debris cleaning until the middle of July in 2011. Unlike the other
volunteers in this study, she went back and forth between the Kanto region (i.e., the capital area where she resides) and Ishinomaki. Since she works in the medical field, she drives over to Ishinomaki every weekend. In December of 2011, she started to join a project in which volunteers visit all the rooms in all the temporary housing complexes in a targeted area to get information on whether there are older adults who live alone or any survivors who appear to have mental illness.

Shyoko. Shyoko is a 28-year-old female volunteer who first came to Ishinomaki in the first week of May of 2011. She has also engaged in the yorisoi project for an extended time. She is engaged in a project to fill up the Minami-hama area with millions of sunflowers. The area was inhabited by about 2,000 households before the tsunami. However, the land was lowered by the tsunami and became more vulnerable to future tsunami. Therefore, it is now forbidden to live in this area.

To summarize, this section was aimed at familiarizing readers with all 21 participants in this study, both the survivors and volunteers. While detailed personal information is not provided due to the confidentiality issue, I hope that readers have a better comprehension of the participants’ backgrounds.
CHAPTER 4

RESULTS

The main findings in this study were divided into two sections. The first section is on negative influences of the disaster on the survivors’ psychological well-being (see Figure 17). In this section, I will illustrate different types of factors related to the disaster that have negatively affected their mental health. The second section examines key roles of leisure in the psychological recovery process after the Great East Japan Earthquake (GEJE) and tsunami (see Figure 18). In this section, I investigate important roles leisure has played in their psychological recovery. Also, it should be noted that the experiences that are categorized in the two sections did not necessarily occur in a chronological manner; in other words, it is not always the case that the survivors faced with negative events caused by the disaster and now they are recovering from them. Rather, they are still suffering from traumas and stressors while they are slowly recovering. Also, it is noteworthy that the survivors in this study are in significantly different stages of post-disaster psychological recovery process.

Negative Influences of the Disaster on the Survivors’ Psychological Well-being
Disaster experiences and post-disaster living situations have significantly influenced the psychological well-being both directly and indirectly. On one hand, the disaster negatively affected mental health of the survivors directly by causing traumatic experiences and leaving post-disaster stressors. In addition to these direct negative influences, the disaster also had indirect influences on the survivors’ psychological well-being through their leisure experiences. The narratives of the survivors indicate that the disaster negatively impacted their leisure patterns, which has subsequently decreased their leisure satisfaction or leisure’s psychological benefits. Thus, the disaster survivors in this study have suffered the disaster’s negative influences on their mental health both in direct and indirect ways. Figure 17 is a descriptive figure that summarizes
three major categories of negative psychological impacts that the GEJE and tsunami have caused or increased.

**Traumatic Experiences**

In the case of the GEJE, the subsequent tsunami destroyed the survivors’ lives physically and emotionally. It caused many traumatic experiences that were so shattering that the survivors could barely endure them. As described earlier, these traumatic experiences are different from post-disaster stressors in that the former had important meanings in the survivors’ lives symbolically (e.g., the destruction of home where a survivor was born and spent his/her whole life meant more than just destruction of a shelter). Most of the following traumatic experiences occurred in the emergency period during or immediately after the disaster that is characterized by “search and rescue, emergency shelter and feeding, the establishment of order, the clearing of major arteries, and the draining of floodwaters” (Kates, Colten, Laska, & Leatherman, 2006, p. 14655). There are seven traumatic experiences that recur in the survivors’ narratives. They include: 1) destruction of homes/loss of belongings with attachment, 2) displacement/relocation multiple times, 3) separation under uncertain situations, 4) life without basic commodities, 5) fear of death, 6) witnessing traumatic events, and 7) bereavement. However, it should be noted again that these experiences were closely related with each other (e.g., destruction of homes led to displacements, or witnessing death of one’s spouse) as well as with post-disaster stressors (e.g., displacements forced them to live in uncomfortable living situations) described in the following section.

**Destruction of homes/loss of belongings with emotional attachment.** Virtually all homes of the survivor interviewees were severely damaged. They were no longer architecturally stable. The destruction was very traumatic for the survivors because their homes were not just
shelters, but the places to which they attached many important memories in their lives. In a rural area such as Ishinomaki and Minamisanriku, many people are born and grow up in their homes until they become economically independent or get married. The latter is especially the case for women. For men, they inherit homes from generation to generation. Moreover, the tsunami also swept away all the belongings. A prevalent phrase among the survivor interviewees, as well as many other survivors who I observed during my volunteer work, was “everything is gone” or “nothing is left.” For example, Hanako, who lost her husband in the disaster and currently resides in her renovated home alone, said:

The first floor was completely destroyed. So, all the electronics were broken. All the sideboards and shoe shelves were not usable any more. I also dumped all my kimonos [i.e., Japanese traditional clothes] because I placed them on the floor. … So, nothing is left.

Similarly, Sachiko, whose rented home was severely damaged and could not bring out all the important belongings, described her experiences when we were talking about her previous hobby, Japanese flower arrangement:

They [i.e., flower vases] were all gone. Since I was doing the Japanese flower arrangement, I had many boxes of vases. … I guess I put them into a storage shed, so they were not wiped out. … So, the land owner asked us to bring out all what we need, but I couldn’t because they were all full of sludge, I was alone, and there was no place to bring them into. So, I told him to throw them away. So, there is nothing left. … I have a certificate of a flower arrangement master. Oh, I mean that I had it because it was damped already.
Such destructions of their homes and other important belongings were so traumatic that they significantly undermined the emotional and mental health of the survivors. Matsuyo, who now resides in her own home with her husband, clearly described what her home looked like immediately after the disaster and her sense of being lost due to the unimaginable devastation:

When the water was gone about a week after the tsunami came, we went to our home and found it destroyed. We could not even enter. … The whole first floor was destroyed. The height of tsunami was about two meters [about 6.56 feet]. … We had a horigotatsu [i.e., an embedded kotatsu, which is a small table with an electric heater underneath and covered by a quilt]. … It broke through the carpet and came up. … The water pushed it up. Although I locked all the doors, the water came in from the bottom of the house. It destroyed the entire room. … So, I could not think about anything for a month. I was just dazed.

In Takako’s case, the loss of belongings was so tragic because they were reminders of her father who died about one month before the disaster:

It’s [i.e., her hometown] all gone. So, I first cried by just seeing my hometown. It was so shocking to see the town where I grew up gone. I cried because the town was gone, and then, my home was gone too when I went to where it was used to be. … It’s the home where I grew up. I have memories in my mind, but I lost the scenes where such memories were created and attached. I feel like I lost everything. My father died a month before the disaster, so we were saying that he was always sitting here while he was sick. Those scenes were all gone. I was so sad.

As such, the disaster with the unprecedented level of devastation caused destruction of homes and belongings to which the survivors were emotionally attached. Since they had
important meanings in their lives, the destruction was traumatic and negatively affected their psychological well-being. Moreover, it is noteworthy that in rural areas like Minamisanriku home is one of the important leisure sites for local people. The disaster also wiped away leisure resources like flower arrangement equipment for Sachiko. Therefore, it indicates that the destruction also had indirect negative impacts on mental health by increasing material constraints on leisure participation.

**Displacements/relocations multiple times.** Virtually all the survivor interviewees were displaced from their original homes in the wake of the disaster. Moreover, all the survivors in temporary housing were still living in the housing at the point of the interviews (i.e., one year and three months after the disaster). They did not appear to have a clear plan to move out from the housing. In this study, the displacement period for the housing residents are defined as time until they moved into the housing. However, it should be noted that some of the residents still felt that rooms in the housing are not their homes and that they are still being displaced. For the survivors who currently reside in their own houses, the displacement was the time until when they returned to their homes. Nonetheless, their homes were severely damaged (e.g., first floors were completely destroyed) and were no longer architecturally livable. Most of the survivors who currently reside in their own homes renovated and moved back to their homes even before the homes were completely renovated. Before the survivors moved into the housing or returned to their renovated homes, most of them were displaced at different emergency shelters or their friends’ or family’s places. The duration of their displacements varied from one month to eight months. Among the sixteen survivor interviewees, eleven experienced multiple relocations before they finally ended up in their own homes or the temporary housing. The majority of them
(i.e., 6 of 11) were relocated two to three times. However, there is an interviewee who relocated six times before she moved in the housing.

For many survivors, these displacement experiences were quite depressing. For example, for Katsuko, who uses a wheelchair because her lower body was paralyzed when she was in her 20s, displacement and life in others’ homes meant that she could not live independently:

My brother’s daughter was living in Osato, Kurokawa County. So, she allowed me to live there for a long time. However, it’s her place, right? I could not move with my wheelchair, so I felt it was a situation like sitting on “a bed of nails.” Isn’t it convenient like this place, is it? It’s just a normal house, where I cannot move with my wheelchair. First, its hallway is so narrow. I couldn’t take a bath unless someone helped me. It was terrible.

Kasumi, who gave birth five days after the disaster in Sendai, the capital city of Miyagi prefecture, experienced relocation six times because she was accompanied by the newborn. When she was asked about the biggest difficulty in her disaster experiences, she immediately named life without her own shelter. Throughout multiple relocations from a friend’s place to another friend’s place, she said, “I saw both good and bad sides of human beings.” Likewise, displacement and relocation were traumatic for Tomio, who also lost his wife in the disaster. He was kicked out from a shelter where he evacuated at first because of toilet accidents approximately one month after the disaster.

In this way, displacement and relocation were another sources of trauma for the survivors. Moreover, this experience was closely related to other traumatic experiences (e.g., separation from significant others under uncertain situations) and post-disaster stressors (e.g., discomfort during stays at others’ places). For the survivors who stayed at shelters, they suffered
limited space or noise/privacy problems. Some of them also experienced conflicts over aid and donations, which significantly undermined human relationships in their original communities. For those who stayed at their friends’ or remote family’s places, they felt uncomfortable as their stays became longer. Such stressful living situations were exacerbated by lack of basic necessities, such as water, food, electricity, and gasoline. However, for the survivors who lost their homes, there was literally no other choice unless their homes were somehow renovated or temporary housing was prepared.

**Separation under uncertain situations.** Many of the interviewees experienced separation from their significant others, such as spouses and children, during and immediately after the disaster. In the wake of the disaster, cell phones did not function. Therefore, they had to simply wait at where they were displaced or walk around shelters to look for missing people. Due to the unprecedented level of devastation, most of the interviewees who experienced separation felt that significant others would no longer be alive for several days after the disaster. For example, Takako was separated from her son who was working in a company near the sea. She could not contact with him because he left his cell phone in his car when he evacuated, so she “thought he died.” However, she tried to find him with a slight hope:

I couldn’t contact him, and there was no information. So, on the next day (of March 11th in 2011), I left the shelter right after the sun came up. I could barely see the road. I started to walk down to my son’s company. When I came down to a street, I realized that the road I always took was gone. It was full of debris and I couldn’t walk through it. So, I walked beyond two mountains and reached at the place where I could see his company. I waited for him for a long time there. … I just saw some people on the top of the building, but wasn’t sure if my son was there or not. I couldn’t contact him, so there
wasn’t any other way from just waiting. … I arrived there in the morning, and then I had
gazed at the company till the evening. … On my way to the company, I asked every
single person on street, “Do you know where workers of this company are?” I didn’t care
about shame. I just asked to everyone, “Do you know?” to get any information. But, the
only answer I got was, “I don’t know.” So, there was no way to get a clue other than
going to the company. So, I just waited there.

While she finally found him coming out from the company building, her behaviors indicate how
worried she was at that time. Also, asking to random people without shame explains how
absorbed she was in seeking her son.

In Yasushi’s case who evacuated to a traditional inn near his home in Minamisanriku, he
was separated from his daughter and grandchildren who lived in a town next to Minamisanriku.
He also could not contact them due to cell phone malfunction. Eventually, her daughter “walked
a-few-hours way down to our shelter, crossing mountains on foot.” Fear of losing significant
others was so prevalent and powerful that many people even “walked through mountains” in
order to find out whether their loved ones survived. When the disaster occurred, Tsuru visited
the Shizugawa area, one of the largest communities in Minamisanriku town, to attend a talent
show held by a club for the elderly. She evacuated to the rooftop of the building where the talent
show was held. She was separated from the rest of her family for a couple of days and described
the following story in the interview: “Because I was separated, my husband told my daughter-in-
law to buy sticks of incense since I died [In Buddhism, people light incense sticks and pray for
the dead]. Some people saw the Takano-kaikan building with about 500 people sinking into the
tsunami water. He was told that I wouldn’t survive.”
Thus, separation from their significant others was very traumatic for the survivors particularly under uncertain situations in the wake of the disaster. The intensity of anxiety or despair was exemplified by their behaviors, such as walking for hours in mountains to find missing people or buying sticks of incense.

**Life without basic necessities.** Another traumatic experience found in this study was living without basic necessities, such as water, food, clothes, and shelter. Several interviewees poignantly talked about their experiences in which they could not eat at all for a couple days or ate a *piece* of rice ball or drank a *lid* (i.e., a lid of PET bottle) of water. They also continued wearing the same cloths that they wore when they evacuated until they obtained aid a couple days or even a week after the disaster. The survivors suffered from such a lack of basics even at early stages of their displacements. For instance, Katsuko, who was disabled but evacuated to a nearby school immediately after the earthquake happened, described her evacuation experiences for the first couple days:

> I could not eat or drink anything for two days. There was nothing to eat or drink. … A teacher at the school brought a one-litter bottle of water and people over 75 could drink a *lid* of water. Since I am 72, I could not get anything. We lacked water that much. Two days and half after that, a jeep of the self-defense force came to the school. And, we were told to split a rice ball like a *Ping-Pong ball* into two pieces and share it with another.

Likewise, Tsuru, who was forced to stay at the rooftop of the building in the one of the largest communities in Minamisanriku, illustrated life without basics at the very early stage of her evacuation. She also described how miserable it was compared to her experiences in the wake of World War II:
In the next morning [i.e., after the disaster], we were still at the Takano-kaikan building. We ate half of a rice ball. And, a PET bottle has a tiny cap on it, right? So, we drank a lid of water with it. Then, we couldn’t eat or drink anything until the afternoon on the next day. Well, we couldn’t have anything after we reached the junior high school. Three days after the tsunami, some people tried to cook outside. … You know, a lot of smoke and ashes come out when you burn these cedars. So, we ate rice with ashes. … For a couple of days after the disaster, the situation was worse than after World War II. We didn’t really have food. It was so miserable. I am sorry for my grandchildren for the situation. We had to live under the miserable situation over half month. To be honest, we didn’t have any clothes to change. We just wore what we wore when we evacuated.

In this way, the lack of basic commodities was not a merely material problem. It was quite a miserable and traumatic experience so that many survivors vividly recalled such experiences in their interviews as something that greatly undermined their mental health. It is noteworthy that the post-disaster situations were perceived even worse than the living conditions after WWII by a few older survivors like Tsuru.

**Fear of death.** Among the 16 interviewees, six people were actually chased by the tsunami, and three of them were swamped by the tsunami once. It was so powerful that some of them had a brush with death. Even after they survived, it still affected their psychological well-being because they remembered such fearful experiences, especially at night. For example, Sachiko, who is 65-year old, “was running over heals” to escape from the tsunami, but the tsunami came to her foot and she fell down. However, she stood up again and was rescued by people who were in a nearby building. She said that she would have died if they had not found and helped her. Similarly, Satoko, who worked in the seaweed farming before the disaster in
Minamisanriku, also experienced being chased by the tsunami and could not return to the sea for a while because of her traumatic memories:

My home was on a hill though it was located along the seashore. I thought the tsunami would not come over to my home, so I went out to the backyard and was preparing for helping people who resided in lower places. When I wore a pair of rubber boots, grabbed my gloves and got out, I saw the sea eddy and swirl and the wall of water coming over. It got so close in a moment that I had to look up the top of the wave. The wave was coming to where I was. Instantly, I found my body crawling up the mountain behind my home.

Hanako, who was evacuating with her husband by a car, remembered the last minutes she spent with her husband, who died of hypothermia, in the following quotes:

It passed for a while, so it was too late. The tsunami came on our way. The tsunami came, and I returned, shouting, “Dear, we go back ‘cause the tsunami is here!” But, the wave was coming over. There was no way to escape, so we drove into the parking lot nearby the soba shop. And, we jumped off from our car and my husband was also running away from the wave. And, we all were swallowed by the wave completely from the top of our heads to the toes. … The wave was taller than my height. When my husband tried to pull me up from the wave, I told him not to do so because I cannot swim. I said to him that he could leave me. Then, he said, “What are you saying?” and pulled me up to the top of a concrete block wall.

Hence, these life-threatening experiences were very traumatic and some survivors experienced flashbacks of such experiences. That is why they still have negative impacts on the survivors’ psychological well-being. Moreover, the survivors who were actually chased by the
tsunami also went through other traumatic experiences with a higher possibility, such as bereavement or witnessing traumatic events.

**Witnessing traumatic events.** During and immediately after the disaster, many interviewees saw very traumatic events in which people were being swept away or their towns and homes were being destroyed. Through my observations in the field, I found that it makes a significant difference in terms of post-disaster psychological well-being whether a survivor witnessed traumatic events firsthand or not. Similar to life-threatening experiences, the survivors in this study remembered these events *when something happens* or all of the sudden. For example, Tsuru, who evacuated to the rooftop of the building in Shizugawa, saw patients in the hospital across the street being swept by the tsunami:

There was a talent show held in Shizugawa held by the club for older adults. About 450 people went there. I was one of them. … It was held at the building called Takano-kaikan, which has three stories but little taller because it also has a wedding hall. … We were surprised and evacuated to the rooftop. … Everybody was there. It was snowing or sleeting. It was so horrible. How can I say? It was a *scene from hell*. … There was a hospital across the street, so I saw patients with their beds being swept away. The scenes are *still in my mind*. When something happens, I remember them.

Coincidently, the phrase “a scene from hell” was echoed by Katsuko, who evacuated to a nearby school right after the earthquake occurred:

I saw the first wave come from the third floor of the school [where she evacuated]. The wave was flowing backward along the Kitakami River. It came into the school while it came back to the sea. At that time, many cars were trapped in the traffic jams, so they were swept away. There were also some people who grabbed the fence while being
covered by the tsunami water. Many people were crawling in the water. It was like witnessing a scene from hell. It was horrible.

Similarly, when Tsutomu evacuated up to a hill, he saw a women in his neighborhood on the rooftop of her house that was being flowed away by the tsunami, and his “gaze met hers.” However, he could not do anything. He also saw a person who grabbed the dike in the wake of the first wave. However, the second wave engulfed him. Again, he could not do anything. In our conversation, he told me “it was just a cruel scene.” He also illustrated how depressing it was to see other survivors who were at a complete loss and searching for missing people:

What was traumatic for me was to see people in need and at a complete loss. For example, four days after the tsunami, I was asked to go to my relative’s home in the area near the Okawa primary school and rescue any female or child survivors. … The area was considerably devastated. There existed only a few homes on the slope of a mountain. The area within the embankment was flooded and it wasn’t drained. … I saw some people crying and searching for their missing children. It was heartbreaking to see people who were at a complete loss.

Traumatic events that the survivors witnessed during the disaster were not only related to people who were being wiped away. For Takako, who had to search for her missing family members, it was extremely traumatic to check every dead body in morgues:

At first, there were morgues where all the bodies were lined up. It weren’t pictures. I had to go there and check bodies one by one. … Yeah, I saw because I had to find my grandmother and a few others. The only thing that I could do was to check one by one with my eyes at that time. … It was traumatic. Even though they were covered by sheets, so many bodies were lined up in a big room like a gymnasium. … I did do that when I
was looking for my grandmother. A few months later, the system changed and we checked the file with photos of the dead. It was more horrible. … I found my uncle in the file, but his face was awful and looked like a totally different person. … It was colder earlier, so bodies did not rot so much. The photos contained the bodies found later, so they were in bad condition.

It was also traumatic to witness homes or even an entire hometown being swept away by the tsunami without being able to do anything. For example, Sarina, a volunteer who has provided mental care for housing residents, answered in the following way when she was asked about what she thinks was the most traumatic for disaster survivors:

What I think traumatic is moments when survivors were witnessing their homes and places being swept away. … Some survivors said that the tsunami came over and what they could do was just watching places where they worked and homes of people who they knew being flowed away. … There are many survivors who were swamped by the tsunami. But, survivors who watched things being flowed away from higher places are haunted by the memories. They tried hard to convey to me, crying.

Among the survivors, Satoko illustrated how traumatic it was to see her home being “ripped off” by the tsunami:

Right after that [i.e., after she escaped from the tsunami], I heard the sound like rip-rip behind me. I saw others’ homes flowing and people being swept away on the side of my home. I thought, “Oh my God!” and my mind went blank. I think it was just a few seconds, but I couldn’t understand what was going on.

In this way, many survivors witnessed extremely traumatic events during and immediately after the disaster. Most of these events were closely connected to the death of
people or destructions of homes. They could not do anything to rescue people in the water or protect their homes and hometowns. They felt lack of control in the face of overwhelming power of the natural disaster.

**Bereavement.** Ten out of the sixteen interviewees experienced bereavement of significant others (i.e., family or close friends). Among those 10 survivors who experienced bereavement, three lost their spouses in the disaster. Needless to say, bereavement, especially of spouses, were traumatic experiences for them as well documented in the widowhood literature (e.g., Bennett, 1996; Hagedoorn et al., 2006; Wilcox et al., 2003). However, it should be noted that the deaths caused by the disaster were, arguably, more catastrophic. Oftentimes, corpses are still missing, or they were in terrible condition even though they were found. Furthermore, unlike cases where people die due to disease or injury, the bereavement that the survivors in this study experienced was completely unexpected.

Although their significant others were killed by the tsunami, some of the interviewees blamed themselves for their deaths because they wondered if they could have survived if they had told them to evacuate sooner or if they had chosen a different evacuation route. One of the examples of those who have self-blamed since the disaster is Shigeru, who lost two of his immediate family members, his wife and sister. He shared how he has felt in the following quote:

I lost two family members. I lost my wife and sister. … And, what I thought and still think is that they could have survived if I told them to evacuate soon. … But, I did not imagine that the tsunami would come here [i.e., his ramen noodle shop in the Minami-hama area]. Nobody around here evacuated. Also, I had customers at my ramen shop. I have thought that I should have evacuated first. I was waiting and seeing what was going
on. Hence, I have always thought that I am responsible for their deaths. That’s why I couldn’t sleep well at night. I got a nervous breakdown and felt like depressed. It was awful.

In a similar way, Hanako, whose husband died of cold after he was swamped by the tsunami, felt, “I killed my husband” because she thinks that he could have survived if she did not evacuate to the outside but just stayed at the second floor of their home. She explained how “shocking” his death was for her:

Then, he [i.e., a person who rescued her and her husband] shouted to us, “Are you guys okay?” So, we explained we are three of us, and he said he was coming to rescue us. He let us three get up to the second floor of his house. Then, my husband was sleeping on the hallway, snoring a lot. He gradually stopped breathing and died. So, he died of cold. … We put many blankets on him, but they didn’t work. So, he died in front of me, which was very shocking to me.

Hanako’s experience was exactly echoed by one of the volunteer interviewees, Shyoko, who has engaged in mental care for survivors currently in their own homes. When she was asked about disaster-related traumas, she shared the following conversations with some survivors:

While I knew that there were many people who were engulfed by the tsunami and killed, I didn’t know that there were also some people who died of cold. They could escape together though they were swallowed by the wave. … Although they survived, their partners died, or their daughters died. As such, I know a few people who lost significant others in front of their eyes. It’s heartbreaking. Since I had some deep conversations with them, they seriously told, “I want to die,” or “I have no will to live anymore.”
The bereavement related to the disaster was also unique in a sense that a large number of people were killed at the same time. Therefore, bereavement was not a unique experience at that time. This was expressed by the following quote from Katsuko, who lost many friends as well as significant others:

And, 30 people who I knew were killed. My brother’s wife is still missing. And her young sister was also killed. Totally, 30 people died, including my relatives and cousins. While I am okay now, it was heartbreaking when I knew they were killed. I wondered why they could not evacuate though a person like me [i.e., a person with disability and a wheelchair] did.

The post-disaster situation in which deaths were so prevalent also affected the survivors who did not experience bereavement of significant others. For example, Mariko, whose neighborhood lost many people by the disaster, stated that it was natural that someone died in each family. When I visited her, she told me that she was still wondering why and how she survived (i.e., she was engulfed by the tsunami completely in her home and climbed up to the rooftop with a string hanging down from the ceiling). In her neighborhood, she said that people ask not if any of your family was killed but who was killed because deaths were so prevalent. In the same way, Tsutomu said that he “happened to survived” in his community where eight people died in 24 families. In the neighboring communities, more than 50 people died.

The bereavement after the disaster was extremely traumatic experiences for the survivors. The deaths were so catastrophic. A number of people were killed in a moment at the same time. As the literature on widowhood shows, loss of significant others (i.e., spouses, immediate family, and close friends) is traumatic (e.g., Bennett, 1996; Hagedoorn et al., 2006; Wilcox et al., 2003). Furthermore, the post-disaster situation where human deaths were so prevalent was very tragic.
even for the survivors who fortunately did not experience bereavement of significant others. As indicated in the section regarding witnessing traumatic events, prevalence of deaths in the wake of the disaster made the survivors feel overwhelmed by the natural disaster and helplessness.

**Post-disaster Stressors**

While traumatic experiences and post-disaster stressors are related to one another, they are distinguished in this study in that the stressors (e.g., discomfort during a stay or complicated human relationships) are ordinary stimuli in normal life compared to extraordinary traumas (e.g., destruction of homes or witness of traumatic events) caused by the disaster. However, the intensity and duration of these stressors were exacerbated by the post-disaster situation. With respect to the time period of the stressors, they became salient among the interviewees’ experiences from the early stages of their displacements. Moreover, they were lingering in the survivors’ lives even one year and three months after the disaster and negatively impacted their mental health.

**Discomfort during displacements.** While being displaced and relocated multiple times was an extraordinary and traumatic experience (i.e., “meaningful” in that they lost their own places and were forced to move to other places) in itself, it also entailed chronic and intense stress for the survivors due to discomfort during their displacement periods. Many survivors felt stressed out because they had to “be mindful of others.” This was particularly prevalent among the survivors who stayed at their friends’ or remote family’s places. Staying at others’ homes was very uncomfortable particularly under the post-disaster situation where even hosts were somewhat affected by the disaster. Moreover, it was difficult to maintain good relationships with the hosts when they could not afford to care about others. For instance, Takako, who was displaced to her husband’s home in Iwate prefecture [i.e., a neighboring prefecture of Miyagi]}
until November of 2011, felt very uncomfortable especially at the early stage of her displacement. She was married into her husband’s family, so she is not supposed to only care for her original family according to the Japanese custom. However, in the wake of the disaster, she had to return to her hometown, Minamisanriku, every day to search for her missing grandmother and relatives. Therefore, she felt a sense of guilt for her parents-in-law as seen in the following comment:

I had to come back every day to search for my missing uncle and aunt. I also had to do the paperwork for my mother. I had many things that I had to do. Everyday, I had to visit my mother. I felt a kind of guilt. … I was coming back to my parent’s place [i.e., Minamisanriku]. Well, we were in a difficulty, but I guess they [her husband’s parents] didn’t feel good about it. I had to come back every day. So, I was mentally unstable.

Similarly, for Yukari, who evacuated to her brother’s home, it was still uncomfortable because the living conditions became worse and she brought her children:

We first evacuated and stayed at my brother’s place, but we couldn’t stay there for a long time. So, we rented a prefabricated house in the Utatsu area [i.e., an area in Minamisanriku]. … There weren’t essential utilities, and we didn’t have enough food at first though we got more food later. As living conditions declined, it became more difficult to worry about others. So, it became little uncomfortable and awkward to stay there [i.e., her brother’s home] because I had my kids as well. You know, I couldn’t afford to care about others due to the lack of inner reserves.

Such disrupted personal relationships during displacement periods were echoed by many other survivors in the study. Kasumi, who were relocated at six times because she was accompanied by a newborn, illustrated the relationships between the length of stay and increased discomfort:
While I stayed at two different friend’s places in my community, it was still uncomfortable to be there. You know, everyone had some problems. So, at the very end of my displacement, I stayed at the place of one of my friends in Sendai until I moved into temporary housing. … As TV programs say, they [i.e., friends who allowed her to stay] were nice at first. But, the longer the stay became, the more uncomfortable it was. Then, I tried to ask for another friend, and wonder whom I should ask for. … Everybody didn’t have revenue.

While the disaster was so devastating that it indirectly affected hosts of displacement places [e.g., disrupted distribution of commodities and lack of water, electricity, and gasoline], most of the survivors who were displaced to others’ places felt that they could not share their traumatic experiences or difficulties that they were facing with the hosts. This gap of experiences and situations was also stressful for them as illustrated in the following Tsuru’s comment:

Then, I stayed at my young sister’s place in Osaki for three months. … Although I was treated well because I was a survivor, I couldn’t know situations here. I just wanted to stay around here and know what was going on here. She said that I could stay there more, but I wanted to return. … You know, here are people who were also affected by the disaster. It’s more comfortable for me to talk with them. And, we were in the same situation. … Yeah. I had to do so [i.e., be little mindful of others when she was displaced]. That was the most stressful. They didn’t know the situation here. They didn’t know the situation at all in which we struggled for half month.

As indicated in Tsuru’s quote above, living away from the disaster area was stressful too because the survivors could not obtain important information and work on issues (i.e., reporting death to
local governments, holding funerals, and clearing up homes). For Hanako, who lost her husband in the disaster, it was very stressful to be unable to work on the aforementioned procedures at all while being displaced:

I was first taken to my daughter’s place in Yamagata prefecture [in Tohoku region]. She came over from Yamagata and picked me up. But, I couldn’t stay there because I was so worried about what was going on here. … Then, I went to my son’s wife’s home. It’s in Ishinomaki. … The area was not swamped by the tsunami. So, I stayed at her family’s house for one and half month. … But, I had to work with a temple dealing with my husband’s death, and had to hold his funeral. I thought I had many things to do. I had to ask a carpenter to rebuild my home. So, I couldn’t just stay at her home. I got impatient and irritated because I could do nothing at her house. I was urged to come back to my home. I thought I had to clean up my home as soon as possible. So, I could not feel settled at her home.

As such, displacement in the wake of the disaster entailed very stressful living conditions for the survivors. It made them “be mindful of others,” and sometimes interpersonal relationships were severely disturbed due to the living conditions without sufficient basic commodities and essential utilities. The survivors felt that others could not understand their traumatic experiences and difficulties owing to the lack of shared disaster experiences. They were also frustrated because they could not work on urgent tasks during displacements.

**Anxiety for future disasters.** Although many survivors got used to earthquakes due to thousands of aftershocks, some of the survivors in the study still feel anxious when an earthquake occurs. As for the tsunami, many survivors convinced themselves that it was “once in a thousand years” (i.e., a quote from the then prime minister of Japan, Mr. Kan). However,
they are still concerned that a major tsunami will occur again, especially when they have to make important decisions, such as buying real estate and building a new home. For example, Takashi showed his concerns about future tsunamis and earthquakes when he was asked if his life has become normal:

While I guess a major tsunami will never occur, it’s [tsunami] what I am concerned about. … I am worried. On the other day, there was an earthquake whose intensity was level four on the Japanese scale, wasn’t it? I am okay with level four earthquakes, but I hope stronger ones won’t happen anymore.

Katsuko, whose family members were still missing as of the interview, was very anxious about future tsunamis and being missing if she is swept away. Such anxiety made her prepared not to become missing even though she is swallowed by the wave and killed:

I am preparing for the next tsunami. I did not before. … I made a long string, or a kind of belt. This is because my brother cannot find his wife though he is searching for her everyday. So, I will tie myself up to an electric pole or something when I am engulfed by the next tsunami and feel that there is no way to survive so that my body won’t be missing. … Or, someone might be able to rescue me by pulling out this belt. But, it is still awful. You have to tie up yourself to an electric pole or something when you think you are dying. … So, every time when an earthquake happens, I feel nervous. I feel, “Oh, it’s again.”

Noriko, who lives in the temporary housing, expressed how she feels when an earthquake occurs and a tsunami warning is issued:
I think this is still the best housing. Above all, the foundation here is so strong that it can bear earthquakes or anything else. And, it’s on a hill. So, let’s say there is a huge earthquake and a tsunami warning. But, I feel relatively safe to stay here.

Furthermore, the temporary housing residents, such as Yasushi and Takako, were concerned about future disasters when they thought about the plan to move to the designated higher lands. While they understand that the likelihood is very slight, they still thought that “it will be all over if something happens again” after they purchase a land and build a new home.

In this way, while the survivors are clearly aware of the unlikely possibility that a disaster at the same scale will occur again, the magnitude of the GEJE and tsunami was so humongous that it still makes the survivors anxious about the possibility. Particularly, when they have to think about their future and make important decisions, it appears difficult to cease questioning, “What if it happens again?”

**Loss of jobs/economic instability.** Loss of jobs/economic instability has also been a major stressor for the survivors in this study. The disaster, especially the tsunami, was so devastating that it destroyed whole industries or companies (e.g., fishery industry). While many of the survivor interviewees were older adults and retired before the tsunami occurred, their economic statuses were significantly undermined by the tsunami damage because their personal savings were swept away or they had to pay a large amount of money for renovating their homes. Even though their homes were completely shattered and they would not have to pay for renovation, they were concerned about how to find money necessary for building a new home and moving out from the temporary housing. For example, Kasumi, whose family lived on fish farming and suffered a significant damage from the disaster, described her economic problems in the following quote:
We got many debts for the fish farming. Sixty percent of the damage will be compensated by the government, but we have to pay the rest of forty percents by ourselves. It’s difficult. … My husband changed his job and now is working on a tanker. … He was originally working on an individual fishing ship. But, the income was unstable. It was just up to how much fish he got. The ship was not covered by insurance because it belonged to an individual. Since we were remarried four years ago, we didn’t really have our own money. … So, we didn’t have money to spend on housing though we were displaced. We thought it’s not good. So, he changed his job to get little more money.

Once the survivors lost their jobs, it was difficult to get a new job especially for the middle-aged and older survivors in this study. Yasushi, who worked as a taxi driver before the tsunami, has been unemployed due to the drastic decrease of customers and could not find a new job. Even though he obtained licenses of scrapping, mobile crane, forklift, and drilling in order to find a job in debris cleaning, the companies required experience and he remained unemployed when the interview was conducted. He felt “very hopeless without a job.” He also illustrated how difficult it was for older survivors to make enough money to move out from the temporary housing:

People who have money can move to higher places soon. Once all the places are ready, you just buy or rent it. But, older people like us can’t borrow money so much. So, we have to manage with money we have now. However, we also have to live with the money. If I build a new home with the money I have now, it will be all over if something happens. … We can never return to the places where we lived or used as fields before because they were all covered by the tsunami. We can’t go into action until they [i.e.,
governments] decide how much they pay for our properties that were stricken by the tsunami. … If you decide to move to the designated higher lands now, you can get about seven millions yen as a compensation. But, it means that your interests for 30-year loan will be waived. And, if you build a new home, you will get additional two million yen as a compensation. But, there is no way to build a home with two million yen. There is no way for us to borrow money.

This issue surrounding how much local governments will pay for the tsunami-stricken areas was echoed by Shigeru, who lived in the Minami-hama area (see Figure 7) in Ishinomaki:

Survivors who are in my age group won’t build new homes anymore. Everybody was so disappointed that the municipal government decided that they would buy tsunami-stricken areas with 70,000 yen [per tsubo, or approximately 3.3 square meters] and sell alternative lots [i.e., the higher designated areas] with 170,000 yen [per tsubo] … While young people can loan for 20 years or 30 years, older people like us can’t borrow that amount of money. Yesterday, when I talked with a couple of my friends, they said they would rather save that money [i.e., money they would get by selling the tsunami-stricken lots]. Many say that they won’t build new homes because they will need money for entering nursing homes.

There are some survivors who used to make a living as landowners. Their properties were completely destroyed by the tsunami and they lost sources of revenue. Mariko was one of those survivors and explained the problem:

And, the field in front of my house is free of a fixed property tax this year. But, once we have to pay the tax for a lot of properties that we have, I am wondering how we can
manage it. When the tsunami came in, I was happy to survive. But, as I feel more
settled, I face difficulties in different ways.

Thus, job loss and economic instability caused by the disaster were major stressors for
the survivors. Unemployment and decline of incomes made their post-disaster lives difficult to
manage. Once they were unemployed, it was also difficult to find a new job, especially for the
older survivors. Their ages also undermined their ability to rent money necessary to build new
homes and move out from the temporary housing. Therefore, these stressors seemed to prevent
the survivors from getting away from their post-disaster lives full of many stressors, such as
living in a limited space and staying in a disrupted community.

Life in a limited space. Life in emergency shelters and temporary housing has been very
stressful for the survivors because of extremely limited space. Through observations and
interactions in the disaster area, I found that this was particularly stressful for people from rural
regions like Mimamisanriku and Ishinomaki, where many people had larger homes than typical
Japanese homes. This might be because there are more people in this area who inherit large real
estate from previous generations, real estates are comparatively inexpensive, and local people
who earn a large amount of money irregularly do not use bank accounts but buy estates or build
houses to increase properties. For instance, the shelter to which Tsuru was evacuated for a
month and half accommodated approximately 50 survivors. Each person had about “space of
one-tatami [i.e., 182cm × 91cm],” so she “had to be mindful of others.” She remembered the
life in the shelter as very stressful. The temporary housing residents have suffered limited space
even after they moved out from shelters. Yasushi, who has lived in the housing with his wife for
more than one year, described how tiny the room was and how stressful life was in that setting:
I think everyone really wants to get out from here [i.e., temporary housing] because the room is of size of four-tatamis and half. When you place a television and other things, then it’s just size of a few tatamis. While I have got used to it somehow, I don’t really feel at home. It is so small that I feel pressured. I am concerned about this most.

Furthermore, Noriko explained that this space issue in the housing was greatly dependent on family composition:

There are various difficulties. It depends on situations. So, each room was designed to accommodate four adults at most. But, based on my experience, I can tell that it’s really difficult for four adults to live together in the room. … It depends on if your family has four people or five, if four are all adults or any of them are children, or if you are family of three or four with someone who is bedridden. I don’t say it’s discrimination, but some people are really struggling. … If you have five people in your family, you can use two rooms. … So, I would say that it is the worst scenario if you have four people and any of them is bedridden.

Such limited space was also associated with lack of control in life for some of the survivors. For example, Tsutomu, who evacuated to a shelter but decided not to live in a temporary housing with his family, illustrated how he felt when he was packed in a shelter with hundreds of others:

It doesn’t matter whether it’s an emergency shelter or temporary housing, but as I told you before, people there look like pigs in a pigpen, chickens at a chicken farm, or cows in a cowshed. So, I can tell that I would never become happy if I lived with those people. There was such atmosphere. I thought in that way when I was sleeping with all crowded together in a gymnasium [i.e., an emergency shelter where he evacuated].
Some of the volunteers also mentioned limited space in temporary housing as a major stressor related to the disaster. While his main responsibility has been to provide mental care for survivors currently in their homes, Kento has also interacted with some housing residents and indicated why it was particularly stressful for people in this area:

Many survivors in this area lived in relatively large house. Because they moved into such small places like a studio apartment, they have suffered from stress and noise issues. I guess housing residents are sending very stressful lives in many respects.

Therefore, limited space was a major source of stress for the survivors who evacuated to a shelter and moved to temporary housing. Limited space in a shelter entailed other problems, such as privacy or conflicts with other evacuees as described in the later sections. Moreover, limited space constrained the survivors to engage in leisure-like activities, which has indirectly affected their psychological well-being as well.

**Disrupted human relationships.** One of the most stressful aspects of their post-disaster lives has been disruption of human relationships. When Noriko was asked about interpersonal relationships as stressors, she instantly responded, “Relationships? It’s the worst.” Ironically, the temporary housing where half of the participants were recruited emphasized the word, “kizuna,” which means bond in Japanese. However, Noriko continued, “Although some people argue that we have been helped by a strong ‘kizuna,’ we kind of want to say, ‘What are you talking about?’ In reality, there were so many troubles.” The disaster directly and indirectly disrupted relationships; it killed many neighbors and friends in their communities and forced them to be displaced while many relationships were worsened due to conflicts related to the disaster. One of the recurring phrases is that they saw “both good and bad aspects of human being.” While they appreciated aid, donation and volunteers from outside of their communities,
they found how selfish people are under severe situations. Fights or arguments over aid and donation have occurred particularly at shelters and temporary housing. Many survivors still remembered these negative incidents, and their relationships with others have significantly deteriorated. Some interviewees said that they could not trust others anymore. For example, Noriko, who experienced many conflicts over aid at a nursery school that functioned like an emergency shelter, illustrated the problems and their lingering impacts on relationships in her community:

So, it wasn’t a formal emergency shelter. The nursery school was the only facility that survived the tsunami in the community, and hundreds of people got and lived together there. At first, before aid came to the nursery school, we cooperated to manage many things. So, it was a well-managed shelter. But, once aid was brought, so many things happened around the aid. Such aid was managed by people who didn’t live in the shelter, so people at the shelter who were in real need could not receive the aid. … But, people sweep what happened at that time under the rug. I am daringly talking to you now. It seems that media do not report, rather conceal such information and just broadcast good things. … It is really tough when I go back to my community in that sense. The distrust caused at that time is still lingering among the people. So, there are many people who cannot live there any more and just moved to other places. There are some people who already built their homes and started their new lives in different communities. Younger people tend to do so.

The volunteers were also clearly aware of disruptions of interpersonal relationships due to conflicts over aid. Karina remembered: “There were conflicts over aid and some troubles at
food-serving events regarding if they were to have another bowl or not. … They still hold a grudge.”

Such conflicts over aid have continued even after they moved into the temporary housing. Kasumi lost everything (i.e., home, money, and daily necessities) and, even worse, could not get much aid because she could not enter a shelter due to her newborn. This was because aid was distributed mainly at emergency shelters to reach out to many survivors at early stages of the disaster management. She also experienced conflicts over aid between people who lost their homes and those who did not when she went to an event in which a large amount of aid was distributed:

> There were many people who have their homes. So, I had to wait for many hours. I wish people who lost their homes had been prioritized. I heard many people complained after the event. Then, they [i.e., event organizers] told us to bring our certificates of damage degrees. But, there were so many people, and some who did not suffer so much damage sneaked into the event hall. Nobody checked. So, we did that once, but people said that anyone could get in. Then, there were so many people at the next event even though we were told to bring the certificates. So, it’s “anything-goes” world.

Such conflict between people who have homes and those who do not were evident during my field study. This conflict became more visible after people who lost their homes moved into temporary housings and the others renovated their homes. Hence, there was an explicit tension between temporary housing residents and people who returned to their homes.

Problems that undermined interpersonal relationships in the temporary housing were not only related to aid or donation. There were some residents in the housing whose remarks and behaviors were problematic for other residents. For example, Yasushi, who is the president of
the resident association in the housing, illustrated interpersonal problems and how stressful it was for him as the leader:

The biggest issue is that there are some selfish people. There are a few selfish people. On the other day, they complained about what we decided in the regular general meeting no more than a month ago. So, I said to them that they can’t say that. If anybody can complain in that way, we don’t need to have a regular general or extraordinary meeting nor the resident association itself. … Some people called to the town office anonymously [to make complaints]. … I said I wouldn’t stay at this position [i.e., the president of the association] anymore if anybody complains about what have been decided in that way. I eventually stayed at this position because people asked me to do so. But, it was the most stressful.

Kasumi, who is also a housing resident and a mother of three children, described incidents that she found stressful as a parent:

They [i.e., some residents in the temporary housing] are kind of nagging. They just report to a school. It would be natural to do so if children did something really wrong. I know it’s not really good for kids to stay out till it gets dark. But, you know, they can tell kids to go home because it’s too late. … But, they just report to a school and ask them to scold the kids strictly. So, I have to be careful to let my kids to play out.

These interpersonal problems were echoed by Sarina, one of the volunteers who has provided mental care at many temporary housings:

There are several housings that have troubled, or “monster,” residents. They come to events and destroy them completely. There is a housing with two “monster” men.

Another housing has “monster” children. These housings have huge troubles regarding
their communities. … They seem to have mental illness for me [i.e., she works in the medical field]. They destroyed happy atmospheres at events. Although we served food, they complained about it, threw it away, and left.

In the temporary housing where various people live together in such a close proximity, it is very difficult for residents to get together to maintain or improve their interpersonal relationships because they feel like they are being “monitored” by others. The following quote from Yukari explained such dilemma in which some people were frustrated when others tried to get along with each other:

In the temporary housing, there are various people. Some people try to and actually do get along with others. But, the community is a bit too large, so there are some other people who don’t want to get in the circle. They don’t feel good about it.

The word “monitoring” was echoed by Sarina in the following quote:

Doors are located in front of other’s living rooms [in housings]. … There is no privacy at all. Somebody will see you if you come out from or get in your room. It’s like a situation where they are monitoring each other. There are rumors like: “There seems no one in the room,” or “While I have seen people come from the room, I am doubtful of whether they really live in the room.

In addition, Noriko illustrated that it is a sort of taboo for residents, especially younger generations, to get together because it will make them visible and get more attention from others. According to Noriko, a large group of younger residents appears hostile to some older residents who have administrated the housing. She also explained the atmospheres where it is also taboo to talk about negative stories about the conflicts or other issues to strangers:
Well, the [younger] people who stayed at the same shelter are now scattered across different temporary housings. Some of them help each other and still maintain their relationships. But, there are some others in circumstances where they can’t get together. Some can get together, but we cannot do so. … If you do that, you get more unfavorable attentions. You know, there is something that you shouldn’t do. I am telling you because you are not talking to others here. If you tell what I told you to people here, I can’t tell you. This sort of conversation will be all cracked down. I experienced it repeatedly when I was in the shelter. I don’t want to experience it anymore.

The degree of damage was another factor that caused tensions or barriers among the survivors. For example, Matsuyo, who currently resides in her renovated home with her husband, explained that it was difficult for her to reach out to survivors who suffer different levels of damage:

So, I can talk with people in the similar situation whose homes survived the tsunami.

But, I can’t talk with people who lost their homes completely. Also, I got a telephone number from a survivor who was displaced to a shelter away from here. But, I could not call because it felt awkward.

Similarly, Tsutomu, who has cleaned up his community where no other people live anymore, explained how difficult it was to reach out to people who witnessed their homes being destroyed and are more depressed and to persuade that they should think about and make actions for the future. This is why he started to make many flowerbeds in his community with help from volunteers to send positive messages indirectly to the former residents:

Among survivors, it’s easy to ask whether your family is okay, or how many died in your family. We can ask that question because all the people in an emergency shelter lost their
homes. So, I can ask the question easily, but it’s really difficult to say, “Stand up and do your best.” As I told you before, it is very difficult to persuade them that they should look forward and do their best. It was very difficult. Even among survivors, people who saw their homes being destroyed by the tsunami were far more depressed.

The influences of different levels of damage on interpersonal relationships among survivors were also mentioned by volunteers as major post-disaster stressors. In the following quote, Shyoko described how difficult it was for survivors to have conversations with other survivors:

Well, they said that they couldn’t have such conversations [i.e., about looking and moving forward] with other survivors because everybody was affected by the disaster. They might be able to do now. But, they said they could no longer do so at that time. … In the last August or September [in 2011], they said they little talked about this with friends, but the friends said their situations were better because their homes survived or said their apartment complexes were better because they were less damaged.

There have been also interpersonal issues between people from areas that were heavily damaged by the disaster and those from other areas. Yukari have received many negative comments based on unsubstantiated assumptions by people at her workplace that is located in an inland area and did not suffer much damage from the tsunami:

I go to my workplace little away from where I live now. There are totally different atmospheres between here and the area around my workplace. Here are people who were affected by the tsunami and know how we all feel, but there are those who don’t understand our feelings and say anything based on their assumptions. When we got a little amount of donation, they said that we easily got money or something like that. … They have biased views. They think that we come to work in the morning and go back to
get aid in the afternoon. They say things like that based on assumptions. There are only a few people who do that kind of things. But, they misunderstand that every survivor would do that and such stories are spread out by word of mouth. They don’t really understand the people who are really struggling.

Thus, disrupted interpersonal relationships were major sources of stress for the survivors in their post-disaster lives. While I could not find any conflicts over aid or donation through my document analysis of local newspapers and magazines, the survivors described many conflicts that were “cracked down” (i.e., concealed) and considerably impacted their human relationships in original communities or community in the temporary housing. Moreover, there were two major factors identified in the study that have caused or increased tensions and barriers among survivors. One is a different magnitude of damage, especially to homes (i.e., where a home survived the disaster though it is not stable architecturally), and the other is differences in traumatic experiences, such as if they experienced bereavement of significant others or if they witnessed traumatic events. Based on these factors, the survivors perceived more barriers to communicate/interact with other survivors who experienced different difficulties. Such disrupted relationships also affected leisure friendship/companionship as shown in the later section.

**Changes in lifestyles.** Most of the interviewees experienced considerably different lifestyles in the wake of the disaster, especially during their displacement periods. It was very stressful for them to adjust their lifestyles to their hosts or other people at emergency shelters. For Takashi, who cleaned up his home by himself while he evacuated to a shelter, his life consisted of cleaning up in day and taking care for his wife at night who suffers from cerebellar atrophy was very stressful as indicated in the following quote:
After the water was drained, I went to my home to clean it up every day, and came back to the emergency shelter [i.e., a class room in school]. Then, my wife waked up about twice every night due to her health condition. So, I had to take her to the bathroom so that she would not get injured. … She walks with unsteady steps, so she could not go alone. … I was so exhausted when I was back to the shelter and had to wake up twice at night. I couldn’t bear it.

Hanako, who started to live with her son and his wife in the wake of the disaster, was stressed out with the different lifestyles of her daughter-in-law. Furthermore, the existence of her son and his wife made neighbors feel reserved not to come to see her, which generated another source of stress for Hanako:

I lived with my son and his wife at my home for about two months. They helped me to clean up the home. But, it got screwed up because I didn’t live with her before. She worked at Seven-Eleven [i.e., a convenience store] from 5 to 10 pm. Then, she came back, took a bath, and ate a dinner. When I was sleeping, she came home and was doing things at a kitchen or bathroom. I couldn’t sleep at all. … And, she was sleeping in the morning. It was my bad, but I got so irritated. It was such a nice weather, but she was sleeping in the morning. In her lifestyle, day and night were reversed. It drove me crazy. She didn’t care at all because she is a kind of person today. … I was so sorry but I asked my son to live separately since I could not live with her. … I was so stressed out.

Everyone around me asked whether I was okay. I said that I was okay, but they stopped coming to see me because they knew I was with my son and his wife. I said it was okay to drop by, but they were reserved. … So, I was concerned a lot.
Similarly, Shyoko, a volunteer who has interacted with many elderly survivors providing mental care, mentioned changes in lifestyles as a strong stressor:

While people are suffering from such “big” grief [i.e., bereavement], they have lived since the disaster and they feel sad that they can’t live with their family or grandchildren with whom they lived together before the disaster. They [i.e., an older survivor’s family and grandchildren] were moved to Yokohama [i.e., a city west to Tokyo] after the disaster. They said that the grandchildren have got used to their lives in Yokohama and she [i.e., the older survivor] feels like she was left behind. Their stories made me think that while bereavement was so traumatic, changes in life environments were also very stressful.

Hence, most of the survivors had to change their lifestyles in the wake of the disaster. Some of them who could not adjust to new lifestyles suffered chronic stress. Such drastically different lifestyles continued until they moved to the temporary housing or returned to renovated homes. However, many survivors are still suffering from stress caused by their post-disaster lives that are different from their lives before the disaster to certain extent. Especially, many housing residents have suffered chronic stress in their lives in the housing that are significantly different in many aspects (e.g., limited space, community, and location).

**Sudden moments when survivors feel depressed.** While all the traumatic experiences negatively affected their psychological well-being during or immediately after the disaster, there were some moments when they remembered the traumas or felt extremely stressed out in their post-disaster lives. These moments occurred “all the sudden.” For instance, Katsuko, who realized that 30 people she knew were killed by the disaster, described such moments when she felt as if she had no hope in her post-disaster life:
Hope? Not now. I don’t have it now. Although it may be a lie if I say I don’t, I don’t really feel settled yet. At night, I remember everybody who was killed. My older sister’s house was wiped away, right? So, when I see such place, I sometimes feel that I don’t care about what will happen to me anymore even though I am such a strong-minded person. I think this is because of the tsunami. Many people were killed, and, how can I say this, I don’t know how to express this feeling.

In the same vein, Sachiko said that she still had those depressing moments and illustrated how she dealt with them in the following quote:

However, I sometimes feel so anxious or lonely all of the sudden. I still feel in that way. … I have medicines, so I take them when I feel anxious or lonely. It seems that it will take for a while to get over this. I just feel so anxious or lonely. Then, I go out and breathe in fresh air. I stay there for a while to calm myself. When it gets better somewhat, I go into my house.

These experiences were echoed by the volunteers as well. For instance, Karina, who has been involved in the weekly handicraft event, saw many of the participants still suffer from such sudden moments when they were struck by traumatic disaster experiences:

I think everyone [i.e., the event participants] has ups and downs in their emotions. They all have different stories though. A person who at first looked very cheerful suddenly started to cry. … These people experienced many traumatic things like her son was killed or younger sister is still missing. … I know a woman who burst into tears when we were talking about some random things. We excitedly talked that we [i.e., volunteers] had deep-fried chickens for the dinner on the day before, and she remembered that her son liked deep-fried chickens.
Kento, who has provided mental care for survivors currently residing in their own homes, also described these moments:

Some survivors suddenly get depressed or start to cry when they hear and remember various stories. Moreover, they had been busy and strained for a long [after the disaster]. When conditions of their homes got somewhat better, they felt unmotivated. Can I call it burnout syndrome? I’m not sure, but something like that.

As Kento’s quote indicates, some of the survivors clearly stated that recently they have experienced such moments more frequently. This is because they had to do many things immediately after the disaster (i.e., tasks in shelters, paperwork to get compensations, or holding funerals) and they did not have time to think about or remember what they really lost and what such loss means for them. However, as time passes, they have had more time to do so. For example, Hanako, who lost her husband in the tsunami, described the increase of moments when she blamed herself for his death:

I sometimes started to think about how I should live from now on all of the sudden. I just had those moments sometimes when something happened. … Yeah, time flied last year. … So, now it’s worse in some sense. So far, I was physically active and absorbed in what I had to do. These days, I have had more time. Then, I came to think that he [i.e., her husband] could have survived if I had done this or that. I thought that we should have stayed at the second floor [of their home]. I felt that it was pretty much me who killed him. … I got so depressed. I felt like I got crazy and took medicines.

Takako, who was extremely busy going back and forth between Miyagi and Iwate prefectures right after the disaster, felt more relieved recently and frequently had these moments when “tears
come out with trivial matters.” When I asked if it happened right after the disaster, she explicitly denied it because she was forced to work so hard and did not have time to do so.

As such, the sudden moments when the survivors remember their traumatic experiences and feel extremely depressed were prevalent among their narratives. However, these moments should be carefully examined because it is not easy to determine whether they are stressors (i.e., causes of stress) or outcomes of stress. Based on their narratives and observations, I would argue that these moments are both stressors and outcomes of stress. It seems that survivors experience such moments when they are mentally unstable (i.e., when they are affected by stress more). However, negative thoughts and feelings during these moments exacerbated detrimental impacts of stress.

**Negative Impacts on Leisure**

As indicated in the earlier sections, some of the traumatic experiences and stressors negatively impacted the survivors’ leisure behaviors as well (e.g., unstable economic situations, bereavement, disrupted relationships, and limited space). However, the former sections were dedicated to clarifying direct and negative influences of those traumas and stressors on the survivors’ psychological well-being. On the other hand, this section addresses negative impacts of the disaster on leisure patterns and their indirect and negative influences on survivors’ mental health. Although the study was not originally focused on leisure constraints, the survivors’ narratives indicated that they have experienced more or stronger leisure constraints when they were asked about negative impacts on their leisure patterns. There are three major leisure constraints identified in this study that have been caused or increased by the disaster. They are, namely, material constraints, social constraints, and emotional constraints.
**Material constraints.** The disaster caused and/or increased material constraints on survivors’ leisure involvement in that it destroyed facility and equipment for leisure. Above all, destruction of home, one of the main leisure sites for people in this rural area, was a major constraint for the survivors. For example, Yukari, whose home was completely destroyed and who currently lives in the temporary housing, explained how limited private space constrained her leisure engagement:

> There are other’s rooms right next to yours, so you cannot bring people to your place and have fun. So, I am mindful of others in that sense. … Yeah, I cannot have [time or space for myself]. For example, when my husband was sick and sleeping, I couldn’t even watch TV next to him. Even though I want to read books alone, I can’t. At night, we all have to sleep when any of us goes to bed.

The temporary housing was not soundproofed, and this caused noise issues among residents. Through the observations and interactions, it became evident that many residents had to pay extra attention to noise that they made. In the following quote, Takako illustrated how concerned she was about noise issues especially at night:

> I feel more settled now, and I am happy to have a place to live. But, there is no soundproofing in this temporary housing. I have to be mindful of others. … I am very concerned about noise. I can hear sounds from other rooms, so I guess they can hear ours. So, my daughter is awake till 2 or 3 am studying. I want her to do her best. But, I am wondering if it’s a nuisance for neighbors.

Noise issue was echoed by Yasushi, who started a project in which they produce and sell “kyogi” (i.e., Japanese traditional memo pad that has very thin woods instead of paper): “I couldn’t do that [i.e., kyogi production] in this temporary housing. There are many problems. For example,
the machine is noisy. So, I placed it to a former resident’s house.” Also, Sarina, who has been to many temporary housings as a volunteer, mentioned noise issue as a major stressor for housing residents: “It’s noise. Everybody says s/he can hear noise from neighbors. It’s [i.e., wall] like a thin paper. So, people can’t use laundry machine at night or they keep the sound of TV down.”

In addition to destruction of homes, the displacement after the disaster also entailed exacerbated material constraints. For example, Katsuko, who loves cooking but is in a wheelchair, “could not even stand in kitchen” in the non-wheelchair accessible home to which she was displaced. While she had stayed at a nearby school for six months after the disaster, Matsuyo could not enjoy listening to jazz music with her husband who is a big jazz fan, in such a crowded place where noise was one of the huge issues.

Moreover, the tsunami took away leisure equipment from the survivors as well. When her rented house was renovated and she was asked to bring out things she needed, Sachiko had to damp all the flower vases for the Japanese flower arrangement because they were all covered by sludge and there was no place for her to store them. The last time I visited Hanako’s home, she showed me two music tapes of her favorite singers and told me that the tsunami swept away all the cassette tapes except for the two. Such loss of leisure equipment was echoed by Sarina. She explained how such loss has prevented many survivors from enjoying their leisure again after the disaster:

"I know a person who tells me she was a dance coach before but everything was swept away. Or, another survivor told me, “I made this kind of things before as a hobby, but I can’t do anymore because everything was wiped away.” She showed me things that she made and were little dirty with sludge, saying, “Now, I just have them.” … Most
survivors stopped doing their hobbies because facilities or equipment were swept away by the tsunami.

In this way, the disaster caused and/or increased material constraints on the survivors’ leisure participations. It simply swept away leisure facility or equipment, or it displaced the survivors to the places where they could not enjoy their favorite leisure activities. It also caused space and noise issues that significantly prevented the residents of the temporary housing from gathering with friends or enjoying leisure at night.

**Social constraints.** While the disaster negatively affected the survivors’ leisure behaviors materially, it also devastated their interpersonal relationships that are important for their leisure participation. In terms of companionship, the number of leisure companions for the survivors decreased significantly because the disaster killed and displaced many people. For friendship, it disrupted existing relationships among survivors, causing conflicts over aid and donation. The survivors also perceived tension or difficulties to reach out to other survivors who are in different situations (i.e., living in their own homes or not, or suffering from different levels of damage). For instance, Tomio explained how the disaster negatively impacted his companionship and how difficult it was for him to reach out to survivor friends who suffered from different situations after the disaster:

I had five or six good friends before the tsunami. We held a year-end party every year together. When we had jobs and money, we went to traditional inns with hot spring and deepened our friendships. But, three or four of them were killed by the tsunami. … Every good friend was [killed or displaced]. I was okay because I lived around the Ishiuchi area [i.e., his neighborhood]. There was a couple both of whom I knew and both of them were killed. I have a friend whose four family members were all killed except
for him. So, it is very difficult to contact him. There are also some friends who are in temporary housing now. … If they contacted me first, I could say, “Yeah, it was so difficult” and keep in touch with them again. But, so far I could not reach out to them. Similarly, Mariko, who resumed swimming that she had enjoyed prior to the disaster, described the situation in a swimming pool:

I enjoy chatting with my friends there [i.e., the swimming pool]. Maybe, it is difficult to administrate because people who were the members of the pool are not coming back. There aren’t so many people who reside near the pool now. People might not have a car. I feel that there are less people because they aren’t coming back.

In addition to companionship, the disaster disrupted entire communities in many ways as well. When she was asked whether she can communicate with other survivors who suffer different levels of damage, Matsuyo answered, “I don’t see neighbors who are in different situations [i.e., more damages] or who experienced bereavement because they are no longer in this neighborhood.” Likewise, in Takashi’s neighborhood, there are only half of 78 families that resided in the area before the disaster. Tsutomu is the only person who still resides in the Jyusan-hama area (see Figure 8), which had 24 families before the disaster. All the other former residents of the Jyusan-hama currently reside in a nearby temporary housing.

The temporary housing in Minamisanriku also has a problem of disrupted community. In 2005, Minamisanriku town was established by consolidating two towns, Utatsu and Shizugawa. Local people in this region place greater importance on communities, or clans, where they were born, and do not interact with people from different clans so much. While the temporary housing where I recruited the participants for this study is located in the Utatsu area, residents were randomly chosen for the sake of fairness. Therefore, people from various communities,
including Utatsu and Shizugawa, live in the housing. This led to a weak sense of community among the residents as demonstrated in the following quote from Satoko:

We had that kind of social support in our original community. We mowed and maintained common space like roads together. This temporary housing has people from various communities, so we don’t really know each other. I wondered how I can get along with such people from somewhere and how the community will become better.

Sarina also mentioned interpersonal issues at temporary housing in the following comment:

Since it’s been a while, there are many housing complexes that have some groups of friends. However, there are some residents who stay away from such circles of friends, such as those who don’t know other residents in their age groups or who have kids but don’t have children in similar ages in their housings. Those who feel there aren’t others with whom they share something don’t try to get in communities at all. They are isolated. There are some who don’t have any acquaintances.

Thus, the disaster exacerbated social constraints for the survivors to participate in leisure activities. It killed and displaced companions for the survivors. Even though there are still some friends in proximity, it is perceived difficult to reach out to them by the survivors because they experienced different levels of damage from the disaster. Furthermore, the disaster disrupted whole communities. In particular, the temporary housing residents do not have a strong sense of community because they come from many different areas.

**Emotional constraints.** While I volunteered and interacted with many disaster survivors, one of the emergent themes was lack of motivation or desire to participate in leisure in the wake of the disaster. Since they knew that a natural disaster is so powerful that everything can be destroyed in a moment, many of them had difficulties finding meaning to (re)start leisure-
like activities. For example, Hanako, who told me that she “doesn’t have motivation to do anything,” answered in the following way when she was asked whether there is anything that she started after the disaster:

No. Nothing. I don’t want to do anything. I don’t really want to do anything. Before the disaster, I enjoyed traveling, going to hot springs, and walking around. But, I don’t want to go and do those activities any more. I just want to spend normal life everyday.

Similarly, Matsuyo, who enjoys watching Korean TV dramas, bought a poor quality TV after the tsunami destroyed the better one that she had before. She said that she “lost desires” because she “saw many things, such as TV and fridge that were fell down and turned over” in the wake of the disaster. When Sachiko was asked whether she would buy flower vases to resume the Japanese flower arrangement, she answered: “I have less desire for things than before. Although I lack something, I don’t want to buy it. Even though I know I don’t have it, I still think it’s okay. I have almost no desire for things.” Moreover, when I asked whether she lost motivation to start a new activity, Sachiko indicated that she had had very little motivation for a new activity until she started to go to a weekly handicraft event in her neighborhood.

Among the volunteers, Shyoko indicated that such decrease of motivations might be because of internalization. In the wake of the disaster, she and other volunteers noticed that there were some mourning atmospheres that made people feel that they should not have fun: “They [i.e., survivors] thought that they should not enjoy their hobbies at first. They shouldn’t enjoy because something this terrible happened and so many people were killed. … They thought they shouldn’t plant flowers and shouldn’t have fun conversations.” Furthermore, Karina suggested potential relationships between other losses (e.g., economic, social, and material) and emotional constraints in the following quote:
At first, we started the handicraft event because survivors lost many things, such as jobs, relationships with neighbors, and homes, due to the disaster as well as motivations to do their hobbies or what they liked to do. There were so many people who just stayed in their homes.

In this way, some disaster survivors in this study experienced the decrease of desires or motivations to buy new things or start new activities in the wake of the disaster. After seeing its devastative damages, they realized how fragile their lives are in the face of a powerful natural disaster. This leads to the phenomenon in which several survivors are unmotivated, or a-motivated, to engage in leisure-like activities.

**Key Roles of Leisure in the Psychological Recovery Process after the GEJE and Tsunami**

Data analysis of the survivors’ narratives indicates that there are three functions that leisure has played in psychological recovery process after the disaster. They include: 1) leisure stress coping, 2) leisure symbolic coping, and 3) leisure and resilience. They are not mutually exclusive, but are interrelated. It is also noteworthy that the same leisure-like activity often had multiple functions in their post-disaster experiences. Figure 18 describes a summary of the three main functions of leisure in the psychological recovery process after the GEJE and tsunami.
Figure 18. Key roles of leisure in the psychological recovery process after the GEJE and tsunami.

**Leisure Stress Coping**

One of the major functions that leisure has played after the disaster is stress coping. Stress coping in this study is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resource of the person” (Lazarus & Folkman, 1984, p. 141). According to Lazarus and Folkman, there are two major categories of coping: problem-focused coping and emotion-focused coping. With problem-focused coping, a person attempts to address a troubled relationship between him/her and his/her environments. On the other hand, with emotion-focused coping, s/he tries to relieve emotional impacts of a stressor, without solving the troubled relationship itself (e.g., venting negative emotions or avoiding). Through the data analysis process, I found that leisure-like activities have functioned both as problem-focused coping and emotion-focused coping.
strategies. It is also noteworthy that Lazarus and Folkman argued that these two coping styles can facilitate and impede each other.

**Problem-focused coping.** Some of the survivors have utilized their leisure-like activities as strategies to address post-disaster stressful situations. They have used social leisure as a context to increase companions and rebuild communities that were negatively influenced by the disaster. For example, Satoko, who currently resides in the temporary housing and was wondering how a sense of community can be built up with residents from different communities, started altruistic activities in which she dropped by and greeted all the elder housing residents to make sure that they do not suffer from disease or mental illness and do not die in solitude. She also utilized social leisure at a cafeteria in the housing called Azuma-re as a means to expand her networks with residents in other buildings in the housing. For Noriko, who perceived that there are not enough opportunities for middle-aged residents like her to socialize at the temporary housing, she found that her new workplace provides such a context to interact with people in similar age groups. She believed that such interactions with survivors in the same generation would help her recovery process. While I acknowledge that it is controversial whether it is appropriate to categorize work-related experience as leisure, I categorized her interactions at the workplace as leisure-like experience because she referred to it when she was asked about something fun and to look forward:

It’s [i.e., something fun and to look forward] my job for me now. … It’s the reconstruction project of fishing industry. I think I am much better than other survivors because I have a job. This temporary housing provides many services for older adults. But, I doubt it does for younger people. There are very limited opportunities for them to get together freely or interact with one another. There are some young residents who
don’t go out at all. My family had one of them though. … I think people who have jobs can overcome difficulties soon, but it’s really difficult if you don’t have one. I guess it is really hard.

In addition to rebuilding community, there were some survivors who utilized social leisure as a means of increasing their companionship. Tomio, whose leisure companions were killed by the tsunami, found new friends in his age group who suffer from similar health concerns and enjoy similar activities, such as exercise and karaoke, in day services:

We sing one song per person every time. Whether he or she is good or not, I think it is good to sing rather than just being shy and not singing. … I sang songs and got to know some people, and now we are joking with each other. So, it’s so fun.

Similarly, Sachiko also lost many of her friends, especially friends with whom she traveled together, due to diseases and the disaster. She started to go to a weekly handicraft event in her neighborhood where she tries to make friends with whom she can travel again in the future. In the interview, she said that she found the event “fun” and she would “continue to participate to make new friends.”

This role of leisure as a source of fun is another way that leisure can contribute to problem-solving in their post-disaster lives. While having fun is usually considered emotion-focused coping in the psychology literature, it has functioned as problem-focused coping in the post-disaster context in which lack of fun or opportunities to smile is one of the problems.

Satoko, who has taken a leadership role to organize food-serving events in the housing area, articulated the importance to keep holding such events for housing residents in their stressful lives in the housing:
But, since the disaster, we have never refused any warm meal services so that the elderly [residents] can cope with stress somewhat. Even though it [i.e., to hold such events] needed efforts, we have tried to accept it by helping volunteers. Then, the elderly enjoyed even waiting in a line to get food. There was nobody who looked frown. Everybody smiled and laughed. They became more smiley during talking and waiting in a long line till they got food. I think they were coping with stress at that moment.

On top of social leisure, some survivors have enjoyed leisure-like activities in which they created things useful in their post disaster lives. For example, for Takashi, renovating his home has been an enjoyable experience especially since it was repaired to some extent and he started to recognize the improvement. In this sense, he has solved one of the major stressors, destruction of home, while enjoying the process:

It [i.e., restoring his home] became enjoyable after the renovation process began in July.
I could see the home being actually restored. It got better to some extents. It was tough while I was working on the physically demanding process like damping sludge. But, it had been fun since I started rebuilding it or renovating it.

For Yasushi, do-it-yourself (DIY) was one of his hobbies, but it was difficult to do DIY in the temporary housing because of limited space. Hence, he created a wooden balcony right outside of his room and a foldable table on which he can do DIY more comfortably:

There is a balcony outside of my room, right? I made it by myself with the tools. I made one for my neighbor as well. You know, we don’t have storage space, so we need it. I can’t do DIY in my room, so I made a foldable table and am doing DIY on it.

Thus, leisure-like activities have been utilized by the survivors as strategies to address various issues from which they have felt stress since the disaster. Social leisure has been used in
order to increase interactions with other survivors and enhance a sense of community in the disaster area whose communities were significantly disrupted by the disaster. For several survivors, social leisure, such as handicraft and karaoke events, was an avenue to make friends and increase their companionships that also deteriorated due to the disaster. Also, the survivors have utilized leisure-like activities to infuse daily fun into their post-disaster lives that are stressful and lack enjoyable moments. Moreover, some survivors have addressed physical problems, such as destruction of home or limited space, through leisure-like activities.

**Emotion-focused coping.** In addition to problem-focused coping, many survivors employed leisure-like activities as emotion-focused coping strategies. Prevalent strategies identified in this study were diversion, getting away, seeking social support, and venting emotions. First, leisure as a means for diversion was very salient in the survivors’ narratives. For example, Shigeru, who has blamed himself for his wife and sister’s deaths since the disaster, found that he could concentrate on cooking yakisoba noodles [i.e., a sort of noodles that is from the western part of Japan] and forget about such self-blaming for a while. Likewise, Satoko also found that she could stay away from memories of traumatic experiences while she engages in handicraft events at the housing and socializes with others:

> Or, I engage in making t-shirts. I can focus on such activities and forget about the disaster. That’s the best way of stress coping. … With conversations, I try to decrease time when I think of negative things. So, when I am working, I talk with my co-workers on various topics. It also makes difference. I try not to stay inside the room as much as possible.
Similarly, Karina said that the participants of the weekly handicraft event “quite concentrated on sewing and forgot about negative things by using their hands.” She remembered that once she was told by event participants that they were “so glad to have such time.”

While leisure-like activities per se provided good diversion for the survivors, it is also found that they have distracted their minds off from negative thoughts by planning and thinking about future leisure activities. For example, Katsuko, who loves cooking and sewing, indicated this point in the following quote: “Yeah, I really enjoy [cooking]. I like to think about how I can cook something more delicious, or I wonder if I can do better in this way when I am sewing. … I am absorbed.” Similarly, Mariko, who has enjoyed many leisure activities even after the disaster, indicated that she could keep her mind busy by thinking about future leisure activities:

I can think about things like which hat I should wear [for a trip to a mountain]. Since it will be cloudy, I think I had better bring the en-tout-cas that I can use if it’s raining. I think it’s somehow better than just thinking of nothing.

Another way of emotion-focused coping with leisure was getting away. Since most of the survivors have been confined in limited areas in the wake of the disaster, such as disaster-stricken areas or temporary housing, leisure has provided them with the opportunities to physically get away from such areas as well as emotionally get away from their stressful post-disaster daily lives. For instance, Hanako enjoyed traveling with her neighbors because it made her “depressed to just stay in home alone.” For Mariko, who resumed going to a swimming club in her neighborhood, going to a swimming pool was perceived better than just staying at home where she tended to think about economic problems that she currently faces:

But, it’s better than just cooking at home. In the pool, I wear a swim gear. I chat with my friends like: “Oh, that new swimsuit is nice!” “I bought this on the Internet.” So, it’s
different from just staying at home. … I can little stay away [from the concerns about the property and damages] and can be absorbed in swimming.

Tsuru, who is a resident of the temporary housing, frequently got away from the housing by going shopping or traveling with friends and family members. By doing so, she thought that she could also maintain relationships and obtain social support, both emotional and tangible, when she was in need:

My family [i.e., her child’s family] lives in the next door. Relatives live in the room across the path. So, there are three families together. We help each other. I was invited to go to hot springs with them. … They took me to shopping. I go shopping with family as well as with my friends. I go shopping frequently with people in similar age groups. … We traveled to Iwate prefecture. … It is nice to travel. Also, there are some events of Japanese dancing. On the other day, I visited Kitakami City in Iwate prefecture for four to five days. … I am not dancing now, but it was really good to see dances. The master is very good. It was very fun.

Seeking social support was also mentioned by other survivors as a strategy to deal with stress. For example, Yukari, who is a mother of two children, has enjoyed chatting and other leisure-like activities with other female survivors who also have children. For Yukari, the interactions and friendships with them were particularly important because she could share many problems as a woman, mother, and disaster survivor:

My coping is to chat with other mother friends and have lunch together. … And, we visit friends who returned to their own homes and say, “Oh, it is so nice to live in your own house!” and we just chat. … We often talk about our children. Also, we go to a pool with
children. Well, we have a lot of things to do, so we can do these things only when we have free time.

Takashi, who cleaned up his home with help from volunteers, remembered that it was stress relief for him to chat with volunteers in break times during the extremely physically demanding work. For him, volunteers were major sources of social support because he felt that it was difficult to reach out to other survivors who were suffering from different levels of damage:

Well, the best coping was to have volunteers to help cleaning up my home. … It was nice to have conversations during a break at 10am. We also took photos and talked a lot. … A group of foreigners came as volunteers, and I showed my photo album. They enjoy watching the album that has photos taken in my first visit to Melbourne, Australia. … And, I asked to take a picture together and they also wanted to take a picture with me. … It was very nice to take pictures together.

Among the volunteers, Kento remembered a survivor who suffered from mental illness after she was displaced and began recovering after she sought social support from other survivors at a social event:

When she called [to a phone counseling service], she was introduced to a cafeteria near her home that is organized by volunteers literally everyday. She went there and found it really fun. So, February [of 2012 when she started to go to the café] was a big turning point in her life. She told me, “It’s like my life is changed and I’m so glad.” She looks so happy everyday.

While simple interactions in leisure contexts, such as being surrounded by others, doing an activity together, or chatting, played a significant role as a stress relief, social leisure allowed survivors to vent their negative emotions as well. Kasumi, who has suffered chronic stress in her
post-disaster lives as a mother of three children, “sometimes talk[ed] over the phone when stressed out so much” with her close friends and younger sister. Similarly, Takako frequently connected with her old friends over the phone. They shared complaints with each other, made jokes, and laughed a lot.

Therefore, leisure has functioned as an emotion-focused coping resource as well. In particular, leisure-like activities that the survivors engaged with others have allowed them to address negative influences of disaster-related stressors. The four major strategies identified in this study were, namely, distraction, getting away, seeking social support, and venting negative emotions. While emotion-focused coping has sometimes been regarded as maladaptive coping in the literature, emotion-focused coping strategies in this study were perceived positively by the survivors. This might be because the disaster was too devastating and its negative influences were too powerful to address the causes of stress in their post-disaster lives. Therefore, for the survivors, emotion-focused coping was perceived as important as problem-focused coping.

**Leisure Symbolic Coping**

While the survivors have used leisure-like activities as stress coping methods, leisure also has had several symbolic meanings that are particularly important for the survivors in their post-disaster lives. These meanings include: leisure as a source of fun and purpose-in-life (PIL) to sustain coping, as a source of normalcy and continuity, and as a manifestation of personal transformation. These findings are in line with the notion of meaning-focused coping in which what leisure experiences mean has important influences on psychological recovery (Hutchinson et al., 2003; Kleiber et al., 2002). The three meanings of leisure indicate that leisure can contribute to the psychological recovery process not only as a way of stress mitigation, but also in a more holistic way.
Leisure as a source of daily fun and PIL to sustain coping. Many survivors injected daily enjoyment and long-term goals into their post-disaster lives through leisure-like activities. While such positively-toned experiences function as a way of distraction as seen in the previous section, they also play another role as a sustainer of coping and transcending processes from their negative life experiences (Kleiber et al., 2002; Lazarus, Kanner, & Folkman, 1980). The participants in this study have found two functions of leisure as a coping sustainer: injecting daily enjoyable moments in their post-disaster lives and becoming a context to find a new purpose in life or becoming the purpose per se.

First, enjoyable leisure activities have provided daily fun in the survivors’ post-disaster lives, which motivated them to engage in these activities that have stress coping effects as well. For instance, Tomio, who has lacked social interactions since he lost many friends in the disaster, found interactions with other elderly in the day service to be a means of stress relief for him. While he sometimes had days when he felt physically sick, he has continued to go to the day service because it was something that he looked forward to now: “It’s [i.e., the day service] twice a week. … Older people like me get together and have exercises and enjoy karaoke together. … And, we get served small lunch, and do some exercises. That’s what I look forward to now.” The phrase “something to look forward to” was echoed by one of the volunteers, Karina, when she explained about the reason she started to engage in the weekly handicraft event for female survivors:

When I came to Ishinomaki for a festival last October, I originally intended to leave the city within two weeks. … But, I stayed for a month. This was because Hitomi and Eri [i.e., two other volunteers] also had to leave in the week when I planed to leave. So, they were going to cancel the event in the week. But, a week before that, I went to the event
and saw women enjoying handicrafts. They told me, “We look forward to every Wednesday because of this event,” and “We’re looking forward to coming to the event.” I thought I couldn’t cancel it because they told me in that way! So, I stayed here while they left.

In her case, Sachiko, who had lost motivations to do new things after disaster, has recently regained the motivations by having more fun in her life. As demonstrated in the following conversation, she thought that the increase in motivation was partially caused by coping behaviors, such as going to the handicraft event or making a flowerbed of sunflowers, that conversely facilitated her to take more actions:

Sachiko: Although I had not done anything so far, I went to a bookstore. I started to do something little by little. It seems better than what it was before.

Me: Why? What made the change?

Sachiko: What was it? Well, I think one of the reasons is that my health is getting better. Also, this may be because I have more fun like taking care of the sunflower. … I went to a handicraft shop and was looking around what kinds of things it has. I also read the book on handicrafts. I think my behaviors are little different from what they used to be.

Me: Was that after you went to the handicraft event?

Sachiko: It was around that time. I looked for things related to handicraft after I went there. … So, now I look forward to every Wednesday [i.e., the day of the handicraft event].

On the other hand, leisure activities have become contexts for the survivors to find their new purposes in life, or these activities have become such purposes themselves. With these long-term goals, the survivors could move forward away from their negative disaster.
experiences. While this long-term goal was different from injection of daily fun, they were interrelated to one another, as demonstrated in Matsuyo’s case. Matsuyo, who participated in the garden reconstruction project, perceived gardening as a coping strategy. In the interview, she indicated that gardening provided daily fun (i.e., maintaining flowers everyday and thinking about what kinds of flowers she will add) and long-term hope (i.e., a hope that the garden will be filled with beautiful flowers): “I enjoy gardening. I hope flowers will flourish more from now on. I’m looking forward to it. … When I go to a gardening store, I wonder how the garden will look like if I plant this flower.” For Katsuko, who enjoyed cooking as her life-long hobby, it was a source of purpose in her life after the disaster to feel being counted on by someone else through cooking:

Since I survived the disaster, I shouldn’t live, being angry about what happened. Rather, I think I have to whatever I can do. If people say my plum pickles are delicious and ask me to cook them more, I cannot refuse. Although I have pains in my hands and shoulders, I cannot say no when I am asked. … When everyone says that it delicious, I feel that I can still do something for others.

Takashi, who was a competitive marathon runner before the disaster occurred, said that “there are two goals in my life now: restoring my home and running a marathon again.” So far, he could not restart his marathon career because he was very busy renovating his home. However, as his home has become more restored, he could dedicate more energy and time to marathon training again. In this sense, he was also motivated to repair his home soon by having a goal to resume running marathons.

Hence, leisure activities had functions as sustainers of the psychological recovery process for the disaster survivors in this study. The two main functions that they have played are:
injecting daily fun in their post-disaster lives and becoming a context to find a new PIL or becoming the purpose per se. Leisure activities can play these two functions because of their enjoyable nature.

**Leisure as a source of normalcy and continuity.** The disaster experiences were so devastating that normalcy or continuity in life in the survivors’ lives was significantly disturbed. The following quote from Tsutomu indicates how significant the influences of the disaster were in their lives: “I feel that something *ended* last year. … It feels that something ended due to the disaster, *something inside me.*” Therefore, to restore some type of normalcy or continuity in life was an important aspect of the psychological recovery process for the disaster survivors. Many of them found that their leisure experiences contributed to this process in several ways. The resumption or continuation of participation in a certain activity brought a greater sense of normalcy or continuity. Moreover, some of them perceived that they returned to who they were before the disaster by regaining their identity through social leisure. Daily leisure, such as family time or gardening, was a symbol of their normal lives. For example, going to a swimming club again has brought a sense of normalcy for Mariko, who enjoyed swimming prior to the disaster though she was cognizant of the difference in members of the swimming club:

I also restarted to going to a swimming pool. I could not swim for more than one year. So, I go there at least once in a week. A clock is going ticktack without any doubt [i.e., her life becomes normal as time goes]. … It’s more than just swimming. I enjoy chatting with my friends there. … There aren’t so many people who reside near the pool now. People might not have a car. I feel that there are less people since those people haven’t come back.
In the same way, Yasushi perceived a sense of continuity in his life through his life-long hobby, collecting and maintaining classic cars. He has been the president of a local classic car club for 19 years. He and other members in the club held their events even in the year when they were affected by the disaster:

We held a gathering of classic cars this year and last year thanks to the support from Senmaya town. … We had cars from Akita and even Tokyo. We gathered about 60 cars this year. They all were produced in 1950 or before. … So, we have to visit various places from where the participants came. … I can’t stop it because I have done it for more than ten years. … I enjoy the visits to see my friends for the first time in one year or several months [i.e., after the disaster].

One of the volunteers, Kento, explained that such resumption or continuation of leisure led to better and more “normal” rhythms in survivors’ lives:

They haven’t found any hope, but they have created rhythms in their lives again, which subsequently increased time without thinking about the disaster. It also allows them to retain their sense of self. … There is a survivor who played volleyball once and restarted to play because a club team resumed. She continues to play because it’s fun. It’s not to find a big hope in life, but to get away from things related to the disaster as rhythms in their lives become better. There are many survivors who are coming back to their normal lives now.

While some survivors have felt a sense of normalcy or continuity in life simply through resumption or continuation of leisure involvement, there were also other survivors for whom some leisure-like activities had symbolic meanings of normalcy or continuity. In the following quote, Takako, who has not had much normalcy in her post-disaster life in the temporary
housing, poignantly claimed for the importance of normalcy and indicated that the symbol of normalcy for her is time with her family from which she is separated now:

I want normalcy. I just want to live a normal life everyday without troubles that I face now. I just want the sun comes up on the next day. … I just really want a normal life in which everybody is smiley. Before the disaster, we [i.e., her family] could get together any time when we wanted. Everyone came over if I told him or her that I was in trouble.

This importance of family leisure was echoed by Yukari, who is a mother of two children. Through the disaster experience, she learned that what she took for granted before the disaster, time with her children, was the most important thing in her life and could bring a greater sense of normalcy to her post-disaster life:

Our life is getting back to normal little by little thanks to all the helps from many people.

Now, I can do normal things that I couldn’t do in the wake of the disaster. I think such normal things are really important like time with family. I think such time is very important. … It’s time with my children, such as eating together or teaching homework. It’s just such trivial things. So far, I couldn’t teach them because of the lack of time. So, now time to teach them is very important for me.

For Tsuru, gardening was a symbol of daily life before the disaster occurred. Therefore, she has enjoyed gardening and growing vegetables even after the disaster with small planters in front of her room in the temporary housing. When she was asked whether she had any motivations to start new activities after the disaster, she negated it and instead emphasized the importance of normalcy:

Tsuru: … Honestly, I don’t have such things [i.e., motivations to start something new] almost at all. I just want to live a peaceful life.
Me: So, do you want to live such peaceful days with your family?

Tsuru: Yeah, yeah, yeah. And, I just want to live doing things I want to do, including taking care of flowers or growing vegetables.

Some volunteers also mentioned such symbolic function of leisure as a source of normalcy. When she was asked about what she thought the handicraft event meant for the female survivor participants, Karina emphasized the importance of normalcy that the event could provide:

There has originally existed a culture of tea social [i.e., cups of tea and snacks are served in the event], and … it has been very natural for the women to make things by handicrafts. It’s been parts of their daily lives. It has been also taken for granted for them to give cute things they made to someone. I guess the event is a place where they can start and are starting it again. … It’s a place where their normal lives start again.

Additionally, leisure activities have provided a context where the survivors could regain their identity prior to the disaster. For example, Tomio was a farmer when he was young and wanted to resume farming after the disaster. Volunteers made a small farm field for him in the place where his rent houses were located before the tsunami, and he restarted farming again. He has perceived more sense of self as a farmer through the activity. In the following quote, he explained that farming was more than just an activity for him:

I was originally a farmer. … I enjoy it. It’s more than enjoyment. I spent my whole childhood in a farming field. So, I just naturally “look down” the soil because I have the background as a former. … I like to see vegetables growing up. Above all, I have done this since I was a small kid. So, I look forward to seeing them grow up.

Hanako was a very outgoing person before she lost her husband in the disaster, but she could not enjoy communicating with her friends after her traumatic disaster experiences. As time passed,
she has become able to make jokes and entertain others again. For her, social leisure, namely daily conversation with her friends, was a context where she has retained her social identity:

I like to be silly and make jokes to make everyone laugh. We were chatting that I am gradually getting back to who I am because I can make some jokes now. … So, my friends told me that I started to act in my way, saying jokes and making others laugh.

In this way, leisure experiences has provided context for the survivors to feel a greater sense of normalcy and continuity in their post-disaster lives. There were three major ways in which leisure could play such role: resumption and continuation of participation, meaning as a symbol of normal life, and context where they can retain their sense of self. This function of leisure has been particularly important for the survivors whose normalcy and continuity in life were significantly disturbed by life-changing experiences in the disaster, such as bereavement or destruction of their hometowns.

**Leisure as a manifestation of personal transformation.** Through their disaster experiences and its aftermath, most of the survivor interviewees perceived positive changes in their ways of thinking or values, such as a greater sense of appreciation or more resilience. Such post-traumatic growth (PTG)-like changes (Tedeschi & Calhoun, 2004) were manifested through leisure-like behaviors. One of the unique features of the reconstruction process from the GEJE and tsunami was the remarkable number of disaster volunteers who have gathered from the entire nation as well as foreign countries. According to the Japan National Council of Social Welfare, the Tohoku region (i.e., Miyagi, Iwate, and Fukushima prefectures] has accepted approximately 1,122,700 disaster volunteers as of the end of September in 2012. In Japan, where volunteer culture has not been well rooted, this was the first time for the survivors in this study when they have received support from volunteers.
Hence, many survivors had greater appreciation of their efforts and hoped to “repay” through altruistic activities. For example, Satoko has been engaged in many volunteer-like activities while she was also one of the survivors. She walked around the temporary housing and greeted elder residents to make sure that nobody ends up in solitary death. Also, she has organized many social and recreational events in the housing complex by collaborating with volunteers. Moreover, she started to get involved in the project in which survivors make and sell Japanese traditional sandals and donate the money that they earn for vaccines for children in Africa. In the following quote, she showed her sense of appreciation for volunteers and illustrated the other altruistic activity that she was doing now:

I won’t forget this sense of appreciation. We usually talk that we should do this or that [i.e., volunteer-like activities] if something happens [i.e., if next disaster occurs]. Now, we are making environmentally friendly scrubbing brushes and getting some money by selling them at a shop. I put half of the money I earn into a moneybox. If something occurs, I won’t be able to go there because I am old. So, I will remember what I needed most, and will buy and send it to survivors. … I have been helped a lot this time, so I would like to repay little by little even a part of the help that I’ve received. But, I am getting older and older. Though, I make and sell these scrubbing brushes and donate half of my salary rather than doing nothing.

Noriko found her way of “repaying” is to convey what she has experienced to other people who have not experienced the GEJE and tsunami, including me. However, it was not easy to talk about what really happened, especially negative stories, in a small community of the temporary housing:
But, people who came from outsides were very kind and nice. They helped us a lot. So, I appreciate them from the bottom of my heart. What I can say is just thank you. While I don’t have anything to return, what I can do is to tell what I have experienced and what happened to others. I hope it will be a good lesson for the future disaster. However, it’s still difficult. We can be criticized by others for telling this kind of stories. We might lose a place to live by doing so.

While a greater sense of appreciation for volunteers and altruistic behaviors were very prevalent, there were also some other survivors who experienced some inner changes and have manifested them through leisure-like experiences. For example, Shigeru has started a business that involves cooking Ishinomaki yakisoba noodles. While it is a business, he stated that he does “not care about profits anymore.” Rather, it is his way of “repaying” for volunteers. Furthermore, it is an opportunity for him to stop self-blaming for his wife’s death, move forward, and atone for it:

I found the two sticks with which my wife was cooking the yakisoba noodles. So, I feel that she might push me forward and encourage me to cook them. After I left the hospital, I decided to do so. You cannot move forward while you are just crying in front of your family Buddhist altar everyday. I would like to make my first step forward and atone for their deaths. And, there were many volunteers who have worked so hard being dusted since the disaster. I saw them working when I was searching for my wife in Ishinomaki every day. I just really wanted to say, “Thank you for your works” to everyone. I try to show my sense of gratitude by cooking the yakisoba noodles.
For Yukari, the disaster experience has been an opportunity to learn what is really important in her life, namely her children. Since the disaster, she has appreciated time when she can spend with her children more:

I learned the importance of life in many ways. I came to strongly think that I shouldn’t take it for granted through the disaster experience. … It’s time with my children, such as eating together or teaching homework. It’s just such trivial things. So far, I couldn’t teach them because of the lack of time. So, now time to teach them is very important for me.

In this way, many survivors in this study have experienced positive PTG-like changes in their ways of thinking and their values. These changes have been manifested through leisure-like experiences. The most prevalent type of activities was the altruistic one to repay for the support they have received since the disaster, such as donating money, doing charity and intention for future disaster volunteer. However, it is noteworthy that many of the survivors are still suffering from their lower life standards and do not have time or energy to do such activities yet. There are also other survivors who perceived their inner changes and expressed them via leisure-like activities.

**Leisure and Resilience**

The other major role that leisure has played since the GEJE and tsunami was to provide a context in which the survivors could cultivate more coping resources, such as social support and perceived control in life (Coleman & Iso-Ahola, 1993). On one hand, leisure activities, especially social ones, have functioned as a setting where they could share positively toned experiences with other participants and establish new friendships. This was particularly important in the wake of the disaster because many survivors lost some of their old friendships.
due to bereavement, displacements, and disrupted relationships. This function was related to but distinct from seeking social support as an emotion-focused coping strategy in that this was aimed at establishing lasting friendships and cultivating rich coping resources for the future while seeking social support as an emotion-focused coping was to moderate negative impacts of stress that the survivors were facing. In this sense, seeking social support was similar to the idea of leisure companionship (i.e., one of the leisure coping strategies) and this was more related to leisure friendship (i.e., one of the leisure coping beliefs) (Iwasaki & Mannell, 2000a). On the other hand, leisure has functioned as a context where they could cheer up each other through interaction and overcome their traumatic experiences that appeared so devastating and difficult to get over individually. Again, this function of leisure appeared closely related to the notion of leisure autonomy (Iwasaki & Mannell, 2000a).

**Leisure as a source of friendships.** The survivors have attempted to make new lasting friendships through their leisure participation. Arguably, such friendships provided leisure companionship for the future. They also provided rich social support that helped them cope with on-going stressful living situations in the wake of the disaster. For example, Tomio, who lost his companions in the disaster, enjoyed the interactions in the day service with other survivors who were in his age group and started to make new friendships with them. Through enjoyable activities, such as exercise, karaoke, and having lunch together, he has made new friends with whom he enjoyed “joking with each other.” In the interviews, he shared with me his plan to travel with his friends from the day service in the future. In a similar way, Hanako, who was displaced outside of the prefecture but decided to come back and stay in her original neighborhood, has enjoyed social leisure with her neighbors and appreciated social support from
them. For Hanako, the friendships with her neighbors were particularly important because when she lived with her son and his wife they felt reserved and Hanako could not socialize with them:

We traveled around other many sites. Neighbors took me around. They invite me a lot. As long as I live here, they drop by my place. We just have a cup of tea together. Or, we just chat in front of our homes. I think it is good.

In her case, Mariko, who is very social and engages in many leisure activities, has received rich social support from different groups of friendships that have been constructed surrounding different leisure activities. Conversely, such rich friendships allowed her to have many opportunities for leisure:

I have many friends, such as a group of friends from swimming or another group of friends from another activity. People say that I have many friends. … I feel that I may be happy when I am told in that way. On the other day, we, people from the pool, chartered a bus and went to Yamagata prefecture. … We ate a bowl of rice with sashimi and watched alpine plants on the mountain.

In addition, some volunteers acknowledged that survivors have made new friendships since the disaster in leisure contexts. For example, Karina shared a story about two participants in their handicrafts event who are good friends. She thought that they had been friends even before the disaster, but she knew that it was not the case as demonstrated in the following quote:

The two participants live next to each other. … They are very good friends and always come to the event sharing a sunshade. We thought that they had been friends for a long time because they live next to one another. However, when we were chatting one day, we came to wonder and knew that they only greeted each other before the disaster. We were
surprised because they are so close now. We were astonished that they told us that they became friends after they started to come to the event. There are many people like them.

Likewise, Sarina knew some cases that new friendships started at social events that she and her coworkers organized at temporary housing:

I am very happy to see residents to exchange their contact information. They said like, “We will do this kind of things [i.e., leisure-like activities] next, so why don’t you join us?” … They just come across other people when they go out, so it’s difficult to speak to others in the situations and become friends. It’s almost impossible. … So, I guess it’s easier to exchange contact information at such events.

Thus, the disaster survivors have established or strengthened their friendships through leisure participations. This role of leisure as a context to establish new and lasting friendships are particularly important for the survivors whose friends were killed or displaced in the disaster. Nonetheless, it should be noted that there were also some survivors who were not ready to reach out or just started to participate in these activities in order to make new friends.

**Leisure as a context to perceive control in life.** The disaster experiences were so traumatic and shattering that many survivors perceived decreased sense of control in their lives. However, some leisure-like experiences have provided a context where they could retain a sense of control in their post-disaster lives. One of such activities identified in this study was driving. Unlike urban areas in Japan where public transportation systems are quite advanced, driving is the major transportation for people in rural areas, such as Ishinomaki and Minamisanriku. Especially for older survivors, the majority of the study participants, driving again after the disaster was perceived as a symbol of independent life. For example, Shigeru, who purchased his new automobile despite objections from his family, “expanded mobility by purchasing the
car.” After he bought it, he started to plans to visit his old friends who were not accessible before as well as take new friends from the day service traveling. He perceived that he has “gained more and more energy” after he started driving again. Likewise, Katsuko, who is disabled and could not drive a normal car while being displaced, has regained a greater independence in her post-disaster life after she resumed driving. She acknowledged that her mobility was drastically different whether she could drive or not, and in the interview repeated that she “can go wherever” she wants now:

I was so glad [when she drove again after the disaster]. I wondered if I should stop driving. But, my oldest son bought for me because otherwise I don’t go out from home. I can go out if I have a car, right? I can go wherever I want to go. It [i.e., driving] came back. When I was displaced, I didn’t have a car. So, I couldn’t go anywhere, right?

In addition to driving, social leisure has also provided a context where some survivors could retain control over their post-disaster lives. The disaster experiences were too traumatic and shattering to overcome individually for many of the survivors. Hence, they have utilized social leisure as a context where they encouraged each other to stay positive or optimistic and perceived more control in their post-disaster lives. For instance, Hanako, who has blamed herself for her husband’s death in the disaster, attempted to make her way of thinking more positive and optimistic through having conversations with her neighbors and making fun of their traumatic disaster experiences:

No matter how much I think about him [i.e., her husband], he won’t come back. … I think that it [i.e., her post-disaster life without her husband] will work out and that what I can do is just to get through difficulties one by one. I talked about this with my friends. They said that it is a good way of thinking. We talked that it wouldn’t really matter if we
worry a lot. … We joke, “Let’s be swept away together if another tsunami comes.” We talked that it would be better not to try to survive and just to be wiped out. We said that we never want to send this kind of life again, so we should be killed altogether. That’s how we joke and laugh.

In her case, Satoko has obtained more energy through working for other older residents in the housing, such as organizing food-serving events, holding social and recreational events, and visiting and greeting them. Moreover, she could stay positive by having positive conversations with others in such altruistic activities and other social events:

I started to move forward in this darkness. Since then, we have believed that we will see light in the end of this tunnel for sure and we will get there by supporting each other. … I have to find a new place to live. It can be a small one because I am going to live alone. I think I can’t die in this housing. Now, I am doing my best to get out here as soon as possible and find a new place. … Then, I talk about this with other older people as well. I say, “We can’t die here! We should find a new place. We will die after we get out here!” Then, they agree and say, “Yeah! You are right!” So, I tell them that they should stay healthy and cheerful as long as they are here. We are still talking in this way.

Hence, some leisure-like activities have provided a context where the survivors could perceive a greater sense of control in their post-disaster lives. One of these activities was found to be driving. It has had a symbolic meaning of independence especially for the older survivors in the rural areas, such as Ishinomaki and Minamisanriku. On the other hand, social interactions in leisure experiences have also provided a context for the survivors to encourage each other, overcome their traumatic disaster experiences collectively, and remain positive and optimistic.
about their future. This might be particularly important after a catastrophic event, like the GEJE and tsunami, which is too difficult to get through individually.

In summary, the findings in this study were categorized into the two main sections: negative influences of the GEJE and tsunami on the survivors’ psychological well-being and key roles of leisure in the psychological recovery process after the disaster.

As for the disaster’s negative impacts, there were two major ways through which the disaster has undermined mental health of the survivors. One was the direct impact through traumatic experiences and post-disaster stressors. Many disaster survivors in this study as well as other survivors went through traumatic experiences during and immediately after the disaster. Such experiences identified in the narratives of the study participants include: destruction of home and things to which the survivors were emotionally attached, displacements and relocations multiple times, separation from significant others under uncertain situations, life without basic necessities, fear of death, witnessing traumatic events, and bereavements. The analysis of the interview data indicated that the survivors have also psychologically suffered from more chronic stressors since the disaster occurred. These post-disaster stressors identified in this study were, namely, discomfort during displacement, anxiety for future disasters, loss of jobs/economic instability, life in a limited space, disrupted interpersonal relationships, changes in lifestyles, and sudden moments when they remember traumas and feel depressed. On the other hand, the disaster has also indirectly influenced on the survivors’ well-being by exacerbating leisure constraints. The survivors have perceived more material, social, and emotional constraints for their leisure participations since the disaster.

With regards to leisure’s functions in the post-disaster psychological recovery, there were three categories that were identified in this study: leisure stress coping, leisure symbolic coping,
and leisure and resilience. First, many disaster survivors have utilized leisure-like activities as coping strategies in mainly two ways: problem-focused coping and emotion-focused coping. In terms of problem-solving, the survivors have used leisure-like activities in order to address stressful post-disaster living conditions, such as making more companions or space for future leisure participation. As for emotion-focused coping, many of them have relieved negative impacts of the stressors by distracting, getting away, seeking emotional support, and venting negative thoughts through leisure-like activities. Second, leisure has had symbolic meanings that were particularly important for the survivors to psychologically recover in a more holistic way (i.e., not only stress moderation). These meanings were leisure: as a source of daily fun and PIL to sustain coping efforts, as a source of normalcy or continuity in life, and as a manifestation of personal transformation. Finally, leisure has provided opportunities where the survivors can cultivate more resilient traits, such as social support and self-determined dispositions. While interactions through leisure activities have provided chances to rebuild and expand friendships as a source of social support, such activities have allowed the survivors to regain a sense of control in their post-disaster lives individually as well as collectively.

In the following discussion section, I will examine how these findings can be explained by and can contribute to the literature. Moreover, I will attempt to define an emerging core meaning of leisure in the post-disaster psychological recovery process that appears to overarch the three main functions of leisure indentified in this section.
CHAPTER 5

DISCUSSION

Examinations of Major Findings

In this section, I examine how the major findings in this study can be explained by and can contribute to the literature. First, I will discuss the relationships between the Great East Japan Earthquake (GEJE) and tsunami and their negative psychological impacts in relations to other cases of natural disaster in the literature. Next, I will discuss how leisure can contribute to the psychological recovery process from natural disaster experiences. Also, I will examine an emerging theme that appears to overarch the three roles of leisure in the recovery process that were identified in this study.

Natural Disasters and Their Negative Psychological Impacts

This study indicated that there are two major ways that the disaster has negatively impacted survivors’ psychological well-being. First, it has directly influenced their mental health by imposing traumatic experiences and leaving post-disaster stressors. Second, it has also affected their well-being indirectly through exacerbating constraints for their leisure participations.

Traumatic experiences related to natural disasters. There were the seven major traumatic experiences identified in this study by the survivors of the GEJE and tsunami. These included destruction of home and belonging to which survivors were emotionally attached, displacements and relocations at multiple times, separation from significant others under uncertain conditions, life without necessities, fear of death, witnessing traumatic events, and bereavements.
In the disaster and trauma literature, these experiences have been found to have negative influences on psychological well-being of survivors of other natural disasters. Previous studies suggested damage to home and other property was correlated to increased odds of suffering trauma or slow mental recovery from disaster experiences (e.g., Basoglu, Kilic, Salcioglu, & Livanou, 2004; Wen, Shi, Li, Yuan, & Wang, 2012; Wickrama & Wickrama, 2008). For example, in their study on tsunami survivors in Sri Lanka, Dewaraja and Kawamura (2006) found that destruction of houses and other property beyond reparable levels was a significant predictor of post-traumatic stress disorder (PTSD).

Displacements and relocations have also been well documented as factors that predict traumas in the wake of various natural disasters (e.g., DeSalvo et al., 2007; Kilic et al., 2006; Kristensen, Weiseth, & Heir, 2009; Norris, Murphy, Baker, & Perilla, 2004). For instance, in their study on female survivors of the earthquake in Armenia in 1988, Najarian, Goernjian, Pelcovitz, Mandel, and Najarian (2001) found that the women who were relocated experienced significantly higher depression symptoms than those who stayed in the city where the disaster occurred. Dewaraja and Kawamura (2006) also found that separation from family and being without food and water were significant predictors of PTSD symptoms among the participants. Moreover, in their study on Peruvian earthquake survivors, Cairo et al (2010) found that shortages of food and water immediately after the disaster was one of the factors that was independently correlated to post-disaster traumas.

There have been quite a few previous studies in which fear of death, or life-threatening experiences, were a major predictor of trauma (e.g., Dewaraja & Kawamura, 2006; Johannesson, Lundin, Frojd, Hultman, & Michel, 2011; Kilic & Ulusoy, 2003; Mills, Edmondson, & Park, 2007). Above all, in a series of studies by Basoglu and his colleagues on Turkish earthquake
survivors, fear of death was found to be the strongest predictor of PTSD (Basoglu, Salcioglu, & Livanou, 2002; Basoglu et al., 2004; Salcioglu, Basoglu, & Livanou, 2003). Witnessing traumatic events has also been identified as one of strong determinants of traumatic symptoms and depression in the past studies (e.g., Heir & Weiseth, 2008; Johannesson et al., 2009; Wen et al., 2012; Zhou et al., 2012). Finally, the literature has also suggested that bereavement is one of powerful predictors of trauma-related symptoms, such as PTSD and depression, among survivors of various natural disasters (e.g., Heir & Weiseth; Johannesson et al., 2009; Kilic & Ulusoy; Ranasinghe & Levy, 2004).

Thus, this suggests that my findings regarding traumatic experiences in the wake of the GEJE and tsunami are consistent with the existing literature. Moreover, it seems that this consistency with the literature indicates support for the significance of the traumatic experiences that were subjectively identified by the interviewees in this study. While the psychological well-being of the survivors in this study was not measured by existing scales for mental illness, such as PTSD, depression, and complicated grief, it is quite likely that the survivors have suffered considerable decline of their psychological well-being because they have experienced traumatic events that were identified as significant predictors of mental illness, such as PTSD and depression, in the literature.

Furthermore, it is noteworthy that trauma in this study was characterized by the two aspects: its intensity and its subjective “meaningfulness” for an individual who experienced it. This subjective significance of trauma, or traumatic experience, has not been explored sufficiently, especially in the aforementioned studies in which researchers simply utilized checklists for the mental diseases. However, Peter (2008) critically analyzed implicit and explicit assumptions in these studies that people perceive and react to trauma in the same way
and argued that what makes an experience traumatic is profoundly related to “a matrix of images, meanings, sentiments, and practices, which have been socially and culturally produced” (p. 642). Along with his argument, the survivors in this study seemed to perceive experiences that were personally and culturally “meaningful” to be more traumatic (e.g., destruction of home where they spent their entire lives). It appears that it is important to explore what are traumatic, or what are meaningful, for natural disaster survivors so that researchers can become more cognizant of potential psychological impacts of seemingly insignificant events and can better understand why specific post-disaster behaviors or cognitions are important in their psychological recovery processes (e.g., since many friends were killed and displaced and friendships were strained, it is very important to have interactions and create new relationships).

**Post-disaster stressors.** In this study, seven major sources of stress have been identified in the survivors’ narratives. These stressors included discomfort during displacement, anxiety for future disasters, loss of jobs/economic instability, life in a limited space, disrupted interpersonal relationships, changes in lifestyles, and sudden moments when they remember traumatic events and feel depressed. While there are a number of studies in which displacements or relocations were found as a predictor of mental illness (e.g., Wickrama & Kaspar, 2007), there have not been many studies that explored why displacements were stressful in the wake of natural disasters. In their study on displaced Katrina survivors, Ma, Tuason, Guss, and Lynne (2012) found that for their interviewees, displacements entailed many other stressors, such as conflict over resources, inadequate health care, strained relationships with family or friends, and separation from community. Similarly, while there have been a number of studies that dealt with general anxiety or anxiety as a medical symptom (i.e., anxiety syndrome), anxiety about future disasters has not been explored well. However, in my pilot study, some of the Japanese and
Japanese American Katrina survivors felt chronic stress from anxiety about future disasters and renovated levees that can only bear category-4 hurricanes (Kono, 2012). This suggests that future research should look into what factors make post-disaster displacement and anxiety stressful for survivors.

Unemployment and economic instability have been well documented as powerful stressors for natural disaster survivors (e.g., Adeola, 2009; Cairo et al., 2010; Galea, Tracy, Norris, & Coffey, 2008). For example, in their study on Pakistani earthquake survivors, Ali, Farooq, Bhatti, and Kuroiwa (2012) found that both unemployment status and low income after the disaster were significantly associated with higher levels of post-disaster stress. As for limited space, there have been several studies in which living in a shelter or housing predicted more stress among disaster survivors (e.g., Kun et al., 2009; Hyre, Cohen, Kutner, Alper, & Muntner, 2007). For instance, Kun, Han, Chen, and Yao (2009) found that living in a shelter or temporary house was significantly correlated to increased odds of PTSD among quake survivors in Wenchuan, China. As for strained interpersonal relationships, based on their empirical studies on flood survivors and literature, Kaniasty and Norris (1993) argued that a natural disaster can negatively impact survivors’ psychological well-being both directly through trauma and stress and indirectly through deterioration of social support systems.

There are also some studies in which different lifestyles and loss of routine in life were found to be significantly associated with poor mental health (e.g., Smith, Drefus, & Hersch, 2011; Smith & Freedy, 2000). For example, Fukuda, Morimoto, Mure, and Maruyama (1999) found that negative lifestyle changes measured by certain health practices predicted higher odds of PTSD among male earthquake survivors who resided in the temporary housing when the study was conducted. The sudden moments when survivors have intrusive thoughts have also been
prevalent in the literature (e.g., Basoglu et al., 2002; Ironson et al., 1997; Kilic & Ulusoy, 2003). For example, in their study on Katrina survivors, Mitchell, Witman, and Taffaro (2008) found that 18.8% of their study participants still suffered from intrusive thoughts of stressful or traumatic disaster events even one year after the hurricane.

Hence, it seems that post-disaster stressors found in this study are also consistent with the existing disaster literature. As I argued in the section of traumatic experiences, congruence with the literature indicates the significance of these stressors while they were only self-reported in this study. However, it should be noted that in the literature traumatic events and disaster-related stressors have not been explicitly distinct from one another. Although it is assumed that traumatic events are different from ordinary stressors (e.g., Vermetten & Lanius, 2012), both have been usually categorized as possible predictors for mental impairments, such as PTSD and depression. Along with Peter’s (2008) assertion that what is perceived as trauma is greatly dependent on personal experience and sentiment as well as cultural and social background, I distinguished traumatic experiences from post-disaster experiences in the narratives of the survivor interviewees. While traumatic experiences in this study were more intense and “meaningful” and basically transient events immediately after the disaster (e.g., destruction of home and bereavement), post-disaster stressors were chronic ordinary stressors that have been exacerbated by the post-disaster situations (e.g., strained interpersonal relationships and discomfort during stay). Nevertheless, it is noteworthy that these two categories in this study were not mutually exclusive and there were considerable overlaps between them. This is largely because what can be traumatic is very contextual (e.g., life without basic needs being satisfied might not be traumatic for homeless people).
Negative impacts of natural disasters on leisure behaviors. This study also found that the GEJE and tsunami had negative influences on the leisure behaviors of the survivors, which have arguably undermined their psychological well-being in indirect ways. The major leisure constraints that the survivors in this study perceived exacerbated since the disaster were material, social, and emotional constraints. This is an interesting parallel to the three major constraints proposed in the leisure constraints literature, namely structural, interpersonal, and intrapersonal constraints (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991).

Crawford and Godbey (1987) defined structural constraints as the ones that intervene “between leisure preference and participation” (p. 124). In this study, the survivors have faced material constraints, such as shortage of leisure resources (e.g., facility and equipment) and leisure site (e.g., home), which have prevented them from participating albeit they wanted to participate in some leisure activities. This indicates that these constraints intervened their preference and participation, and can be called as a type of structural constraints. While the researchers conceptualized interpersonal constraints based on family and couple leisure, they argued that the notion “is applicable to interpersonal relations in general” and “an individual may experience an interpersonal leisure barrier if he or she is unable to locate a suitable partner” (Crawford & Godbey, p. 123). This indicates that social constraints that were caused by the disaster killing and displacing companions and disrupting existing friendships may be considered as a part of interpersonal constraints. Intrapersonal constraints were defined as barriers that “involve individual psychological states and attributes which interact with leisure preferences” (Crawford & Godbey, p. 122). As examples of this type of constraints, they provided mental states, such as stress and depression, as well as subjective assessments of appropriateness and availability of certain activities. Therefore, demotivation, or a-motivation, that the survivors
have experienced since the disaster seems to be one of such psychological states that undermine their leisure preferences. Also, internalization of mourning atmospheres and lack of motivation due to resource loss pointed out by the volunteers appears interestingly paralleled to aforementioned subjective evaluations of the appropriateness and availability.

While none in the disaster and stress/trauma literature has been specifically focused on leisure as far as I know, these negative impacts on leisure behaviors by natural disasters appear to be supported by some previous studies. As for impacts on material resources, major natural disasters oftentimes bring significant damage to houses (e.g., Basoglu et al., 2004; Dewaraja & Kawamura, 2006; Wen et al., 2012; Wickrama & Wickrama, 2008). Moreover, they also destroy belongings important for survivors to participate in leisure (e.g., Ma et al., 2012; Wadsworth et al., 2009). They also devastate interpersonal relationships by killing and displacing a large number of people (e.g., Johannesson et al., 2009; Kristensen et al., 2009; Norris et al., 2004; Ranasinghe & Levy, 2004) as well as disrupting existing relationships (e.g., Ma et al.). Mitchell et al. (2008) found that “diminished interest or participation in work and hobbies” (p. 72) were prevalent among Katrina survivors. Furthermore, Smith et al. (2011) found that the graduate student survivors of Hurricane Ike have experienced decline of leisure participations in the wake of the disaster. Likewise, Rung, Broyles, Mowen, Gustat, and Sothern (2011) found that in parks in the New Orleans area, visitors from flooded areas used parks significantly less frequently than those from non-flooded areas even after controlling race. Therefore, three negative influences on leisure behaviors appear in line with the existing literature.

The fact that natural disasters negatively impact survivors’ leisure behaviors leads to a question about whether such negative influences can undermine psychological well-being of the survivors. While this is slightly beyond the scope of this study, the leisure literature indicates
that these effects may diminish mental health of survivors. As they noted that “constrains are considered elements of stress” (p. 108), Iwasaki and Schneider (2003) indicated that facing more leisure constraints can arguably have direct negative influences on psychological well-being. Although some successful negotiations of constraints may predict enhanced satisfaction (e.g., Elkins, Beggs, & Choutka, 2007), assuming that “leisure has the potential to operate as a means to effectively deal with stress” (Iwasaki & Schneider, p. 108), it can be argued that increased non-participation or participation in an unwanted way can have indirect negative impacts on their mental health as well. Moreover, Walker, Halpenny, and Deng (2011) found that social, psychological, and aesthetic leisure satisfaction moderated discrimination-related stress among Chinese immigrants in Canada. Thus, based on the findings in this study and existing literature, I argue that natural disasters exacerbate leisure constraints among survivors and both directly and indirectly undermine their psychological well-being.

Considering both direct (i.e., traumas and stressors) and indirect (i.e., leisure constraints) impacts of natural disasters on survivors’ psychological well-being, I proposed an interpretive map of possible negative psychological impacts of natural disasters on their survivors (see Figure 19). It should be noted that factors illustrated in the map are not exhaustive. Moreover, it is also worthy to point out that there is an overlap between traumatic experiences and post-disaster stressors. One of the reasons for this is that it is very contextual and subjective as to what can be perceived as traumatic for survivors. Also, the overlap indicates the relationships between traumatic experiences and post-disaster stressors (e.g., because homes were destroyed and they were displaced, they felt discomfort during displacements). While it seems that traumatic events might cause some post-disaster stressors (e.g., bereavement and witness caused intrusive thoughts, or destruction of home and displacement caused discomfort), the causality was not
clear in the narratives among the survivors in this study. This should be further explored in the future research.

Figure 19. An interpretive map of negative impacts of natural disasters on survivors’ psychological well-being.

**Leisure and Psychological Recovery in the Wake of Natural Disaster**

In this study, there were the three major roles that leisure played in psychological recovery process after experiencing natural disasters. These roles were, namely, 1) leisure stress
coping, 2) leisure symbolic coping, and 3) leisure and resilience. Again, it should be noted that these three categories are distinctive but not mutually exclusive, and that certain leisure-like activities can play multiple roles depending on perceptions of leisure participants. In the following section, I will examine how these functions can be explained and can contribute to the literature.

**Leisure stress coping.** Leisure activities played roles as stress coping strategies for the survivor participants in this study. The main two functions were: problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). This finding that leisure-like activities have been utilized for both problem-focused and emotion-focused coping is one of the contributions of this study to the leisure literature. This is because it has been less clear what “forms of leisure that may have best contributed to problem-focused coping” (Hutchinson et al., 2003, p. 157) and some researchers have assumed that leisure might only “operate as a form of emotion focused coping where the motives for engaging in leisure activities have stress reducing properties” (Trenberth, 2005, p. 1).

However, as Kleiber et al. (2002) argued, “leisure is a resource for the self-protective effects of emotion-focused and problem-focused coping” (p. 225), there have been a few previous studies in which researchers found that leisure can be used for problem-solving as well. For example, Hutchinson et al. (2003) found that their study participants with traumatic injury perceived leisure as an important context where they could “connect with others shared experiences, not shared illness or injury” and rebuild their relationships that were devastated by the traumatic injuries. This function of leisure as a context for social interactions was echoed in this study as a means for problem solving for the disaster survivors whose relationships were disrupted by the disaster. On the other hand, Iwasaki et al. (2005) found leisure functions as a
problem-focused coping strategy for the professional managers by injecting humor and laughter into their stressful daily lives. They argued that it is a type of problem solving to intentionally have positively toned experiences in stressful life while humor and laughter are usually considered as emotion-focused coping resources. This suggests that what can become problem-focused coping or emotion-focused coping substantially varies depending on what is a stressor in a certain situation. The disaster survivors in this study have also utilized daily and enjoyable leisure experiences in order to inject more fun into their stressful post-disaster lives. Thus, it appears that the findings regarding problem-focused coping in this study are consistent with the existing literature.

In addition to the problem-solving function, it was also found that leisure functions as an emotion-focused coping strategy. Compared to the problem-focused coping, this function of leisure seems more prevalent in the literature. For example, in her study on homeless women, Klitzing (2004) found that in order to cope with chronic stress the women primarily used their leisure activities for diversion, getting away, and seeking social support. These three emotion-focused coping strategies were also utilized by the disaster survivors in this study. Similarly, in his study on Indian people with lower socio-economic background, Dhar (2011) found that they utilized leisure activities, such as chewing tobacco, listening to music, gossiping, window shopping, and playing with children, in order to cope with intense stress from their physically demanding jobs. The researcher argued that these activities provide diversion, mental and physical escape, and relaxation. Hence, the findings with regard to leisure as emotion-focused coping appear congruous with previous studies.

As found in these studies, it should be noted that the emotion-focused coping with leisure is not necessarily maladaptive while they do not directly address a troubled relationship between
a person and his or her environment. As Lazarus and Folkman (1984) noticed, emotion-focused coping can facilitate problem-focused coping. Especially, in an international study like this one, researchers should be careful not to interpret a phenomenon only from Western perspectives where independence is usually more prioritized than escapism. Furthermore, it appears that emotion-focused coping can play significant roles in the wake of natural disasters like the GEJE and tsunami, the events whose levels of devastation easily go beyond the extent to which individuals can control.

**Leisure symbolic coping.** For the disaster survivors in this study, leisure has had three major symbolic meanings that were important in the their psychological recovery process after the disaster. These meanings were: 1) leisure as a source of daily fun and purpose-in-life (PIL) to sustain coping efforts, 2) leisure as a source of normalcy and continuity in life, and 3) leisure as a manifestation of personal transformation. These meanings of leisure expand the roles of leisure in the post-disaster psychological recovery process beyond mere stress moderation effect.

First, leisure has provided daily enjoyment as well as a long-term goal in post-disaster lives of survivors. These meanings allowed them to sustain their coping efforts even in quite stressful life after natural disasters. In the psychology literature, based on their studies on people with HIV, Folkman and Moskowitz (2000a, 2000b) found that people could achieve positive psychological states by infusing enjoyable moments in daily life that allow them to sustain their coping efforts. Likewise, in the leisure literature, Hutchinson et al. (2003) found that especially for people who recently got severely injured, “the opportunity to engage in enjoyable, personally meaningful activities seemed to serve as a source of motivation to sustain their ongoing coping efforts” (p. 151). In their study on female participants of the Red Hat Society, Hutchinson et al. (2008) also found that a leisure event could be “something to look forward to” even in very
stressful situations. This finding seems consistent with Kleiber et al.’s (2002) assertion that “leisure has the power to restore hope for one’s future in spite of dire circumstances” (p. 227). Although I have used words, such as hope or optimism in early interviews, I learned that the words did not fit with their experiences and perceptions, and that PIL, or “ikigai” in Japanese, has a better fit (Ishida, 2011, 2012). Nonetheless, it should be noted that there were a few survivors who could not still find any PIL in their lives after losing many important things and experiencing extremely traumatic events in the disaster.

The second symbolic meaning that leisure has after natural disasters was a source of normalcy and continuity in life. The notion of normalcy or continuity was found particularly meaningful for the survivors in this study because their disaster experiences were so powerful that a few of them literally felt that “something inside” ended due to the disaster. My pilot study in New Orleans found that simple resumption and continuation of leisure participations has provided a greater sense of normalcy or continuity for the Japanese and Japanese American Katrina survivors (Kono, 2012). In addition, as Lee et al. (1996) found that “the meaning of continuity … goes beyond the sameness of the contents, styles, and situations of activities” (p. 217), there have been some previous studies in which leisure is found to provide such “internal continuity” (Atchley, 1989). For example, Hutchinson et al. (2003) found that enjoyable leisure activities provided opportunities for people with spinal cord injury (SCI) to symbolically retain a sense of self and normalcy prior to their injuries. Such symbolism of previous identity or normalcy through leisure is echoed by the disaster survivors in this study while simple resumption and continuation of the same or similar activities have provided a sense of continuity. It seems that such internal and symbolic continuity is more important than the sameness of
activity, particularly in a post-disaster context where it is extremely difficult to provide exactly the same leisure services at the same quality and frequency.

Finally, leisure has been a manifestation of personal transformation for the survivors who have experienced post-traumatic growth (PTG)-like positive internal changes after the disaster. As Tedeschi and Calhoun (2004) argued, many of the participants in this study have experienced positive psychological changes through struggles in their post-disaster lives. In the leisure literature, it has been argued that leisure can actively contribute to a process to achieve PTG-like changes by “opening up people to new (and positive) ways of appraising themselves and their lives” (Hutchinson & Kleiber, 2005, p. 9). Empirically, Chun and Lee (2010) found that leisure facilitated people with SCI to achieve PTG in mainly five ways. Nevertheless, in this study, leisure has been an avenue through which the disaster survivors have expressed, or manifested, their positive growth. Similarly, Unruh and Hutchinson (2011) found that older adults with critical diseases have expressed their spiritual inner being through gardening. I am not arguing that leisure can play a role as either facilitation or expression of PTG, but acknowledge that it is likely that it functions in both ways. However, timing and context when and where leisure can function as a facilitator or a way of expression should be carefully examined in future research. This study was conducted one year and three months after the natural disaster. It might be indicated that it takes more time for leisure to function as a facilitator of PTG, or that differences in intensity of traumatic events would make some differences in roles that leisure can play. It should be noted that different societal and cultural contexts might have potential influences in the process to attain PTG (e.g., Taku, 2011; Taku, Cann, Tedeschi, & Calhoun, 2009).

**Leisure and resilience.** In this study, leisure experiences have functioned as a context where the survivors could cultivate resilience by enriching sources of social support and
achieving more self-determined dispositions (e.g., Coleman, 1993; Coleman & Iso-Ahola, 1993;Iso-Ahola & Park, 1996). The survivors have strengthened and expanded their friendships through interactions in social leisure activities. They have also perceived more control in their post-disaster lives through leisure-like experiences.

On the one hand, leisure has been a context for the survivors to create or maintain friendships. This function of leisure is perceived as particularly important for the survivors because many of them lost significant portions of their relationships due to bereavement, displacements, and disruption. As Glover, Parry, and Shinew (2005) found in their study on community gardeners, sociability is one of the most powerful attractions for leisure participants. Furthermore, they found that “leisure episodes” (e.g., “friendly banter at the office water cooler or chatting about gardening in a community garden space” [p. 468]) has the potential to open up the participants to creating new relationships. The importance of leisure’s sociability was echoed by another study on women with infertility by Glover and Parry (2008). They argued that the “social nature of leisure venues fosters quasi-public sphere effects, thereby providing a social infrastructure that can facilitate social attachments” (p. 222). They also found that infertility functioned as a shared social identity in their process to establish new friendships. In her study on female breast cancer survivors participating in dragon boat racing, Parry (2008) found that the shared leisure activity facilitated to normalize their survivorships as well as provided empathetic friendships.

This stream of empirical findings are relevant to natural disaster survivors. In a sense, leisure’s equalizing effect, its sociability, and its role as a new common ground allowed some of the survivors to create new relationships with other survivors. While they might have felt awkward reaching out to others in non-leisure contexts because of differences in damage and
post-disaster living situations, leisure functioned as an easier context for bonding. While leisure has functioned as a neutralizer of disaster survivor status and facilitated social interactions, the survivorship status had also an effect to create more caring interactions and relationships among the survivors. Interactions with other survivors let them enjoy a shared social identity as a disaster survivor so that they could create more empathetic relationships and normalize their survivorships. Therefore, the survivors seemed to enjoy both social interactions without survivorship status and empathetic relationships among disaster survivors. These leisure-generated friendships provided various rich social support, such as emotional, tangible, informational, and esteem support (Iwasaki & Mannell, 2000a).

The other function that leisure has played for the survivors is a context to perceive more control in their post-disaster lives. According to the self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000), people can perceive or develop more competence in activities in which they choose to participate. Based on the theory, Caldwell (2005) argued that for people who have experienced uncontrollable life events, such as natural disasters, “an opportunity to experience some level of control and choice through leisure is important” (p. 18). Empirically, in their study on college student athletes, Kimball and Freysinger (2003) found that student athletes perceived their participation as a context where they could cultivate a greater sense of competence and as a way to become more self-determined. Parry (2008) found that participation in dragon boat racing was a form of resistance against stereotypical frail images of cancer survivors and that the female participants were “getting energy” (p. 229) from their team environment, which motivated them further. In a different study on women with infertility, Parry (2005) found that the female participants resisted against pronatalism by demonstrating self-determination and confidence in leisure activities. In this study, driving is an important source of
certain levels of control and choice that the survivors can enjoy in the wake of uncontrollable events. They also encouraged each other to collectively get over post-disaster difficulties that might not be overcome alone as the female dragon boat racing participants have perceived more energy from their team in the study by Parry (2008).

**Emergent Core Meaning: Leisure as a Context for Interaction and Enjoyable Experience**

Leisure has played three major roles in the psychological recovery process from the disaster experiences for the survivors in this study. These were, namely, leisure stress coping, leisure symbolic coping, and leisure and resilience. Through the data analysis, I found that a core meaning of leisure that appears to overarch these three roles of leisure is emerging. It is leisure as a context for interaction and enjoyable experience. Interaction, or socialization, is particularly important because many of the survivors have experienced solitude to some extent due to bereavement, displacement (i.e., both their displacement and others’ in their communities), and disrupted relationships. Moreover, these experiences made it more difficult for the survivors to have socialization at the same level (i.e., both quantity- and quality-wise) as they did before the disaster mainly in three ways: physically (e.g., family members were physically separated), emotionally (e.g., feel lonely or depressed and avoid interaction), and socially (e.g., survivors feel awkward to interact with others who experienced different levels of the disaster damage). Therefore, leisure has an important meaning as a context for the survivors to interact with others and enjoy the socialization. Similarly, the study on Hurricane Katrina survivors by Rung et al. (2011) found that social motivation, especially reconnecting with others, was more important for park visitors from flooded areas than those from non-flooded areas. However, this significant difference disappeared after controlled race, and the researchers explained that this might be because of “the breath of the disaster’s impact, whereby the
overwhelming majority of the city’s [New Orleans] resident were somehow affected by the storm” (p. 399). Thus, an emerging meaning of leisure as an important context for social interaction for disaster survivors seems to be incongruent with limited previous studies.

In addition, the meaning of leisure as a source of enjoyable experience is found to be important as well because the survivors experienced extremely negative incidents as well as chronic stressors in their post-disaster lives. This is well represented in the phrase that many survivors said during my field study, “We can’t live without such fun in the wake of the disaster experience.” This meaning also appears to be consistent with limited literature on leisure and natural disaster. In Rung’s et al. (2011) study, to have fun or play was identified as the strongest motivation to go to parks in the wake of Katrina by both visitors from flooded and non-flooded areas. Shaw (1985) found that enjoyment was one of the factors, or meanings, that differentiated leisure activities from non-leisure activities among married couple participants. The two aspects of leisure were mutually complementary in that the survivors perceived interactions enjoyable because there were more people and interactions; since there were more people, interactions were further facilitated and they became more enjoyable for participants. The following Figure 20 shows a summary of the three key functions of leisure and the overarching theme in this study.
Japanese Ethnicity, Stress Generation and Leisure Coping

While this study does not have any key themes that are specifically related to Japanese ethnicity, the narratives of the interviewees in this study offer some contributions to the literature on Japanese ethnicity and stress generation and coping. First, as the literature indicates, the relationships among Japanese family members are important factors that significantly affect stress generation and coping in the wake of natural disasters (e.g., Knight et al., 2002; Shibusawa & Mui, 2001). Some of the survivors have experienced more stress due to their strong sense of responsibility for family members, and this was particularly the case for those who felt responsible for their family members’ deaths. Also, some of the survivors have suffered from disrupted relationships with family members. Takako’s experience as a woman married into another family was culturally unique to Japanese disaster survivors. On the other hand, it is noteworthy that many survivors in this study mentioned family as a stress coping resource as the
literature suggests (e.g., Sakamoto, et al., 2006). For them, family members were major leisure companions. Moreover, they perceived family, leisure with family (i.e., core leisure), and life with family as a main source of normalcy or continuity in life in their post-disaster lives.

While this study found consistency with the literature in terms of familism (e.g., Knight et al., 2002), it seems incongruent with the literature in terms of culturally unique coping tendencies. The literature has shown that Japanese people tend to employ internally targeted (e.g., self-control and denial) or less active (e.g., waiting) coping styles compared with other ethnic groups (e.g., Tweed, et al., 2004; Yoshihama, 2002). However, the disaster survivors in this study appeared to engage in transcendence of their traumatic experiences and coped with post-disaster stressors actively. While this study was not a cross-cultural comparison, this is an interesting finding that should be explored further. It might be explained by the fact that the study focused on both coping/transcending and leisure, which has been found to have a significant meaning as a context for social interaction and enjoyable experience among the survivors. They might be able to cope or transcend more actively due to leisure contexts.

Finally, some incompatibility of words is also noteworthy in terms of cultural or ethnic influences. There are two key words that I utilized in early interviews but realized that they did not well fit with the survivors’ perceptions and experiences. They are hope and leisure. First, I incorporated the word “hope” based on the proposition from Kleiber et al. (2002), which is that leisure experiences buffer negative impacts of life events by generating optimism or hope for the future. However, many survivors did not find any hope in their post-disaster lives and did not relate to this word. Through my observations, I noticed that “ikigai,” or purpose-in-life (PIL) was more prevalent and relevant to Japanese survivors’ experiences (e.g., Ishida, 2011, 2012). Leisure provided a context where the survivors found a new PIL in their post-disaster lives and
provided long-term goals to sustain coping efforts. It is not clear from this study whether the word and notion of hope was not actually relevant to their experiences or whether it was just too soon in their grieving processes.

Furthermore, it is noteworthy that the survivors in this study did not resonate with one of the most important words, leisure. Iwasaki, Nishino, Onda, and Bowling (2007) argued that “leisure is an ethnocentric term mostly based on North American and European thinking” and that the phonetic translation of leisure in Japanese, “rejaa,” appears to refer “to consumptive activities such as going on a vacation or visiting to (sic) a theme park that involves spending money during free time” (p. 114). When I asked about their leisure participation after the disaster in this study, many survivor interviewees associated with the word “rejaa” to special events and consumptive activities, such as traveling, watching professional sports, and going to resorts as Iwasaki et al. argued. Since they did not engage in these activities, many of them reported that they did not engage in “rejaa.” For me, this was clearly incompatible with what I observed as a leisure researcher in the field and changed the word “rejaa” into “something for fun” in the interviews. The survivors in this study related their experiences with this phrasing and started to illustrate the importance of daily, ordinary, and core leisure experiences, such as gardening, tea social, handicraft, do-it-yourself and time with family. This suggests the linguistic incompatibility between leisure and “rejaa,” and indicates the importance of exploring leisure in cross-cultural contexts.

**Limitations**

Although this study made some contributions to the existing literature, it also had several limitations. One of the most critical limitations in this study was the imbalance of gender and age groups among the study participants. Among the 16 survivor interviewees, 11 were women and 9 were older than 65. While there is inconsistency about whether these demographic
variables have significant influence on disaster experiences and reactions (e.g., Norris et al., 2002), it is likely that the narratives in this study were biased by participants’ demographic backgrounds. Indeed, while I was observing and recruiting survivors, I realized that there might be significant differences in their disaster experiences and intensity of post-disaster stressors between middle-aged survivors and older survivors. This was why I employed snowball sampling and attempted to recruit more middle-aged survivors.

It is also possible that the survivors in this study were those who have experienced successful psychological recovery because they sought help from volunteers or attended social or recreational events in the housing area. During my stay, I realized that most of the survivors who suffer from severe mental illness rarely go out or seek help from others. Nonetheless, it should be noted that this study is a qualitative inquiry and the participants are not representative samples of any population. They are considered as cases through which I can explore disaster experiences and the relationships between leisure and disaster experiences.

Another significant limitation was that intensity of trauma and stressors and psychological influences of leisure were self-reported in this study. While qualitative methods are important to understand meaningfulness of both negative impacts of the disaster and positive impacts of leisure, it would also be important to measure these factors with validated scales. It is also possible that there might be some cross-cultural issues. While I am a native Japanese and believe that I have a fair understanding of local culture in the disaster-stricken region, my academic backgrounds (e.g., literature and theory) come mainly from the Western sources. As I noticed some words translated from the literature and used in the interviews did not fit with the survivors’ experiences, there might be cultural assumptions that were caused by my academic background.
Theoretical and Practical Implications

Theoretical Implications

One of the major theoretical implications from this study is that there are three conceptual frameworks used in this study to capture the relationships between disaster and leisure experiences in a more holistic way. This was because I found an inadequacy of stress coping theory in the pilot study in New Orleans as described in the Methods section. While the stress coping theory has been well established in the psychology field (e.g., Lazarus & Folkman, 1984), it might be essentially incompatible to the definition of leisure to some extent. Lazarus and Folkman defined stress coping as a conscious effort to obtain coping outcomes (i.e., stress reduction). If leisure is defined as an activity with intrinsic motivation in which rewards should be “coming from engaging in the activity itself” (Neulinger, 1974, p. 17), leisure for stress coping, a type of extrinsic motivation, might not be considered as “pure” leisure experience. It can fit better with the notion of purposive leisure, which is “goal oriented and directed toward particular extrinsic benefits” and involves “work, effort, and sometimes frustration” (Shaw & Dawson, 2001, p. 228, emphasis added). This issue indicates that the stress coping theory alone appears unable to fully explain positive psychological effects of leisure activity. This seems to support for the arguments that it is necessary to establish a more comprehensive concept that can better explain psychological benefits of leisure experience, namely transcending life events (e.g., McCormick & Iwasaki, 2008; Kleiber & Hutchinson, 2010). Future researchers should attempt to develop such theoretical frameworks in the leisure field, not simply borrowing useful notions from relevant fields.

This study supported the three theoretical frameworks that have been employed. These were, namely, leisure stress coping, leisure symbolic coping, and leisure and resilience. First, the
study showed that leisure activity can function as a coping strategy and moderate negative impacts of psychological stress as Iwasaki and Mannell (2000a, 2000b) proposed the notion of leisure coping strategies (LCSs) as “actual stress-coping situation-grounded behaviors or cognitions available through involvements in leisure” (2000a, p. 167). This concept is also echoed with a claim for the therapeutic recreation intervention that incorporates coping skills theory by Hood and Carruthers (2002). It is noteworthy that among the disaster survivors in this study, leisure has functioned as both problem-focused and emotion-focused coping (Lazarus & Folkman, 1984).

Second, this study also empirically supported what I call leisure symbolic coping, which is based on the concept of leisure and transcending negative life events (e.g., Hutchinson et al., 2003; Kleiber et al., 2002). I did not use the term because this concept might be applicable for other types of experiences, such as acute or chronic stressors, and the term, leisure symbolic coping, indicates better that “subjective meanings that individuals ascribed to their experiences seemed to mediate ways in which leisure helped them cope with stresses” (Hutchinson et al., p. 157, emphasis in original). For the survivors in this study, the symbolic meanings of leisure experiences were oftentimes more important than what they actually did, with whom they engaged in leisure, or where they did an activity. This might be because it was difficult for them to replicate the exact experiences as what they did before the disaster due to its unprecedented level of devastation.

Finally, this study also provided support for the notion of leisure and resilience (e.g., Iwasaki et al., 2005; Kleiber & Hutchinson, 2010). In their essay, Kleiber and Hutchinson asked, “can leisure help people be less vulnerable to the stress and trauma of a negative life event?” (p. 161, emphasis in original). This study provided tentative affirmation for this question based on
the narratives of the GEJE and tsunami survivors. Although some researchers have attempted to incorporate the buffering effect into the notion of resilience (Coleman & Iso-Ahola, 1993), I would rather propose that leisure can help people become more resilient because it provides a context where people can cultivate coping resources, such as friendships and self-determined dispositions, that can be utilized for future coping. In this sense, the findings in this study are in line with an assertion by Hood and Carruthers (2002) that leisure can be utilized to increase positive resources, such as physical, psychological, social, and lifestyle resources, and improve coping ability in a long run. This idea seems echoed by the notion of the leisure coping beliefs (Iwasaki & Mannell, 2000a).

**Practical Implications**

There are also a number of practical implications that can be drawn from this study. On the one hand, this study provided a rich description of traumas and stressors related to the GEJE and tsunami. Practitioners in the disaster area, such as social workers, volunteers, and counselors, should identify people mentally at risk based on the information provided in this study as well as examine causes of their mental problems. Considering the fact that only a few survivors seek professional treatments voluntarily (e.g., DeSalvo et al., 2007), the practitioners should actively reach out to potential patients.

Moreover, another important practitioner, namely government officials at local and national levels, should address post-disaster stressors as soon as and as much as possible. For example, one of the major stressors identified in this study was extremely limited space in the temporary housing. This has been exacerbated by the government policy that does not consider situations of individual survivors (e.g., those who have family members who are bed-ridden).
They might have to make their policies more flexible, reflecting the actual living conditions so that post-disaster stressors remain as minimum as possible.

This study is innovated in that it found the increases of leisure constraints as another negative impact from the disaster. While it is natural to prioritize reconstruction of fundamental infrastructure, such as essential utilities, shelters, roads, and hospitals, immediately after natural disasters, restoration of leisure facilities, such as parks and community centers, should be integrated in the long-term reconstruction roadmap. It might be also important to provide leisure programs, such as karaoke parties, exercising or walking, and community gardening, to survivors both in temporary housing and their own homes. In my field study, I observed that there are considerable differences in the number of leisure programs available in temporary housing areas depending on sizes and populations of housing. Moreover, I also noticed that survivors who currently reside in their renovated homes have fewer accesses to such opportunities. Such gaps of provision of leisure opportunities should be addressed in order to minimize constraints to participate in potentially beneficial leisure activities. It is also imperative for professionals in the disaster field to be aware that survivors might be unmotivated to engage in leisure by the disaster. Therefore, even though they seem not eager for leisure, the practitioners should not undermine the potential benefits of such activity. It appears necessary to provide some leisure opportunities first, which might motivate survivors to engage more as the survivors in this study did.

Another implication for practitioners in the psychological field is that this study found that traumatic experiences are somewhat distinct from other stressors in the wake of natural disasters. While the latter can be addressed more easily, the former appears related to loss of something subjectively meaningful for individual survivors (e.g., home, spouse, or esteem) that
might not be easily substituted. Practitioners should carefully consider whether survivors are suffering from traumas or stressors and examine what they can provide based on their personal disaster experiences.

**Suggestion for Future Research**

There are some suggestions that I would like to make for future research in this area. First and most importantly, this topic regarding leisure, coping, and disaster has been significantly underexplored. Future researchers should expand empirical knowledge on other types of natural disasters, such as hurricanes, tornadoes, volcanic activities, and draught as well as other types of disasters, such as technological disasters and mass violence. While we witness the rapid increase of natural disaster occurrences at the global level, they are not still daily events. Therefore, international cooperation is necessary to expand the literature. At the same time, as Norris et al. (2002) pointed out that “most disaster studies examine the effects of a particular event that occurred at a particular time to a particular population in a particular place” and “the literature might be described best as a series of cases studies” (p. 208), it is also imperative to conduct meta-analysis to integrate the literature and establish generalizable theories specifically relevant to this issue. Moreover, as I indicated in the literature review section, some of the relevant literatures have been developed separately. Hence, it would be beneficial to conduct extensive literature reviews periodically to integrate relevant literatures, critically evaluate the advancement of the literatures, and indicate what gaps are still missing.

In addition to international cooperation, there are also strong needs for other types of cooperation related to this topic. On the one hand, interdisciplinary cooperation is indispensable because this issue is related to two other areas, namely disaster study and psychology/psychiatry. There exist extensive literature in these relevant fields, so leisure researchers interested in this
issue should cooperate with scholars from these fields. This sort of cooperation will also allow leisure researchers to provide leisure knowledge to researchers in other fields. On the other hand, cooperation with practitioners might bring significant advancement of the literature. During my field study, I noticed that practitioners in the field (e.g., volunteers, social workers, and counselors) have relevant knowledge acquired based on their hands-on experiences. Future researchers should collaborate with these practitioners to learn their knowledge as well as to provide academic knowledge to them.

Finally, the lack of empirical studies also means that there is a scarce variety of studies in the literature. While this study is a qualitative inquiry and there is considerable potential in this type of research design related to this topic (e.g., Folkman & Moskowitz, 2000a), it is important to conduct research with other types of methods. For example, large-scale quantitative studies will provide statistically generalizable knowledge to the literature. Furthermore, it is beneficial to conduct longitudinal studies to examine how psychological well-being of disaster survivors will shift as time passes and what sorts of roles leisure can play in the timeline. Experimental designs are also necessary to answer questions as to whether leisure contributes to enhanced psychological well-being or whether people with better mental health tend to engage in more leisure activities. These types of studies can be conducted with some intervention programs.

**Conclusion**

On the day when the GEJE and tsunami occurred, I was in Tohoku region visiting one of my friends. We felt a huge jolt and I was trapped in the region for a week. Since then, I have observed many people in my home country experience unimaginable traumas and difficulties. While at that time I have been accepted by the Department of Recreation, Sport and Tourism at the University of Illinois at Urbana-Champaign and decided to pursue leisure study, I lost
confidence in my academic interests. I questioned myself, “What can I do for the people who are suffering the disaster with leisure study? If there is nothing, why and how can I and should I continue this study?” These questions made me conduct this thesis project.

Through this thesis project, I came to know that leisure has helped many survivors psychologically recover from their traumatic experiences. Needless to say, leisure would be one of the many possible factors that contributed to survivors’ psychological well-being. However, this study suggested that what leisure can provide for survivors of major natural disasters is not negligible. It indicated that leisure has provided “small moments” when the survivors can cope with stress, feel fun and purpose in life, perceive a greater sense of normalcy, manifest their positive changes, and become little more resilient against future adversity. What the survivors perceived important in their recovery was not special or extraordinary experiences, but very daily and normal experiences, or experiences that were daily or normal at least before the disaster occurred.

These findings gave me a confidence to pursue leisure study further. I would like to show my sense of gratitude for all the people who have helped me to conduct this study. Also, I greatly appreciate all the survivors who kindly shared their poignant but valueless experiences with me. Finally, I hope that all the people who have been affected by the disaster can feel peaceful and enjoy leisure again in the future.
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APPENDIX A

THE LIST OF INTERVIEW QUESTIONS FOR SURVIVORS IN ENGLISH

Opening Comments

Welcome and statements regarding the purpose of the study, and ethical issues.

Opening Questions

Please tell us a little bit about yourself.

Could you tell what leisure means or is for you? Could you give some examples?

Introductory Questions

Stress is something you hear a lot about these days because many people feel stressed.

When thinking about your daily life, what does stress mean to you? How do you define stress?

When thinking about negative life events such as exposure to disasters, what does stress mean to you? How does stress from negative life events, such as exposure to disasters, differ from stress from daily life?

Transition Questions

Is stress a negative factor in your life? If so, explain how it is negative. Is there any difference between stress from daily life and negative life events in their negative influences?

Is stress a positive factor in your life? If so, in what ways it is positive. Is there any difference between stress from daily life and negative life events in their positive influences?

Probes: What is it about stress that makes it good or bad?

Key Questions

The main objective: How the Great East Japan Earthquake (GEJE) affected the psychological well-being of survivors

(1) Please tell me about your experiences during and after the GEJE. What did you do? How did you survive?

(2) What were the things that made you stressed related to the GEJE?
Probes:

(a) Did you have any particular health concerns due to GEJE that contributed to your feelings of stress? Can you tell us more about this?

(b) Besides health concerns, was there anything else that added to your feelings of stress? Please describe.

The main objective: How the GEJE affected the leisure behaviors of the disaster survivors

(3) How, if any, did your leisure behaviors change after the GEJE?

Probes:

(a) How, if any, did the frequency of participation in leisure activities change? Please explain why.

(b) How, if any, did the places that you visit in free time change? Please explain why.

(c) How, if any, did the types of leisure activities change? Please explain why.

(d) How, if any, did the people with whom you participate in leisure activities change? Please explain why.

The main objective: How leisure behaviors helped the disaster survivors cope with distress from the GEJE, or failed to do so

(4) What were the techniques that you used to deal with stress related to the GEJE?

Probes:

(a) What role, if any, did leisure play in helping you deal with stress related to the GEJE?

(b) What role, if any, did leisure unique to Japanese culture play in helping you deal with stress related to the GEJE?

(c) Were there any leisure activities that could help you “keep your hands busy”? If so, could you tell me a bit more about them?

(d) Were there any leisure activities that could give you hope or make you little optimistic? If so, could you tell me a bit more about them?

(e) Were there any leisure activities that could help you feel normalcy or connected to your life before the GEJE? If so, could you tell me a bit more about them?

(f) Were there any leisure activities that could help you step forward and grow from the experience of the GEJE? If so, could you tell me a bit more about them?
(5) During and after the GEJE, were there any leisure activities that increased your distress?

Probes:

(a) When did it happen? During, immediately after the GEJE or later?

(b) What do you mean by during, immediately after or later?

(c) What kinds of factors do you think made the leisure activities stressful (e.g., lack of facility, companion, resource, motivation, and time)?

(d) Did you continue to engage in the leisure activities? If so, for how long?

Ending Questions

All things considered, what would you say was the major cause of stress related to the GEJE?

Of all the ways of dealing with stress that we’ve talked about, which have you found to be most useful or effective in the wake of negative life events?

Is there anything else about stress or coping that we haven’t talked about that you would like to discuss in this interview?
APPENDIX B

THE LIST OF INTERVIEW QUESTIONS FOR SURVIVORS IN JAPANESE

オープニング・コメント

調査参加への歓迎の言葉と調査の目的や倫理的問題の確認

オープニング・クエッション

あなた自身について少しお聞かせください。

あなたにとってのレジャーと何ですか？いくつか例を挙げて下さい。

導入部

多くの人々がストレスを感じ、ストレスは最近良く耳にするものになっています。

あなたの日常生活において、ストレスとはあなたにとって何を意味しますか？

災害などのあなたの人生にマイナスに影響しうる出来事に関して、ストレスとはあなたにとって何を意味しますか？

日常生活からのストレスと災害などの人生にマイナスな影響を与える出来事からのストレスの違いはなんだと思いますか？

転換部

ストレスはあなたの生活においてマイナスな要因ですか？もしそうでしたら、どのようにマイナスなのですか？日常生活からのストレスと災害などの人生にマイナスな影響を与える出来事からのストレスでマイナスの影響力に違いはありませんか？

ストレスはあなたの生活においてプラスな要因ですか？もしそうでしたら、どのようにプラスなのですか？日常生活からのストレスと災害などの人生にマイナスな影響を与える出来事からのストレスでプラスの影響力に違いはありませんか？

追加質問：何がストレスをプラスなものやマイナスなものにしますか？

主要部

目的：東日本大震災がどのように被災者の精神的健康状態に影響したか

(1) 震災に被災された際のあなたの経験をお聞かせください。どのようにして助かりましたか？

(2) 震災に関連して、何があなたにストレスを与えましたか？

追加質問：
(a) 震災によってあなたは何かストレスを感じさせるような健康上の問題を抱えていますか？もしそうなら、それについてもう少し詳しくお聞かせください。

(b) 健康上の問題以外に、何かストレスを感じさせるようなものがありますか？お聞かせください。

目的：震災が被災者のレジャー行動にどのような影響を与えたか

(1) 震災の後、どのようにあなたのレジャー活動は変わりましたか？
追加質問：

(a) どのようにレジャー活動への参加頻度は変わりましたか？
(b) どのように自由時間に訪れる場所が変わりましたか？
(c) どのようにレジャー活動の種類が変わりましたか？
(d) どのようにレジャー活動に一緒に参加する人が変わりましたか？

目的：レジャー行動が震災に関係するストレス対処にどう関係したか

(1) 震災に関係するストレスに対処するのに意識的に心がけたことは何でしたか？
追加質問：

(a) 震災に関係するストレスに対処する上で、レジャーはどのような役割を果たしましたか？
(b) 震災に関係するストレスに対処する上で、日本文化に特有なレジャーはどのような役割を果たしましたか？
(c) 何か気が紛らわせたり、気晴らしになり、ストレスの対処に役立ったものはありましたか？もしありましたら、少し詳しくお聞かせください。
(d) あなたに希望や楽観的な思考を与えてくれたものはありましたか？もしありましたら、少し詳しくお聞かせください。
(e) 何か被災以前の生活を思い出させてくれたものがありましたか？もしありましたら、少し詳しくお聞かせください。
(f) 何か震災後に自分の成長につながったものはありましたか？もしありましたら、少し詳しくお聞かせください。

(2) 震災の渦中やその後、レジャー活動が心的ストレスの増加につながったものはありませんか？
追加質問：

(a) それはいつのことでしたか？震災の最中、直後又はそれ以降のどれにあてはまりますか？
（b）あなたにとって震災の最中とはいつですか？また直後とはいつからいつまでですか？

（c）どんな要素がそのレジャー活動を、ストレスを引き起こすものにしたと思いますか？
（例：施設や設備、仲間、モチベーション、時間などの不足）

（d）そのレジャー活動に参加し続けましたか？もしそうでしたら、どの程度の期間続けましたか？

エンディング・クエッション

これまでの全ての内容を踏まえて、震災に関係して何がストレスをもたらす最大の要因だったと思いますか？

これまで話してくださったストレスへの対処法の中で、人生にマイナスな影響を与える出来事からのストレスに対して何が最も効果的だと思いますか？

ストレスやその対処に関連して、まだ話していないことで、このインタビューで話しておきたいことはありますか？
APPENDIX C

THE LIST OF INTERVIEW QUESTIONS FOR VOLUNTEERS IN ENGLISH

Opening Comments

1) Welcome comments for this interview, and explain ethnic issues and objective of this study briefly.

2) Could you little bit talk about your self?

Introduction Questions

1) What have been your responsibilities in your volunteering careers for the disasters? What did you do so far?

2) Could you little bit talk about your experiences related to the Great East Japan Earthquake, tsunami, and nuclear crisis? Were you yourself affected by the disasters? If so, how were you affected?

Transition Questions

Main objectives:

-To identify the stress related to the disasters for volunteers and leaders, and their coping styles

-To identify main stressors for the disaster survivors and possible differences in their quality or nature from stress in daily life from the perspectives of volunteers and leaders

-To identify successful and unsuccessful coping strategies that the volunteers and leaders utilized for disaster survivors

1) What were the major stressors for you as a volunteer or leader related to the disasters?
Could you explain them little more?

2) Did you use any coping techniques to cope with such stress? If so, could you give me some examples and explain them little more?

3) Related to the disasters, what do you think were the major stressors for the disaster survivors? Could you explain them little bit more?

4) Do you think such stress from the disasters was different from stress in daily life in some senses? If so, could you little bit explain how different they are?

5) Was there anything that you did to help the disaster survivors cope with the stress related to the disasters? If so, could you little bit explain it more?

6) Was such a coping technique successful in the wake of the disasters? If so, why do you think in that way? If not, what were the possible problems, and how could you fix them?

Key Questions

Main objectives:

- To examine the prevalence of leisure behaviors among disaster survivors from the volunteer’s and leader’s perspectives

- To examine the possible obstacles that prevented disaster survivors from participating in leisure behaviors in the wake of disasters from the volunteer’s and leader’s perspectives

- To explore the possible leisure’s functions for stress coping in the wake of disasters from the volunteer’s and leader’s perspectives

1) Since the disaster happened, have you seen disaster survivors have some leisure activity? If so, could you little describe it more?
Probes:

a) What about characteristics of the people who had leisure activity, such as gender, age, and so on? Do you see any distinct characteristics what types of people had more leisure activity after the disasters? If so, could you explain it little more?

b) What about the types of leisure activity? What did they do? Was there any prevalent activity in the wake of the disasters? If so, could you explain it little more?

c) What about the places of leisure activities? Where did they have their leisure activity? Was there any place which was more available for leisure activity after the disasters? If so, could you explain it little more?

2) If you did not see many people have leisure in the wake of the disasters, what do you think were the possible reasons for that? Why didn’t they or couldn’t they have leisure activity in your opinion?

3) From your experience and knowledge related to the disasters, do you think leisure would be an important coping resource in the wake of the disasters? If so, could you explain it little more?

Probes:

a) Do you think leisure might help disaster survivors distract their minds off from stressful situations or traumatic experiences in the aftermath of the disasters? If so, could you explain about it little more?

b) Do you think leisure might help disaster survivors become little optimistic or positive about their future in the aftermath of the disasters? If so, could you explain about it little more?

c) Do you think leisure might help disaster survivors feel continuity of life or a sense of
normalcy in the aftermath of the disasters? If so, could you explain about it little more?

d) Do you think leisure might help disaster survivors step forward from their negative experiences or personally grow in the aftermath of the disasters? If so, could you explain about it little more?

Ending Comments and Questions

1) All things considered, what do you think was the major cause of stress related to the disasters for disaster survivors?

2) Of all the ways of dealing with stress that we’ve talked about, which have you found to be most useful or effective in the wake of negative life events like disasters?

3) Is there anything else about stress or coping that we haven’t talked about that you would like to discuss in this interview?
APPENDIX D
THE LIST OF INTERVIEW QUESTIONS FOR VOLUNTEERS IN JAPANESE

オープニング・コメント

インタビュー参加への歓迎の言葉、倫理的問題と本研究の目的を簡潔に説明
あなたの自身について少し聞かせていただけますか？

導入部

あなたの災害後のボランティア活動での役割は何でしたか？これまでどんなことをされてきましたか？
あなたの東日本大震災、津波、そして福島第一原発事故に関する経験を少し聞かせていただけますか？あなた自身も被災されましたか？もしそうでしたら、どのように被災されましたか？

転換部

主な目的：
- ボランティアやリーダーにとってのストレスを特定する、また彼らのストレス解消法を特定する
- ボランティアやリーダーの視点から、被災者にとっての主なストレスの原因を特定する、また災害関係のストレスと日常のストレスの相違点を特定する
- ボランティアやリーダーが被災者のために用いたストレス解消方法で上手くいったものとそうでないもののを特定する
（1）災害に関連して、ボランティアとしてあなたにとって、何が主なストレスの原因でしたか？もう少し詳しく聞かせていただけますか？
（2）それらのストレスを解消するために何か対処法を用いましたか？もしそうでしたら、いくつか例ももう少し詳しい説明をしていただけますか？
（3）災害に関連して被災者にとって何が主なストレスの原因だったと思いますか？もう少し詳しい説明をしていただけますか？
（4）災害からのストレスは日常のストレスと何か違っていると思いますか？もしそうでしたら、その違いについてもう少し詳しく聞かせていただけますか？
（5）被災者が災害からのストレスを解消するために、あなたがしたことは何かありましたか？もう少し詳しい説明をしていただけますか？
（6）そのようなストレス解消法は災害後、効果的でしたか？もしそうでしたら、どうしてそう思いますか？もしそうでなければ、何が潜在的な問題だったと思いますか？また、どうやってそれを解決出来ますか？

主要部

主な目的：
- ボランティアやリーダーの視点から、被災者の間でのレジャー活動を考察する
- ボランティアやリーダーの視点から、災害後に被災者がレジャー活動に参加するのを妨げた潜在的要因を究明する
ボランティアやリーダーの視点から、災害後の潜在的なレジャーのストレス解消のための役割を考察する

（1）震災発生後、被災者がレジャー活動をしているのを見た事がありますか？もしありましたら、もう少し詳しく聞かせていただけますか？

追加質問：

(a) 例えば、年齢、性別など、レジャー活動をしていた人の特徴はどうですか？何か特定の特徴を持つ人々がレジャーをよりしていたことを見た事がありますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

(b) レジャー活動の種類についてはどうでしたか？彼らは何をしていましたか？災害後、何かより頻繁に行われていたレジャー活動はありましたか？もしありましたら、もう少し詳しく聞かせていただけますか？

(c) レジャー活動が行われる場所についてはどうでしたか？どこで彼らはレジャー活動をしていましたか？どこかレジャー活動がより頻繁に行われていた場所はありましたか？もしありましたら、もう少し詳しく聞かせていただけますか？

（1）もし災害後に被災者がレジャー活動をしているのをあまり見かけなかったのなら、可能性のある原因は何だと思いますか？なぜ彼らはレジャー活動をしなかった、又は出来なかったのでしょうか？

（2）あなたの災害に関係する経験と知識に基づいて、レジャーは災害後においてストレス解消の重要な方法の１つだと思いますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

追加質問：

(a) レジャーは被災者の気持ちを紛らわしてくれる、ストレスのかかる状況や悲惨な経験から気持ちを逸らしてくれるものだと思いますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

(b) レジャーは被災者を少しでも将来に対して楽観的に、又はポジティブにしてくれたものだと思いますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

(c) レジャーは被災者に生活の継続性や日常生活を感じさせてくれるものだと思いますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

(d) レジャーは被災者をこの大変な経験から前に踏み出してくれるような、又は個人的に成長させてくれるものだと思いますか？もしそうでしたら、もう少し詳しく聞かせていただけますか？

エンディング・コメント

全てを踏まえていただいて、災害に関係して、被災者にとって何が最大のストレスの原因だったと思いますか？
これまで話していただいたストレス解消法を踏まえて、何が災害後、最も効果的なストレス対処だと思いますか？

ストレスやその解消法についてまだ話していない事でこのインタビューに付け加えたい事はありませんか？