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THE MENTAL HEALTH CONSEQUENCES OF LOSING A PARENT:  
DOES CULTURE MODERATE THE IMPACT OF PARENTAL DEATH?

by

DAISUKE ITO

Under the Direction of Donald Reitzes and Mathew Gayman

ABSTRACT

The death of a parent represents a potential traumatic life event that has been linked to depression in both Japan and the United States. Yet experiences surrounding death and ways of grieving are framed differently across cultures. At the individual level, the majority of the bereaved people in both Japan and the United States attempt to maintain continuing bonds with the deceased family members. Japanese culture is collectivistic, and collectivistic characteristics may be manifested in Japanese death-related beliefs and practices. Being complementary to the individual-level desire, Japanese death-related beliefs and practices seem to provide a tool to maintain bonds. In contrast, American culture is known to be individualistic, and such characteristics

may appear in American death-related beliefs and practices. American death-related beliefs and practices may be at odds with the individual desire by encouraging the bereaved individuals to detach themselves from the deceased parents. Japanese bereaved may have concordance between individual desires and death-related practices and beliefs, so Japanese culture may work as a macro level support to bereaved individuals. The American bereaved, in contrast, may experience discordance between personal desires and death-related beliefs and practice, which indicates American culture is not supportive of individual desires. This discordance may increase risk for mental distress.

Using two national data sets from Japan and the United States, this study will test whether: (1) bereaved individuals will report worse mental health than non-bereaved individuals, (2) the mental health consequences of losing a parent will be greater in cultures where there is a discordance between individual-level desire and macro-level forces (U.S.) than cultures involving a concordance (Japan), and (3) in this vein, persons in Japan will report greater emotional support than those in the United States, and emotional support will explain cultural differences in the link between being bereaved and depression.

Supporting Hypothesis 1, the results demonstrated that bereaved respondents were more depressed than non-bereaved respondents. The statistical test rejected Hypothesis 2, and Hypothesis 3 was not testable because it was contingent on Hypothesis 2 being supported. This research considers the role of culture as a macro-level support and cross-national research methods.

**INDEX WORDS:** Depression, Parental death, Japan, Stress process model, Cross-national research, Culture

THE MENTAL HEALTH CONSEQUENCES OF LOSING A PARENT:  
DOES CULTURE MODERATE THE IMPACT OF PARENTAL DEATH?

by

DAISUKE ITO

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2013

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by

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December 2013

## DEDICATION

I dedicate this dissertation to my mother, Toeyo Ito and my father, Tomiji Ito. I have lived so far away from you during my graduate school years, but I thought about you and felt close to you more than when I was in Japan. I also dedicate this dissertation to my sister, Chiaki Ito, my aunt, Kiyoe Ito, and my grandmother, Kou Hayakawa. It has been years since they departed. While I was working on this dissertation, they were constantly in my mind. I am looking forward to seeing Chiaki for the first time and reuniting with Kiyoe and Kou in *anoyo* when the time comes.

## ACKNOWLEDGEMENTS

Writing this dissertation was quite a challenging journey. Dr. Donald Reitzes, one of my two chairs of this dissertation, agreed to oversee the process when no one else would. Without you, I could not have had the first step forward. The co-chair, Dr. Mathew Gayman, spent so much time on giving me feedback. He filled my drafts with comments, criticisms, and advice from the beginning till the end numerous times. That is no easy task.

I was fortunate to have two dissertation committee members, Dr. Elisabeth Burgess and Dr. Jung Ha Kim. While they were wonderful as the committee members, I would like to mention my other experiences with them. I took two of the first graduate courses with Dr. Burgess. She wrote “Wonderful!” in one of my course papers. That was a great encouragement to this day. I do not know where to begin about Dr. Kim. Her intellectuality is just amazing, yet she never shows that off. Thinking back, she has done a lot for me, and I cannot pick a single event. Her constant emotional support was very valuable to me.

Three of the Japanese people were very important during my graduate school years. Without Dr. Toshi Kii, there was no way I could have earned a Ph.D and I mean it. Thanksgiving dinner at his place was one of my favorite events. I enjoyed conversations with Dr. Takatori all the time. She taught me what a scholarly life is like. Finally, Dr. (Should I put Dr?) Saori Yasumoto has been my travel companion throughout graduate school. We complained about the United States, went shopping, exchanged scholarly conversations, had inexpensive dinner, and stayed at school until late in the evening.

My friends were important part of my life in and outside graduate school. My special thanks go to Nadia, Heather, Yuka, Maggie, and Taka. Especially to Nadia who always gave me encouragements and Heather who helped me a lot in many ways.



I am thankful to Alex and Cody for accompanying me when I needed to get away from writing a dissertation and relax. Watching *The Walking Dead*, *Heroes*, and other TV shows with Alex has been the most relaxing and exciting time I had when I was really tired, although he tended to spill the story. Playing with Cody was always fun. He has such a unique personality. I could pet him for hours and would not get tired. It may not be related to this dissertation or my graduate work directly, but you two played very important roles.

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## CHAPTER 1: INTRODUCTION

The death of a parent represents a potential traumatic life event that has been linked to a range of negative mental health consequences (Abrams 1999; Cleiren 1991; Maier and Lachman 2000; McLeod 1991; Pope 2006; Raveis, Siegel, and Karus 1999; Scharlach and Fredriksen 1993; Scharlach and Fuller-Thompson 1994; Umberson 2003), such as depression (Abrams 1999; Stroebe and Stroebe 1987; Umberson 2003). There is little reason to believe that the death of a parent will not increase the risk for health problems across cultures as the death of a loved one has been linked to poor mental health in both Japan (Miyabayashi 2003; Miyabayashi and Yasuda 2008) and the United States (Stroebe 2011; Stroebe and Stroebe 1987). Yet experiences surrounding death and the way to grieve are framed differently across cultures (Abrams 1999; Klapper et al. 1994; Parry and Ryan 2003; Rosenblatt 1988). Thus, cross-cultural analysis assessing the nature and strength of the association between parental death and well-being provides a promising first step to understand the role of culture in the grief experiences.

At the individual level, the majority of the bereaved people in both Japan and the United States attempt to maintain continuing bonds with the deceased (Biank and Werner-Lin 2011; Cait 2008; Klass et al. 1996; Kwilecki 2011; Maple et al. 2013). A major difference between Japan and the United States exists at the macro level culture. Culture includes beliefs and practices shared by the people under the same social structure (Vinken, Soeters, and Ester 2004). Japanese culture is characterized by collectivism, whereas American culture is characterized by individualism. Collectivistic culture may be manifested in Japanese death-related beliefs and practices. Being complementary to the individual-level desire to maintain a bond with one's deceased parents, Japanese death-related beliefs and practices may provide tools to maintain bonds with the deceased. In contrast, American culture is characterized by individualism, and individualism

seems to appear in American death-related beliefs and practices. Based on the literature, it is suggested that American death-related beliefs and practices encourage the bereaved to detach themselves from the deceased and be at odds with the individual desire to maintain bonds with a deceased parent. In other words, Japanese bereaved may have concordance between individual desires and death-related practices and beliefs, and Japanese culture works as macro-level support to the bereaved individuals. American bereaved, on the other hand, may experience discordance between personal desires and death-related beliefs and practice, and American culture may not support individual desires. Discordance between individual-level desires and macro-level forces may increase risk for mental distress (Furnham and Walsh 1991; Lundberg, Kristenson, and Starrin 2009; Tracey, Allen, and Robbins 2012). For example, those living in cultures that encourage detachment from the deceased (Pope 2006) rather than encouraging continuing the relationship with the deceased (Goss and Klass 2005; Klass 1996) may be more likely to experience the manifestation of poor mental health stemming from the death of a parent.

Using two national data sets from Japan and the United States, this study assesses the mental health consequences of losing a parent. Specifically, analyses will test whether: (1) bereaved individuals will report worse mental health than non-bereaved individuals, (2) the mental health consequences of losing a parent will be greater in cultures where there is a discordance between individual-level desire and macro-level forces (U.S.) than cultures involving a concordance (Japan), and (3) in this vein, persons in Japan will report greater emotional support than those in the United States and the mental health consequences of living in the United States compared to Japan will be explained by this differential emotional support.



## **Contributions**

Studies on health disparities have examined why certain people are more prone to poor health compared to others. Socioeconomic status, race, gender, social support, and personality characteristics are the variables which many researchers examined. One focal point in this study is culture. Culture is a more macro-level concept compared to the variables frequently examined in the health research. Pearlin and Bierman (2013) argued that culture modifies the degree to which people experience a traumatic life event. This research will test whether culture moderates the negative impact of parental death.

Up until now, most of the research has examined whether having concordance between personal desires and the social structure leads to better mental health at the workplace. Workers have personal preferences about how they work, how much they get paid, and what kind of a job they deserve to have. When their work environments match their personal desires, workers tend to have better health (Furnham and Walsh 1991; Lundberg et al. 2009). A contribution of this study is to focus on culture and investigate whether congruence between personal desires and culture, which is a more macro-level factor, is linked to better health. This study extends a surrounding from institutional contexts like the workplace or the educational institutions to a macro-level factor, culture.

In addition, the present dissertation research has contributions to grief studies by examining whether there are different patterns in the mental health outcomes in two countries with distinct death-related beliefs and practices. Much research on grief has been conducted by psychologists and counselors. They tend to approach grief and related factors from an individualistic point of view. For example, Neimeyer, Keesee, and Fortner (2000) said that each individual has a unique reaction to the death of a loved one. This research takes an approach that different cul-

tures frame a person's death-related experiences, and as a result, the mental health consequences may vary.

Another contribution to grief studies is a methodological one. Studies on grief tend to use a convenient sampling and have small sample sizes (for example, see Jordan and Neimeyer 2003; Prigerson et al. 2007). As a consequence, the results are not generalizable to the large population. Two national data sets in this research have more than 10,000 cases, and whose corresponding surveys were collected both in Japan and the United States using a random sampling. The results of this study can be generalizable to the American and Japanese populations.

## **Chapters**

In the next chapter, I provide an overview of the existing literature. More specifically, I describe the stress process model as a theoretical framework and explain how the model is applied to this research. Then, I discuss the negative impact of the death of a parent, death-related beliefs and practices in Japan and the United States, and generate three hypotheses. Additional information on the relationship between continuing bonds and health outcomes are also provided. Chapter 3 is a methods section. I describe the two data sets used in this research and provide procedures to obtain a working sample for this research. I also explain the recoding of each variable in detail. Chapter 4 presents the results of the descriptive statistics, t-tests/chi-square tests, and logistic regression. In Chapter 5, I provide potential reasons why I obtained the results reported in Chapter 4 and make suggestions for future research. Implications of this research are discussed in Chapter 6 as a conclusion.

## **Background Information on Grief, Prolonged Grief Disorder, and Depression**

While people tend to use bereavement, grief, and mourning interchangeably, they have distinct meanings. Bereavement refers to a state in which a person lost a loved one (Katz 2001; Pope 2006). When it is used as “bereaved,” it refers to the person who lost a loved one. Grief refers to “subjective responses to loss” (Pope 2006:4). One’s emotional reactions, mental and physical health reactions, and cognitive impairments are the examples of grief reactions. Mourning refers to “the process of coping with loss and grief and the ways in which individuals and societies incorporate this process into their new reality” (Corr et al. 1997 cited in Katz 2001:5). In other words, mourning incorporates a societal response to death, which culture plays an important role. The primary focus of this study is the relationship between grief and mourning. Bereaved people’s mourning experiences are influenced by the culture they are in, and their mourning experiences are considered to affect their grief reactions.

When people lose their loved ones, they grieve. Normal grief is distinguished from non-normal grief and is not considered as problematic by bereavement researchers (Stroebe et al. 2000). Non-normal grief had been called abnormal grief, pathological grief, complicated grief, traumatic grief, and so on (Prigerson et al. 1995; Ott 2003; Piper, Ogrodniczuk, and Weideman 2005; Stroebe et al. 2000). Currently, prolonged grief disorder is the term used frequently (Boelen and Prigerson 2007). As these different terms indicate, the definition of prolonged grief disorder is unclear (Stroebe et al. 2000). Yet, the common understanding is that the bereaved experience symptoms like distress, anger, shock, not wanting to associate with others, and longing for the deceased intensely or beyond a certain period of time (Lobb et al. 2010; Piper et al. 2005). It is estimated that between 10 to 20% of Americans experience prolonged grief disorder

(Prigerson et al. 1995, 2009; Shear et al. 2006). In Japan, approximately 2.4% had prolonged grief disorder, and about 22.7% were at risk (Fujisawa et al. 2010).

Although prolonged grief disorder and depression cannot be separated clearly as two mutually exclusive concepts (Stroebe et al. 2010), most researchers agreed that they are, although different constructs, nonetheless related to each other (Boelen and Prigerson 2007; Holly et al. 1995; Stroebe 2000). Bereaved people with prolonged grief disorder are more likely to experience mental health issues, such as depression (Boelen and Prigerson 2007; Ott 2003). In summary, the death of a loved one causes some bereaved people to experience prolonged grief disorder, which will lead to a higher chance of being depressed later in life.

## CHAPTER 2: THEORY AND BACKGROUND

### Stress Process Model

Stressors are “circumstances and experiences to which it is difficult to adjust and, therefore, that can impose deleterious effects on emotions, cognitions behavior, physiological functioning, and well-being” (Pearlin and Bierman 2013:326). Exposure to social stressors can increase risk for health problems (Pearlin 1983, 1989; Turner and Schieman 2008). Research documented the negative impact of traumatic life events on a person’s mental health (Wheaton 2010). One of the most impactful traumatic life events is the death of a loved one (Holmes and Rahe 1976; Lofland 1986; Mack 2001). Previous studies documented negative psychological consequences of losing a spouse (Stroebe and Stroebe 1987; McHorney and Mor 1988; Parkes 1964; Prigerson et al. 1997) and losing a young child (Sequin, Lesage, and Kiely 1995).

While parental death tends to be considered as normative (George 1993; Lofland 1986; Pope 2006; Sakaguchi 2012; Sanders 1979-80; Scharlach and Fredriksen 1993), parental death is a traumatic life event. After the death of a parent, Western bereaved people of all ages reported experiences of depression (Amato 1991; Brown, Harris, and Copeland 1977; Maier and Lachman 2000; McLeod 1991; Parkes 1964; Popek and Scharlach 1991; Simon 2001; Stroebe and Stroebe 1987) and a decline in health (Brown et al. 1977; Cleiren 1991; Maier and Lachman 2000; Scharlach and Fredriksen 1993; Scharlach and Fuller-Thompson 1994; Umberson 2003). When the death occurs during childhood, the negative impact can be long lasting (Brown et al. 1977; Draper and Hancock 2011; Mack 2001; Maier and Lachman 2000; McLeod 1991; Ross and Mirowsky 1999; Spuij et al. 2012) as well as a short-term negative outcome such as delinquency (Draper and Hancock 2011). In the long term, they are more likely to be depressed later in life (Brown, Harris, and Bifulco 1986) and have higher mortality rates (Rostila and Saarela 2011),

suicide rates (Birtchnell 1970; Bunch and Barraclough 1971), and issues of alcohol use (Stroebe and Stroebe 1987; Umberson and Chen 1994). These health consequences suggest that parental death serves as a social stressor.

Few Japanese studies, if any, focused only on the health consequences of young and adult children who lost their parents. Studies reported here did not distinguish types of death. Instead, researchers focused on people who lost a loved one, which ranged from losses of a spouse, child, parent, or other loved ones. These studies reported the similar results to the Western based research. The Japanese bereaved were more likely to experience depressions, anxiety, sleeplessness, loss of appetite, and trouble doing daily activities for several years after the loss (Fujisawa 2010; Miyabayashi 2005; Miyabayashi and Yamakawa 2010; Miyabayashi and Yasuda 2008). As the research demonstrated, parental death seems to have linkage with negative health consequences.

Stress-buffering is said to occur when the negative health consequences associated with greater stress exposure is weakened with higher levels of coping resources and is stronger at lower levels of coping resources. To date, research on the stress-buffering effects of coping resources has largely focused on micro-level coping resources such as social support (Bertera 2005; Pearlin 1989; Pearlin et al. 1981; Thoits 2011; Turner and Turner 2013). In other words, the focus of the research was whether people have or think that they have others who are willing to provide help when they need it. However, little is known about whether a macro-level factor, such as culture, can work as support and buffer the mental health consequences of stress exposure. Culture gives the bereaved people a tool with which to manage grief (Rothaupt and Becker 2007; Stroebe and Stroebe 1987). When individuals wish to maintain bonds with the deceased, by living in a culture which is complementary to their desires, bereaved individuals may recog-

nize culture as supportive. In other words, concordance between personal desires and cultural practices and beliefs may be able to buffer the impact of a stressor like social support buffers such an impact. Research revealed that people whose personal desire is incongruent with the macro-level structural constraints reported worse mental health outcomes compared to those who have congruence (Furnham and Walsh 1991; Lundbergh et al. 2009; Tracey et al. 2012).

Western societies characterized by individualism and Eastern societies characterized by collectivism are known to differ in thoughts, beliefs, and practices, and behaviors (Nisbett 2003; Oyserman, Coon, and Kimmelmeier 2002). Individualism and collectivism affect not only personal behavior or cognition (Nisbett 2003), but are also embedded in their respective cultural practices and beliefs (Mathews 1996). One such example can be beliefs and practices surrounding death. Japanese death-related beliefs and practices make a stark contrast to American ones insofar as they may provide tools to maintain bonds with the (Klass 1996) and create concordance between individual desires and culture.

In this research, the stressor of focus is parental death. An outcome is measured by depression. The main coping resource is Japanese and American death-related beliefs and practices. This model is exemplified in Figure 1.

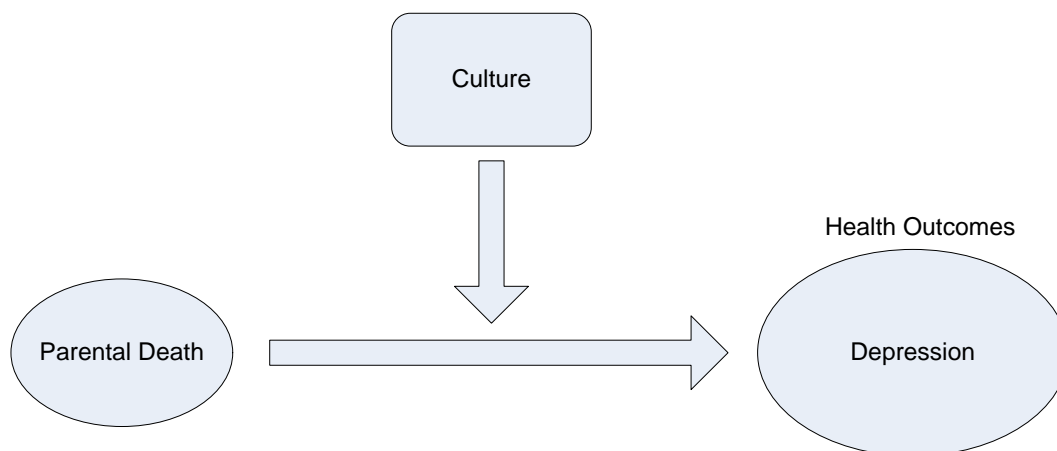


Figure 1: Stress Process Model

### **Concordance/disconcordance between Personal Desire and Social Structure: Culture as a Macro Level Moderator/support**

Incongruence between personal desires and surrounding environments is linked to depression and other poor mental health outcomes in such contexts as the workplace (Furnham and Walsh 1991; Lundberg et al. 2009) and the educational institutions (Tracey et al. 2012). For example, Paul and Moser (2006) conducted a meta-analysis on whether the incongruence between respondents' work commitment and employment status is linked to poor mental health. They reported that employed people who did not like their work (low commitment and employed) and unemployed people who think work is important (high commitment and unemployed) showed more depressive symptoms than people who have congruence. In the educational context, Tracey et al. (2012) found that incongruence causes unsuccessful educational outcomes. They regarded that the incongruence exists when individuals have various interests, yet their majors do not allow them to explore such interests or when individuals have very specific interests but do not feel enough guidance due to flexible environments. Those who experienced incongruence had poor mental health compared to people who did not have such experiences (Tracey et al. 2012).

This research situates culture as a surrounding environment that frames a person's grief experience. Research demonstrated that both American and Japanese bereaved individuals wish to maintain bonds with the deceased (Klass 1996; Saiki 1994). A major difference exists in cultural beliefs and practices about the relationship with the deceased. Japanese culture seems to match the bereaved people's desires and provide a tool through which to maintain bonds with the deceased through beliefs, practices, and rituals surrounding death, while American culture seem to generate a disconcordance to the bereaved by encouraging detachment from the deceased loved ones. In Japanese death-related beliefs, the deceased loved ones are considered easily ac-



cessible by the bereaved (Sakaguchi 2010). Funeral rites, altars, cemeteries, an annual event known as *obon*, and a Buddhist event called *nenki*, all provide a place and an opportunity to interact with the deceased (Klass 2006; Saiki 1994; Yamamoto et al. 1969). Japanese death-related beliefs and practices may facilitate individuals' desires to keep bonds with the deceased. American death-related beliefs and practices, in contrast, may not provide such support to the bereaved. There are very few death-related rituals in the United States (Stroebe, Stroebe, and Hansson 1988). Without systematic cultural support, Americans wishing to maintain bonds with the deceased are on their own in developing unique methods by which they may remain attached to the deceased (Cait 2004; Klass 1996; Maple et al. 2013).

Culture may be translated into the availability of emotional support. One element which either complicates or helps a person's grief experience is others' responses to the bereaved (Abrams 1999). For the bereaved people, social support is known to be an effective coping resource which lessens the negative impact of the death of a loved one (Rosenblatt 1988; Stroebe et al. 1988; Vachon and Stylianos; 1988). In the United States where detachment is encouraged, the bereaved people occasionally isolate themselves from their immediate families and friends because they feel their families and friends are not supportive (Stroebe, et al. 1988; Rosenblatt 1988). The American bereaved felt that they could not express their grief freely (Sanders 1988) and found the words which understate the emotional weight of the death or their feelings (e.g., get over it, let go) unhelpful (Servaty-Seib and Burleson 2007; Vachon and Stylianos 1988). Moreover, bereaved people are expected to ask for help if they want support rather than waiting for their friends to offer help (Lopata 1988; Vachon and Stylianos 1988). Based on the belief that bereaved people can communicate with the deceased freely, phrases to encourage detachment from the deceased may be unlikely to come out from their immediate families and friends in Ja-

pan. Moreover, frequent rituals after the death of a loved one could offer the Japanese bereaved opportunities to communicate with their relatives and close friends. In Japan, death-related beliefs and practices may help the bereaved to obtain social support without asking for it.

By providing a systematic tool to meet the bereaved people's desire to maintain bonds with the deceased and opportunities to obtain social support, culture may modify the degree to which bereaved people experience traumatic life events (Pearlin and Bierman 2013). Japanese death-related beliefs and practices may be more complementary to the bereaved people's desire to maintain bonds. In contrast, the American bereaved may experience a discordance between their desire to maintain bonds with the deceased and culture, which may generate greater difficulty in adjustment and increase risk for psychological distress.

### **Death-Related Beliefs and Practices in Japan**

Death-related beliefs and practices in Japan encourage the bereaved to maintain bonds with the deceased for years after the death of a loved one. In Japanese beliefs, the deceased loved ones watch over the bereaved and are available to exchange dialogues whenever the bereaved wish (Sakaguchi 2010). In addition, an altar, cemetery, *obon*, and *nenki* create go-to-places and opportunities to interact with the deceased. All these cultural practices provide systematic support to maintain bonds with the deceased. Furthermore, visiting cemeteries, *obon*, and *nenki* give the bereaved opportunities to meet and communicate with their families who live apart, relatives, and close friends.

In Japanese death-related beliefs, deceased individuals remain fairly accessible to bereaved people because Japanese people do not draw a clear boundary between the world of the living and the dead. Namihira (2004) called Japanese culture "a death-assumed culture" (cited in

Sakaguchi 2012). That is, Japanese people believe that there exists some type of relationship with the deceased after they physically disappear from the world of living. For the Japanese, death is neither the end of life nor the beginning of life in Heaven. Rather, death is just a transition to another stage within the same community (Tarukawa 2007). This notion is illustrated in how they describe two worlds. Japanese people call the world of living “*konoyo*” (this world) and the world of dead “*anoyo*” (that world). The difference between “this” and “that” is merely a subjective distance. The two worlds are not separated by a clear border. Because there is no clear boundary, the deceased can go back and forth between the world of the living and the world of the dead (Sakaguchi 2010). The belief that deceased people are not clearly separated from our world makes it easy to contact the deceased and maintain bonds.

Death-related rituals facilitate communications with the deceased by creating two places where deceased people are considered present, altars and graves. An annual ritual called *obon* also gives an opportunity to feel the presence of the deceased in Japanese people’s lives. Most Japanese homes, if not all, have altars. It is a custom for the Japanese to place rice balls and tea on the altar at every meal, pray, and talk to their ancestors about their daily lives and special events. Yamamoto et al. (1969) called the altar a “hotline” because Japanese people can contact the deceased through the altar whenever they want. They also reminisce and discuss their feelings, wishes, and dilemmas with the deceased (Sakaguchi 2012; Soeda 2007). According to Sakaguchi (2012), approximately 90% have talked to the altar, and of those, 70 % converse every day for about 5 minutes. About half of the people who talk to the altar reported that talking to the deceased ease their feelings (Sakaguchi 2012). By having altars at home, the Japanese maintain a close proximity to the deceased.

Another place that facilitates communication with the deceased is the cemetery. Japanese people visit their family graves periodically. For a few years after the deaths, the family visits the grave minimally around every 30 days on the day of the death (Saiki 1994) and takes care of the grave as if it were a deceased person. The custom of visiting the family grave generates another opportunity to communicate with the deceased.

In addition to these places, *obon*, an annual ritual, provides an opportunity to welcome the deceased into home for direct interactions. *Obon* is a three-day event that happens every summer in Japan. During these days, Japanese people welcome their ancestors into their home and spend time together (Klass 2006). They provide special food for the ancestors and sleep in the same room where the altar is located. Despite absence of the deceased, bereaved people can spend three days with the deceased without mediators such as altars or graves. An altar, cemetery, and *obon* are cultural systems which facilitate the bereaved to maintain bonds with the deceased.

With *nenki*, a part of the funeral rites, Japanese bereaved do not have to let go of the deceased quickly. *Nenki* is a series of events that commemorate the deceased over a 50 year period. After the cremation, the ashes of the deceased stay at home until the 49<sup>th</sup> day, after which they are buried in the family gravesite. During the first 49 days, Japanese people treat the ashes as if they were a living person. Thus, the physical separation from the deceased loved one does not occur until the 50<sup>th</sup> days after the death. In addition, Japanese people have rituals every seventh day up to 49<sup>th</sup> day after the death as well as the first anniversary ritual followed by the 2<sup>nd</sup>, 6<sup>th</sup>, 12<sup>th</sup>, 22<sup>nd</sup>, 24<sup>th</sup>, 26<sup>th</sup>, 32<sup>nd</sup>, 36<sup>th</sup>, and 49<sup>th</sup> anniversaries. Not having an instant separation after the death may let Japanese bereaved go through the transition to a life without the deceased slowly while maintaining the bonds. Also, subsequent anniversaries, which continue for 50 years after

the death, give opportunities to remember and maintain a life-long relationship with the deceased.

These cultural practices may meet the bereaved people's desire to remain in touch with the deceased. Japanese death-related beliefs and practices may also provide the idea that the deceased are accessible whenever the bereaved wish. It is not important for the Japanese to determine where the deceased reside. Rather, Japanese people place the deceased in a convenient place within close proximity (Shima 2004). Consequently, they always have easy access to the deceased.

In addition to providing access, visiting the family grave, *obon*, and *nenki* could create an opportunity for the bereaved to interact with their families, relatives, and friends. As a consequence, Japanese bereaved may be able to obtain social support from others. It is rare that the Japanese visit the grave alone. They visit with their family members. During *obon*, the family members take care of the deceased jointly. Relatives and close friends could visit the house and pray at the altar. At each *nenki*, close relatives are invited to participate in chanting led by a local Buddhist priest followed by a meal. In summary, Japanese death-related rituals seem to generate opportunities to interact with others and to potentially form social support.

Japanese death-related beliefs and practices are assumed to function as a coping resource by systematically supporting the bereaved people's desire to have continuing bonds with the deceased. Japanese bereaved have easy access to the deceased through death-related places and customs. Death-related rituals also create an environment in which others support bereaved people's desire to maintain bonds and provide emotional support if necessary. When the bereaved people suffer from separation distress/anxiety, especially in the early stages of grief, Japanese death-

related beliefs and practices may facilitate a transition to a life without the deceased loved one by encouraging continuing bonds with the deceased.

### **Death-Related Beliefs and Practices in the United States**

The idea of detachment, whose notion presupposes that successful recovery requires detaching oneself from the deceased and focus on one's own life (Shuchter 1986), may be contradictory to American bereaved who wish to maintain bonds with the deceased. In other words, there may be a disconcordance between the American bereaved people's personal desires and what American death-related beliefs offer. In American culture, people tend to expect the bereaved to "get over" the death within a year or two (Pope 2006). In the popular media, the word, "closure," which indicates the ending of a traumatic event, appears frequently to describe the concept of detachment (Berns 2011; Boss and Carnes 2012). Because closure seems to be an inevitable step on the way forward, many struggle in vain to obtain closure (Berns 2011). If they cannot detach themselves from the deceased or cannot achieve closure, bereaved people are considered pathological (Hallam, Hockey, and Howarth 1999). These popular concepts are contradictory to the bereaved people's wishes. As a consequence, American bereaved are forced to maintain bonds with the deceased privately (Cait 2004; Klass 1996; Maple et al. 2013), which indicates lack of support from American culture.

Behind detachment and closure exists the American idea of a clear separation between the world of the living and the dead (Hallam et al. 1999; Shimazono 2012). In Western societies, death is viewed as the end of life, not a departure to another life (Walter 1997). This clear separation prevents the bereaved from conceptualizing the deceased as an accessible and communicative entity. While Japanese people often believe that the spirits of the deceased remain relatively

accessible, the major Western view is that such beliefs exist only in other societies or are absurd (Hallem et al.1999). The bereaved may have vivid memories about the deceased and carry out their legacies (Boerner and Heckhausen 2003), but the deceased cannot be alive in the bereaved people's lives. The bereaved must "let go" of the deceased (Attig 2000).

Living in American culture, where the detachment from the deceased loved ones is highly encouraged, American bereaved could experience isolation from others (Rosenblatt 1988), which may cause lack of social support. Because of the encouragement of detachment in American culture, words from the non-bereaved who do not understand the bereaved people's desire to maintain bonds with the deceased sometimes hurt bereaved people (Berns 2011; Servaty-Seib and Burleson 2007; Vachon and Stylianos 1988). Not having a custom to commemorate the deceased constantly and the incongruence between American bereaved and non-bereaved in how to deal with loss could prevent American bereaved from developing a support system. They may have fewer chances to share their grief with others, and if they have, they may find it difficult to obtain support they need from their families and friends.

Japanese death-related beliefs and practices are distinct from American death-related beliefs and practices (Klass 1996). With systematic support to have continuing bonds with the deceased and opportunities to interact with relatives and close friends through rituals, Japanese bereaved seem to have concordance with Japanese culture. As a consequence, Japanese death-related beliefs and practices could work as a macro-level coping resource. In contrast, American death-related beliefs do not seem to offer a systematic guide to cope with the bereaved people's desire for continuing bonds with the deceased, indicating that American bereaved experience a discordance. Without support from American culture, American bereaved tend to be left alone to deal with their longing to maintain bonds with the deceased.

## **Research Hypotheses**

Based on the review of the existing literature, I generated three research hypotheses.

Hypothesis 1: In both Japan and the United States, bereaved people will report greater depression than their non-bereaved counterparts.

Hypothesis 2: The American bereaved report greater depression than the Japanese bereaved.

Hypothesis 3: The Japanese bereaved have the greater amount of emotional support than the American bereaved and the mental health differences between those living in the United States and Japan will be explained by emotional support.

## **Additional Information on Related Topics**

Consequences of losing a parent were touched, but not were detailed in the above section. More detailed information is provided in this section. I also discuss the research findings on how having continuing bonds influence the bereaved people's health in the West and the contemporary perspectives on continuing bonds. Researchers examined whether continuing bonds facilitated the intensity of grief. The focus of these studies was to look at the direct relationship between continuing bonds and health. The concept of continuing bonds is relatively new to the West, and a few researchers criticized the operationalization of continuing bonds in the research (Klass 2006). The review of these literatures provide a broader picture of how continuing bonds work as a coping strategy and the current perspective on continuing bonds among the bereavement researchers. Finally, I briefly explain other resources which may be related to depression. These variables are used as control variables in this research.



### *Consequences of Losing a Parent*

The death of a close family member was ranked the fifth most traumatic incident in people's lives following the death of a spouse, divorce, marital separation, and jail term (Holmes and Rahe 1967). Numerous studies reported that a common mental health consequence of losing a parent is depression (Birtchnell 1970; Draper and Hancock 2011; Horowitz et al. 1981; Mack 2001; Popek and Scharlach 1991; Ross and Mirowsky 1999; Scharlach 1991; Scharlach and Fuller-Thompson 1994; Scharlach and Fredriksen 1993). Through one comparative study between self-proclaimed patients of posttraumatic disorder and non-patients, in which both groups of people lost their parents, Horowitz et al. (1981) stated that 90 percent of the patients experienced a relatively high level of depression. Even among non-patients, more than half had depressive symptoms. According to Scharlach and Fuller-Thompson (1994), among 83 adults whose age ranges from 35 to 60, 11 percent had depressive symptoms. Mack (2001) compared the degree of depression between people who experienced parental death during childhood and those who experienced parental divorce. The results demonstrated that the parentally bereaved adults were more depressed than those who experienced parental divorce. Studies looking at gender in depression after the death of a parent observed some differences, too. Parental death causes women to be depressed more so than men (Maier and Lachman 2000; Marks et al. 2007). McLeod (1991) found that women who lost a parent were more depressed than those who had both parents alive, but such a difference was not detected for men. Except for gender, other personal characteristics such as race, socioeconomic status, and age do not seem to alter the impact of loss on depression (Umberson 2003).

Another common consequence of parental death is somatic reactions. Scharlach and colleagues (Scharlach and Fredriksen 1993; Scharlach and Fuller-Thompson 1994) stated that nearly

half of their respondents experienced a decline in physical health. Specifically, more than 10 percent reported overall issues in their health, and 8 percent reported having illnesses (Scharlach and Fuller-Thompson 1994). In the interview study with adult women who lost their mothers, Popek and Scharlach's (1991:88) quoted one of their respondents as saying, "I have had a lot of physical problems (bad back, heart) after she (her mother) died."

Abrams (1999) argued that emotional reactions to the death and physical symptoms are linked. For example, emotional shock and anxiety could cause headaches, nausea, and trembling. The bereaved people are also at risk of catching a common cold especially when they are low in emotional state (Abrams 1999). Despite the fact that these studies documented the negative impact of parental death on physical health, the research by Maier and Lachman (2000) discovered no physical health consequences among the adults who lost their parent before the age of 17. They listed 28 health problems including acute illness like headaches and chronic illness like hypertension, but parental death was not a significant predictor. While parental death is a stressful life event, physical health consequences may be difficult to capture.

### ***Continuing Bonds and Health Outcomes in the West***

After Klass et al. (1996) published a book on continuing bonds which states that people who have continuing bonds have adapted to a life after the death of a loved one better (although Klass (2006) said that he did not mean it), researchers started to examine how having continuing bonds affected the bereaved people's adjustment to their lives after the death. The results are mixed with quantitative studies reporting the negative relationship and qualitative studies claiming the positive connection between continuing bonds and grief reactions.

Contrary to Klass et al's (1996) argument, many researchers found a negative relationship between continuing bonds and grief outcomes. The bereaved people who continued to have bonds with the deceased were likely to have negative moods (Field and Friedrichs 2004), intensive grief reactions (Boelen et al. 2006), depressive symptoms (Boelen et al. 2006), and distress (Neimeyer et al. 2006).

Field et al. (2006) claimed that there exist two types of continuing bonds, internalized and externalized continuing bonds, and externalized continuing bonds hinder adaptation to a life after the loss. Internalized continuing bonds refer to recalling the deceased loved ones when the bereaved need advice by imagining how the deceased would respond to their questions. In other words, the bereaved people internalize the deceased people's perspectives and use them as guidance. Externalized continuing bonds refer to illusions and hallucinations. While internalized continuing bonds promote personal growth, externalized continuing bonds cause intensive grief (Field and Filanosky 2010).

In contrast, qualitative studies tend to demonstrate the positive effects of having continuing bonds. Analyzing the literature on after-death communication, Kwilecki (2011) found that after-death communication leads to a relief of pain caused by the death of a loved one. Maple et al. (2013) interviewed parents who lost their children and concluded that continuing bonds are a necessary part of adaptation and that after-death communication is comforting for the parents.

Although the overwhelming amount of quantitative research suggests that continuing bonds do not lead to better adjustment, it may be presumptuous to make such a conclusion. The existing bereavement research on the relationship between continuing bonds and its influence on a person's grief has a measurement issue. Because continuing attachment to the deceased has been considered as mal-adaptation to the loss of a loved one, most, if not all, grief scales devel-

oped in the West include continuing bonds in their questions (Boelen et al. 2006; Schut et al. 2006). As a result, it is unclear if the correlation between continuing bonds and grief reactions is true or spurious due to overlapping questions in the scales.

Another possible reason why many quantitative studies fail to capture that the relationship between continuing bonds and the positive outcomes is the inappropriate operationalization of continuing bonds. Western researchers have failed to understand the practice of continuing bonds has a number of unique “social” aspects (Klass 2006). Items in the continuing bonds scales are too individualistic and do not capture the social aspects of continuing bonds that generally appear in Japanese culture. For example, researchers tried to capture continuing bonds by asking the frequencies of feeling a sense of presence, taking out linking objects, and recalling the good memories (Boelen et al. 2006) or inner representation of the deceased (e.g., I have inner conversations with my spouse) (Neimeyer et al. 2006). These questions try to grasp continuing bonds as individual practices. Bereaved people only have access to the deceased when they wish. However, these researchers did not pay attention to social aspects that the bereaved people practice continuing bonds with their family members and friends (Klass 2006). For instance, in Japan, bereaved people visit the graves with family members, relatives, and close friends or spend time with them at the annual *obon* festival (Klass 2006). Also, it is important to acknowledge that Japanese people believe that the deceased can initiate the interaction with the bereaved by providing assistance or protecting them from misfortunes. Continuing bonds are reciprocal between the bereaved and the deceased and give an opportunity to remember the deceased communally.

In addition to the measurement issues, another issue is lack of understanding about social circumstances. Field and Filanosky (2010) operationalized externalized continuing bonds by re-

questing responses to the following two statements: “I briefly acted as though the deceased were not dead [in ways] such as calling out loud his or her name or preparing the table for two”; “I imagined that the deceased might suddenly appear as though still alive.” They concluded that having externalized continuing bonds leads bereaved people to intense grief. The issue, however, seems to lie in lack of norms in the United States to support such practices (Maple et al. 2013). In Japan, the family prepares meals for the ancestors every day and welcomes the deceased during *obon*. These acts are not considered as illusions or hallucinations because Japanese death-related beliefs and practices support such behaviors. It seems that having externalized continuing bonds is not an issue. Rather, having a culture which does not support such practices and views those acts as hallucinations is problematic. This study examines to what extent having cultural support to conduct continuing bonds (Japan) moderates the impact of parental loss compared to a culture which does not provide such support (the United States).

### ***Other Resources***

While this study mainly focuses on how culture moderates the negative impact of parental death, other influences may work as additional moderators or secondary stressors that reduce or increase the negative effects of the death of a parent. Such factors include socioeconomic status, work status, marital status, and the number of people living in the same household.

The bereaved people not only lose a parent, but also lose other resources attached to their parents. For example if the children were dependent on their parents financially, they may lose financial support from their parents. Adult children may be expected to financially support a remaining parent, which could be an additional financial burden to sons (Marshall and Rosenthal 1982). In addition, previous research on health consistently demonstrated that socioeconomic

status is an independent predictor of mental health outcomes (Muntaner 2013). If bereaved people have low socioeconomic status, a financial burden could exacerbate the impact of parental death.

Working outside the home could have positive or negative impacts on the bereaved people's health. On one hand, bereaved people may be exposed to insensitive remarks from colleagues who may not know what to say, especially in the United States where they believe that detachment is the successful step to recovering from the loss. On the other hand, the bereaved may have a chance to go outside and focus on thoughts other than the death of a parent, which could help their coping (Stroebe and Schut 1999).

Marital status may moderate the impact of the death of a parent. Married people tend to establish their own families (with a partner and (a) child(ren)) and be less dependent on their parents, indicating that they have fewer attachments to their parents (Sakaguchi 2012). They may also receive emotional support from their spouses and adult children at the time of crisis like parental death. Conversely, bereaved people may think that other family members do not understand their feelings and feel isolated from them (Shapiro 1994). This could increase the negative impact of parental death. Marital status may have an independent impact on a person's mental health. As divorce was ranked second in the Social Readjustment Questionnaire (Holmes and Rahe 1967), which was higher than the death of a close family member, divorce itself could have negative effects on mental health outcomes.

Bereaved people may obtain emotional support from other family members, especially those with whom they live. After a parent dies, his or her former duties are likely to become the responsibility of other family members. For example, daughters are sometimes expected to play a mother's role to keep family together (Marshall and Rosenthal 1982). Therefore, having more

people in the same household reduces the burden to deal with the tasks previously done by the deceased parent. In addition, it is well documented that social support buffers stress (Turner and Turner 2013). Having someone on whom to depend is likely to lead to better health outcomes.

### CHAPTER 3: METHOD

Data for this research consist of one data set from Japan and one from the United States. Two data sets were combined into one for analyses. I obtained the Japanese data sets, “Japanese Life Course Panel Survey of the Youth (JLCP-Y)” and “Middle-aged (JLCP-M)” through the Center for Social Research and Data Archives operated by Institute of Social Science, The University of Tokyo. An American data set is called “National Survey of Families and Households.” American data were available via Interuniversity Consortium for Political and Social Research (ICPSR).

JLCP-Y and JLCP-M were modeled after American and British surveys and created for the purpose of capturing Japanese people’s life styles as Japanese society experiences rapid change in the labor market, aging, and globalization. JLCP is a large scale survey conducted in Japan and assessing occupational history, family relations, education, attitudes toward various matters (e.g., politics), and health. By including comparable questions to British and American panel surveys, JLCP is designed to be appropriate for cross-national analyses. The target age group of the JLCP-Y is between 20 and 34 and that of JLCP-M is between 35 and 40. These data sets included identical questions. Currently, four waves of the data are available for use. For this research, the first wave of the data will be used. The data were collected in 2007 using a two-stage probability sampling. The first stage is based on the religion and urbanicity, and the second stage is based on gender and age (every 5 years). They used Basic Resident Register or voter registration for sampling. The response rate of JLCP-Y is 34.5 %, and that of JLCP-M is 40.4 %. Specifically, 31.4% of men and 38.2% of women agreed to complete JLCP-Y, whereas 35.6% of men and 45.8% of women did so for JLCP-M. It is unclear how the higher response rate for JLCP-M and women affect the results. While the overall response rate may look rather low, the-



se low percentages are common in Japan where data collection is more challenging (Roemer 2010).

The American data came from the first wave of “National Survey of Families and Households.” The data collection was led by Larry Bumpass and started in 1987 and 1988 as a longitudinal project to examine American family’s life course patterns. Currently, three waves of data were collected in 1992-1994 and 2001-2003. Once the households were selected as a sample, one adult member was chosen to complete the survey. The survey assessed marital history, the quality of family relationships, and financial state. The data were collected using stratified, multistage area probability sampling. The survey had a high response rate with approximately three out of four people who agreed to participate in the research.

There is a 20 year gap between the times these two data sets were collected. Although this may be one weakness of this research as various elements could diverge and influence my respondents’ mental health outcomes in a different way, the gap illuminates the distinctness of two cultural responses to death. According to Dennis (2012) who studied grief self-help books in the United States, acknowledgement of continuing connections with the deceased is a recent phenomenon happening especially among the scholars and a lesser degree in the self-help books. In the 1980s when the American data were collected, the self-help books strongly advised the bereaved to detach themselves from the deceased and move on (Dennis 2012). This indicates that cultural beliefs and practices surrounding death in the United States in 1987 is a better contrast to Japanese death-related beliefs and practices.

## **Measures**

The dependent variable of this research is depression, and independent variables include the bereavement status, nationality, which is used as part of the interaction variable, and emotional support. To examine whether there is a cultural difference on the impact of parental death, the interaction effect of the bereavement status and nationality are created. Six control variables, including age, the number of people living in the same household, gender, income, hours of work, and marital status, are included in the equation. The recoding of each variable is explained below.

### ***Dependent Variable***

A mental health outcome is measured by depression. Because the variable was phrased differently and had different answer choices in the Japanese and American surveys, recoding was conducted to make the variable consistent. A depression scale included six indicators in the Japanese survey and twelve indicators in the American survey. In the American survey, the question was phrased, “Next is a list of the ways you might have felt or behaved during the past week. On how many days during the past week did you...?”, and respondents could choose any number from zero to seven days. In the Japanese survey, the question was phrased, “How often did you have the following conditions in the past month?”, and respondents could select one answer from five multiple choices, “not at all,” “rarely,” “sometimes,” “almost always,” and “always.” To make the variables consistent, three similar indicators were selected from the pool. Three of the American items include “feel that you could not shake off the blues even with help from your family or friends,” “feel depressed,” and “feel sad.” The matching Japanese items are, “I felt uncontrollably depressed,” “I was depressed and blue,” and “I had a good feeling,” respectively.

Table 1: Mean Scores of the Three Depression Items in Japan

Depression Questions in Japan	Average Score (0-4)
Q: How often did you have the following conditions in the past month?	
0: Not at all	
1: Rarely	
2: Sometimes	
3: Almost always	
4: Always	
Item 1: I felt uncontrollably depressed	1.118
Item 2: I was depressed and blue	1.300
Item 3: I had a good feeling (reversed)	1.729
Alpha	.743

I present the mean scores of each item in the Japanese sample in Table 1. The scores of Item 3 in the Japanese survey are reversed, indicating the higher number indicates that respondents did not have a good feeling. Each score ranges from 0 to 4 with the higher score meaning more depression. The average scores of Item 1, 2, and 3 in the Japanese sample are 1.2, 1.3, and 1.7, respectively. Japanese respondents on average rarely felt uncontrollably depressed, were rarely depressed and blue, and sometimes did not have a good feeling. The results of reliability analysis of the Japanese depression items showed that the value of Cronbach's alpha is .743.

Table 2: Mean Scores of the Three Depression Items in the United States

Depression Questions in the United States	Average Score
Q: Next is a list of the ways you might have felt or behaved during the past week. On how many days during the past week did you...?	
0 days ~ 7 days	
Item 1: feel that you could not shake off the blues even with help from your family or friends	1.058
Item 2: feel depressed	1.396
Item 3: feel sad	1.307
Alpha	.894

Table 2 shows the mean scores of each depression item in the U.S. sample. Each score ranges from 0 to 7 with the higher number indicating more depression. The average scores of Item 1, 2, and 3 are 1.06, 1.40, and 1.31, respectively. American respondents experienced the three depressive symptoms approximately once a week. The reliability analysis provided the Cronbach's alpha of .894, which shows the high reliability among these three items.

The reliability analysis of the Japanese depression items suggested that removing Item 3 would increase the alpha to .852 from .743. However, removing the same item from the American item would decrease alpha by .4 points from .894 to .859. Because .743 is in the acceptable range, all three items were kept in the following analyses.

The depression score in each country has the different ranges in scores. To make the score consistent, they were coded into a dummy variable with a cut-off point approximately at 86% (86.1% for Japan and 86.7% for the United States). This cut-off point was selected because

under the assumption of the normal curve, it is close to one standard deviation away (84.1% on the upper side). The bottom 86% of each country were coded as 0, and the top 14% were coded as 1. In this way, the analyses will compare the more depressed group (top 14% in each country) with the less depressed group (bottom 86%).

### ***Independent Variables***

Bereavement status is a dummy variable coded 0 if respondents had both parents alive and 1 if they lost at least one parent. American respondents were coded as 0, and Japanese respondents were coded as 1. Emotional support in the Japanese survey was measured by asking, “When you need some advice about your relationship with others, such as friends, partners, and spouses, who would you ask for assistance?,” with answer selections including “parents,” “spouses or partners,” “children,” “siblings,” “other relatives,” “friends/acquaintances at work,” “friends/acquaintances at school (during school years),” “other friends/acquaintances,” and “no-body.” In the American survey, the question asked, “Who would you ask for help or advice?” with “no one,” “friends, neighbors, and coworkers,” “sons or daughter (19 and over),” “parents,” “brothers and sisters,” and “other relatives.” When respondents selected two or more choices, they were coded as “more than one code is circled.” To make it consistent between the two surveys, I coded 0 if respondents claimed no one to depend on, and 1 if otherwise. The bereavement status was multiplied by nationality to create the interaction. Being bereaved in Japan is coded as 1, and 0 otherwise.

### *Control Variables*

Age is a continuous variable, which ranges from 20 to 40. The number of people living in the same household ranges from 1, meaning a respondent living alone, to 17, a respondent living with 16 others. Respondents' sex is coded 0 if male and 1 if female. Income in the Japanese survey was assessed by providing thirteen categories of the annual income. When converted to U.S. dollars with \$1 is equal to ¥100, the categories are "no income," "2,500 or less," "2,500 – 7,500," "7,500 – 15,000," "15,000 – 25,000," "25,000 – 35,000," "35,000 – 45,000," "45,000 – 60,000," "60,000 – 85,000," "85,000 – 125,000," "125,000 – 175,000," "175,000 – 225,000," and "over 225,000." The American survey let the respondents write down the numbers. Because having the same amount of income in the United States does not indicate the same economic standing in Japan, I calculated the standardized scores for each country. In this way, the variable illustrates one's income relative to each country's average (e.g., how far away a Japanese respondent's income is from the Japanese average). Hours of work were assessed by asking American respondents how many hours they worked in the past week. The respondents provided any number in hours. Japanese respondents were asked how many hours they work in a typical week. Their answer choices were categorized as "no work," "less than 20 hours," "20-30 hours," "30-34 hours," "35-40 hours," "40 hours," and "over 40 hours." The American data were categorized according to the Japanese categories, with 0 (no work), 1 (1-20 hours), 2 (21-30 hours), 3 (31-35 hours), 4 (36-39 hours), 5 (40 hours), and 6 (over 40 hours). Marital status is a set of dummy variables, including being married, single, divorced, and widowed. Being married is treated as a reference category in the regression analyses.

Table 3 Recoding of the Unmatched Independent/Control Variables between the Japanese and the American Surveys

	Japan	USA	Final recoding
Emotional Support	<p>Q. When you need some advice about your relationship with others, such as friends, partners, and spouses, who would you ask for assistance?</p> <p>a. parents b. spouse/partners c. children d. siblings e. other relatives f. friends/acquaintances at work g. friends/acquaintances at school (during school years) h. other friends/acquaintances i. nobody</p>	<p>Q. Who would you ask for help or advice?</p> <p>a. no one b. friends, neighbors, and coworkers c. sons or daughter (19 and over) d. parents e. brothers and sisters f. other relatives</p>	<p>0: No support 1: Emotional support from at least one person</p>
Income	<p>Q. In the past year, how much was the total household income? (in U.S. dollar, ¥ 100 = \$1)</p> <p>a. no income b. 2,500 or less c. 2,500 – 7,500 d. 7,500 – 15,000 e. 15,000 – 25,000 f. 25,000 – 35,000 g. 35,000 – 45,000 h. 45,000 – 60,000 i. 60,000 – 85,000 j. 85,000 – 125,000 k. 125,000 – 175,000 l. 175,000 – 225,000 m. over 225,000</p>	<p>Household income 0 ~ 988,700</p>	<p>Standardized score</p>
Hours of Work	<p>Q. How many hours do you work in a typical week?</p> <p>a. no work b. less than 20 hours c. 20-30 hours d. 30-34 hours e. 35-40 hours f. 40 hours g. over 40 hours</p>	<p>Q. How many hours did you work last week?</p> <p>0 ~ 95</p>	<p>0: no work 1: 1-20 hours 2: 21-30 hours 3: 31-35 hours 4: 36-39 hours 5: 40 hours 6: over 40 hours</p>

Table 4: Recoding of Matching Independent/Control Variables

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Bereaved	Equals 0 if both parents alive, 1 if at least one parent died.
Japan	Equals 0 if respondents are American, 1 if respondents are Japanese.
Age	20 – 40 year old
Female	Equals 0 if male, 1 if female.
Single	Equals 0 if not single, 1 if single.
Divorced	Equals 0 if not divorced, 1 if divorced.
Widowed	Equals 0 if not widowed, 1 if widowed.
Married	Equals 0 if not married, 1 if married.

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The recoding of the unmatched variables between the Japanese and the American surveys, which include emotional support, income, and hours of work, are presented in Table 3. Table 4 presents the recoding of the matched variables.

### **Sample in this Research**

Because the American survey had people from broader age groups, their age was limited to between 20 and 40, so that the age group is consistent with the Japanese data. At the time age was restricted, the total number of respondents was 11,794, but the number of respondents with all variables answered was 7332, including 3992 Americans and 3340 Japanese. I conducted missing value analyses and checked whether there are patterns in missing variables. More than 10% of the three variables, the number of people living in the household, hours of work, and in-



come, were missing, and the results of missing value analyses indicated that there were patterns. In order not to lose many cases, I conducted multiple imputations for these three variables. Multiple imputations were avoided for categorical/dummy variables because imputations for categorical/dummy variables are reported to be problematic (Allison 2005).

To have the same number of respondents across different analyses, all cases with missing information on bereavement status, emotional support, marital status, and depression were removed from the analyses. The working sample for this research is 10,521, including 6185 American and 4336 Japanese respondents. With multiple imputations, 2193 American respondents and 996 Japanese respondents were included in the analyses.

### **Respondents Characteristics**

In order to examine whether the respondents included in this research is significantly different from the respondents excluded from this research, I conducted t-tests and chi-square tests. The results indicated that the respondents included in this research were less likely to be depressed (13.6% vs. 16.3%) and less likely to be bereaved (12.3% vs. 16.2%) than the ones excluded from this research. My sample is slightly older (31.2195 vs. 30.5632) and includes more women (55.9% vs. 50.6%). There were more people who perceived emotional support in my sample (91.6% vs. 85.9%) and who have both parents alive (76.9% vs. 70.8%). In terms of marital status, the included respondents were more likely to be single (35.1% vs. 34.6%) and married (51.9% vs. 48.2%) and less likely to be divorced (12.3% vs. 16.2%). There was no statistical difference in widowhood. The number of people living in the same household, hours of work per week, and income were not different between those who are included in and those who were excluded from the analyses. The detailed results were presented in Table 5.

Table 5: Comparison of Independent Variables between My Sample and Excluded from the Analyses.

	Sample (10,521)	Excluded	Comparison
Depression			
No	9092 (86.4%)	866 (83.7%)	5.964*
Yes	1429 (13.6%)	169 (16.3%)	
Gender			
Men	4640 (44.1%)	629 (49.4%)	12.948***
Women	5881 (55.9%)	644 (50.6%)	
Age (Mean)	31.2195	30.5632	-3.869***
Number of People Living in the Same Household (Mean)	3.3835	3.4108	.574
Hours of Work per Week <sup>1</sup> (Mean)	3.8200	3.8290	.147
Income	.03758	-.00534	-1.878
Marital Status			
Single	3636 (35.1%)	494 (34.6%)	9.122**
Married	5470 (51.9%)	578 (48.2%)	19.493***
Widowed	75 (0.7%)	10 (1.0%)	.085
Divorced	1340 (12.3%)	190 (16.2%)	4.868*
Emotional Support			
No	885 (8.4%)	115 (14.1%)	30.098***
Yes	9636 (91.6%)	703 (85.9%)	
Bereaved			
No	8095 (76.9%)	322 (70.8%)	9.293**
Yes	2426 (23.1%)	133 (39.2%)	

<sup>1</sup> Hours of work include 0 (not working), 1 (20 or fewer hours), 2 (21-30 hours), 3 (31-35 hours), 4 (36-39 hours), 5 (40 hours), and 6 (over 40 hours).

## **Selection Bias**

I suspected that there may be a selection bias between nationality and bereavement status. In other words, American respondents were suspected to have lost their parent more so than Japanese respondents. This bias could occur because medical technology is different between 1987 and 2007 and/or other unknown, yet systematic reasons exist (Smits 2003). If losing a parent is related to nationality, there is a bias because being a bereaved person is not distributed randomly (Smits 2003; Winship and Mare 1992). In order to check if there is a selection bias, I calculated Heckman's estimator, lambda. Including lambda in the regression equation will control the selection bias. When the value of lambda is entered in the equation, the error becomes larger (Bushway, Johnson, and Slocum 2007; Smits 2003; Winship and Mare 1992). I completed the steps to reduce the error term following Smits' (2003) instructions. Then, lambda was entered into the regression equation along with independent and control variables. Lambda was not significant, indicating there is no statistically significant selection bias. The table reported in the results section do not include lambda in the equation.

## **Analytical Strategy**

To understand the relationships between all the variables, I conducted correlations (Table 6). The differences in characteristics between the bereaved and the non-bereaved were examined using t-tests and chi-square tests (Table 7). To further explore the relationship between nationality, bereavement status, and personal characteristics, two sets of t-tests and chi-square tests were completed (Table 8). One examined the national differences between all, the bereaved, and the non-bereaved respondents, and the other examined the differences between the bereaved and the non-bereaved within each country. Then, I performed a logistic regression and examined the ef-

fects of the set of independent and control variables on depression (Table 9). All analyses were conducted using SPSS version 18.

## **CHAPTER 4: RESULTS**

The results of bivariate relationship of all the variables used in this research are reported first (Table 6). Then, I will report the comparisons between the bereaved and the non-bereaved respondents (Table 7). I explain the descriptive statistics and the results of comparisons between the Japanese and the American population followed by the comparison of Japanese bereaved and American bereaved and the comparison of Japanese non-bereaved and American non-bereaved (Table 8). Finally, the interpretations of the logistic regression are provided (Table 9).

### **Bivariate Relations**

Table 6 presents the bivariate relationships of all the independent and dependent variables.

It is hypothesized that the bereaved individuals have a higher chance to be depressed than the non-bereaved individuals. In support of this hypothesis, the results of bivariate relations suggested that the bereavement status and depression were positively correlated. By being bereaved, respondents were likely to be categorized as being more depressed. The correlation coefficient for Japan was not significant, indicating that there is no mental health difference between those living in Japan and the United States. Emotional support has a negative relationship with depression, suggesting that respondents with emotional support are likely to be in the less depressed group. Emotional support and nationality were not significantly related.

Table 6: Bivariate Relations of All Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Depression	1												
2. Bereaved	.032***	1											
3. Japan	-.008	-.199***	1										
4. Female	.054***	.020*	-.059***	1									
5. Age	-.030**	.230***	.066***	.006	1								
6. Household	-.010	-.002	.093***	.091***	.090***	1							
7. Hours of work	-.043***	.033***	-.183***	-.278**	.031**	-.105***	1						
8. Income	-.043***	-.030**	.252***	-.002	-.004	.191***	.035***	1					
9. Single	.067***	-.122***	.259***	-.100***	-.403***	-.192***	.001	.024*	1				
10. Married	-.122***	.044***	-.076***	.006	.289***	.273***	-.043***	.069***	---	1			
11. Widowed	.013	.031***	-.055***	.055***	.059***	-.012	-.007	-.030**	---	---	1		
12. Divorced	.084***	.100***	-.241***	.121***	.126***	-.133***	.064***	-.129***	---	---	---	1	
13. Emotional Support	-.068***	-.015	-.004	.415***	-.045***	-.009	-.026*	.032**	-.008	-.001	.009	.011	1

<sup>1</sup> Because single, married, widowed, and divorced are a set of dummy variables, bivariate correlations were not performed for them.

### *Additional Results from the Bivariate Analysis*

Depression was positively related to being female, being single and being divorced and was negatively related to age, hours of work, income, and being married. Older respondents were less depressed. The more hours of work and higher income were related to the lower levels of depression. There was no association between depression and the number of people living in the same household and being widowed.

Being parentally bereaved was positively associated with being female, age, hours of work, being married, being widowed, and being divorced. The bereaved respondents were more likely to be women, be older, work longer hours, be married, be widowed, and be divorced. Being bereaved was related to lower income and not being single. There was no association between being bereaved and the number of people in the household or emotional support.

Respondents' gender (female) was positively related to the number of people in the household, being widowed, being divorced, and emotional support. Women tend to live with more people and have more emotional support available. Widowed and divorced respondents included more women. In contrast, men tend to work more hours and be single. There was no statistically significant relationship between sex and age, household income, and being married.

While age was not significantly related to income, there were associations with all the other variables. The older the respondents, the more people in the household and the longer hours of work. Younger respondents tend to be single, whereas older respondents were married, widowed, or divorced. Older respondents were less likely to have emotional support available.

The number of people living in the same household was negatively related to hours of work, being single, and being divorced. People who work longer hours tend to live with fewer people. Single or divorced respondents tended to work fewer hours. Widowhood and emotional

support were not significantly related to the number of people living in the same household, indicating the number of people in the same household is unrelated to the availability of emotional support.

While hours of work per week did not have a significant relationship with being single and being widowed, the variable was positively related to income and being divorced. Divorced respondents were more likely to work longer hours, and as respondents work more hours, they had higher income. Married respondents tended to work fewer hours. Those who worked longer hours per week did not have emotional support available.

Widowed and divorced respondents had lower income, whereas single and married respondents had higher income. The results showed that income and emotional support had a positive relationship, suggesting respondents with higher income were more likely to have emotional support.

Emotional support and marital status did not show any significant relationships. Being single, married, widowed, or divorced was unrelated to whether respondents have emotional support or not.



Table 7: Comparison of Independent and Dependent Variables by Bereavement Status, Both Japan and the United States

	Non-Bereaved N=8095 (76.9%)	Bereaved N=2426 (23.1%)	Comparison
Depression			
<85%	6044 (87.0%)	2048 (84.4%)	10.733***
85%<	1051 (13.0%)	378 (15.6%)	
Gender			
Men	3615 (44.7%)	1025 (42.3%)	4.385*
Women	4480 (55.3%)	1401 (57.7%)	
Age (Mean)	30.490	33.652	-25.273***
Number of People Living in the Same Household (Mean)	3.386	3.377	.239
Hours of Work per Week <sup>1</sup> (Mean)	3.787	3.948	-3.467**
Income	.0539	-.0169	2.835**
Marital Status			
Single	3055 (38.3%)	581 (24.1%)	156.962***
Married	4111 (50.7%)	1359 (56.3%)	20.484***
Widowed	46 (.5%)	29 (1.1%)	10.372**
Divorced	883 (10.5%)	2426 (18.5%)	105.603***
Emotional Support			
No	663 (8.2%)	222 (8.8%)	2.236
Yes	7432 (91.8%)	2204 (91.2%)	

<sup>1</sup> Hours of work include 0 (not working), 1(20 or fewer hours), 2 (21-30 hours), 3 (31-35 hours), 4 (36-39 hours), 5 (40 hours), and 6 (over 40 hours).

### *Comparison between the Bereaved and the Non-bereaved Respondents*

The results of comparison between bereaved and non-bereaved respondents are presented in Table 7. The first hypothesis is that bereaved individuals are more depressed than non-bereaved individuals. Of all the respondents, 23.1% lost at least one of their parents. Among the bereaved, about 15.6% were categorized into the upper 14% in depression, whereas about 13.0% were categorized as such among the non-bereaved. The results of the chi-square test showed that there is a statistically significant difference, suggesting that the bereaved people are more likely to be depressed than the non-bereaved people. Bereaved and Non-bereaved respondents reported the availability of emotional support (91.2% vs. 91.8%, respectively) similarly. There was no significant difference in emotional support between the bereaved and the non-bereaved.

### *Additional Results from the Bereaved/non-bereaved Comparisons*

Other characteristics of bereaved people include that they are more likely to be women (57.7% vs. 55.3%), older (33.7 vs. 30.5), work longer hours (3.95 vs. 3.79) and have lower income (.054 vs. -.017). There were more married (56.3% vs. 50.7%), widowed (1.1% vs. .5%), and divorced (18.5% vs. 10.5%) people among the bereaved population, yet there were fewer single people in the bereaved population (24.1% vs. 38.3%). In terms of the number of people living in the same household, there was no significant difference between the bereaved and the non-bereaved.

*Comparisons between Japanese Respondents and American Respondents and Comparisons Between the Bereaved and the Non-bereaved by Country*

Table 8 provides the results of two types of comparisons of Japanese and American respondents. The purpose of the first comparison is to examine whether Japanese and American respondents have different characteristics, especially when they are broken down by the bereavement status. In the table, the first two columns present the descriptive characteristics of Japanese and American respondents including the separate descriptive statistics for the bereaved and the non-bereaved respondents. The third column in the table presents the results of t-tests/chi-square tests, which compared Japanese and American respondents in each column (all Japanese respondents vs. all American respondents, Japanese bereaved vs. American bereaved, and Japanese non-bereaved vs. American non-bereaved).

The results of another set of t-tests/chi-square tests, which compared bereaved respondents with non-bereaved respondents within each country, are also presented in Table 8. The purpose of this second set of comparisons is to examine whether there are similar or different patterns in the characteristics between the bereaved and the non-bereaved in each country. The significant results are marked by the asterisks in the column under “Non-Bereaved” in each country.

It is hypothesized that bereaved respondents are more depressed than non-bereaved respondents in Hypothesis 1. Approximately 41% of the total respondents were Japanese and 59% were Americans. For depression, the cut-off point was not significantly different between two countries (86.1% vs. 86.7%), which will reduce the bias in the subsequent analyses when two countries are compared. Overall, the bereaved respondents in both countries were more likely to be in the depressed category, supporting the first hypothesis. The bereaved were more de-

pressed than the non-bereaved. Bereaved respondents were compared with non-bereaved respondents within each country. In Japan, although the percentage of being in the top 14% in depression scores was higher for the bereaved than the non-bereaved, this difference did not reach statistical significance (15.0% vs.13.8%). In the United States, in contrast, American bereaved are more likely than American non-bereaved to be in top 14% in the depression score (15.8% vs. 12.3%).

The second hypothesis compared Japanese bereaved and American bereaved, hypothesizing that the mental health consequences of losing a parent will be greater in cultures where there is a discordance between individual-level desire and macro-level forces (U.S.) than cultures involving a concordance (Japan). The results of the t-tests demonstrated that the chance of being in the upper 14% in the depression score was not significantly different between Japanese and American bereaved (15.0% vs. 15.8%), which did not support the second hypothesis.

The third hypothesis stated that the cultural differences in the link between being bereaved and depression will be explained by the difference in emotional support, which is based on the assumption that the Japanese bereaved have more support than the American bereaved. Although the first part of the hypothesis is not testable from this set of analyses, the information on the availability of emotional support among Japanese and American respondents was obtained. Emotional support did not differ between the two groups. Next, emotional support was compared within each country. While there was no significant difference in emotional support between Japanese bereaved and non-bereaved, American bereaved are more likely than the non-bereaved to say they do not have emotional support available (9.7% vs. 7.7%).

### ***Additional Results from Table 8***

#### *Comparisons between the Japanese Respondents and the American Respondents*

Japanese respondents were more likely than American respondents to be men (47.6% vs. 41.6%), older (31.7 vs. 30.9), have more people in the same household (3.55 vs. 3.27), and worked fewer hours (3.38 vs. 4.14). The Japanese sample include more single people (49.3% vs. 24.3%), and fewer married (47.4% vs. 55.2%), widowed (.2% vs. 1.1%), and divorced (3.1% vs. 19.5%) respondents.

#### *Comparisons between the Japanese Bereaved and the American Bereaved*

Of the 2426 bereaved people, approximately one fourth were Japanese. Japanese bereaved were more likely to be men (48.8% vs. 40.3%), older (34.7 vs. 33.3), and have lower income (-.235 vs. .050) than American bereaved. Work hours for the former is shorter than the latter (3.36 vs. 4.13). When it comes to marital status, there are more single people in Japanese bereaved compared to American bereaved (36.4% vs. 20.2%), but there are fewer widowed (.2% vs. 1.5%) or divorced people (5.5% vs. 22.9%). No statistical differences were observed between Japanese and American bereaved in the number of people living in the same household (3.31 vs. 3.34) and married people (58.0% vs. 55.4%).

Table 8: Mean Comparisons of Independent and Dependent Variables by Nationality, Both Japan and the United States

	Japan			USA			Comparison		
	All N=4336	Bereaved N=566 (13.1%)	Non Bereaved N=3770 (86.9%)	All N=6185	Bereaved N=1860 (30.1%)	Non Bereaved N=4325 (69.9%)	All (N=10521)	Bereaved (N=2426)	Non Bereaved (N=8095)
Depression									
< 86%	3732 (86.1%)	481 (85.0%)	3251 (86.2%)	5360 (86.7%)	1567 (84.2%)	3793*** (87.7%)	.759	.178	3.832
86% <	604 (13.9%)	85 (15.0%)	519 (13.8%)	825 (13.3%)	293 (15.8%)	532 (12.3%)			
Gender									
Men	2065 (47.6%)	276 (48.8%)	1789 (47.5%)	2575 (41.6%)	749 (40.3%)	1826 (42.2%)	37.119 ***	12.833 ***	22.326 ***
Women	2271 (52.4%)	290 (51.2%)	1981 (52.5%)	3610 (58.4%)	1111 (59.7%)	2499 (57.8%)			
Age (Mean)	31.675	34.664	31.227 ***	30.900	33.344	29.849 ***	-6.741 ***	-5.279 ***	-10.820 ***
Number of People Living in the Same Household (Mean)	3.553	3.306	3.591***	3.265	3.340	3.207***	-9.646 ***	1.282	-11.507 ***
Hours of Work per Week <sup>1</sup> (Mean)	3.376	3.361	3.381	4.137	4.127	4.141	18.100 ***	7.611 ***	16.241 ***
Income <sup>2</sup>	---	-.2350	.0305***	---	.0495	.0748	---	5.783***	1.875
Marital Status									
Single	2136 (49.3%)	206 (36.4%)	1930*** (51.2%)	1500 (24.3%)	375 (20.2%)	1125*** (26.0%)	704.981 ***	62.795 ***	543.608 ***
Married	2057 (47.4%)	328 (58.0%)	1729*** (45.9%)	3413 (55.2%)	1031 (55.4%)	2382 (55.1%)	61.208 ***	1.119	68.405 ***
Widowed	7 (.2%)	1 (.2%)	6 (.2%)	68 (1.1%)	28 (1.5%)	40 (.9%)	31.687 ***	6.486 **	20.901 ***
Divorced	136 (3.1%)	31 (5.5%)	105** (2.8%)	1204 (19.5%)	426 (22.9%)	778*** (18.0%)	611.589 ***	86.191 ***	479.075 ***
Emotional Support									
No	371 (8.6%)	41 (7.2%)	330 (8.8%)	514 (8.3%)	181 (9.7%)	333** (7.7)	.200	3.229	2.975
Yes	3965 (91.4%)	525 (92.8%)	3440 (91.2%)	5671 (91.7%)	1679 (90.3%)	3992 (92.3%)			

<sup>1</sup> Hours of work include 0 (not working), 1(20 or fewer hours), 2 (21-30 hours), 3 (31-35 hours), 4 (36-39 hours), 5 (40 hours), and 6 (over 40 hours).

<sup>2</sup> The t-test was not performed for all respondents because income is standardized in each country.

*Comparisons between the Japanese Non-bereaved and the American Non-bereaved*

The ratio of the non-bereaved population between Japan and the United States is more equal (46.6% Japanese vs. 53.4% Americans). Approximately 13.8% of Japanese non-bereaved were classified as more depressed, while about 12.3% of American non-bereaved were categorized as such. This difference was not statistically significant. The availability of emotional support did not differ either, with 91.2% of Japanese non-bereaved and 92.3% of American non-bereaved reporting that they have emotional support available.

Except for these two variables, statistical significance was observed in all other variables, but income. Japanese non-bereaved were more likely than American non-bereaved to be men (47.5% vs. 42.2%), older (31.2 vs. 29.8), and single (51.2% vs. 26.0%), but they were less likely to be married (45.9% vs. 55.1%), widowed (.2% vs. .9%), or divorced (2.8% vs. 18.0%). Hours of work are shorter (3.38 vs. 4.14) and the number of people living in the same household (3.59 vs. 3.21) was larger for Japanese non-bereaved compared to American non-bereaved.

*Comparisons between the Japanese Bereaved and the Non-bereaved*

The results suggested that the ratio of men to women, hours of work, widowhood, and emotional support were not statistically different, while age, the number of people living in the same household, income, single, married, and divorced were statistically different. Japanese bereaved were older than the non-bereaved (34.7 vs. 31.2), lived with fewer people, (3.31 vs. 3.59), and have significantly lower income (-.235 vs. .031). Japanese bereaved included more married or divorced respondents and fewer single respondents.

### *Comparisons between the American Bereaved and the Non-bereaved*

American bereaved respondents were more likely to be older (33.3 vs. 29.8) and divorced (22.9% vs. 18.0%), but less likely to be single (20.2% vs. 26.0%) and live with more people (3.34 vs. 3.21). Gender, hours of work per week, and income as well as being married or widowed did not differ significantly.

### *Summary of Comparisons between the Bereaved and the Non-bereaved within Each Country*

Two notable results were obtained in the comparisons of the bereaved and the non-bereaved within each country. First, the percentage of the bereaved in the top 14% of the depression score was higher in both countries. Although this difference reached significance for the American sample, it did not for the Japanese sample. Second, although it was not significant, slightly more Japanese bereaved than Japanese non-bereaved reported that emotional support was available. In contrast, the results suggested that American bereaved reported less emotional support available than the non-bereaved by 2%, which was statistically different.

## **Results of Logistic Regression**

The results of logistic regression are presented in Table 9. There are five models to test three hypotheses. Numbers in the table represent exponentiated odds, and the significance were indicated with asterisks with three asterisks indicate  $p < .001$ , two asterisks indicate  $p < .01$  and one asterisk indicates  $p < .05$ .

Bereaved respondents were about 1.2 times more likely to be depressed than non-bereaved respondents (Model 1). This result supports the first hypothesis that bereaved respondents have worse mental health than non-bereaved respondents. The pattern did not change after



controlling for nationality (Model 2). The reason for not obtaining a significant difference in Model 2 is because the cut-off point was selected at 86% in each country separately. The distribution of low depression vs. high depression is set to be similar between two countries. A set of control variables were entered Model 3. The effects of being bereaved on depression did not change much, indicating control variables did not take away the explanatory power of the bereavement status. By losing at least one parent, they were approximately 1.3 times more likely to be depressed than those whose parents are alive.

The second hypothesis stated that Japanese bereaved report greater depression than American bereaved. To test this hypothesis, the interaction effect of the bereavement status and nationality was entered in Model 4. The regression results suggested that the interaction effect was not significant, rejecting the hypothesis that being bereaved in Japan, where personal desires and culture are concordant, significantly reduces the chance of being depressed.

Because the second hypothesis was rejected and no national difference was observed among the bereaved in the first place, the third hypothesis, Japanese bereaved have the greater amount of emotional support than American bereaved and the mental health consequences of living in the United States compared to Japan will be explained by this differential emotional support, was not testable in the analyses.

### ***Additional Results from Logistic Regression***

A set of control variables was entered in Model 3, and the results demonstrated that all control variables except for age have independent effects on depression. People who cohabitated with others were more likely to be depressed than those who lived with fewer people, and women were more depressed than men. Compared to the married people, being single and widowed

were nearly twice more to be depressed, and for the divorced respondents, the chance of 2.5 times more than the married individuals. Having higher income and working longer hours reduced the chance of being depressed. Because the interaction variable in Model 4 was created using the two existing variables already in the equation (bereavement status and nationality), the patterns of the control variables were about the same as Model 3.

The results in Model 5, where emotional support was entered, revealed that bereaved respondents were approximately 1.3 times more likely to be depressed than non-bereaved respondents. The availability of emotional support reduced the chance of being depressed independently. People with emotional support were 60% less likely to be categorized into a depressed group than those without such support. Consistent from the previous models, nationality, age, and the interaction variable were not significant. The odds of being categorized into a depressed groups were approximately 4% higher for one person increase in the same household, 37% higher for women than men, and about twice as high for single, divorced, and widowed respondents compared to married respondents. The factors that decrease being categorized into a depressed group included higher income and longer hours of work.

Table 9: Logistic Regression on Depression

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Bereaved	1.237***	1.264***	1.293***	1.330***	1.319***
Japan		1.096	1.075	1.097	1.102
Age			.993	.993	.991
Household <sup>1</sup>			1.050*	1.049*	1.044*
Female			1.276***	1.275***	1.374***
Income <sup>2</sup>			.887**	.886**	.896*
Hours of Work			.950***	.950***	.952**
Single <sup>3</sup>			1.980***	1.974***	1.951***
Divorced <sup>3</sup>			2.508***	2.502***	2.512***
Widowed <sup>3</sup>			1.981*	1.972*	1.996*
Bereaved*Japan				.904	.928
Emotional Support					.496***
Constant	.149***	.143***	.104***	.104***	.202***

<sup>1</sup> Household: Number of people living in the same household

<sup>2</sup> Income: Standardized

<sup>3</sup> Marital Status: Married is the reference category

## CHAPTER 5: DISCUSSIONS, LIMITATIONS, AND FUTURE RESEARCH

This study draws from the stress process model to test whether parental death is linked to depression and whether this linkage is moderated by culture. Culture was expected to moderate the negative impact of parental death when individuals have a concordance between their desires and what culture offers, while it is expected not to function as a moderator when individuals experience a disconcordance. In other words, the research examined whether culture provides macro-level support to the individuals. In order to capture the role of culture in the bereavement process, two countries were compared, Japan and the United States, which have two distinct death-related beliefs and practices. Culture also was hypothesized to be mediated by the availability of emotional support from families and friends. The three research questions in this study included, 1) are the bereaved people more depressed than the non-bereaved? 2) if so, does concordance between personal desires and culture reduce the chance of being depressed?, and 3) based on the assumption that families and friends living under the culture which is concordant with personal desires understand the bereaved individuals' personal desires, does emotional support mediate the impact of culture?

The results of logistic regression supported Hypothesis 1, concluding that bereaved people in both Japan and the United States reported greater depression than their non-bereaved counterparts. This result demonstrated that parental death is a stressor which is linked to depression both in Japan and the United States, indicating that the arrow from a stressor (parental death) to an outcome (depression) in the stress process model exists. However, interpretation of this result may require caution. Because the sample size is relatively large, significance may be rather easily obtained. Therefore, it is important to examine the substantive difference in the results. The likelihood for the parentally bereaved to be more depressed was not very high (approximately

1.2 times more likely than the non-bereaved). As previous studies reported, the negative impact of the loss of a parent tends to be relatively small and difficult to capture (Higgins 2002; Krause et al. 2002). Also, while the results of t-tests within each country (Table 8) indicated that American bereaved were more depressed than American non-bereaved, such a difference was not statistically significant in Japan. The result which supported the first hypothesis seems to rely on, to some extent, that American bereaved have a higher chance to be in the more depressed group.

Applying the stress process model to this research, a macro-level factor, culture (death-related beliefs and practices), was hypothesized to moderate the negative impact of parental death on depression. Hypothesis 2 stated that the mental health consequences of losing a parent was significantly greater in cultures where there is discordance between individual-level desire and macro-level forces (U.S.) than cultures involving a concordance (Japan). This hypothesis was tested by entering the interaction effect of the bereavement status and nationality in Model 4 of the logistic regression (Table 9). The results rejected the hypothesis. Compared to living in the United States, being bereaved in Japan did not reduce risk for depression.

Similar to emotional support, which is more a micro-level resource and is known to mediate the negative impact of a stressor (Bertera 2005; Thoits 2011; Turner and Turner 2013), this study expected culture to function as a macro-level moderator. Pearlin and Bierman (2013) suggested that belief system change how a person experiences a stressor, which then will affect health outcomes. The results of this research suggested that culture may not work as a moderator of the negative impact of a stressor. Although I hypothesized that respondents can recognize culture as supportive if their personal desire to maintain bonds with the deceased matches what culture offers, individuals may not recognize in such a way. Culture may be too broad and abstract

to be viewed as supportive. While a person's experience of a stressor may differ depending on culture, the role of culture as a macro-level moderator may be relatively limited.

Yet, making such a conclusion may be presumptuous. This research used nationality, specifically where the survey was collected, to operationalize culture, so culture was a proxy measure. Not having a series of questions which measures whether individuals perceive culture as supportive or recognize congruence between their desires and culture may be a reason that this research did not find any cultural difference.

Another potential reason that no cultural difference was observed may be that the research undermined the variations within each country. Due to the usage of nationality as a proxy measure, all American respondents were assumed to have a discordance, while all Japanese respondents were assumed to have a concordance. The research ignored the variations within each country. For example, there must be some Americans and Japanese who wish to relinquish bonds with the deceased. American respondents with such desires may experience a concordance, whereas Japanese respondents experience a discordance. In order to capture the variations within each country, a specific question addressing how individuals view their culture is necessary.

Finally, Pearlin (1989) recommends to include multiple variables to measure outcomes because the negative impact of a stressor can be manifested in numerous ways. This study used depression as a single outcome variable. For instance, the negative impact of parental death may appear as a depressive symptom for bereaved women, while behavioral issues, such as drinking, are more common for bereaved men (Marks et al. 2007; Umberson 2003). In addition to depression, having other outcome variables, such as the grief measure, the amount of alcohol consump-

tion, and cognitive impairment, may enhance our understanding of the negative impact of the death of a loved one and how culture moderates its impact.

The third hypothesis, that persons in Japan will report greater emotional support than those in the United States and the mental health consequences of living in the United States compared to Japan will be explained by this differential emotional support, was unable to be tested because the national difference was not observed in Model 4 of the logistic regression. The results of the comparisons in Table 8 suggested that emotional support was not significantly different between Japan and the United States. Speculating from this result, religious practices, such as *obon* and *nenki*, may not be related to social support in general. This finding is similar to the findings made by Krause et al. (1999) that Japanese religious practices did not increase the amount of social support.

### **Limitations**

While this research contributes to understanding where one society/culture stands against the other by comparing Japan and the United States and the role of culture as a moderator, there remain some limitations, most of which are due to the constraints in the data sets. These limitations include the age range, the cross-sectional design, and the discrepancies in measurements between the two data sets.

The age range in this study was limited to 20 to 40 years because the Japanese data set targeted this age group and did not include any other age groups. Compared to younger or older age groups, people in their 20s or 30s may be generally healthier and have more resources to deal with a stressor like parental death and secondary stressors caused by parental death (e.g., financial strains, taking care of the remaining parent). This study might have examined the age groups

who are relatively unsusceptible. Collecting the data from the broader age group makes it possible to capture the patterns in each country better, and the results can be generalizable to a larger population.

This study used the cross-sectional data because the Japanese data are relatively new and, although there are four waves of data, the time span is limited to four years (2007 – 2010). Due to the short span, very few people lost their parents within the given time range and statistical comparison was inappropriate. Longitudinal data will be more useful to understand the trajectory of the mental health after the loss. Specifically, longitudinal data will make it possible to examine the initial reaction to the death and how negative outcomes change over time. In addition, examining what secondary stressors are caused by parental death and how the subsequent changes of secondary stressors affect mental health is an important step to understand the impact of death in detail.

While the two data sets used for this research included comparable questions, the data did not use the exact same questions nor answer choices. There were discrepancies between the Japanese and the American survey questions. Several questions were phrased differently, and answer choices were different in the two data sets. Using the same question and answer choices does not mean that respondents from two different cultures interpret the questions and the answer choices similarly (Ember and Ember 2001), and this issue cannot be taken care of easily when conducting cross-national research. However, the recoding issue could be easily dealt with by using the identical answer choices.

For example, Japanese respondents were asked about the frequency of depressive symptoms in the past month, whereas American respondents were asked about the frequency of past week. In addition, Japanese respondents selected one answer from five choices (“not at all,”



“rarely,” “sometimes,” “almost always,” and “always”), while American respondents provided a number of days of occurrence per week. To conduct statistical analyses, these variables need to be coded in the same way. If American respondents said that they experienced a depressive symptom once a week, they would experience it four times a month (simply multiplied by 4 weeks per month). Is having depressive symptoms four times a month equivalent to “rarely” or “sometimes?” Interpretations of these answer choices could vary depending on the culture. In order to make a recoding consistent, depression was recoded into a dummy variable. As a result, nuances existing in the original data might have been lost. Future research may benefit by choosing more objective answer choices (how many days per week rather than rarely or sometimes), which will reduce recoding issues. The data sets with more consistency will make better comparisons possible and avoid losing nuances.

Addressing these limitations will help highlight cross-national similarities and differences, which might have not been captured in the present research. In order to understand the complexity existing in the link between a stressor and outcomes, I further suggest that future research should include more variables commonly used in bereavement research. These variables will improve the stress process model used in this research by paying attentions to a more complicated picture of the death of a loved one as a stressor and how factors other than culture may mediate the negative impact on physical and mental health outcomes. The variables which may modify the negative impact of the death of a loved one include gender, losing one vs. both parents, expectedness of the death, and the cause of the death. Gender also emphasizes the importance of looking at multiple outcomes as pointed out as a limitation. The negative impact of the death on outcomes may be mediated by time since death, meaning reconstruction, beliefs in after life, changes in core beliefs, changes in identity, and posttraumatic growth. Finally, out-

comes, such as depression, cognitive impairments, behavioral issues, may be linked to grief reactions, which may be captured by grief measures.

## **Future Research**

### ***Gender***

The magnitude of parental death and how the bereaved deal with the death differ depending on the combinations of parent's and children's gender (e.g., father-son, father-daughter, mother-son, mother-daughter) (Brown, Harris, and Copeland 1977; Douglas 1990-91; Marks et al. 2007; Marshall 2004; Moss, Rubinstein, and Moss 1996-1997; Umberson and Chen 1994). A daughter losing a father may be different from losing a mother, and a son losing a mother may be different from losing a father. As a consequence, the impact of the death may vary depending on gender combinations of the deceased parent and the bereaved children. Gender gives a framework about how the bereaved should deal with the death (Doka and Martin 2010; Martin and Doka 2000), which may lead to different manifestations of the health outcomes. Children's gender intersecting with parent's gender creates a complex picture of grief and its influence on the bereaved people's health.

In both Japan and the United States, the attachment to mothers may be stronger than the attachment to fathers (Douglas 1990-91; Proulx and Helms 2012; Umberson 2003). If that is the case, mother's death may cause the larger negative impact than father's death. Also, gender differences may be observed between Japan and the United States. Compared to American people, a larger number of Japanese people feel that their fathers are absent in their lives (Ishii-Kuntz1999). Losing a father, then, may have a more negative impact in the United States than in Japan.

In a qualitative interview study of 83 adults, Scharlach and Fredriksen (1993) did not find any difference in adults' health between the death of a mother and that of a father. In contrast, Douglas (1990-91) reported that daughters had a stronger feeling toward father's death than sons, while there was no difference in mother's death. With a large sample size, Umberson and Chen (1994) found the statistically significant relationship between gender and grief reactions. Although there was no difference in physical symptoms, a mother's death had a more negative impact on adult children's psychological well-being and a father's death increased alcohol use.

Marks et al. (2007) claimed that the loss of a same gender parent had more negative impact on psychological health than the loss of a different gender parent. Compared to the non-bereaved, fathers' death caused daughters and sons to have poorer psychological health. When a mother passed away, daughters did more binge drinking, showed less happiness, and had poor psychological health. Similarly, mothers' death caused sons to be less happy and have more psychological and physical problems compared to the non-bereaved. When both parents passed away, men were more likely to suffer from drinking and poor physical and psychological health than the non-bereaved men, while women tended to be less happy and more depressed compared to women who have both parents alive.

Gender socialization is the primary explanation about these differences. However, researchers focused on different aspects of gender socialization. Douglas (1990-91) and Umberson (2003) argued that both sons and daughters have emotional connections to mothers as mothers generally provide emotional care in family, while it is unclear why there was a difference in reactions to father's death between sons and daughters. Umberson and Chen (1994) provided reasoning that the quality of their past relationships had an influence. In their research, sons had worsened psychological health and more drinking when their fathers had those issues when they

were alive. Daughters, in contrast, showed more relief after troubled fathers' death. Abrams (1999) and Marks et al. (2007) provided an explanation that gender socialization that promotes learning from the parent of the same gender was a reason that the death of a same gender parent had more negative impacts.

### ***Losing One Parent vs. Losing Both Parents***

Levy (1999) argued that the parental loss could occur as three stages: the stage with both parents alive, the stage with one parent, and the stage with no parents. Losing a parent may have a less negative impact on the bereaved adults compared to losing both parents.

When adult children lose their parents for the first time, they need to deal with so-called primary mourners, their surviving parents (Abrams 1999; Marshall 2004). Adult children tend to feel sorry that their remaining parents lost a long time companion and tend to take a supportive role. As a result, bereaved adult children postpone their grieving of the loss of a parent (Marshall 2004). In addition, when the parents' grief is intense, adult children may feel that the parents they knew are gone. Some parents did not attend parenting, and as a result, adult children's relationship with their remaining parents may be strained. In another case, remaining parents may find new partners and get married, and adult children may feel distant from them. In both cases, bereaved adult children feel being abandoned (Abrams 1999). Lack of a good relationship with a remaining parent could be a cause of poor psychological health, while a good relationship could mediate the impact of parental death (Cait 2005).

When both parents die, adult children feel that they do not have anyone to depend on (Scharlach and Fredriksen 1993) and become orphans (Levy 1999). Most notably, their own mortality becomes clear, realizing that they are the next generation to die (Kearl 1989; Kerr

1994; Umberson 2003). Umberson (2003) argued that the first and the second parents' death are similar in terms of how adult children feel in a short term, but the feeling of loneliness is bigger after the second parents' death. Moreover, according to Marshall (2004), adult children grieve not only for the death of a second parent, but also for the deaths of both parents. Being a primary mourner and orphaned, adult children reflect the first and the second parental loss altogether. Feeling like an orphan and having no one to depend on could lead adult children to poor psychological health.

### ***Expectedness and the Cause of the Death***

Circumstances of the death may influence the grieving process of the deceased. If the bereaved-to-be know their loved ones are about to die (e.g., cancer), their grief starts from the time they find that out. While the death may still cause the negative impact, those who know the death is coming may be able to prepare early compared to people who lost a loved one in a sudden death (e.g., accident). The bereaved who lost their loved ones for homicide, suicide, or accidents (violent death) tend to have long lasting unresolved feeling, while people who witnessed the suffering from long-time illness may be relieved for the death (Currier et al. 2006; Keese et al. 2008). Expectedness and the cause of the death will generate the different degrees of the negative impact of the death of a loved one, suggesting, for example, that violent death may be a more serious stressor than the death from a prolonged illness.

### ***Time Since Death***

The Western research has demonstrated that the bereaved experience intense grief during one to two years after the death (Cleiren 1993; Stroebe, Stroebe, and Domittner 1988). Some re-

searchers opposed the idea that the bereaved should end grieving within one to two years, proposing that it could take longer (Scharlach 1991) or never ends (Levy 1999). In contrast, Japanese researchers (Miyabayashi 2003; Miyabayashi and Yasuda 2008; Saiki 1994) pointed out that the grief reactions for the Japanese may be longer, which could last 4 to 5 years.

Miyabayashi (2003) reported that the bereaved individuals' general health, depression, and grief reactions started to diminish between 3 and 5 years after the death. In another study, Miyabayashi and Yasuda (2008) studied the grief and mental health reactions among the bereaved after up to 15 years of the death. The results suggested that most of the respondents showed depressive symptoms even over five years have passed since the death. Although both studies may not be generalizable to the Japanese population because they used non-random sampling, the sample size was relatively small (272 for Miyabayashi 2003 and 178 for Miyabayashi and Yasuda 2008), and the respondents included more women (82% and 83%, respectively), it indicates that the Japanese bereaved may take longer to recover from the loss. Due to the potential cultural differences in how time since death affects health outcomes among the bereaved, time since death should be controlled in future research.

While there seemed differences between Japan and the United States, one thing researchers agreed, in general, is that the grief reactions tend to diminish over time. Then, the longer after the death, the more challenging it is to capture the moderation effect of culture because grief reactions and mental health issues decrease regardless of cultural contexts, mediating the negative impact of the death of a loved one. Furthermore, culture may play a more important role in the early stage of grief. Feeling of disconcordance may diminish as individuals learn how to handle the disagreement between their personal desires and cultural expectations.

### ***Meaning Reconstruction***

Recent research on bereavement focuses on “meaning reconstruction” (Neimeyer and Sands 2011). Meaning reconstruction have a few dimensions, which includes the bereaved people trying to make sense of the death (Why did my father die?), reconstructing their identity (Am I still a child or an orphan?), and asking spiritual/religious questions (Why did God take away my mother?) (Neimeyer and Sands 2011). Bereaved individuals who could achieve successful meaning reconstruction expressed lower distress than those who could not (Currier, Holland, and Neimeyer 2006; Holland, Currier, and Neimeyer 2006; Keesee et al. 2008; Keesee and Neimeyer 2008). Whether the bereaved could achieve meaning reconstruction could mediate the negative impact of the death on mental health.

Meaning reconstruction is closely related to the spiritual realm (Neimeyer and Sands 2011; Park 2005), and the meaning reconstruction process may be different between Japan and the United States. According to Litchenthal et al. (2010), about 45% of the parents who lost their children in the United States could not make sense of the death. Of the parents who could make sense, approximately 18% understood that the death was God’s plan followed by 16% who mentioned beliefs in afterlife, indicating they will be united in Heaven, and 9% who mentioned fate. What is notable in these results is that those who made sense of the death mentioned spirituality/religion in their explanation.

Due mainly to Christianity, American bereaved are likely to be classified into two groups, a group who blames God for taking their loved ones away or a group who worships God further because it was God’s will to take away their loved ones (Furnham and Brown 1992; Long 2004; Pargament 2001). The former cannot understand why their loved one must have died and tend to question God as a symbol of compassion (e.g., God does not do anything bad to us)

(Spilka, Shaver, and Kirkpatrick 1997). Studying college-aged Christian women who lost their parents, Cait (2004) reported that some of these women lost their faith in God after the parental death. On the other hand, the group who worships God further accepts the death and prays for the well-being of the deceased loved ones (Park and Cohen 1993). While the former may show mal-adaptation, which may be classified into a more depressed group, the latter tend to be better adapted, which may be classified into a less depressed group.

In contrast, Japanese culture indicates life and death as something uncontrollable by human beings. Words, such as *unmei* or *jumyou*, and a use of candle as a symbol of one's life illustrates such attitudes. The English translation of *unmei* is fate, and that of *jumyou* is a life span. Both *unmei* and *jumyou* indicate that how long a person lives in this world is predetermined and unchangeable. In a Japanese fairy tale, one's *jumyou* is illustrated using a candle. Each candle signifies a person's life, and the length is set differently. When a candle dies out, it is the time that person dies. From these examples, I expect that the Japanese bereaved people do not take extreme positions like the American bereaved. Meaning reconstruction could have a direct effect on health outcomes as well as an indirect effect through culture/death-related beliefs and practices.

### ***Beliefs in Afterlife, Changes in Core Beliefs, and Changes in Identity***

The way bereaved people perceive the death may modify the negative impact of the death on health outcomes. Beliefs in afterlife, changes in core beliefs, and changes in identity are a few of the examples which could function as mediators. In general, people who believe in afterlife are better adjusted to a life without a deceased loved one because they can picture the future reuniting with them (Lichtenthal et al. 2010). Some events are so powerful that they "shake their



world” and lead them to seriously (re)examine core beliefs about the world, other people, themselves, and their future (Cann et al. 2010). The death of a loved one could be such an event. The bereaved who experience a dramatic change in their core beliefs must negotiate their understanding about the world (e.g., from the belief that the world is fair to the belief that the world is not fair), which appears to affect their mental health negatively. Losing someone leads to losing an identity. For example, when a child loses their parents, s/he is no longer ~’s child (Cait 2005). This change in identity could cause depression (Umberson 2003). To understand the negative impact of the death, how the bereaved people understand changes caused by the death is an important aspect.

### ***Posttraumatic Growth***

Posttraumatic growth is a concept similar to resilience. Resilience means coming back to the original place (the same place as before) after going through some troubling time, whereas posttraumatic growth indicates coming back stronger than before the traumatic event (Lepore and Revenson 2006). People who experienced parental death, for example, may need to overcome many challenges and learn how to deal with difficult situations. In the end, they might be stronger than the people who have not gone through such difficult situations. Examining whether there is a cultural difference in achieving posttraumatic growth and if so, what factors lead to posttraumatic growth is worth exploring.

### ***Grief Measure***

While grief reactions have elements of depression, there are other aspects which are different from depression. Jordan et al. (2005) who developed The Grief Evaluation Measure in-

cluded feeling of guilt, problems caused by death (e.g., financial issues), and lack of support, in their measurement. These questions can grasp different dimensions of grief, assess secondary stressors caused by the death of a loved one, and highlight which reactions lead to negative health outcomes. Including a grief measure in the survey will help capture the negative influence of the death of a loved one multidimensionally.

All these variables will allow researchers to grasp the relationship between parental death as a stressor and health outcomes in a more complex way. Including these variables will help understand what role different cultures play in the stress process model by controlling for the effects of other variables.

## CHAPTER 6: CONCLUSION

In spite of the limitations discussed above, this research has an important implications and contributions. The results demonstrated that bereaved individuals were more depressed than non-bereaved individuals both in Japan and the United States. Parental death was a traumatic life event which is linked to depression despite the distinct cultural differences in death-related beliefs and practices in Japan and the United States. The death of a loved one may be a stressor across societies/cultures, and bereaved individuals may be at increased risk for negative mental health consequences universally.

Researchers on health disparities paid more attention to micro-level resources, such as emotional support and studied the linkage between the available resources and health outcomes. One contribution of this research is that the author focused on a macro-level system like culture and tested whether culture buffers the negative impact of a stressor on a mental health outcome. In order to examine the moderator role of death-related beliefs and practices, two societies with distinct cultures were selected and compared.

The results demonstrated that culture might not moderate the negative impact of parental death on depression. Although caution may be necessary due to limitations in the data sets, this research suggested that culture might not function as a macro-level support/moderator like emotional support functions as a micro-level mediator. In addition to further examining whether culture directly moderates the negative impact of stressors, researchers employing the stress process model may benefit by looking at the links between culture and other micro-level resources. Culture may work rather indirectly as a moderator.

This research shed light on the role of culture by conducting cross-national analyses. Sociologists should pay more attention to how people in different cultures react, understand, and

behave when traumatic events occur and how their interpretation of the event influences their health outcomes. It is challenging to understand the role of culture without making a comparison to another (Ember and Ember 2001). Sociologists compare women with men, blacks with whites, and the poor with the rich to understand both groups. However, cultural comparisons are still scarce in sociological research. Cross-national research is much needed to understand the uniqueness of each country and its culture. This research should be the first step to understanding the role of culture when people face a stressor like a traumatic life event.

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