

A CROSS-CULTURAL STUDY OF HWA-BYUNG WITH MIDDLE-AGED WOMEN  
BETWEEN NATIVE KOREANS IN SOUTH KOREA AND KOREAN IMMIGRANTS  
IN THE UNITED STATES

by  
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PH.D. THESIS

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## ABSTRACT

Hwa-Byung, known as an anger illness, was conceptualized in Korean culture and listed in the glossary under Culture-Bound Syndromes in the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV; American Psychiatric Association, 1994). Hwa-Byung develops when the emotions of anger have been suppressed for a long period of time and it becomes difficult to control those feelings. Common complaints of Hwa-Byung have two dimensions, psychological and physical symptoms. The prevalence of Hwa-Byung exhibits gender differences in that the majority of individuals who experience Hwa-Byung are women between the ages of 40 and 60. However, in the U.S., as the number of Korean immigrants continues to increase and their issues draw attention from researchers, the topic of Hwa-Byung has only been minimally studied. Because Korean immigrants in the United States share a cultural background with their origin of ethnicity, and at the same time, may also assimilate the American culture during the acculturation process, this study will address the cultural differences in Hwa-Byung between native Koreans who live in South Korea and Korean immigrants in the United States. Accordingly, the purpose of this study was to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, roughly between the age range of late 30's to the middle 60's, by investigating the effects of life stress on Hwa-Byung, that may be mediated by the stress response and anger regulation.

A sample size of at least 200 participants, required for each group, using both paper-pencil and web-based methods, depended on participants' preferences, which were influenced by a gap in ages and the level of familiarity with and/or ability to access Internet. Participants were randomly selected from major cities, both in South Korea (including Seoul, Incheon, Busan, Daejeon, and Gyeonggi Province) and the United

States (including Chicago, New York, and Los Angeles), using similar proportions of ages for both groups for the equivalences of participants in cross-cultural research.

Survey measures included five instruments: (a) the Hwa-Byung scale (Kwon, Kim, Park, Lee, Min, & Kwon, 2008); (b) Life Stress for Korean women (Chon & Kim, 2003); (c) stress response inventory (SRI) (Koh, Park, & Kim, 2000); (d) anger regulation (Hahn, Chon, Lee, & Spielberger, 1997), and (e) demographic background that measured the variables used in this study. To minimize the weakness of language differences used in the different cultural contexts, survey packages for Korean immigrant participants in the United States were formatted in both Korean and English for each item. Thus, a translation process became necessary from Korean into English, especially for the Korean instruments of the Hwa-Byung Scale, Life Stress for Korean women, two of which were originally developed by Korean researchers, and the Stress Response Inventory (SRI) which was validated with Korean norms. On the other hand, native Koreans submitted only the Korean version of questionnaires because they fully understood the meaning of questionnaire statements, as well as in order to get rid of possible distractions by the inclusion of English sentences.

Based on the results of a series of *t*-tests, there was no significant difference in the level of Hwa-Byung between native Koreans and Korean immigrants, but the relationship with husband and friends in the interpersonal dimension of life stress was significantly different between two groups. Next, by using the multiple regression analyses, the results found that the cognitive stress response mediated the effect of life stress on Hwa-Byung in the native Korean groups, while the effect of life stress on Hwa-Byung was mediated by somatic stress response in the Korean immigrant groups. Moreover, another result of the multiple regression to investigate the mediation effect of anger regulations, found that whereas anger expression significantly changed the effect of life stress on Hwa-Byung in the native Koreans, anger control confound the effect of life stress on Hwa-Byung in the Korean immigrants.



The findings of this study provided the evidence of the differences and similarities of Hwa-Byung, by differently mediating the effect of life stress on Hwa-Byung by stress response and anger, between South Korea and Korean immigrants in the U.S., and the results suggested the best ways of dealing with the issues of negative feelings and emotions depending on cultural backgrounds. Directions for future study were also discussed based on the limitations of this study.

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## CHAPTER I

### INTRODUCTION

According to a recent study about “The Better Life Index 3.0” by the Organization for Economic Co-operation and Development (OECD) in 2013, Koreans are not happy, compared to 34 OECD member countries and its key partners, Brazil and Russia. Although the survey does not indicate which country ranked the highest in happiness, if all 11 areas were given equal weight, South Korea ranked 27<sup>th</sup> among 36 nations that participated in the study with the top 10 highest-ranked being Australia, Sweden, Canada, Norway, Switzerland, United States, Denmark, Netherlands, Iceland, and the United Kingdom (OECD, 2013). Specific ranking in the criteria of the self-reported health status (35<sup>th</sup>), the quality of support network (34<sup>th</sup>) and work-life balance (33<sup>rd</sup>), South Korea ranked amongst the lowest among 36 nations. The Better Life Index employed the happiness or subjective well-being dimension, in terms of life satisfaction measured by the presence of positive experiences, such as feelings of relaxation, pride in accomplishment and enjoyment on an average day. In this dimension, South Korea rated 6.0 on a scale from 0 to 10, whereas the OECD average was 6.6, indicating that 80 percent of participants in this survey reported having more positive experiences than negative ones (OECD, 2013).

A feeling of happiness is defined as being glad, pleased, satisfied, joyful, delighted, and thrilled, and it is the opposite of feeling sad, unfortunate, anxious, troubled, concerned, and/or depressed (Merriam-Webster, 2013). Why are South Korean people more likely to feel negative emotions? The study of the Better Life Index by the OECD supplies possible answers to this question, such as the instabilities of Korea’s economic and societal network (ranked 34<sup>th</sup>), and the lower level of engagement with minority groups and poverty (ranked 28<sup>th</sup>) (OECD, 2012). In order to understand Korea’s lower rank on this happiness index, the researcher proposed that understanding cultural

values and the public awareness of mental health issues in South Korea are required to know how South Koreans perceive and cope with their negative feelings.

As awareness of mental health issues has increased in the world, awareness in South Korea has also grown. For example, the Ministry of Health and Welfare in South Korea announced the ‘Comprehensive Plan for Mental Health Improvement’ for the purpose of redefining mental patients and conducting regular checkups of mental health across one’s lifespan (Division of Mental Health Policy, June 22, 2012). However, the rate of utilizing mental health services in South Korea is still significantly low. According to a survey by the Ministry of Health and Welfare in 2012, only 15.3 percent of potential people with mental health concerns seek professional help. This treatment rate is significantly lower than that of the U. S. (39.2%), Australia (34.9%), and New Zealand (39.9%) (Bae, 2012).

The lower rate of people seeking mental health services implies that the fields of mental health and counseling still face enormous challenges in Korea, including a stigma toward those who receive mental health treatment (McDonald, 2011). The Korean public may still consider the concept of a person being mentally ill and seeking relevant treatment as being taboo (McDonald, 2011).

Instead of revealing one’s psychological problems, reporting one’s physical symptoms appears to be more easily accepted in Korean society (Lin, 1983; Roberts, Han, & Weed, 2006). As a result, people with psychological distress may try to address their problems by themselves while hiding and suppressing their struggles from others. Yet, if unresolved problems persist without hope of relief, symptoms may turn into physical complaints. At that point, Koreans then are likely to turn to hospitals to resolve their physical problems, rather than seeking treatment in mental health facilities. This then begins a cyclical process of somatic manifestations, defined as “a tendency to experience and communicate psychological distress in the form of somatic symptoms and to seek medical help for them” (Lipowski, 1987, p. 294). This phenomenon may be



related to Koreans frequently experiencing somatic symptoms, such as the syndrome known as Hwa-Byung [hwäp-yəŋ pronounced hop yong].

Hwa-Byung is generally known in Korea as a culture-related anger syndrome (Lee, 1977; Lin, 1983; Min, 2009; Min et al., 1986). Based upon the Korean culture's treatment of physical symptoms rather than addressing mental illness, Korean health professionals developed the concept of Hwa-Byung as representing somatic symptoms resulting from psychological distress, as well as associated with feelings of anger.

Accordingly, the two main dimensions of diagnostic criteria for Hwa-Byung are emotional and somatic symptoms. Somatic and behavioral symptoms include the sensations rising up in the chest, epigastric mass, respiratory stuffiness, palpitation, dry mouth, sighing, multiple synchronous thoughts, and preponderance of pleading. Emotional symptoms include subjective anger, feeling of unfairness, repressed anger, heat sensation, hostility, and Haan (a combination of the feelings of sorrow, regret, hatred, and revenge, which, in English, translate into holding a grudge, expressing rancor, spite, regret, lamentation, grief, hate, or everlasting woe) (Min, Suh, Cho, Huh & Song, 2009). Korean researchers contributed to the literature by conceptualizing Hwa-Byung by defining Hwa-Byung (Min, 1989; Min, Soh, & Pyohn, 1989), identifying the uniqueness of its symptoms (Min & Kim, 1998; Son, 2006), investigating its causal factors (Shin & Shin, 2004), creating diagnostic criteria (Park, Min, & Lee, 1997; Min & Hong, 2006; Min, Suh, & Song, 2009), and developing a scale to measure it (Kim, Kwon, Lee, & Park, 2004; Kim, Park, Lee, Min, & Kwon, 2008; Min, Suh, Cho, Huh, & Song, 2009; Roberts, Han, & Weed, 2006).

This study focuses on Hwa-Byung through a cross-cultural comparison between two groups, native Korean middle-aged women who live in South Korea and Korean immigrant middle-aged women in the United States, by specifically investigating the factors which may cause the differences in the level of Hwa-Byung.

### Statement of the Problem

Hwa-Byung commonly refers to an anger illness in Koreans listed in the section of cultural formulation and culture-bound syndromes in the Diagnostic and Statistical Manual of Mental Disorders (4<sup>th</sup> ed.; DSM-IV; American Psychiatric Association, 1994). In the recent edition of the Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> ed.; DSM-5 or DSM-V), it is associated with panic disorder-related conditions in other cultural contexts (American Psychiatric Association, 2013). The term, Hwa-Byung, is a Korean pronunciation of two Chinese characters, ‘Hwa [hǒa]’ and ‘Byung [pyəŋ]’. Literally, ‘Hwa’ means anger and ‘Byung’ stands for sickness. Combining two words, therefore, Hwa-Byung came to be known as an anger illness or anger disorder (Lee, 1977; Min, 1989). Additionally, Hwa-Byung is known as a somatic manifestation of suppressed anger or rage (Kim, 1997; Lin, 1983; Lin et al., 1992; Min, 1989) because affected people report numerous physical symptoms, including oppressed feelings in the chest, a hot sensation traveling up the chest or in the body, indigestion, fatigue, headache, and even dyspnea (Gaw, 2009). In addition, Hwa-Byung includes psychological symptoms such as depression, anxiety, anger (Chon, Whang, Kim, & Park, 1997; Roh, Kim, & Hwang, 1998), nervousness, suicidal ideation, loss of interest, nihilistic ideas (Gaw, 2008; Min, Lee, Kang, & Lee, 1987), fearfulness, guilt, and panic (Gaw, 2008). Although Hwa-Byung presents with physical and psychological symptoms, it is the culmination of suppressed chronic anger (Gaw, 2008). Therefore, Hwa-Byung is primarily associated with poor anger management (Kim & Hwang, 1998), leading to physical and psychological symptomology.

Many researchers have studied Hwa-Byung in South Korea, in order to (a) distinguish symptoms from other seemingly related mental illnesses, such as major depression and generalized anxiety (Min, Suh, & Song, 2009; Min & Suh, 2010); (b) diagnostic criteria and the scale development (Park, Min, & Lee, 1997; Min & Hong, 2006; Min, Suh, & Song, 2009; Kim, Kwon, Lee, & Park, 2004; Min, Suh, Cho, Huh, &

Song, 2009; Roberts, Han, & Weed, 2006); and (c) causal factors and prevalence rate (Min, Lee, Kang, & Lee, 1987; Min, Namkoong, & Lee, 1990). There was a consensus among researchers that Hwa-Byung is especially found in middle-aged or older women (Min, Lee, Kang, & Lee, 1987). Min et al. (1987) reported that 87.5 % of women and 12.5% of men experience Hwa-Byung. This higher rate of Hwa-Byung in women indicates that Hwa-Byung is significantly related to gender and that it may be caused by gender roles in family and society in Korean culture. Women in South Korea may have stressful experiences and situations that may lead to feelings of anger, which in turn may lead them to have difficulty or be incapable of accessing appropriate treatment within the Korean cultural background.

Given that Hwa-Byung is developed due to inadequate or insufficient treatment over a significant time period, coping strategies related to anger should be explained, namely, those Korean women's coping strategies with life stressors that refer to their stress responses and anger regulation. Although individuals have their preferences of responding to stressful events and regulating feelings of anger, ways of coping to stressful situations in a women's life may also be impacted by cultural oppression. More specifically, Korea's traditional culture forces women to suppress their emotions and endure gender inequity, rather than express their feelings of anger and other negative emotions. For example, Korean women are often compelled to forgive their husband's extramarital affairs and passively cope with their betrayal while praying for him to return home. Accordingly, the Korean cultural expectation of coping appears to have a serious impact on the development of Hwa-Byung in women in the Korean culture.

Hwa-Byung was not recognized among non-Korean researchers until Lin (1983) asked the question of whether Hwa-Byung was a "culture-bound syndrome" and introduced a group of Korean American Hwa-Byung patients who live in the Seattle area with descriptions of their symptoms. Until then, there was no specific information associated with Korean Americans experiencing Hwa-Byung. Thus, they rarely studied

this issue with Korean Americans. However, according to the 2010 Census, there are approximately 1.70 million Koreans living in the United States, which is one of the top five Asian population groups in this country, followed by Chinese (4.01 million), Filipino (3.41 million), Asian Indian (3.1 million), and Vietnamese (1.73 million) (Hoeffel, Rastogi, Kim, & Shahid, 2012). The number of Koreans increased from 1.23 to 1.70 million between 2000 and 2010, which is a 35.9 percent change among Asian populations in the United States (Hoeffel, Rastogi, Kim, & Shahid, 2012). Accordingly, Korean immigrants increased to 2.7 percent of all immigrants in the United States in 2008. The number of Korean immigrants also increased 27-fold between 1970 and 2007, which made Koreans the seventh-largest immigrant group in 2008, after Mexican, Filipino, Indian, Chinese, Vietnamese, and Salvadoran immigrants (Terrazas & Batog, 2010). Considering the increase of the number of Korean immigrants every year and the expansion of Korean communities in the United States, it is meaningful to study groups of Korean immigrants and their unique problems, including Hwa-Byung. Korean immigrants share Korean culture in some ways, since they were either born in Korea or were raised by Korean parents. It may be also true that Korean immigrants have adopted American culture in order to survive in the United States; therefore, they may possess an acculturated cultural background. Accordingly, this study will address the cultural differences in Hwa-Byung between native Koreans who live in South Korea and Korean immigrants in the United States, focusing on what factors of life stress impact the level of Hwa-Byung and how the factors are changed by ways of stress responses and anger regulations, two of which may be also different between two cultures.

#### Purpose of the Study

The purpose of this study was to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, roughly between the age range of late 30's to the middle 60's, by

investigating the effects of life stress on Hwa-Byung, that may be mediated by the stress response and anger regulation. This study explored the factors that may have influenced the differences and similarities of Hwa-Byung between these two groups, by comparing the effects of life stress on the level of Hwa-Byung, which may be changed by stress response and anger regulations.

### Research Questions

Pursuing the purpose of this study required answering the question, “What factors significantly impact the differences and similarities of Hwa-Byung, a Korean culture-bound anger syndrome, between a group of native Korean middle-aged women and a group of Korean immigrant middle-aged women in the United States?”

To answer this overarching research question, a cross-cultural study was conducted, using two groups. Group one composed of native Korean middle-aged women in South Korea, while group two composed of Korean immigrant middle-aged women in the United States who came from South Korea. Factors explored included individual characteristics of stress response (measured by the Stress Response Inventory) and anger regulation (STAXI-Korean version), as well as external environmental characteristics of life stress (measured by Life stress for Korean women). Data from demographic backgrounds, including age, family structure, financial and employment status, religion, and educational background, was collected in order to anticipate any potential influence on the level of Hwa-Byung (as measured by the Hwa-Byung Scale). The differences and/or similarities of the two cultural contexts, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States, were explored by comparing the significant variables impacting on the level of Hwa-Byung. The following research questions are proposed.

### Research Question 1

How different or how similar are the relations of life stress to the level of Hwa-Byung between Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?

### Research Question 2

How different or how similar are the effects of life stress on the level of Hwa-Byung, which may be mediated by stress response, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?

### Research Question 3

How different or how similar is the effect of life stress on the level of Hwa-Byung, which may be mediated by the anger regulation, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?

### Significance of the Study

This study may provide significant and useful information for professionals in the field of counseling, especially those working with middle-aged women with a Korean background, including native Koreans. There is a lack of research on the topic of Hwa-Byung in the counseling profession, both in South Korea and in the United States. This is because most articles about Hwa-Byung published in the United States were conducted in South Korea, mainly in the field of psychiatry, as opposed to the field of counseling. Research on Hwa-Byung in the field of psychiatry primarily focused on investigating the unique symptoms of Hwa-Byung and how they differentiated from other comorbid mental illnesses like major depression. Psychiatrists also helped to develop the Hwa-Byung scales and eventually reached consensus about the diagnostic criteria. Thus, it is worthwhile to study Hwa-Byung in the counseling profession because Hwa-Byung-

related issues potentially could be one of the main concerns that clients bring to counseling sessions. Although the physical symptoms of Hwa-Byung are obvious, according to the previous study in psychiatric, it has not been answered which malfunctions of human body or mental conditions cause the Hwa-Byung symptoms yet. Merely, there is an agreement that the physical symptoms of Hwa-Byung, as well as psychological symptoms, are manifested as a way of response to stress. In the context of counseling, the stress and anger management is one of the key issues to help clients to maintain healthy life. Therefore, by investigating the relationship on Hwa-Byung with stress response and anger regulation, this study may contribute to support the evidences in the field of counseling, focusing on how to help client effectively deal with their stressful situations, not to turn in to the Hwa-Byung.

In addition, a lack of awareness about this mental illness, the difficulties of culturally understanding Hwa-Byung, and the limit of access to Korean immigrant participants may be the causes for the lack of research on Hwa-Byung in any field of mental health in the United States. In this sense, this study may help initiate further study regarding Hwa-Byung in the United States. This study provides important information about the characteristic of Hwa-Byung patients and the helpful strategies to deal with it, a cultural-bound anger illness, which may increase practitioners' cultural competences.

Moreover, this study is meaningful because it employs a cross-cultural design to study the differences and similarities of Hwa-Byung based on cultural influences. Considering the increase of the Korean American population in the United States, studying Hwa-Byung is timely and therefore appropriate to provide relevant information about this population in the U.S. Korean Americans are unique by adopting both Korean and American cultures: This cultural dynamic may reveal a different pattern of development of Hwa-Byung than is formed in native Koreans. Using a cross-cultural method, this study provides valuable information about this minority group of Korean Americans within a different cultural context.

Furthermore, this study may add additional knowledge in terms for feminist counselors by bringing attention to the experiences of a woman's life in South Korea and in the United States. In addition to other feminist issues, like depression, eating disorders, sexual assault, and abusive relationships that are commonly reported in the field of feminist counseling, Hwa-Byung is a major issue afflicting Korean middle-aged women. By investigating the possible influencing factors of Hwa-Byung, this study may help advocate for women's well-being.

In sum, this study focused on an aspect of Korean-American women overlooked in the field of counseling. Second, there are only two prior studies using a cross-cultural design on the topic of Hwa-Byung. By comparing the differences and similarities of the Hwa-Byung characteristics associated with stressful situations, types of stress response and anger regulation, in native Korean middle-aged women in South Korea with that of Korean immigrant middle-aged women in the United States, this study explored how the impact of different environment and living conditions may have affected the level of Hwa-Byung. Therefore, this study provided meaningful information regarding a Korean woman's unique mental illness, Hwa-Byung.

### Definition of Terms

This section presents the definitions of terms used in this study.

#### Hwa-Byung

Hwa-Byung [hwäp-yəŋ pronounced hop yong] is defined as an 'illness of suppressed anger' in this study. When emotions of lasting anger, disappointments, sadness, miseries, hostility, grudges, and unfulfilled dreams and expectations are not openly expressed, and are unable to be controlled, they are, as a result, internally and physically manifested in the form of Hwa-Byung (Roberts, Han, & Weed, 2006). Moreover, individuals who experience Hwa-Byung commonly complain of both physical and psychological symptoms. Specifically, physical symptoms include chronic



indigestion, poor appetite, abdominal discomfort or pain, a feeling of suppression or pressure in the chest, a mass in the epigastrium or stomach, a heat sensation rising up the chest or traveling in the body, indigestion, shortness of breath, fatigue, sighing, and headache (American Psychiatric Association, 1994; Pang, 1990; Roberts, Han, & Weed, 2006). On the other hand, psychological symptoms include feelings of depression and anxiety, insomnia, fearfulness, panic, dysphoria, sad mood, nihilistic thoughts, loss of interest, fear of impending death, feeling of helplessness, resentfulness, and guilt (American Psychiatric Association, 1994; Lin, 1983; Min, Lee, Kang, & Lee, 1987; Pang, 1990; Roberts, Han, & Weed, 2006).

#### Life stress

Life stress indicates stressful life events people commonly experience in their daily lives. According to a stimulus-based theory of stress (Masuda & Holmes, 1967), life events and changes are treated as the stressor to which a person responds. However, life events can be interpreted as either negative or positive, and life changes normative and stressful to readjust and adapt to (Rahe, 1978). Therefore, in this study, the terms “life stress” specifically refer to negative stressful events that middle-aged women suffer in their daily lives, such as conflicts with a husband, disagreement among family and/or extended family members, problems in relationships with friends, financial difficulties and/or physical concerns.

#### Stress response

Stress Response denotes the different ways people react to stressors for the purpose of reducing their level of stress and readjustment to changing situations. Stress response is classified into emotional, somatic, cognitive, and behavioral responses. Emotional response is associated with how individuals feel after experiencing the stressful situation, including the feelings of tired, nervous, or rushed. Somatic response refers to physical reactions, such as headache, shivering, or changing a voice volume.

The cognitive response, in particular, indicates cognitive reactions to the stressful event *after* it occurs, as opposed to referring to the reactions to the stressful events *as* it occurs (Koh, Park, & Kim, 2000). Behavioral reaction includes changing the conversation style, behavioral patterns, or facial expression, for example.

#### Anger regulation

Anger regulation indicates the ways of experiencing angry feelings and expressing the feelings of anger, operationalized as anger regulation, anger suppression, and anger control (Spielberger & Sydeman, 1994). Anger regulation refers to ‘anger-out’ (p. 306), defined as the behavioral expression of anger in verbally or physically aggressive ways toward other people or objects in the environment. In contrast, anger suppression refers to ‘anger-in’ (p. 306), defined in terms of experienced feelings of anger held in or suppressed in mind. Moreover, ‘anger control’ (p. 308) is defined as the attempts to control the external expression of angry feelings by monitoring and preventing the expression of anger (Spielberger & Sydeman, 1994).

#### Middle-age

Middle-age, in this study, refers to the period between adolescence and old age, those who are roughly between the ages of late 30’s to the middle 60’s. The definitions of middle-age vary in the literature. For example, middle age was defined as “the period between early adulthood and old age, usually considered the years from about 45 to 65” in the New Oxford American Dictionary (3<sup>rd</sup> ed; Oxford University Press, 2010, p. 1106). Meanwhile, the American Heritage Dictionary of the English Language (5<sup>th</sup> ed.) defines it as “the time of human life between youth and old age, usually reckoned as the years between 40 and 60. Also called midlife” (Houghton Mifflin Harcourt, 2011, p. 1113). The Online Collins American English Dictionary (2013) translated middle age as “the period in your life when you were no longer young but have not yet become old. Middle age is usually considered to take place between the ages of 40 and 60” (para. 2). Gould

(1978) considered middle-age as 35~55 years old, based on living years, while Sheehy (1976) noted that midlife crises typically take place between the ages of 35 and 45. However, because of increased longevity, Sheehy (1996) revised her developmental stages by shifting the time frame up by 10 years. Therefore, the years from 45 to 65 are considered “middle ages”. In addition, Erikson (1956) regarded the ages of 40 to 65 years old as middle adulthood, experiencing generativity versus stagnation. Levinson (1978, 1986) also presented an era of mid-life transition from the ages of 40 to 65. Although there are different opinions on how to define middle-age, there is some shared opinion in the literature that middle age is a period beyond adulthood, defined as between the ages of 20 and 40, and before old age, which refers to over 65 years old. Accordingly, in this study, middle-age is defined as the ages approximately from late 30’s to middle 60’s in order to inclusively cover the period of middle-life based on above the different opinions.

#### Korean immigrants

Korean immigrants, in this study, refer to individuals whose permanent address is in the United States, but have a Korean background in their individual and/or family history, namely, either 1<sup>st</sup> generation (Korean-born) or 1.5 generation (Korean-born, but came to the U.S. before their teens). According to the U.S. Census Bureau (2010), Korean immigrants technically only refer to those Korean-born individuals who currently reside in the United States, including groups of naturalized citizens, permanent residents, refugees and asylees, legal nonimmigrants (including those on student, work, or other temporary visas), and persons residing in the country without authorization. However, because the technical term immigrants includes a group of nonimmigrants who may temporarily stay in the United States and then returning to their country of origin depending on visa status, in this study, that particular group of people will not be included in the category of Korean immigrants, because they may identify themselves as Koreans and not Korean immigrants or Korean Americans. Instead, the criterion that

individuals whose permanent address is in the United States, will be employed to define immigrants, regardless of where they were born and currently live. Therefore, Korea immigrants, in this study, include those who have a Korean cultural background in their family history across 1<sup>st</sup>, 1.5, or the 2<sup>nd</sup> generations, (technically, the second-generation immigrants referred to as Korean Americans) and may either obtain American citizenship or, at least, hold a green card, permanent residents in the U.S.

## CHAPTER II

### LITERATURE REVIEW

A literature review of the variables used in this study is presented in Chapter II. The purpose of this study is to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, roughly between the age range of late 30's to the middle 60's, by investigating the effects of life stress on Hwa-Byung, that may be mediated by the stress response and anger regulation. This study explored which factors of life stress may influence the differences and similarities of Hwa-Byung between these two groups, which may be changed by stress response and anger regulations depending on the cultural contexts. Therefore, studies about those variables were reviewed in this chapter.

#### Concept of Hwa-Byung

The terms of Hwa-Byung [hŏa p-yŏŋ] is created by combining two Chinese characters, 'Hwa(火)' and 'Byung(病)'. Literally, 'Hwa' means anger (the other meaning of 'Hwa' is fire) and 'Byung' stands for sickness (Lee, 1977; Min, 1998). Accordingly, Hwa-Byung commonly refers to anger illness in literature. Hwa-Byung frequently refers to a type of anger syndromes found in Koreans, listed in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (4<sup>th</sup> ed.; DSM-IV; American Psychiatric Association, 1994). It is also mentioned in the recent version of Diagnostic and Statistical Manual of Mental Disorders (DSM-5), associated with panic disorder related conditions in other cultural contexts (American Psychiatric Association, 2013).

After the studies of Hwa-Byung began in the late 1970's in South Korea (Lee, 1977; Oh, 1979), researchers and counseling practitioners paid attention to the topic of Hwa-Byung as an area of mental illness. There has been a good deal of discussion about defining the term of Hwa-Byung (Min, 1989; Min, Soh, & Pyohn, 1989) and

investigating the unique symptoms of Hwa-Byung (Min, 1989; Min & Kim, 1998; Min, Suh, & Song, 2009; Min & Suh, 2010; Son, 2006) in the field of mental health in South Korea.

Hwa-Byung is considered one of the most common mental illnesses presenting in Koreans, and it is associated with negative emotions, such as a feeling of being mortified, dissatisfaction, frustration, worry, concern, anger, resentment, pessimism, depressed, hate, Haan (a combination of feelings of grief, regret, hatred, and revenge, which translates in English into grudge, rancor, spite, regret, lamentation, grief, hate, or everlasting woe), anxiety, nervousness, and regret. When these negative emotions are chronically suppressed, Hwa-Byung develop (Min, 1989).

#### Definitions

Hwa-Byung is included in the section on culture-bound syndromes in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (4<sup>th</sup> ed.; DSM-IV; American Psychiatric Association, 1994). Culture-bound syndromes refer to “recurrent, locality-specific patterns of aberrant behavior and troubling experiences that may or may not be linked to a particular DSM-IV diagnostic category. Many of these patterns are indigenously considered to be “illnesses” or at least afflictions and most have local names. ... cultural bound syndromes are generally limited to specific societies or culture areas and are localized, folk, diagnostic categories that frame coherent meanings for certain repetitive, patterned, and troubling sets of experiences and observations” (p. 844). Therefore, Hwa-Byung is known as a Korean culture-bound anger syndrome. In the DSM-IV (American Psychiatric Association, 1994), Hwa-Byung is described as follows:

Hwa-byung (also known as wool-hwa-byung) A Korean folk syndrome literally translated into English as “anger syndrome” and attributed to the suppression of anger. The symptoms include insomnia, fatigue, panic, fear of impending death, dysphoric affect, indigestion, anorexia, dyspnea, palpitations, generalized aches and pains, and a feeling of a mass in the epigastrium (p.846).

In addition, in the chapter of Cultural Issues in The American Psychiatric Publishing Textbook of Psychiatry (5<sup>th</sup> ed.; Gaw, 2008), Hwa-Byung is described as follows:

*Hwa-byung* means "fiery illness" in Korean. Because "fire" is an Asian metaphysical expression of anger, *hwa-byung* is literally translated as an "illness of anger." Afflicted individuals complain of a feeling of oppression or pressure in the chest, a "mass" in the epigastrium or stomach, a hot sensation traveling up the chest or in the body, indigestion, dyspnea, fatigue, sighing, and headache. Emotional symptoms include fearfulness, panic, dysphoria, sad mood, nihilistic thoughts, loss of interest, suicidal ideas, and guilt. The illness affects women more than men (p. 1537).

Similarly, in the study of the development of a Hwa-Byung Scale by Roberts, Han and Weed (2006), researchers presented the following operational definition of Hwa-Byung as:

Hwa-Byung is a Korean culture-bound syndrome that is more commonly identified in less educated, middle-aged, married women who are trapped in an inescapable situation (e.g., extreme interpersonal familial conflict). Koreans link Hwa-Byung to lasting anger, disappointments, sadness, miseries, hostility, grudges, and unfulfilled dreams and expectations. It is believed that when these emotions are not expressed openly (as is the cultural norm among Koreans), they cannot be kept under control and as a result are manifested internally and physically in the form of Hwa-Byung (p.400).

According to the above definitions, in this study, Hwa-Byung is defined as an anger illness with a mix of negative emotions (e.g., feelings of unfairness, fearfulness, sense of guilt, loss of interest, suicidal ideation, and Haan (mixed feelings of grief, regret, hatred, and revenge) and physical symptoms (e.g., hot sensation and pressure in the chest, indigestion, fatigue, sighing, headache and stomach), caused by suppressed anger due to repeated and unresolvable problems over a long period of time, within inescapable situations in Korean culture.

## Demographic Influences

Previous literature reported demographic information related to the Hwa-Byung rate. This section reviews the relative demographic factors, including general prevalence, gender, age, socio-economic status, and educational background associated with the rate of Hwa-Byung.

### Prevalence

In an earlier study of Hwa-Byung, Min, Namkoong, and Lee (1990) reported that at least 4.1 % of the population experienced Hwa-Byung over their lifetime in South Korea. However, this rate might be skewed because all participants in this study were patients who came into psychiatry to obtain treatment when there was a lack of public mental health awareness. Another study (Min, Park, & Han, 1993) reported that 3.64% of Korean participants experienced Hwa-Byung. About a decade later, Park, Kim, Kang and Kim (2001) surveyed 2,807 women in six different provinces across South Korea to investigate the prevalence rate of Hwa-Byung, and in this study, approximately, five percent (4.95%) of the total samples of women had Hwa-Byung (Kim, Jung, Kang, Lee, & Chung, 2013).

### Gender

Although the tools to measure Hwa-Byung, such as scales and criteria for diagnosis, were diverse because there were no validated tools at that time, it was commonly reported that 4.5% of the total population in women showed symptoms of Hwa-Byung. Another common fact about Hwa-Byung is that it is a gender-related issue, especially a female issue. In a study by Lee, Oh, Jo, Bae, Lee, and Kim (1989a), 49 females experienced Hwa-Byung symptoms among 53 patients of Hwa-Byung (92.45%), while only four were males. Similarly, Min, Lee, Shin, Park, Kim, and Lee (1986) also reported that 87 % of the total Hwa-Byung patients were female, while only 13 out of one hundred were male. In addition, people who were married showed a higher rate of Hwa-



Byung than those who were single (Min, et al., 1986). Seventy nine percent of females identified as Hwa-Byung patients were married women (Min & Kim, 1986).

### Age

Age is another key factor associated with a high rate of Hwa-Byung. A group of 40 year olds made up the highest rate of Hwa-Byung patients (Lee, et al., 1989a; Min, et al., 1986). The mean age of Hwa-Byung patients was 40.26, with groups of 30 year olds and 40 year olds in the populations reported experiencing a higher rate of Hwa-Byung, compared to other age groups (Min & Kim, 1986). In another study with 151 Hwa-byung patients, aged between 20 and 65, a majority of those patients were between the ages of 40 and 50; the average age was 48.76 (Kim, Jung, Kang, Lee, & Chung, 2013). Since the information showed the discrepancies on the mean ages of Hwa-Byung patients and in the high rate of groups, it is necessary to continue to study the epidemiological research on the topic of Hwa-Byung.

### Socio-Economic Status (SES)

In the previous research, Hwa-Byung patients came from a lower level of SES. For example, Min (1989) reported that 96% of Hwa-Byung patients were from the lower-middle classes. Moreover, a larger-scale study with 2,807 women aged 41 to 65 years old, the rate of Hwa-Byung was found to be higher in individuals from a lower socio-economic status who live in rural areas (Park, Kim, Kang, & Kim, 2001). The result of the higher rate of Hwa-Byung in the lower SES is also common in the recent study by Kim, Jung, Kang, Lee, and Chung in 2013. Only 13.2% of participants reported their subjective SES to be in upper-middle class or above, while 40.4% were in the middle class; 17.9% in the lower-middle class; and 28.5% in the lower class. Accordingly, SES may still be an important factor in the Hwa-Byung rate in South Korea.

### Religion

Regarding religion, the literature reported the proportion of each religion among a group of Hwa-Byung patients in South Korea. Lee (2003) reported that, among HB patients, 32.3% have no specific religion, 25.0% are Buddhist, 21.9% are Christians, and 17.7% are Catholic. Among non-patients of HB, 32.0% are Christians, 31.7% are Buddhist, 22.8% have no specific religious affiliation, and 13.2% are Catholic. However, in a recent Hwa-Byung epidemiologic study of 93 Hwa-Byung patients by Kim, Jung, Kang, Lee, and Chung, (2013), 32.5% are Christians, 30.5% are Buddhist, 23.8% have no specific religious affiliation, and 12.5% are Catholic. This discrepancy was supported by the study by Park, Kim, Kang, and Kim (2001) in that the differences between potential Hwa-Byung women (77.7% with a religious affiliation) and non-HB women (81.5% with a religious affiliation) were not statistically significant. Therefore, it may be determined that the factor of religion in South Korea may not significantly affect the difference in level of Hwa-Byung in Korean culture.

### Educational background

In terms of educational background, a majority of Hwa-Byung patients reported a lower level of education or being self-educated. According to a study by Min in 1989, 70 % of Hwa-Byung patients reported their educational background to be lower than graduating from middle-school. However, in another study, the level of education was not a significant factor to cause the differences between potential Hwa-Byung patients and non-Hwa-Byung women (Park, Kim, Kang, & Kim, 2001). Moreover, in a recent study by the Hwa-Byung Research Center (Kim, Jung, Kang, Lee, & Chung, 2013), 41 % of patients with Hwa-Byung were high school graduates. Several reasons account for the discrepancies. First, education is one of the most important values in South Korea, ranking 4<sup>th</sup> among 36 OECD countries, following Finland, Japan, and Sweden, in the Better Life Index in 2013. Based on this survey (OECD, 2013), 80 percent of Korean

adults aged from 25 to 64 completed upper-secondary school, equivalent to a high-school degree. In addition, the survey also reported that, in South Korea, students are given relatively equal opportunities in high-quality educational systems, regardless of socioeconomic background (OECD, 2013). Specifically, the highest educational background in Korean modern society generally gets higher than in the past, so one can assume that the factor of an educational background level does not take the rate of Hwa-Byung into account any more.

Therefore, Hwa-Byung is greatly affected by demographic variables, such as gender, age, and SES. Specifically, it is commonly stated that age, gender, and SES are the key factors that influence the onset of Hwa-Byung (Min, 1989; Min, et al, 1987; Min, et al, 2012).

#### Symptoms and Diagnostic Criteria

From early on, researchers agreed that one of the characteristics of Hwa-Byung is a combination that incorporates some of the symptoms of major depression, somatization, and/or anxiety (Min, 1989; Min & Kim, 1986; Lee et al., 1989a). In particular, Hwa-Byung has been commonly compared to major depressive disorder (MDD) because some of the Hwa-Byung symptoms are similar to those of MDD. However, after the 1990's, researchers have made efforts to identify the characteristics of Hwa-Byung symptoms by differentiating it from other illnesses, concluding that Hwa-Byung differs from the MDD, in terms of its symptoms profile (Min et al., 2009c), epidemiology (Min & Suh, 2010; Min et al., 1990), and psychodynamic explanation (Min, 2009; Min et al., 1993). As a result, recently, the diagnostic criteria of Hwa-Byung has consensus among scholars (Kim, Jung, Kang, Lee, & Chung, 2013; Min, Suh, Song, 2009); in addition to Hwa-Byung scales (Kwon, Kim, Park, Lee, Min, & Kwon, 2008) and the Hwa-Byung diagnostic interview schedule (HBDIS) (Kim, Kwon, Lee, & Park, 2004) in the field of mental health in South Korea.

The agreed-upon symptoms of Hwa-Byung are comprehensive, including anger-related emotional, cognitive, behavioral, and somatic symptoms. In the diagnostic criteria of Hwa-Byung, symptoms are classified into three groups, including Hwa-Byung-specific symptoms, Hwa-Byung-associated symptoms, and non-specific but common symptoms. First, there are six Hwa-Byung-specific symptoms, including subjective anger, expressed anger, sensations of heat, hostility, feelings of unfairness, and Haan—the Korean culture-related emotional experience of embitterment or holding a grudge (Lee et al., 2012; Min & Kim, 1998; Min et al., 1987; Min et al., 2009a). Second, there are eight Hwa-Byung-associated somatic and behavior symptoms, including a rising-up feeling in the chest, the sensation of epigastric masses, respiratory stuffiness, palpitations, mouth dryness, sighing, many recurring thoughts, and excessive pleadings. Last, there are also eight other non-specific but common symptoms, including insomnia, headache/pain, sadness, feelings of guilt, anxiety with agitation, anorexia, enhanced surprise, and impulsively vacating closed, stuffy, and/or warm spaces.

Roberts, Han, and Weed (2006) comprehensively described the symptoms of Hwa-Byung, as follows:

The most commonly cited symptom of Hwa-Byung is abdominal complaints, including chronic indigestion, poor appetite, abdominal discomfort or pain, and feeling that there is a mass in the epigastrium. Other somatic symptoms associated with Hwa-Byung include heart palpitations, body aches and pain, lack of energy, fatigue, and sudden hot flashes. The most frequently cited nonsomatic symptoms include feelings of anxiety and depression. Frequently noted also are fear of impending death, general malaise, and insomnia.

Less commonly associated symptoms include gastrointestinal problems such as constipation, diarrhea, and vomiting blood, musculoskeletal symptoms including neuralgia circulatory symptoms such as cold hands and feet, and dizziness secondary to hypertension, neurological symptoms such as problems with eyesight, altered sensory perception, and hearing impairment. Also less commonly reported are nightmares, shortness of breath, decreased urine output, weight gain and general edema. The less commonly reported nonsomatic complaints include feelings of helplessness, resentment, and guilt. Rarely associated with Hwa-

Byung are symptoms such as thought disorders and dissociative disorders (p. 400).

Min, Suh, Cho, Huh, & Song (2009) investigated the specific and related Symptoms and Diagnostic Criteria symptoms of Hwa-Byung and modified the diagnostic criteria of Hwa-Byung for the purpose of convenience in research (See Table 1).

Table 1. Research Diagnostic Criteria for Hwa-Byung

- 
- A. The person has been exposed to anger-inducing events, in which anger may have been suppressed or partially expressed as s/he finds it difficult to control anger.
  - B. Presence of Hwa-Byung-specific and related somatic or behavioral symptoms
    - a. Three or more of the following six Hwa-Byung-specific symptoms
      1. Subjective anger
      2. “Ukwool and boon”\* (feeling of unfairness)
      3. Expressed anger
      4. Heat sensation
      5. Hostility
      6. “Haan”\*\*
    - b. Four or more of the following eight Hwa-Byung-related somatic or behavioral symptoms
      1. Pushing-up in the chest
      2. Epigastric mass
      3. Respiratory stuffiness
      4. Palpitation
      5. Dry mouth
      6. Sigh
      7. Many thoughts
      8. Much pleading
  - C. Anger and related symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning
  - D. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition and is not better accounted for by another mental disorder.
- 

*Note.* This table was adapted by Min, Suh, Cho, Huh, & Song (2009). Development of Hwa-Byung scale and research criteria of Hwa-byung, *Journal of Korean Neuropsychiatric Association*, 48, p. 82.

\* These two words are frequently used together and refer to an individual’s perception when their desires are blocked by unfair and wrong social powers. “Ukwool” is a feeling of anger as a victim, and in a Korean-English dictionary, this is translated as “vexed”, “mortified”, “regrettable”, “victimized”, “suffer unfairness”, “falsely accused” or “mistreated.” “Boon” is a feeling of anger arising from failure due to indefensible external reasons, misfortune or a slight lack of ability to achieve final success. “Boon” is translated as “resent”, “exasperate”, “indignant”, “mortified”, “vexed”, “chagrin” or “sorry.” In this paper, this term will be expressed as “a feeling of unfairness”.

\*\* The mood described by ‘Haan’ is complex and may have some negative components, a mixed feeling of missing someone, sorrow, regret, sadness and depression, along with some feelings of hatred and revenge. In the Korean-English dictionary, “haan” is translated into English as “grudge”, “rancor”, “spite”, “regret”, “lamentation”, “grief”, “hate” or “everlasting woe”.

### Developmental Stages of Hwa-Byung

Most researchers agree that Hwa-Byung develops over a long period of time, characterized by suppressed emotions, especially anger, in response to stressful life events within an inescapable situation (Min, 1989; Min, Lee, Kang & Lee, 1987; Min, Suh, Cho, Huh, & Song, 2009). According to a recent study (Kim, Jung, Kang, Lee, & Chung, 2013), the average duration before the onset of Hwa-Byung is 8 to 9 years, after the major stressful event occurred. On the other hand, there is a new concept in Hwa-Byung research, called ‘acute Hwa-Byung,’ because it develops over a short period of time (Lee, 2012). Therefore, researchers attempt to view the progress of Hwa-Byung as developmental.

Early on, Lee (1997) examined how people with Hwa-Byung perceive the reasons it began. Hwa-Byung patients in the depressed period (울기, 鬱氣) may exhibit self-blame, while Hwa-Byung patients in the anger period (화기, 火氣) blame others and/or their destiny. However, Lee’s (1997) study primarily focused on the anger syndrome after traumatic events occurred and did not consider the patient’s environment as a possible cause.

Lee (1977) marked the development of Hwa-Byung by the following four stages: (a) period of shock, (b) conflict period, (c) avoidance/renunciation, and (d) manifestation. More recently, Lee (2012) expanded the four stages of Hwa-Byung development by adding the three stages of treatment processes: (e) illness stage, (f) recovery stage, and (g) exodus (normalizing) stage, following the symptom period, the 4<sup>th</sup> stage. Based on Lee (1977) and Lee (2012)’s models, in the shock stage, people undergo a traumatic experience and/or intense stress, along with strong feelings of anger, which leads to some internal conflicts about others, such as a sense of betrayal, hatred, and revenge, and getting even. During this period, people may either directly express their strong feelings in an outward manner or try to make the anger turn inward. In the conflict stage, after experiencing traumatic events and feelings of anger, as the cognitive functions, including

reasoning ability, are recovered, people begin to have conflicts (Lee, 2012). They experience unusual patterns of behaviors, such as living in seclusion due to the cultural value of saving/keeping face and appearances (체면, 體面), moving to a new place, making the decision to divorce, or even considering suicide (Lee, 2012), in order to overcome stressful experiences. In a sense, they are usually in an imbalance between their cognition and emotions in the conflict stage. In the avoidance stage, they come to realize that they are unable to solve that particular problem or escape from the situation(s), so they have thoughts characterized by placing the cause and the problematic events onto themselves and resigning themselves to their fate (Lee, 1977). However, because the problems still remain and influence their daily lives, their feelings of being hurt continues to impact their mind. Accordingly, those who struggle with Hwa-Byung experience emotions of feeling suppressed and meaninglessness, as well as trying to neutralize feelings of anger (Lee, 2012). During the manifestation stage, for cultural reasons, they feel forced to suppress these negative emotions for a long time. Then, because the problems cannot be solved in reality, the emotional struggles that ensue begin to manifest into the physical and psychological symptoms of Hwa-Byung. This was a process of responding to the chronic stress using the defense mechanism of projection toward the physical body, namely, somatization (Lee, 1997; Lee, 2012).

Lee (2012) then added three new stages of the treatment process. The Illness stage is the duration of experiencing Hwa-Byung; its period is different, depending on an individual's personality and environment. The Recovery stage may take a long period of time because it is not easy to melt fossilized anger from the mind down, so it is necessary to incorporate multiple strategies on numerous different levels, including counseling or psychotherapy, to recover their mental health. The Normalizing stage requires an acceptance that they are experiencing Hwa-Byung and the forgiveness of others who gave patients the affront, as well as of themselves.



Lee, Min, Kim, Kim, Cho, Lee, Choi, and Suh (2012) simply described the developmental process of Hwa-Byung in the following manner: People who have endured social unfairness and victimization, in order to avoid jeopardizing harmony in social relationships, suppress their anger. However, as the anger provoked by stressful events recur, feelings of anger accumulate and then become “dense.” Consequently, those psychological symptoms then develop into the physical manifestation of Hwa-Byung. As a result, feelings of depression caused by stressful events and somatization are two essential components of Hwa-Byung.

In 2013, Kim, Jung, Kang, Lee, and Chung (2013) proposed that four periods of Hwa-Byung progress after a major stress event occurs. The first period, the anger period, is the time when anger rises and individuals present symptoms of surging anger. It lasts from approximately a few minutes to a few days. The conflict period occurs when the anger dissipates, so individuals can be filled with psychological symptoms such as worrying, feeling anxious, and being easily frightened. Next, when anger is suppressed and endured, the resignation period begins, because the anger is not truly resolved and it easily increases to the same level of stress and turns into depression. Last, as long-term feelings of unfairness continue, the physical symptoms of Hwa-Byung emerge, namely the symptom period, along with the psychological symptoms of depression and anxiety that manifest, instead of a simple anger.

#### Integrated Model of Hwa-Byung

Kim, Jung, Kang, Lee, and Chung (2013) at the Hwabyung Research Center in South Korea presented the Integrated Model of Hwa-Byung. This model illustrates the full process of Hwa-Byung and related factors (see Figure 1). The model explains how people develop Hwa-Byung after experiencing traumatic events to hold in chronic symptoms (on Y-axis), according to the time (on X-axis). To be specific, unfairness, negative events, or shock function as preceding factors that may cause anger. After

suffering angry events, the responses against these stressors can be classified as cognitive, physical, and emotional. Cognitively, people experience a loss of value, undermined self-esteem, and a sense of inferiority, and they also show physical responses, such as paralysis, pain, sensation of rising-up in the chest, and hearing-sensitivity. When they undergo a negative emotional explosion, such as anger, depression, and/or anxiety, the outburst may shift to acute Hwa-Byung or Post-traumatic Embitterment Disorder (PTED), a new concept for a subgroup of the Post-traumatic stress disorders (PTSD) presented by Linden (2013) in Europe. The adjustment process can be categorized by an active and passive response, frustration, which depends on the coping behaviors, temperament, and characteristics of individuals. The adjustment process may result in the success or failure of coping strategies. While a coping strategy of active response or proper acceptance leads to no disease, a passive response, such as avoidance, frustration, and abandonment stimulate Hwa-Byung and/or mentally reactive depression. Moreover, experiencing Hwa-Byung on a consistent basis may cause other psychiatric disorders. The factors that may cause Hwa-Byung to continue include the environment, physical condition of individuals, unfairness, anger, regrettable memory, and suppression.

The Integrated Model of Hwa-Byung provides some answers to the following questions: What kinds of stress cause Hwa-Byung? How does the Hwa-Byung patient respond to his or her stress? How does the Hwa-Byung patient cope with stress? How do you describe his or her temperament and character? What symptoms does he or she have? And which factor contributes to people experiencing Hwa-Byung on a continuous basis?

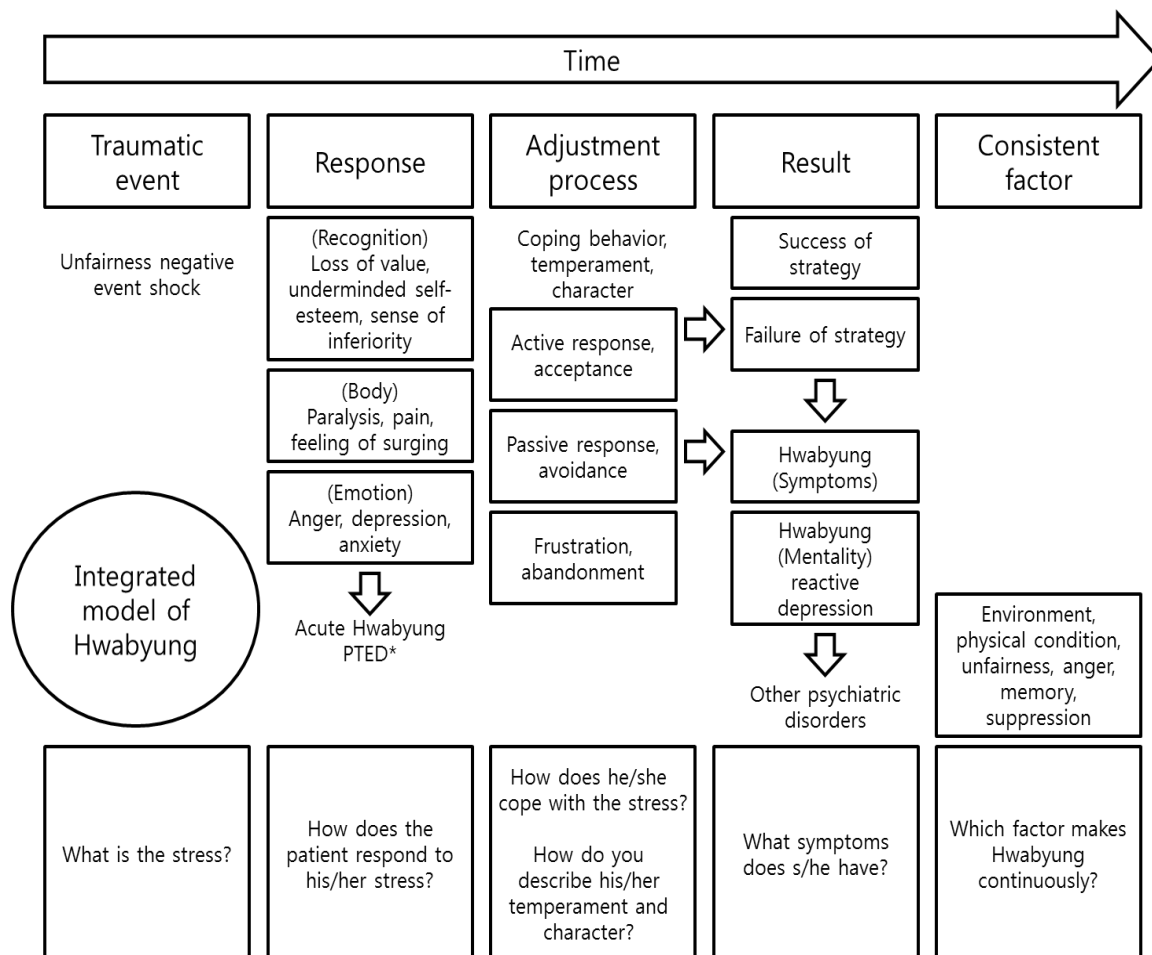


Figure 1. The Integrated Model of Hwa-Byung.

*Note.* \*PTED is Post-traumatic Embitterment Disorder. Adapted from *Clinical Guidelines for Hwabyung (English Ver.)*, p. 11. by J. W. Kim, I. C. Jung, H. W. Kang, S. G. Lee, and S. Y. Chung, 2013. Copyright 2013 by the Korean Society of Oriental Neuropsychiatry and Hwabyung Research Center.

To understand these developmental stages and the integrated model of Hwa-Byung in depth, it is necessary to also understand Korean cultural norms, including familial collectivism, Confucianism, patriarchal values, and social suppression by the ruling class, shamanism, and Haan (Min, 1991; Lee et al., 2012).

## Korean Cultural Values

Kim (1997) attributes Hwa-Byung to the suppression of chronic anger and indignation, impacted by a long history of foreign colonization and subjugation, as well as a culture in which open expression of feeling is not encouraged. In addition, Min (1991) asserts that the cultural concepts of Korea, including shamanism, familial collectivism, Confucianism, social suppression by the ruling class, patriarchal values and the culture of Haan, is related to Hwa-Byung. Therefore, to understand Hwa-Byung more in depth, it is necessary to be aware of its link to the cultural background of South Korea.

### Confucianism

There are a series of cultural values commonly associated with the development of Hwa-Byung. First, the concept of saving face is an important value in South Korea; it means to maintain your dignity and pride after an embarrassment takes place or something bad happens. To save face, Koreans are likely to behave in an avoidant manner when facing the embarrassment of oneself or another, or bypass all topics and situations that might cause embarrassment (Lee, Heo, Lu, & Portman, 2012). This value is consistently pointed out as one of the causes of indirect conversation and avoidance of mental health services among Koreans (Berg & Jaya, 1993; Ngo-Metzger et al, 2003).

In addition, the avoidance of confrontation and the suppression of emotions are highly encouraged in South Korea (Lee, 1977; Pang, 1990). Regarding this value, there is a saying, “live 3 years like being speech-impaired, the other 3 like being hearing-impaired, and another 3 years like being visually impaired.” This traditional value, associated with Confucianism, is the same meaning of “silence is golden,” but it only applies only to women in their marriage life. This value is also associated with both the Confucian hierarchical systems, namely a male-dominated and patriarchal society and family structures, and the culture of respecting the elderly. Although these traditional values developed in the middle period of the Chosun Dynasty (1432-1910) in South

Korea, they still strongly influence people's lives on a daily basis (Lee, 2003), especially in determining gender roles in South Korea.

For instance, in Korean culture, respecting elderly people and the filial duty of taking special care of parents is highly valued, in terms of children's responsibilities and duties within hierarchical systems. Therefore, married children have the responsibility and duty to support their parents, both on the husband's and wife's sides, oftentimes including providing financial support. In addition, other Confucian values concerning the family's role and structure between parents and children, as well as between women and men, also impact married women's lives. Although the role of women's devotion to family, includes not only her husband and children, but also many other members such as family-in-laws, has diminished in emphasis in modern society, the tendency to scarify women is still significantly apparent in South Korea. Likewise, sexual discrimination based on the male-dominated view is openly witnessed in society in South Korea, due to its traditional cultural values. For example, in many workplaces, women are likely to be limited in getting promoted because there is a prejudiced mythology that it is difficult for women to focus on work and spend their time in the workplace due to their family obligations. Besides, a gender gap of payment is also the highest (39%) among 36 countries that participated in the Better Life Index (OECD, 2013). Accordingly, married women are likely to be bypassed from promotions in the workplace. Therefore, many women in South Korea think they are being treated unjustly and unfairly in family and society because they have more responsibilities for family members, which is one of the important values in Confucianism. Such feelings of unfairness between women and men, as well as the importance of saving face and a request of silence about women's marriage life, which is based on Confucianism, commonly play an important role in causing Hwa-Byung in South Korean women.

### Haan (한, 恨)

Hwa-Byung is significantly also related to the concept of Haan (한, 恨) in Korean culture (Min, 1991; Min, Lee, & Han, 1997). Haan is known as collective emotion among Koreans. Choi (1996) defined Haan as feelings of grief and resignation caused by perpetual hopelessness. Gaw (2008) described Haan as follows:

“a Korean term that refers to an individual and collective subconscious emotional complex among the Korean people involving suppressed feelings of anger, rage, despair, frustration, holding of grudges, indignation, and revenge. The syndrome is believed to result from victimization of a Korean person both as an individual and collectively as people and is thought to be an important factor of *hwa-byung* (p.1554)”.

The conditions of Haan are individual or collective feelings of oppression, isolation, a sense of being overwhelmed, unresolved resentment against injustice, and a sense of helplessness. Unresolved feelings of resentment have accumulated for a long time and have become like a fossil in the mind. For example, Koreans might have suppressed feelings that resulted from various situations, including from the Korean history of foreign colonization and subjugation situation to a family history related to family values and culture. Korea has been attacked by neighboring countries, especially China and Japan, throughout its entire history. During many of those periods, Koreans were under the control of those other countries: therefore, pursuing freedom and being an independent nation was always an unachieved desire. This historical background may affect all Koreans to share feelings of Haan. Likewise, because of Korean traditional values, such as a male-dominant culture, respecting elderly, and hierarchical systems, women were considered members of a lower status in both family and society. Accordingly, many rights were prohibited for females, in terms of gender roles and cultural norms. Therefore, based on Korean culture, gender inequity has helped develop feelings of Haan, especially in married women.

Haan is characterized by feelings that accumulate over a long period of time without any hope to change unfair situations. Since similarities between Haan and Hwa-Byung exist, in that, both are commonly established over a long period of time in the unalterable states due to injustice and unfair situations, Min (1991) asserted that Hwa-Byung follows as a result of Haan when emotions of Haan cannot be overcome or when the situations that cause Haan keep reoccurring. One of the after-effects of Haan is Hwa-Byung. In his study (Min, 1991), approximately 80% of Hwa-Byung patients responded that the past experiences in their lives caused Haan and Hwa-Byung. However, while Haan is based on experiences in childhood or relatively remote past memories, Hwa-Byung is based on the experiences that began in the past, but continue to occur in people's lives. Therefore, there are common aspects between Haan and Hwa-Byung in the manner of emotional response.

Min, Lee, and Han (1997) studied the relationship between Haan from a psychiatric perspective, by identifying the etiological background, symptomatic expressions, defense styles and coping strategies against Haan. They found that married women, those who are less educated and from a lower socio-economic status, experienced Haan more strongly, and that Haan was also significantly associated with an unsatisfied marital life and filial piety, adversity since childhood, failure in business, injustice in society, and resignation to fate (Min, Lee, & Han, 1977). They also found that there was a significant difference in the symptoms of Hwa-Byung, associated with experience of Haan, between Hwa-Byung patients and non-Hwa-Byung patients. That is, Hwa-Byung patients with Haan showed more serious symptoms than non-patients with Haan (Min Lee, & Han, 1997). Characteristics of Haan include somatoform symptoms, such as headache, insomnia, holding a hard feeling (i.e., grudge, burdensomeness), deep sighing, separation and projection, passive aggressiveness, adaptation, and refusal to be helped (Min, Lee, & Han, 1997).

### Research on Hwa-Byung with Korean Immigrants

Lin (1983), a Chinese-American psychiatrist, first introduced Hwa-Byung in the United States by publishing an article about depression-like symptoms in South Korean women, with a suggestion that Hwa-Byung could be a “culture-bound syndrome.” In this article, Lin (1983) reported three cases that identified Hwa-Byung as the main complaint among six Korean patients in a clinic in the greater Seattle area with a description of Hwa-Byung symptoms. Three patients were a 65-year-old widow, a 42-year-old divorced Korean woman, and a 33-year-old Korean immigrant woman with two children and her husband. Their common presence of psychological and behavioral symptoms were insomnia, excessive tiredness, acute panic, morbid fear of impending death, and dysphoric affect, as well as the physical symptoms of indigestion, anorexia, dyspnea, palpitation, generalized pains and aches, and the feelings that there is a mass in the epigastrium (Lin, 1983).

Later, Lin, Lau, Yamamoto, Zheng, Kim, Cho, and Nakasaki (1992) studied Hwa-Byung experiences in Korean women after the Los Angeles Riots in 1992. The researchers called Hwa-Byung as anger syndrome, suggesting it may be a variant form of depression (Lin et al., 1992). However, thanks to numerous efforts by Korean researchers distinguish the unique characteristics of Hwa-Byung from major depressive disorder (MDD), in terms of its symptoms’ profile (Min et al., 2009c), epidemiology (Min & Suh, 2010; Min et al., 1990), and psychodynamic explanation (Min, 2009; Min et al., 1993), it was listed in the glossary of a culture-bound syndrome in the DSM-IV (American Psychiatric Association, 1994).

However, there is still a paucity of research on the experience of Hwa-Byung occurring in Koreans who were raised in other cultures. In 1990, Pang studied Hwa-Byung with 20 samples of Korean elderly immigrant women in the United States. This study presented the frequency of the samples, focusing on the categories of socio-demographic information, common life problems, and medical symptoms, as well as four



cases of brief scenarios and a simple explanatory model of Hwa-Byung. The other recent study (Choi &Yeon, 2011) only provided an overview of Hwa-Byung and a case scenario using a single participant's interview, a Hwa-Byung patient, an older Korean woman who immigrated to the United States.

In this year, Lee (2013) published a quantitate-based article that examined the factors contributing to Hwa-Byung symptoms among Korean immigrants. The sample size was 242 adults, including men and women, aged at least over 20 years old, and residing in the New England metropolitan area. The prevalence rate of Hwa-Byung in this study was 2.9%, much lower than the finding among the general population in South Korea (approximately 4~5% of the prevalence). This may be because the samples consisted of both women (59.1%) and men (40.9%); 74.4 % of the samples were in the middle or above SES status, and the median age was 41 years, which is younger than the literature. This study found that social support (18.84%), self-esteem (5.66%), attaining graduate school education in the United States (3.88%), receiving money from Koreans (3.42%), and being a woman (2.19%) significantly accounted for the variance of Hwa-Byung symptoms (Lee, 2013). The researcher assumed that these factors and contributions to Hwa-Byung symptoms might be different between native Koreans and Korean immigrants.

Although studies of Korean immigrants in the United States with Hwa-Byung are constantly being published, there are many areas to study from both qualitative and qualitative perspectives. A cross-cultural study is also needed to examine the factors contributing to the differences of Hwa-Byung.

### Stress and Coping

This section will review the concepts of stress and its models to help understand Hwa-Byung as an illness of reacting to life stresses. First, the definitions of stress and associated meaning of coping, based on the different scientific views, will be reviewed.

Second, life stresses commonly reported among Korean women will be reviewed, specifically those that may contribute to causing Hwa-Byung in the shocking stage.

Third, the concept of stress coping will be reviewed, especially those that may contribute to impacting the process of the development of Hwa-Byung.

### Three Ways of Defining Stress

There are three ways of defining and understanding the concept of stress and coping, based on a scientific view (Lyon, 2000). First, in a stimulus-based definition (Holmes & Rahe, 1967), stress is an external stimulus that causes internal collapse. That is, stress is an independent variable. In this sense, stress is considered life change or life events that function as pressure in an individual's life and accordingly requires adjustment and adaptation efforts (Lyon, 2000). In this perspective of stress as stimulus, coping is not specifically defined. When applying this theoretical view to this study, for example, the traumatic events that provoke feelings of anger are regarded as intense stresses. That is, the variable of life stress in this study is which external stimuli causes individuals' internal collapses and require efforts to adjust.

Second, in the response-based definition (Selye, 1956; 1983), the term stress is defined as a "nonspecific response of the body to noxious stimuli" (Selye, 1956, p. 12), which specifically focuses on physiological response. Since Selye defined stress as physiological responses to any noxious or aversive stimuli, it is a dependent variable in the research. Selye (1956) described the physiological response pattern, known as the general adaptation syndrome (GAS), with three stages of alarm, resistance, and exhaustion. The alarm stage is a physiological reaction to triggers of noxious stimuli, like the sympathetic nervous system. In the resistance stage, physiologic reactions are continuously adjusting and adapting to resist the damages from noxious stimuli, and, as a result, physical symptoms often manifest in this stage, such as hypertension, arthritis, and cancer (Lyon, 2000). Therefore, the notions of resistance can be understood as the

concept of coping, although the term coping is not specifically used in Selye (1956)'s work. In the last stage, exhaustion occurs when stressors are persistent or when individuals used their limited adaptive energy. Thus, if the adaptive energy is depleted, the physical disease could result in death. (Selye, 1983).

Last, there is a transaction-based definition (Lazarus, 1966; Lazarus & Folkman, 1984). As a social-personality psychologist, Lazarus described stress as occurring in the dynamic process between a person and his or her environment, proposing a transactional theory of stress and coping (TTSC) (Lazarus, 1966; Lazarus & Folkman, 1984). In this framework, the term stress can be understood as “a rubric for a complex series of subjective phenomena, including cognitive appraisals (threat, harm, and challenge), stress emotions, coping responses, and reappraisals. Stress is experienced when the demands of a situation tax or exceed a person’s resources and some type of harm or loss is anticipated” (Lyon, 2000, p. 11). Moreover, coping is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands (Lazarus & Folkman, 1984; p. 141). In other words, coping is viewed as a process-oriented phenomenon, rather than a trait or an outcome, and conceptualized as efforts to manage the stressful situation, in ways of minimizing, avoiding, tolerating, changing, or accepting the stressful situation (Lyon, 2000). Coping can be identified in two forms; (a) problem-focused that can be directed either outward to change some aspects of the environment or inward to change that of self, and (b) emotion-focused that is directed toward reducing emotional distress (Lazarus & Folkman, 1984). The stress response inventory employed in this study is designed to identify the forms of coping and to examine how different methods of coping affect the development of Hwa-Byung from this transaction-based perspective.

Lazarus and Folkman (1984) also linked stress-related variables to the broad concept of health, including physical, psychological, and social health, known as the Stress-Illness Model. According to this model, stressful factors cause individuals’

emotional and physical health, so the Stress-Illness Model focuses on the relationship between life stresses and the illness of emotion and physical health (Thoits, 1982). Lazarus (1991) proposed that emotional stress is an essential factor as it can directly cause physical illness if individuals chronically experience emotional stress. Emotional stress, in particular, anger, depression, and anxiety, significantly impact physical and psychological dysfunctions (Spielberger et al., 1995). When considering the characteristics of Hwa-Byung, both psychological and physical symptoms, the Stress-Illness Model helps explain the process in which Hwa-Byung may develop.

Three ways of conceptualizing stress and coping help provide the theoretical rationale for the relationship between the independent variables of life stress and stress response and the dependent variable of Hwa-Byung. In the next section, life stresses commonly reported among Korean women will be reviewed, specifically those that may contribute to causing Hwa-Byung in the shocking stage, as stimuli.

#### Life Stress of Korean Women

In early suggested stress models, external stress has included both negative and positive events because stress is defined as adaptation to changes in daily life (Holmes & Rahe, 1974). However, in the later literature, researchers reached the consensus that only negative life events increase the level of stress (Thoits, 1983; Vinokur & Selzer, 1975). That is, although they could be perceived as stressful situations, if individuals are not aware of stressful events, those situations cannot function as stressors.

In previous literature, the development of Hwa-Byung is influenced by an individual's surroundings, as a way of reaction to stressful life events (Lee, 2003). The influencing factors of Hwa-Byung can be classified into family issues, financial issues, and individual reasons. In the study by the Hwa-Byung Research Center (Kim, Jung, Kang, Lee, & Chung, 2013), among patients with Hwa-Byung, issues with one's husband (48.4%) was ranked as the first cause of stress, followed by economic problems (17.2%)

and issues with one's husband's family (16.1%). Additionally, life events in the family are significant influences that cause Hwa-Byung (Min, 1989). For instance, Hwa-Byung female patients reported that a husband's affairs, alcohol drinking, gambling, severe disagreement, and indifferences are major stressful events (Min, 1989; Min & Kim, 1986; Min, 1987; Lee, 1977; Lee, et al., 1989a), followed by conflicts with one's husband's parents (Cho, 1991; Min, 1989; Min & Kim, 1986; Min, 1987). Second, important factors included financial conditions (Kim, Jung, Kang, Lee, & Chung, 2013; Min 1989), including poverty, and money fraud by friends or relatives, for example. Finally, if either one or more of those life stressful events influence individuals' emotional and physical health for a long time, according to the stress-illness model, Hwa-Byung in South Korea, will ensue.

The concept of life stress events suggested by Chon and Kim (2003) can be classified into two categories, interpersonal and task. In the interpersonal categories, problems existing between wife and husband, parents of husband, children, and friends are included. On the other hand, problems in finance, environment, health condition, transportation, household chores, and employment are included in the task dimension. Those events are analyzed from the sample of Korean women and validated by the classification through the factor analysis (Chon & Kim, 2003). Those stressful events are commonly reported by Korean women.

### Coping and Stress Response

Initially, coping was conceptualized as a defense mechanism (Freud, 1933). However, in later studies, coping has been conceptualized as a response to stress (Folkman, 1984; Folkman & Lazarus, 1984; McCrae, 1984). That is, coping is closely related to stress response, in that the patterns or styles of coping are determined by the type of response to different stressful situations (Fleischman, 1984; Miller, Brody, & Summerton, 1988).

Lazarus and Folkman (1984) classified coping style into problem-focused and emotion-focused coping. Problem-focused coping is geared towards adjustment or adaptation to external demands, while emotion-focused coping facilitate regulating emotionally distressing demands. Problem-focused coping mainly refers to seeking social support, while emotion-oriented coping includes the six aspects of wishful thinking, distancing, emphasizing the positive, self-blame, tension-reduction, and self-isolation.

Endler and Parker (1990) categorized coping into three types of coping styles: task-oriented, emotion-oriented, and avoidance-oriented. Task-oriented coping is similar to problem-oriented coping of Lazarus and Folkman (1984)'s classification. Emotion-oriented coping refers to strategies that are person-oriented, including emotional responses, self-preoccupation, and fantasizing reactions. Avoidance-coping can be included in both person-oriented and task-oriented strategies (Endler & Parker, 1990). In other words, individuals can avoid a stressful situation by seeking social support or by engaging in other unrelated tasks (Endler & Parker, 1990). Accordingly, coping styles take varying ways of reaction to stressful situations into account.

Stress responses can be differentiated on the basis of four main human functions, cognitive, behavioral, emotional, and physiological, as stress itself affects all aspects of these functions (Butler, 1993). First, all signs of deteriorating in both short-term and long-term memory, decreasing the length of attention, increasing the amount of making errors, and increasing distractibility are evidence of cognitive responses to stress. In intense and chronic stressful situations, in particular, an ability of reasoning may have deteriorated or distorted to an irrational manner, leading individuals to lose their patterns of thoughts (Butler, 1993). Second, behavioral response is easily observed through signs of increasing arguments, being aggressive, avoiding or escaping difficult situations, or changing eating and sleeping habits (Butler, 1993). Third, emotional responses show a wide spectrum (Butler, 1993), depending on various influences such as the level of stress, the period of experiencing stressful situations, and personality. On the one hand, feelings

of frustration, irritation, worry, and anxiety, can be included in light of the emotional response and seen in the phase of beginning stage. On the other hand, experiences of panic, suicidal thoughts, and hopelessness, can be placed in the severe level of emotional response. In the middle of the spectrum, numerous emotions can be placed, including depression, tension, feeling overwhelmed, anger, and hostility. Last, physiological responses to stress are manifested through the cardiovascular system, such as heart disease, heart attack, and high blood pressure, the immune system, dermatological disease, and compromised menstrual and reproductive functions (Wheatley, 1993). Those four aspects of responses to stress are closely and organically connected to one another in order to successfully regulate an individual's health as a whole, known as stress coping.

Therefore, in order to investigate how coping styles regulate various stressful scenes in life events, the variable of stress response is examined in this study. In addition, patterns of coping and individual reactions to stress are also influenced by personality, as well as the nature of stressful situations. Accordingly, in the next section, as an important personal characteristic associated with Hwa-Byung, anger will be reviewed.

### Anger

Anger is one of the archetypal emotions people experience and identified as a negative emotion toward individuals and/or objects. Anger can be expressed in a wide range of intensity, from mild feelings of irritation and annoyance to intense emotions of rage, fury, hostility, and wrath. (Spielberger, Jacobs, Russell, & Crane, 1983). That is, experiences of angry feelings can generally fluctuate in expression, depending on the intensity of one's emotional state and individual differences in frequency of anger expression (Spielberger & Sydeman, 1994).

### Anger Management

Anger plays an important role in mental health and social relationships, positively or negatively, depending on the ways of anger regulation. Anger was demonstrated as a

primary and secondary problem for clients in the mental health setting (Hazaleus & Deffenbacher, 1986), because the maladaptive effects of anger are important contributors of depression, anxiety, psychoneuroses, and schizophrenia (Deffenbacher, Oetting, Thwaites, et al., 1996; Spielberger, Jacobs, Russell, & Crane, 1983; Spielberger & Sydeman, 1994). In addition, anger has long been cited in the difficulties of personal relationships (Deffenbacher, McNamara, Stark, & Sabadell, 1990; Hazaleus & Deffenbacher, 1986). For instance, an individual's outward expression of anger is likely to be accompanied by offensive words and/or aggressive behaviors, and accordingly, the ineffective style of anger expression negatively influences the social relationship, leading to isolation or unreasonable problems caused by the uncontrolled expression of anger (Deffenbacher & Hazaleus, 1985). Therefore, it is essential to internalize effective management of anger for physical and psychological well-being.

However, expression of anger has been limited in South Korea because of Korea's unique culture. In particular, Korean culture discourages overt expressions of anger (Ketterer, Han, & Weed, 2010; Min & Suh, 2010) in order to maintain harmonious relationships. Accordingly, anger regulation has been pointed out as one of the important factors of Hwa-byung (Park & Kim, 2012) among Korean women because feelings of anger that are not allowed expression cause various problems, including Hwa-Byung. The reason of the Korean females exhibited higher rates of Hwa-Byung than men was due to the Korean cultural norms of Confucianism and patriarchy, since women were unable to express their voice within the family although family relationships has a significant influence on Hwa-Byung. The shared virtues of patience and saving face among Koreans also impede the expression of negative feelings and emotions. Therefore, how anger is expressed in Hwa-Byung will be examined, with a comparison between native Koreans middle-aged women in South Korea and Korean immigrant middle-aged women in the United States.



### Classification of Anger Regulation

According to Spielberger and Sydeman (1994), the concept of anger regulation can be classified into three sub-categories: (a) anger expression-in, (b) anger expression-out, and (c) anger control. Anger expression-in refers to internally maintaining or suppressing feelings of anger. In contrast, anger expression-out indicates the behavioral or verbal expressions of anger, in an aggressive way toward others or objects in the environment. Additionally, anger control is based on attempts to control feelings of anger by monitoring and preventing its expression (Spielberger & Sydeman, 1994; Spielberger, 1988). When developing the anger expression scale, several items in the middle range of the anger-in and anger-out continuum were retained in the final set of the scale (Spielberger & Sydeman, 1994), such as “control my temper,” “keep my cool,” and “calm down fast.” These items were independent from the anger-in and anger-out categories; consequently, they fall under the category of anger control.

Spielberger and Sydeman (1994) also categorized anger expression as ‘state anger’ and ‘trait anger’. State anger is temporarily experienced in terms of subjective feelings related to situations or conditions that cause anger. On the other hand, trait anger is related to a steady characteristic in the personality, which indicates individual differences in terms of the frequencies of anger experiences. State anger and trait anger together have an impact on anger expression.

In this study, the variable of anger regulation will follow the described classifications, as measured by the State-Trait Anger Expression Inventory (STAXI) (Spielberger, 1998). Hence, anger regulation, which may impact the development of Hwa-Byung, either positively or negatively, will be investigated. Also, by comparing two groups, namely, native Koreans and Korean immigrant middle-aged women, cultural influences on anger regulation were examined.

### Summary

The purpose of the proceeding review of the literature was to understand the variables examined in this study. This chapter provided a thorough review of Hwa-Byung studies, including the concept of Hwa-Byung, influencing factors, symptoms and diagnostic criteria, developmental stages and the integrated model, cultural background, and the current status of Hwa-Byung in the population of Korean immigrants in the United States. In addition, this chapter also presented essential information of other variables in this study, associated with life stress, stress response, and anger regulation, and illustrated the relationship between those variables and the development of Hwa-Byung. Chapter III will describe how this study will be conducted.

## CHAPTER III

### METHODOLOGY

Chapter II presented an overview of the theoretical and research background of Hwa-Byung [hwäp-yøŋ pronounced hop yong] as a Korean response to stress. Chapter III presents the methodological details of this study. Specifically, this chapter includes a description of the participants, the data collection procedures, the research design and the data analysis methods. In addition, the translation procedure for the instruments is described.

#### Research Design

This section will describe the research design of this study. This study consists of a descriptive nonexperimental design, in regards to exploring the phenomenon of Hwa-Byung as a Korean culture-bound syndrome. In addition, this study employs a cross-cultural design that investigated the differences and similarities between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States.

#### Descriptive nonexperimental research

Since “the primary purpose of descriptive research is to provide an accurate description or picture of the status or characteristics of a situation or phenomenon” (Johnson & Christensen, 2012, p. 366), the main focus relies upon describing the study variables within a given situation, and sometimes on, describing the relationships among those variables in the counseling profession (Heppner, Wampold, & Kivlighan, 2008). However, because it is impossible for researchers to observe all the occurrences of a phenomenon, they “carefully stud[y] the phenomenon in a sample drawn from the population of interest” (Heppner, Wampold, & Kivlighan, 2008, p. 225) through survey investigation commonly used in descriptive research (Johnson & Christensen, 2012).

Accordingly, descriptive research cannot manipulate the variables, unlike experimental research. Instead, descriptive research presents the phenomenon or population as measured by employing real samples with random selection from a defined population (Heppner, Wampold, & Kivlighan, 2008; Johnson & Christensen, 2012). Heppner, Wampold, and Kivlighan (2008) also called this type of study a ‘descriptive field study’ (p. 71) in that the study can be characterized by the sample of participants in a real-life setting without, no experimental controls, such as randomization and manipulation of variables. Because this study described the Hwa-Byung phenomenon in two cultural contexts, namely, in South Korea and in the United States, using a survey method, and also because samples of this study were selected from the real-life setting in two cultural contexts, without any experimental controls, this study can be classified in the descriptive research.

#### Cross-cultural design

The purpose of this study is to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, roughly between the age range of late 30’s to the middle 60’s, by investigating influencing factors of stressful life events, that may be changed by stress response and anger regulation depending on the cultural contexts. Thus, this study employs a cross-cultural design. According to Matsumoto and Vijver (2010), cross-cultural research refers to studying variables of interests by comparing two or more cultural groups (Matsumoto & Vijver, 2010). They asserted that one of the potential advantages of cross-cultural studies is to highlight the essential similarities and differences across cultures and to promote “international and intercultural exchange, understanding, and cooperation” (Matsumoto & Vijver, 2010, p.1). In this study two groups of women share a common ethnic and gender background but are dissimilar in their nation of origins’ cultural context. This allows the researcher to examine the

occurrence or non-occurrence of the Hwa-Byung phenomenon within two societal contexts.

However, there are also some risks and pitfalls of cross-cultural studies. The use of language and attribution of meaning is important as indicated by Matsumoto and Vijver “concerning translation, measurement equivalence, sampling, data analytic techniques, and data reporting” (2010, p.2). Therefore, in cross-cultural studies, use of the participants’ preferred language on instruments, the similarity of the same meanings and values presented in measurements in culturally different contexts, and matching comparative participants should be taken into consideration by the researcher. A lack of these equivalences poses the analytical problem of observing similarities and differences across two cultures, and it may eventually threatens the results of the study. These issues are carefully addressed in all procedures of this study, especially in terms of instrument translation, survey procedures, participant selections, and data analysis.

#### Population, Sample, and Participants

The target population of a study is defined as “the group to which the study’s results will be generalized” (Heppner, Kivlinghan, & Wampold, 2008, p.350). Therefore, regarding the purpose of this study, namely, to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, roughly between the age range of late 30’s to the middle 60’s, by investigating influencing factors of life stress on Hwa-Byung, that may be changed by stress response and anger regulation, depending on which cultural context. There are two target populations. One is native Korean middle-aged women in South Korea, and the other is Korean immigrant middle-aged women in the United States. Middle-age in this study refers to those aged between late 30’s and middle 60’s for both groups.

For this study, the inclusion criteria for the native Korean sample were: (a) to reside in South Korea, (b) to be middle aged between late 30's and middle 60's, and (c) to have an appropriate level of self-understanding for determining their thoughts, feelings, and behaviors while reading the questions and corresponding answers. Likewise, samples of Korean immigrant women in the United States are also required to meet the same criteria of age and a level of self-understanding, as described above, for participation in this study. In addition, the inclusion criteria for Korean immigrant women in this study were: (a) be the 1<sup>st</sup> or 1.5 generation of Korean immigrants, not including the 2<sup>nd</sup> generation, (b) possess a Korean cultural background in their individual and/or family history, and (c) to currently reside in the United States.

A sample size of 356 participants with a mean age of 49.51 (SD=9.09), consisted of 196 native Korean women in South Korea (47.92, SD=7.98) and 160 Korean immigrant women in the United States (51.46, SD=9.78). Out of the entire 356 participants in the sample in this study, 50 participants (14%) fell into a group of Hwa-Byung patients, determined by using the cut-off point of 30 in the Hwa-Byung symptom score, ranging from 0 to 60. The Hwa-Byung rate of each group was 13.3% (n=26) in the group of native Korean middle-aged women in South Korea, while the rate for the Korean immigrant group was 15.5% (n=24). A summary of the demographic characteristics of the participants with the results of the Chi-square test to compare the two groups is reflected in Table 2.

Table 2. Descriptive Characteristics of Participants

Variables	Categories	Native Koreans		Korean Immigrants		Total		Chi-square	
		n	%	n	%	n	%	$\chi^2$	<i>p</i>
Hwa-Byung	Non-HB	170	86.7	136	85.0	306	86.0	.220	.639
	HB	26	13.3	24	15.0	50	14.0		
	Total <sup>a</sup>	196		160		356			
Living Areas	Urban	99	52.7	78	50.3	177	51.6	.971	.808
	Suburban	59	31.4	47	30.3	106	30.9		
	Rural	18	9.6	20	12.9	38	11.1		
	Total	188		155		343			
Marital Status	Married	180	95.2	143	90.5	323	93.1	11.391	.044
	Divorced/Separated/ Widowed	8	4.2	15	9.5	23	6.6		
	Total	188		158		346			
Living Status	Alone	2	1.1	7	4.5	9	2.6	24.965	.000
	w/ partner only	25	13.4	51	32.9	76	22.3		
	w/ partner & children	139	74.7	87	56.1	226	66.3		
	w/ father-in-law	10	5.4	5	3.2	15	4.48		
	w/ mother-in-law	8	4.3	3	1.9	11	3.2		
	w/ children only	2	1.1	2	1.3	4	1.2		
Total	186		155		341				
Supporting parent	No support	150	80.2	130	82.8	280	81.4	.765	.682
	Living together	18	9.6	11	7.0	29	8.4		
	Financial support	19	10.2	16	10.2	35	10.2		
	Total	187		157		344			
Religion	Christian	53	37.7	80	51.6	133	45.5	23.468	.000
	Catholic	42	30.7	50	32.3	92	31.5		
	Buddhist	32	23.4	7	4.5	39	13.4		
	None	10	7.3	18	11.6	28	9.6		
	Total	137		155		292			
Education completed	<High school	56	30.0	16	10.3	72	21.2	35.448	.000
	Undergraduate	112	57.8	101	65.6	209	61.3		
	Graduate	23	12.3	37	24.0	60	17.6		
	Total	187		154		341			
Employment	Part-time	41	22.5	17	11.0	58	17.2	22.992	.003
	Full-time	26	14.3	23	14.8	49	14.5		
	Professional	26	14.3	18	11.6	44	13.1		
	Office clerk	4	2.2	3	1.9	7	2.1		
	Self-employed	22	12.1	19	12.3	41	12.2		
	Housewife	52	28.6	65	41.9	117	34.7		
	Other (i.e. retired)	1	0.5	8	5.2	9	2.7		
	two jobs	10	5.5	2	1.3	12	3.6		
Total	182		155		337				
Monthly income	Less than \$1,000	17	9.6	14	9.3	31	9.4	38.545	.000
	\$1,000-\$1,5000	26	14.6	8	5.3	34	10.3		
	\$1,5000-2,000	28	15.7	9	6.0	37	11.2		
	\$2,000-\$3,000	27	15.2	14	9.3	41	12.5		
	\$3,000-\$5,000	48	27.0	35	23.2	83	25.2		
	More than \$5,000	32	18.0	71	47.0	103	31.3		
Total	178		151		329				

Note. a. Missing data was excluded in a total of each variable.

### Native Korean Women in South Korea

The group of native Korean women in South Korea consisted of 196 Korean women, with a mean age of 47.92 (SD=7.98), via both a paper-pencil method (n=171, 87.2%) and web-based survey (n=25, 12.7%). The majority of participants were married (n=179; 94.7%), living in urban (n=99, 52.75%) or suburban (n=59, 31.4%) areas, with their partner and children together (n=139, 74.7%). Regarding background in religion, 37.7% of the participants reported being Christian (n=53), 30.7%, Catholic (n=42), and 23.4%, Buddhist (n=32), which are the three major religions in South Korea. Regarding the highest level of education, participants completed high school (n=51, 27.3%), vocational/technical school (n=34, 18.2%), undergraduate (n=74, 39.6%), master's degree (n=20, 10.7%), and doctorate degree (n=3, 1.6%). Compared to the group of Korean immigrant women (n=12, 7.8%) in the United States, native Korean women (n=51, 27.3%) showed a higher rate of education completing the high school level. On the other hand, native Korean women (n=74, 39.6%) in South Korea showed a lower rate of undergraduate level than Korean immigrant women (n=85, 55.2%) in the U.S. Most were employed part-time (n=41, 22.5%), full-time (n=26, 14.3%), professional (n=26, 14.3%), office clerk (n=4, 2.2%), more than two jobs (n=10, 5.5%), while only 52 participants (28.6%) reported working in the home.

### Korean Immigrant Women in the United States

A total sample of 160 cases was included in the group of Korean immigrant women in the United States, with a mean age of 51.46 (SD=9.97). This sample was obtained from 71 hardcopy (44.38%) and 89 online (55.64%) survey responders. The average length of residence in the U.S. was 21 years (SD=11.47) and the average duration of marital relationship was similar, 21.15 years (SD=11.97). This indicated that many Korean immigrant women were married at the time of moving to the United State.



Likewise, in the sample of native Korean women in South Korea, the majority of Korean immigrant participants in the United States were married (n=136, 90.8%), and living in urban (n=78, 50.3%) or suburban (n=47, 30.3%) areas. More than half of the participants (n=87, 56.1%) lived with their partner and children together, which is much lower than the native Korean group (n=139, 74.7). Instead, almost one third of Korean immigrant women in the United States lived only with their partner (n=51, 32.9%), while 13.4% (n=25) of native Korean women live only with their partner.

More than half of the Korean immigrant participants (n=80, 51.6%) had a belief in Christianity, in terms of religion, followed by 50 (32.3%) in Catholicism, 7 (4.5%) in Buddhism, and 18 (11.6%) specifying no religious belief. This information revealed how a Christian-based community is large and important to Korean immigrants surviving in the United States. In addition, regarding the significantly low rate of Buddhism (4.5%) in the Korean immigrant community in the U.S. might point a limited accessibility to Buddhist temples or communities in the U.S., although it is one of the top three large religions in South Korea.

Regarding the level of education, participants completed high school (n=12, 7.8%), vocational/technical schools (n=16, 10.4%), undergraduate (n=85, 55.2%), master's degree (n=29, 18.8%), and doctorate degree (n=8, 5.2%). However, because the concept of vocational/technical schools differs from each other in the two cultural contexts in South Korea and the United States, and because community college in the U.S. was not listed as a choice on the survey, the possibility that data was skewed may exist. Therefore, for the rest of the analyses, level of education was categorized into three levels, high school, undergraduate (including vocational/technical schools), and graduate (master's and doctoral degree).

More than half of Korean immigrant women were employed part-time (n=17, 11.0%), full-time (n=23, 14.8%), professional (n=18, 11.6%), or were self-employed (n=19, 12.3%), whereas those who were not employed reported working at home (n=65,

41.9%) or were retired (n=8, 5.2%). The current unemployment rates of Korean immigrant women in the United States were relatively higher than the rates for native Korean women (housewife n=52, 28.6%; retired n=1, 0.5%) in South Korea.

Although information pertaining to monthly income obtained in the two samples of this study was presented in Table 2, this information lost its value and was contaminated by confusion in understanding the question. That is, in both groups, some participants reported their individual income because they had their own job(s), while others reported the total income of their family. Therefore, unfortunately, the information of monthly income became useless in this study.

### Procedure

#### Translation of the Instrument

One of the significant methodological issues in a cross-cultural design is how to deal with language, in terms of instruments and procedures of the study (Matsumoto & Vijver, 2010) because it is difficult to exactly be the same between the originals and the translated one. To minimize this weakness in the cross-cultural design, the survey for Korean immigrant participants in the United States was formatted by presenting both Korean and English for each item even though they may understand Korean language. This format of the questionnaires may have assisted in improving their understanding the cultural meaning of each statement. Since the instruments were originally developed and validated in South Korea, the Korean version of the questionnaires was provided to native Korean women in South Korea.

Therefore, a translation process became necessary, especially for the Korean instruments of the Hwa-Byung Scale, Life Stress for Korean women, Stress Response Inventory (SRI), and some items of the Anger Expression scale from Korean to English. To be specific, the Hwa-Byung scale was originally developed by Korean researchers (Kwon, Kim, Park, Lee, Min, & Kwon, 2008) because Hwa-Byung is identified as a

Korean culture-bound anger illness. Therefore, it was necessary to translate the Hwa-Byung scale into English. Similarly, the scale of Life Stress was also developed by Korean researchers (Chon & Kim, 2003), in order to identify factors causing an increase in stress levels, especially for Korean housewives. The Stress Response Inventory (SRI), also developed by Korean researchers (Koh, Park, & Kim, 2000, 2004), was used to validate most frequent stress responses of Koreans. As a result, those three scales were necessary to translate into English for Korean immigrant women.

On the other hand, the scale of anger expression (AX), a sub-scale of State-Trait anger expression scale (STAXI), was initially developed by Spielberger (1988), and because STAXI and AX were already translated into a Korean version (STAXI-K; Hahn, Chon, Lee, & Spielberger, 1997) and also validated with Korean norms (Hahn, Lee & Chon, 1998) prior to this study. However, during the validation process for Koreans, two items were added to the Korean-version of STAXI (STAXI-K). Thus, it was necessary for those items to be translated from Korean to English.

Translation processes for Korean versions of instruments were conducted using the back translation method (Brislin, 1986), as described by the following steps. First, the researcher, originally from South Korea, translated Korean instruments into English and then revised the English expressions after working with an English-speaking writing consultant. Second, these English instruments (target language) were back translated from English to Korean by a rhetoric instructor at the University of Iowa familiar with both the Korean and American culture and languages. Third, after that back-translation step, the researcher examined the adequacy of the translation by comparing the original Korean versions of instruments to the back-translated ones. Based on this evaluation, the researcher modified the English translations of any items that were slightly different in their meaning. For example, if Korean descriptions are not much different between original items and back-translated items, English descriptions of each item were included in the English version of instruments. However, if a discrepancy on Korean expressions

between original items and back-translated items was found, the researcher revised the English descriptions again with a discussion with a translator who works on the back-translation process. Finally, another professional translator, who received a certificate from the American Translator Association (ATA) and the National Association of Judiciary Interpreters and Translators (NAJIT) in the United States, assessed whether the revised English translation represented the original Korean items. Finalized items will be presented in the same pages on each instrument for Korean immigrants. (See APPENDIX A. INSTRUMENT TRANSLATION PROCEDURE.)

### Data Collection

After the Institutional Review Board (IRB) approved this study, the researcher sent out research invitation flyers and emails to invite potential volunteers to participate in a survey. The process of survey recruitment is described in the next two sections in detail. Then, depending on participants' preferences, the survey was conducted via either hardcopy or online methods, between December 2013 and March 2014. Since there was such a large gap in ages in the study population, the preference to answer surveys differed for each age group, depending on level of familiarity with and/or availability of Internet. Furthermore, for cross-cultural analysis, two equivalent surveys were conducted in two cultural contexts; one was conducted in South Korea and the other in the United States.

Selecting participants in both cultural contexts took regional differences into consideration. Koreans in the United States tend to live in the metropolitan and suburban areas of the United States. According to the 2010 U.S. Census, the ten states with the highest number of Korean immigrants were California (452,000; 1.2%), New York (141,000; 0.7%), New Jersey (94,000; 1.1%), Virginia (71,000; 0.9%), Texas (68,000; 0.3%), Washington (62,400; 0.9%), Illinois (61,500; 0.5%), Georgia (52,500; 0.5%), Maryland (49,000; 0.8%) and Pennsylvania (41,000; 0.3%). Thus, Korean immigrant participants were mainly recruited in the major cities and suburban areas of the United

States, including Chicago, Minneapolis, San Francisco, and Los Angeles. Similarly, native Korean participants were mostly recruited from the major cities and suburban areas in South Korea, including Seoul, Busan, and Suwon. In addition, participants were recruited by both hardcopy and online surveys for both groups for the equivalences of participants in two cultural contexts.

#### Survey for Native Korean Women

The data for native South Korean middle-aged women were collected via various resources, including research flyers, emails at local community centers, women's networks in companies, private counseling centers for adolescents and personal requests from acquaintances in South Korea. Regarding the paper-pencil method, the survey package included return-address envelopes. On the return address label, the researcher's address was written and postage was affixed. After completing the survey, participants were instructed to mail the survey document in the envelope provided back to the researcher within a week. If they do not want to participate in this study, they were asked to mail back a blank survey packet with the enclosed postcard, checking the 'do not want to participate' response, to the researcher using the enclosed return-addressed envelope within one week. To ensure confidentiality, participants were asked not to include their names and/or addresses on the survey and on the return envelope. However, if agreeing to participate in the raffle for research compensation, participants were requested to provide their name and mailing address if they did not have an e-mail account.

The researcher distributed 230 hardcopy survey packets, of which a total of 181 survey packets were returned (78.69% return rate). Of the 181 returned surveys, 8 cases were immediately excluded from analyses because the participants either answered insincerely by noting the same answer to all survey questions or to significant portions (more than 10%) or in cases when scores were substantially missing; therefore, only 173 participants were included in the data analyses.

Regarding the online survey, the link for the web-based survey was distributed on Internet sites popular among Korean women (i.e., [www.azoomma.com](http://www.azoomma.com)), followed by three reminders with one week intervals. The researcher was also able to post an invitation letter with the link for the web-based survey on the researcher's personal blogs and Social Network Sites (i.e., Twitter and Facebook) to recruit participants four times with one week intervals. However, there was difficulty gaining the attention from prospective participants in the online environment in South Korea. That is, the length of exposure time of the researcher's invitation letter on the webpage was very limited by massive and ceaseless updates on popular websites in a day; therefore, that research invitation flyer was not highlighted to get enough attention. After all, only 36 participants started the survey, while 23 completed the survey to the end (63.88% completion rate). All 23 cases were included in the data analyses.

Participants read the consent letter of this study on the front page, in both the hardcopy and online survey methods, and then they were asked to complete the rest of the survey questions, consisting of five sections: (a) Hwa-Byung scale, (b) Life Stress for Korean Women, (c) Stress Response Inventory, (d) Anger Regulation, and (e) demographic information. At the end of the survey, a form requesting a participant's email address was presented to create a pool for selecting winners via the raffle, as compensation for participation in this study. (There are further descriptions in the compensation section.) The average time for completing the online survey was 12 minutes in the group of native Korean women in South Korea; and it may have taken a similar amount of time for participants to complete the hardcopy version of survey questionnaires.

#### Survey for Korean Immigrant Women

The data from Korean immigrant middle-aged women was collected using the web-based survey, as well as the paper-pencil version from members of the Korean

American Women's Association (KAWA) in Los Angeles and its branch associations in Chicago, Minneapolis, and San Francisco. First, regarding the paper-pencil survey, the researcher considered that KAWA would be among the best places to access groups of Korean immigrant middle-aged women because the organizations and its branches are known as hubs for communication for Korean American women living in the United States. The other reason to contact KAWA was to minimize the potential impact of religious belief on Hwa-Byung results when recruiting participants via Korean churches, although it is the best channel by which to reach most prospective participants. To be specific, as the first step, permission for hard-copy survey distribution was requested of the representatives of the organizations. Once distribution of the survey questionnaire was allowed, the survey process of the paper-pencil version was distributed to the member of the organizations, as the same way done by native Korean middle-aged women in South Korea. That is, participants received the survey packet, which included a survey questionnaire and a return-addressed envelope with prepaid postage and the researcher's address. Participants were also asked to return their answered survey packet to the researcher within a week.

A total of 180 hardcopy survey packets were distributed in KAWA at Los Angeles and its branch associations in Chicago, Minneapolis, and San Francisco, as well as to the researcher's acquaintances in Iowa City. 83 survey packets were returned (46.11% return rate). Of those returned, two participants did not want to participate in the survey and nine invalid cases were eliminated from the final analyses, based on the same reasons in the native Korean sample selection. Thus, 71 cases were included in the final data analyses.

Second, regarding data from the online survey, there are three large online communities that Korean women who live in the U.S. frequently use; Missy Coupnes ([www.missycoupnes.com](http://www.missycoupnes.com)), Missy USA ([www.missyusa.com](http://www.missyusa.com)) and Mizville ([www.mizville.org](http://www.mizville.org)). With permissions from administrators from these communities, the

research invitation letter containing the survey link was posted for a month, followed by three reminders with one week intervals. In addition, on behalf of the researcher, several representatives of the Korean American Women's Associations in Chicago, Minneapolis, and Los Angeles, also sent an invitation email for research participants to their members via their networks.

The online survey procedure was the same for both Native Koreans and the Korean immigrant groups. Yet, because there were a couple of additional questions for Korean immigrants (regarding visa status, generations as immigrants, length of time residing in the U.S.), as well as languages presented by both Korean and English, the survey links were separately created for both groups. A total of 99 participants began taking the online survey, while 89 completed it (89.89% completion rate). It took on average of 16 minutes for Korean immigrants in the U.S. to complete the online survey; the time for completing the hardcopy survey may have been similar or have taken longer in this group because the survey items were the same.

Table 3. Composition of Participants

Groups	Survey methods	Frequency	Percent
Native Koreans in South Korea	Hardcopy	173	48.6
	Online	23	6.5
	Total	196	
Korean Immigrants in the U.S.	Hardcopy	71	19.9
	Online	89	25.0
	Total	160	
Total		356	100.0

### Compensation

The compensation for participation was given through a raffle system at the end of the survey. A total of 15 participants in the group of Korean immigrants middle-aged women received a \$10 gift card to use on the Amazon website in the United States, which



was given to one out every ten participants taking the online survey and one out of every five participants taking the hardcopy survey who agreed to provide their email or mailing address for the purpose of winning the raffle. Likewise, 33 participants in a group of native Koreans in South Korea obtained a Happymoney Gift Card (\$10 value), which can be used in both 600 on-line and 20,000 off-line markets in South Korea with the same ratio of online and hardcopy surveys for the raffle system described above.

Participants' e-mail addresses were collected for this raffle, only if participants did not have e-mail accounts and wanted to participate in the raffle. Providing information for the raffle was completely voluntary for participants and all information was used only for selecting raffle winners and sending the gift card as compensation. Selection of the raffle winners was done by placing a random drawing for each group. In addition, all survey participants' information was destroyed after sending gift cards to all raffle winners.

#### Survey Measures

This section presents instruments used in this study. To measure the variables of Hwa-Byung, life stress, stress response, and anger regulation used in this study, five instruments were administered: (a) Hwa-Byung scale, (b) Life Stress for Korean women, (c) Stress Response Inventory (SRI), (d) State-Trait Anger Inventory: Korean validated version (STAXI-K), and (e) demographic information (by the researcher based on the literature review). A summary of study variables and instruments used in this study is presented in Table 4.

Table 4. A Summary of Variables and Instruments used in this Study

	Variables	Instrument	Subscales	Scale type
Dep.	Hwa-Byung (HB)	HB Symptom Scale by Kim et al. (2008) <sup>a</sup>	Physical symptoms (6) <sup>c</sup>	0 – 4 points (15) <sup>c</sup>
			Emotional symptoms (9)	
Independent	Life Stress (LS)	Life Stress for Korean housewives by Chon & Kim (2003)	Inter-personal	0 (Never) 1 (Normal) 2 (Often) (52)
			1 Husband (8)	
			Children (8)	
			Husband-in-law (5)	
			Friends (5)	
			Task	
			Finance (6)	
			Health (7)	
			House Chores (6)	
			Workplace (7)	
Stress Response (SR)	Stress Response Inventory (SRI) by Koh, Park, & Kim (2002)	Emotional response (8)	0 – 4 points (39)	
		Somatic response (11)		
		Cognitive response (11) <sup>d</sup>		
Anger Regulation (AR)	STAXI-K <sup>b</sup> by Hahn, Chon, Lee, & Spielberger (1997)	Behavioral response (9)	0 – 4 points <sup>e</sup> (24)	
		Expression (9)		
		Suppression (9)		
			Control (6)	

*Note.* a. To determine presence of Hwa-Byung, the cut-off point of 30 was recommended by scale developers (Kwon, Kim, Park, Lee, Min, & Kwon, 2008). b. State-Trait Anger Inventory validated by the Korean norm (STAXI-K). c. # of items in each level of the scale. d. The cognitive response subscale can be categorized into four subscales: Extreme-negative thoughts (3), Aggressive-hostile thoughts (3), Self-depreciative thoughts (3), and not included (2). However, in this study, these sub-cognitive responses were not calculated into data analyses. e. The original inventory is a 4 point scale (1 to 4).

### Hwa-Byung Scale

Although several scales of Hwa-Byung were developed by different researchers (Kim, Kwon, Lee, & Park, 2004; Kwon, Kim, Park, Lee, Min, & Kwon, 2008; Roberts, Han, & Weed, 2006), this study used the Hwa-Byung scale developed by Kwon, Kim, Park, Lee, Min, and Kwon in 2008 because this scale was most recently developed for the purpose of self-reporting, in addition to providing sound reliability and validity. This scale consisted of thirty-one items with two sub-scales, the Hwa-Byung personality scale (16 items) and the Hwa-Byung symptom scales (15 items). Both subscales verified high

internal consistency (Cronbach's alpha .85 for the personality scale; .93 for the symptom scale; .92 for the scale as a whole) and the significant differences between a group of Hwa-Byung and depression patients on the symptom subscale. The cut off-point was 30 with a Hwa-Byung symptom subscale to differentiate patients from non-patients in Hwa-Byung. (See APPENDIX II-1 for native Koreans and APPENDIX III-1 for Korean immigrants.)

### Life Stress for Korean Women

To identify which stressful events relate to a level of Hwa-Byung for native Korean women in South Korea and Korean immigrant women in the United States, the scale of Life Stress for Korean housewives was used. Developed by Chon and Kim in 2003, this scale identified the patterns of life stress through content analysis of stressful life events for Korean housewives. Life stress consists of two major dimensions, which are interpersonal and task dimensions. Interpersonal stress is mainly caused by four groups: husband (8 items), children (8 items), husband's family (parents and siblings) (5 items), and participants' friends (5 items). Moreover, the task scales had six sub-scales: financial (6 items), environmental (7 items), health (7 items), transportation (5 items), household chores (6 items), and job (7 items). As a result, the scale consisted of 64 items in total, and participants answered how often they experienced life events as described in the questionnaire, indicating 0 for not at all; 1 for a few times; and 2 for frequently. When developing this scale, Cronbach's alpha for subscales ranged between .72 and .90 for internal consistency.

In this study, environmental and transportation subscales were removed from the ten subscales because those two subscales were considered less likely to cause severe anger and Hwa-byung. That is, four subscales of interpersonal stress (26 items) and four subscales of task stress (26 items) were included in this study. However, depending on the participants' situations, some questions, such as questions related to husband's family

for single women, and questions about jobs for those who are unemployed, were skipped. (See APPENDIX III. for native Koreans and APPENDIX IV. for Korean immigrants.)

### Stress Response Inventory

To measure the types of response to stress, the Stress Response Inventory (SRI) developed by Koh, Park, and Kim (2000) was used in this study. The SRI consists of 39 items, including seven subscales: tension (6 items), aggression (4 items), somatization (3 items), anger (6 items), depression (8 items), fatigue (5 items) and frustration (7 items). At the same time, using the SRI, participants' types of stress responses can be measured, in terms of emotional (8 items), somatic (11 items), cognitive (11 items), and behavioral (9 items) responses. Within the cognitive response, there are four sub-responses: extreme-negative thoughts (3 items), aggressive-hostile thoughts (3 items), self-depreciative thoughts (3 items) and not identified (2 items). Later on, these items of cognitive response extended to develop the Cognitive Stress Response Scales (CSRS) (Koh & Park, 2004) by adding more items. The SRI scored in 5 Likert scale from 0 (not at all) to 4 (strongly agree) points. Scores ranged between 0 and 156, with higher scores indicating considerable stressful response. When developing the SRI, test-retest reliability conducted during a two-week interval with 62 healthy subjects was significantly high, ranging from .69 to .96. Regarding internal consistency, Cronbach's alpha for seven subscales ranged between .76 and .91 and .97 for the total score when developing the SRI. (See APPENDIX II-3 for native Koreans and APPENDIX III-3 for Korean immigrants.)

### Anger Regulation Scale

State-Trait Anger Inventory (STAXI; Spielberger, 1988), the most commonly used measure of anger, was chosen to determine the anger regulation of participants in this study. Originally, the STAXI was developed to measure (a) the anger experience by State anger (S-Ang) and Trait-anger (T-Ang), and (b) the anger experience with three

subscales of anger-in, anger-out, and anger-control in adolescents and adults, which was then expanded to the STAXI-2 in 1999. The State anger (S-Ang) scale measures the level of anger experience and its questions asked how participants feel right now and to mark their response using the following options: not at all, somewhat, moderately so, and very much so. Trait anger (T-Ang) scale asked how participants generally feel and was scored with either ‘almost never’, ‘sometimes’, ‘often’ or ‘almost always’ to indicate frequency of anger. In addition, The Anger Expression (AX) questions asked how the participants react and behave when they get angry or furious. The STAXI is scored on a 4-point Likert-type scale for all questions.

For the purpose of this study, the Anger Expression (AX) subscale was only considered to assess anger regulation. The Anger Expression (AX) scale measures participants’ types of anger regulation, classifying into anger expression-in (called anger-in; AX-I), anger expression-out (called anger-out; AX-O), and anger-control (AC). Moreover, the subtype of anger control was composed of anger control-in (AC-I) and anger control-out (AC-O). AX-I refers to how often anger is experienced but not expressed (suppressed), whereas AX-O refers to how often anger is externally expressed. Likewise, AC-I measures how often individuals try to control anger by calming down or cooling off, while AC-O measures the frequency of external control used over anger. Each domain of the AX-I, AX-O, and AC includes 8 items with a 4-point rating scale. Higher scores on the AX-I, AX-O, and AC indicate higher levels of anger-in, anger-out, and anger-control in anger regulation.

Chon (1991) began to develop the Korean scale of the State-Trait Anger Expression Inventory (STAXI-K) based on an initial English version of the STAXI (Spielberger, 1988). He has continued to develop the STAXI-K to be validated by Korean cultural standards; thus, Hahn, Chon, Lee, & Spielberger (1997) updated the STAXI-K by adding items adapted to the Korean culture. This version of the STAXI-K was validated by Korean norms with 1,200 college students in 1998 (Hahn, Lee, & Chon,

1998). Based on the cultural validation, the Korean version of the Anger Expression scale has 24 items with a 4-point Likert scale. Cronbach's alpha coefficients for internal consistency were .52 for anger-in, .73 for anger-out, and .80 for anger-control in that study (Lee & Cho, 1999).

Considering the participants of this study, native Korean women in South Korea and Korean immigrant women in the United States with Korean cultural background, the Korean version of the Anger Expression scale was used in both groups. (See APPENDIX II-4 for native Koreans and APPENDIX III-4 for Korean immigrants.)

### Demographic Background

The demographic background consists of Hwa-Byung-related factors based on the literature review. Since the relationships with family and life in marriage are important factors that may determine the level of happiness (Kim, Kim, Cha, & Lim, 2007) and may also increase the stress level in a woman's life, as well as be a reason for suppressing anger, relevant items were included in the demographic questions. In this study, demographic information included age (indicating the birth year because the way of calculating it is different in Korea and the U.S.), current address (city and state only), marital status (single, married, divorced/separated, and widowed), years of marriage, number of children, age of the first child (to know the marriage years without children), level of marital satisfaction (0 to 10 Likert scale), living status (living with partner only, living with partner and children together, living with children only, or living with father-in-law and/or mother-in-law), responsibility to support aging parents, religion, educational background, employment, and monthly income. This information was commonly collected for all groups to access the differences between the groups of native Korean women and those of Korean immigrant women. Additionally, in the group of Korean immigrants, birth place (including, country, city, and state), generation of immigrants, level of acculturation, and the length of United States residency were

collected to estimate how familiar they were with Korean and American culture. (See APPENDIX II-5 for native Koreans and APPENDIX III-5 for Korean immigrants.)

#### Data Analysis Procedures

As noted above, this study was designed as a quantitative study, to investigate the differences and/or similarities of Hwa-Byung in middle-aged women between native Koreans in South Korea and Korean immigrants in the United States.

In preliminary analyses, the internal consistency reliability for the measures used in this study was measured using Cronbach's alpha coefficients with the current study samples. In addition, using descriptive statistics, the demographic configurations were reported to present those who participated in this study from the collected data of demographic information in both the native Korean middle-aged women and Korean immigrant middle-aged women. In addition, after describing the distributions of each variable in this study, the issue of asymmetric distribution was addressed by transforming the original scores, by using a square root method, in order to make its distribution close to be normal distribution. Then, in order to examine relationships among study variables, a series of correlation analyses were carried out in each sample by using the Pearson product coefficients. Next, a series of *t*-tests for two independent group samples and ANOVAs for three or more group comparison were conducted to compare the means of the study variables by demographic variables, both in the native Korean sample and in the Korean immigrants group, individually. Following the significant results of the overall mean differences by the groups on demographic variables, a series of Post-hoc tests were conducted with a Bonferroni test-wise alpha, in order to figure out which group(s) contributed the overall mean differences of the study variables. Then, the assumptions of regression analyses were carefully examined in order to not be violated.

Further statistical analyses were conducted for group comparisons to answer the three research questions. For research question 1, "How different or how similar are the

relations of life stress to the level of Hwa-Byung between a group of native Korean middle-aged women in South Korea and a group of Korean immigrant middle-aged women in the United States?,” a series of *t*-tests was first conducted with all continuous study variables between the native Korean group and Korean immigrant group to see the differences. The comparison between two different contexts also provided a cross-cultural understanding of the influences on the level of Hwa-Byung. Next, a series of hierarchical multiple regression analyses were carried out in each group in order to determine the significant factors among eight subscales of life stress (including, (a) relationship with husband, (b) relationship with children, (c) relationship with husband-in-law, (d) friendship, (e) financial difficulty, (f) health, (g) household chores, and (h) problems at workplace) and that can have significant influence on the dependent variable, the level of Hwa-Byung, after controlling for the demographic factors (age, marriage status, religion, and education background) in both samples, separately. Since differences in culture did not significantly impact the level of Hwa-Byung, when adding it in the overall multiple regressions, using a dichotomous variable (native Korean vs. Korean immigrants), the cultural comparison was yielded by comparing the analyses results conducted for each group.

In order to answer Research Question 2, “How different or how similar are the effects of life stress on the level of Hwa-Byung, which may be mediated by stress response, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?”, first, a set of the analyses of hierarchical multiple regression were conducted in each group, in order to examine the effects of life stress on the level of Hwa-Byung mediated by stress response, by adding demographic variables in block 1, the variables of life stress (8) and stress response (3) in block 2, and Hwa-Byung as a dependent variable (the interaction terms were not included not only because the 24 interactions terms were so complicated, but also because they were not the main interest in this study). In the previous correlation analyses, two



correlations of between life stress and stress response and between stress response and the level of Hwa-Byung were observed, which were the necessary conditions for examining the mediating effect of stress response on the relationship between life stress and the level of Hwa-Byung. Thus, by comparing the results between native Korean and Korean immigrant groups at the same time, as comparing the results of Research Question 1, the mediating effect of stress response was determined.

Research Question 3 is “How different or how similar are the effect of life stress on the level of Hwa-Byung, which may be mediated by the anger regulation, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?”, in order to examine the mediating effect of the types of anger regulation, on the relationship between life stress and the level of Hwa-Byung. Therefore, the same analysis process described in the Research Question 2 was replicated, by replacing the mediating variable from stress response to anger regulation.

### Summary

Chapter III presented an overview of the research design, measurements, and methods of this study. In particular, this chapter provided the information of research participants, instruments used in this study and the reliability and validity information reported by previous studies, and the statistical analyses that were be utilized to answer the research questions of this study. In addition, this chapter also described the translation procedures for the Korean version of instruments.

## CHAPTER IV

### RESULTS

Chapter IV will report the results of the data analyses to address the findings of the research questions. This chapter contains two main sections, preliminary and main analyses. The preliminary analyses included (a) reliability of the instrument used in this study, (b) descriptive statistics of the current samples, (c) correlations among study variables, and (d) mean differences of the study variables by categorical demographic variables. In addition, main analyses addressed the questions of (a) whether the samples meet the assumptions for regression analyses, (b) how different or similar in relationships of life stress on the level of Hwa-Byung between two groups, (c) how different or similar the relationships of life stress on the level of Hwa-Byung, which may be changed by stress response, between two groups, and (d) how different or similar if the anger regulation mediates the relationships between life stress and the level of Hwa-Byung, between native Koreans and Korean immigrants. The remaining sections present the results to answer the above research question. SPSS Version 21.0 for Windows was used to conduct the statistical analyses for this study.

#### Preliminary Analyses

##### Reliability of the Measures

The internal consistency reliability for all scales used in this study, with the current sample, was measured by using Cronbach's alpha. All scales verified high internal consistency by achieving an acceptable level of reliability, which was over .60 (DeVellis, 1991). The results of reliability are presented in Table 5.

The internal consistency of the Hwa-Byung scales was Cronbach's alpha .85 for the personality scale; .93 for the symptom scale; .92 for the Hwa-Byung scale as a whole (Kwon, Kim, Park, Lee, Min, & Kwon, 2008) when developing the Hwa-Byung Scale in

South Korea. Due to the high reliability of the symptom scale, compared to the personality scale, the symptoms scale has been largely used in the literature for diagnostic purposes, with the cut off-point of 30. Therefore, only the symptom scale was chosen in this study. With the current sample, the internal consistency was .945 for the total Hwa-Byung symptom scale, which was as high as that of the developers' study, indicating that it was sufficiently reliable for this sample. Cronbach's alphas for the subscales of the Hwa-Byung symptom scales were .894 for the physical symptoms and .932 for the emotional symptoms in this study.

Table 5. Reliability of the Scales used in this Study

Measures		Cronbach's alpha	
Scales	Subscales	Original Study	This Study
Hwa-Byung <sup>a</sup>	Physical Symptoms	N/A	.894
	Emotional Symptoms	N/A	.932
	Total	.93	.945
Life Stress for Korean women <sup>b</sup>	Interpersonal	N/A	.868
	Task	N/A	.916
	Total	.72 - .90	.926
Stress Response Inventory (SRI) <sup>c</sup>	Emotional		.930
	Somatic		.940
	Cognitive	.76 - .91	.940
	Behavioral		.930
	Total	.97	.982
Anger Regulation <sup>d</sup>	Expression	.73 <sup>e</sup>	.887
	Suppression	.52 <sup>e</sup>	.873
	Control	.80 <sup>e</sup>	.865
	Total	N/A	.895

*Note.* a. Kwon, Kim, Park, Lee, Min, & Kwon (2008). b. Chon & Kim (2003), c. Koh, Park, & Kim (2000). d. The subscale of the State-Trait Anger Inventory (STAXI: Spielberger, 1988) that was validated by Korean norms (STAXI-K) (Haha, Chon, Lee, Spielberger, (1997). e. from the study by Lee & Cho (1999)

When developing the scale of Life Stress for Korean Women, the original interval consistency reliability ranged between .72 and .90 for the ten subscales (Chon & Kim,

2003). In the current study, Cronbach's alpha for the total score was .926, .868 and .916 for the two major dimensions (interpersonal and task stresses), respectively. In addition, Cronbach's alpha coefficient was .97 for the total scores, when developing the Stress Response Inventory (SRI) in South Korea (Koh, Park, & Kim, 2000). The SRI was also found to be sufficiently reliable for the current sample, indicating values of Cronbach's alpha were .982 for the total scores, .930 for both emotional and behavioral responses, and .940 for both somatic and cognitive responses. Regarding anger regulation, this study used a Korean version of the STAXI anger expression scale. Lee and Cho (1999) validated the scale according to Korean norms with 1,200 college students; the yields of coefficient alphas for internal consistency were .73 for anger-out, .52 for anger-in, and .80 for anger-control. Internal consistency estimates calculated from the current sample were .887 for anger-expression, .873 for anger-suppression, .865 for anger-control, and .985 for the total scores. These high Cronbach's alpha coefficients indicated that all of those scales were considerably reliable for this study.

#### Descriptive Data of the Current Samples

To illustrate the characteristics of the entire current samples, the two different groups, means, standard deviations, skewness, and kurtosis for all variables combined are presented in Table 6. The means and standard deviations for each group were calculated by the non-standardized total scores. According to the classic interpretation for skewness (Bulmer, 1979), if its value is less than -1 or greater than +1, the distribution is highly skewed to the left or right, relatively; if skewness is between -1 and -1/2 or +1/2 and +1, the distribution is moderately skewed; if skewness is between -1/2 and +1/2, the distribution is approximately symmetric; as closer to 0, close to a normal distribution. Therefore, it was found that the distributions of Hwa-Byung (skewness= .56 > 1/2) and life stress (skewness= .74 > 1/2) were moderately skewed to the right, the stress response (skewness= 1.14 > 1) and anger regulation (skewness= 1.098 > 1) scores in the native

Korean sample were significantly and positively skewed, as well. The distributions in the Korean immigrant group also appeared to be from moderately to highly skewed to the right as skewness values between .66 (anger regulation) and .99 (stress response).

Table 6. Descriptive Statistics of the Study Variables

		Median	Mean	SD	Skewness			Kurtosis	
					Stat	SE	$Z_s^a$	Stat	SE
Native Koreans (n=196)	Hwa-Byung	18	17.87	11.36	.56	.17	3.23	.38	.34
	Life Stress	15	18.24	12.46	.74	.17	4.27	.24	.34
	Stress Response	25	33.17	33.18	1.43	.17	8.25	1.65	.34
	Anger Regulation	25	26.83	13.91	1.09	.17	6.31	2.33	.34
Korean immigrants (n=160)	Hwa-Byung	15	16.56	11.64	.69	.19	3.60	-.13	.38
	Life Stress	19	20.44	14.34	.74	.19	3.88	.06	.38
	Stress Response	26	37.51	34.07	.99	.19	5.15	.12	.38
	Anger Regulation	29	30.00	11.93	.66	.19	3.44	.65	.38

*Note.* a. Test statistics for skewness divided by its standard error of skewness.

To determine whether the population distribution is symmetric or skewed, and also to see a possibility if the sample is skewed too much by random chance, the values of skewness were divided by the standard error of skewness ( $Z_{skewness}$ ), which can be seen to be comparable to a *z-score* standard normal distribution having a mean of 0 and a standard deviation of 1 (Bulmer, 1979; Ghasemi & Zahediasl, 2012). In this  $Z_s$  distribution, the critical value of  $Z_s$  is  $\pm 1.96$  at  $p < .05$ ;  $\pm 2.58$  at  $p < .01$ ; and at  $\pm 3.29$  at  $p < .001$ , with a two-tailed test for  $H_0: skewness \neq 0$ . Thus, it could be concluded that if the  $Z_s$  score is greater than 2.58 or less than -2.58 in this medium size of samples (n=196; n=160), the population distribution is highly likely to be skewed, positively or negatively. In this study, based on the values of  $Z_s$  (Table 6), the population of all of the study variables could be significantly skewed to the right and that both samples were reflected by the population distribution.

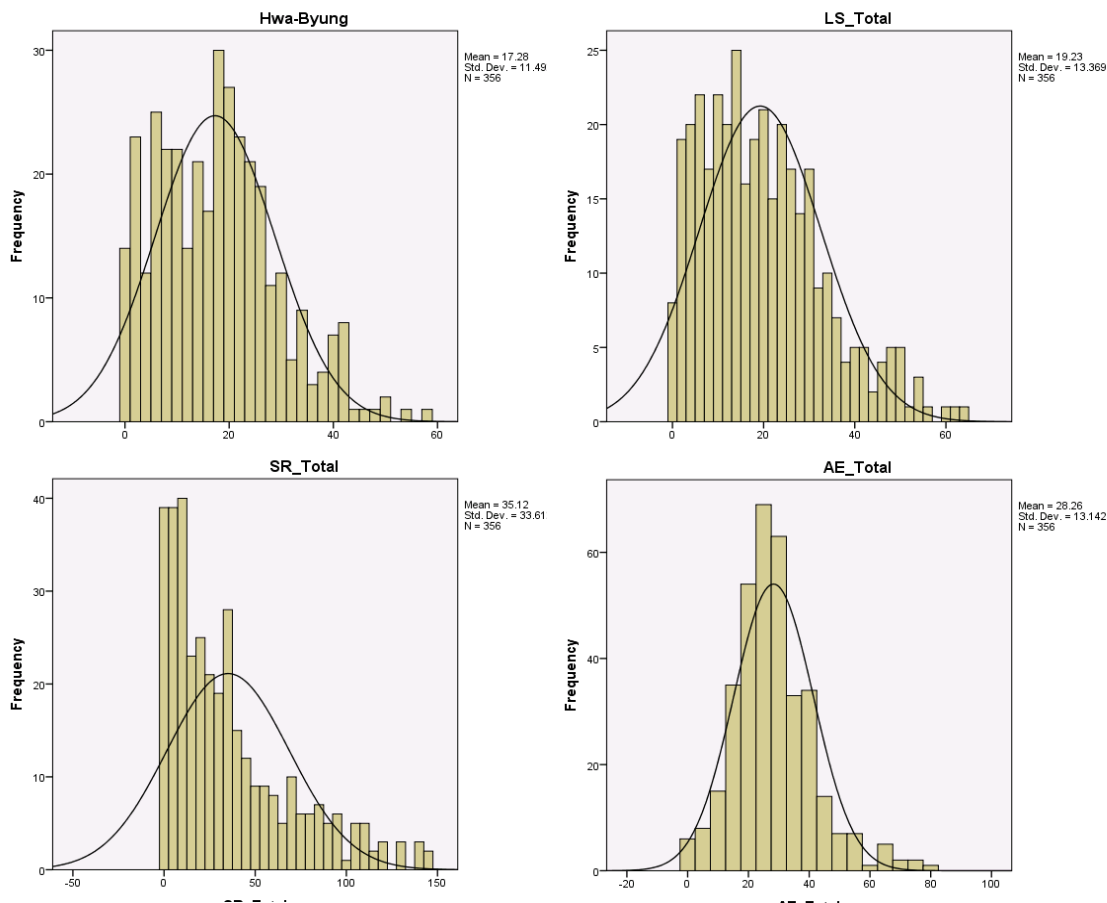


Figure 2. Histograms and Normal Curves of the Study Variables with Original Scores.

However, when drawing the histograms and estimated normal covers with a total sample size (Figure 2), the three variables of Hwa-Byung, life stress, and anger regulation were seemingly a normal distribution, although all of the four  $Z_{skewness}$  in each group were over 2. This was because the total sample size ( $N=356$ ) of this study was large enough in this study. Still, the Stress Response scores are extremely skewed to the right, as shown by the largest  $Z_{skewness}$  score, closely approaching exponential distribution. Figure 2 illustrates each distribution of Hwa-Byung, Life Stress, Anger Regulation, and Stress Responses, from upper-left, in a clock-wise direction.

Accordingly, the transformed score for the variable of stress response to be a normal distribution is suggested, by using a positive square root, for example, in order to

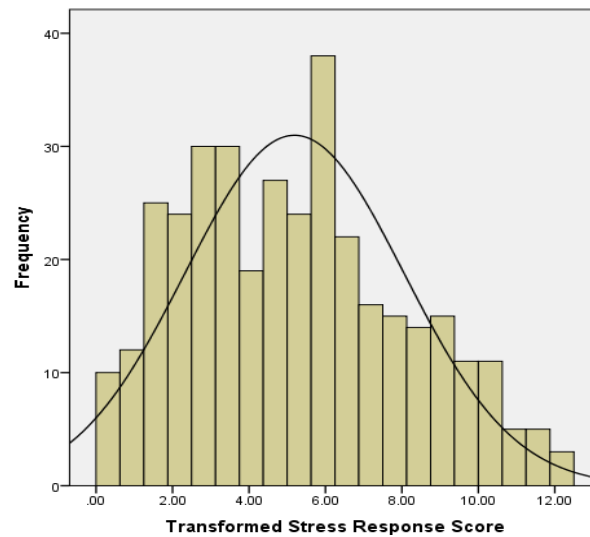


Figure 3. Histogram and Normal Curve of the Transformed Stress Response Scores.

meet the normality assumption of the regression analyses. In this study, the square root transformation was selected to transform the original scores of the stress response to be a normal curve. Statistics of the transformed stress response were Mean = 5.19, Median = 5.00, SD = 2.864, Skewness = .319, and Kurtosis = -.646, and its distribution was also changed to be close to being a normal distribution, as presented in Figure 3. That is, by using the transformed scores, the normality assumption for the regression analyses was addressed in order to be qualified. In addition, in the following analyses, the standardized Z scores were used for all variables to improve the computational accuracy of the results.

#### Correlations among Study Variables

Pearson correlation coefficients by using the standardized and transformed scores for all variables were estimated in Table 7 for the native Korean sample (N=183) and Table 8 for the Korean immigrant sample (N=173). According to Cohen (1988), a coefficient over .10 is considered to be a small effect; a coefficient over .30 is considered

to be a moderate effect; and a coefficient over .50 is considered to be a large effect, in terms of effect size.

From the correlation analyses among the study and demographic variables in the two different samples, first, in the native Korean women's group in South Korea, there were positive and significant correlations between the dependent variable of Hwa-Byung and all independent variables of Life Stress, Stress Response, and Anger Regulation on the basis of their subscale levels, except for the friendship factor in the life stress scale. Similarly, in the Korean immigrant women's group in the U.S., there were also positive and significant correlations between Hwa-Byung and all independent variables, except for the factor of workplace in life stress and the anger suppression variable.

Regarding correlations between demographic variables and the Hwa-Byung score, there were negative and significant correlations in both groups, specifically, in the group of native Korean women in South Korea, age ( $r = -.179, p < .05$ ), years of marriage ( $r = -.159, p < .05$ ), and level of marriage satisfaction ( $r = -.487, p < .01$ ). Also, in the group of Korean immigrant women in the U.S., both years of marriage ( $r = -.214, p < .01$ ) and level of marriage satisfaction ( $r = -.568, p < .01$ ) were negatively correlated to Hwa-Byung. Moreover, the additional demographic variables in this group, years of living in the U.S. ( $r = -.211, p < .01$ ) and level of acculturation ( $r = -.370, p < .01$ ) were also significantly and negatively correlated to Hwa-Byung. However, there was no significant relationship between the variables of age ( $r = -.24$ ) and Hwa-Byung in this group.

On the other hand, some comparable results in the two samples were found from correlations regarding significant relationships among independent variables.

Interestingly, in the native Korean middle-aged women in South Korea, the variable of anger suppression was significantly and positively related to not only Hwa-Byung ( $r = .215, p < .01$ ), but to the life stress variables both on the interpersonal dimension (relationships with husband ( $r = .223, p < .01$ ); husband's family ( $r = .180, p < .05$ ); and their friends ( $r = .164, p < .05$ ) and the task dimension of health ( $r = .196, p < .01$ ),



household chores ( $r = .217, p < .01$ ), and their workplace ( $r = .223, p < .01$ ). However, any significant relationships with the variable of anger suppression were not observed in the group of Korean immigrant women in the U.S.

Moreover, in the group of native Koreans in South Korea, the variable of life stress in the workplace or the job was significantly and positively related to Hwa-Byung ( $r = .295, p < .01$ ), financial stress ( $r = .225, p < .01$ ), anger suppression ( $r = .223, p < .01$ ), and anger control ( $r = .244, p < .01$ ), whereas negative related to age ( $r = -.196, p < .01$ ), years of marriage ( $r = -.239, p < .01$ ), and marriage satisfaction ( $r = -.271, p < .01$ ). However, any of the significant relationships were not observed between the variable of life stress in the workplace and the above demographic variables in the group of Korean immigrants. The relationship between the variable of life stress in the workplace and the variables of stress in the relationship with husband ( $r = .161, p < .05$ ), life stress from health ( $r = .285, p < .01$ ) and household chores ( $r = .251, p < .01$ ), anger expression ( $r = .151, p < .05$ ) and anger control ( $r = .221, p < .01$ ) were also shown as positive and significant ones.

In addition, in the group of Korean immigrant women in the U.S., positive relationships were significantly observed between life stress in friendship and the variables of Hwa-Byung ( $r = .324, p < .01$ ); life stress in relationships with their children ( $r = .238, p < .01$ ), and financial issues ( $r = .460, p < .01$ ), whereas it was not significant in the native Korean group.

These findings were very meaningful for the purpose of this study to examine the differences and similarities of Hwa-Byung between native Korean middle-aged women and Korean immigrant middle-aged women in the U.S. because they may reflect the social norms and behaviors expected in two cultural contexts. That is, native Korean women may be compelled to suppress their negative emotions and subsequent behaviors, thereby upholding the standards of Korean society, which may bring about Hwa-Byung,

compared to American culture. Also, the scope or function the role friendships have apparently differs between Korean and American culture.

Table 7. Pearson Correlation Coefficients for Study Variables for the Native Korean Sample (N=183)

	1 <sup>a,b</sup>	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 <sup>b</sup>		.45**	.26**	.35**	.12	.46**	.57**	.50**	.29**	.70**	.71**	.71**	.68**	.48**	.21**	.58**	-.17*	-.15*	-.48**
2			.35**	.38**	.13	.29**	.40**	.43**	.24**	.42**	.44**	.41**	.40**	.25**	.22*	.33**	-.06	-.08	-.59**
3				.04	.04	.08	.24**	.35**	.03	.26**	.23**	.25**	.22**	.24**	.02	.18*	.09	.15*	-.18*
4					.24**	.30**	.33**	.33**	.15*	.39**	.41**	.36**	.38**	.22**	.18*	.34**	-.18*	-.14*	-.40**
5						.07	.24**	.11	.16*	.16**	.17*	.11	.12	.04	.16*	.15*	.03	-.11	-.02
6							.42**	.34**	.22*	.41**	.43**	.45**	.42**	.16*	.11	.27**	-.14*	-.10	-.49**
7								.52**	.30*	.62**	.70**	.64**	.64**	.35**	.19**	.48**	-.04	-.08	-.32**
8									.21*	.57**	.55**	.52**	.56**	.27**	.21**	.35**	-.13	-.14*	-.39**
9										.36**	.32**	.34**	.36**	.19*	.22**	.24**	-.19*	-.23**	-.27**
10											.89**	.90**	.91**	.55**	.24**	.67**	-.26**	-.27**	-.50**
11												.88**	.87**	.54**	.24**	.63**	-.19**	-.21**	-.49**
12													.91**	.58**	.27**	.70**	-.24**	-.24**	-.50**
13														.57**	.26**	.68**	-.21**	-.22**	-.50**
14															.22**	.78**	-.14	-.22**	-.25**
15																.42**	-.11	-.19**	-.11
16																	-.16*	-.24**	-.33**
17																		.92**	.24*
18																			.20*
19																			

Note. a. 1. Hwa-Byung, 2. Life Stress (LS) Husband, 3. LS: Children, 4. LS: Father-in-law family, 5. LS: Friends, 6. LS: Finance, 7. LS: Health, 8. LS: Household chores, 9. LS: Workplace, 10. Emotional Stress Response, 11. Somatic Stress Response, 12. Cognitive Stress Response, 13. Behavioral Stress Response, 14. Anger Expression, 15. Anger Suppression, 16. Anger Control, 17. Age, 18. Years of Marriage, 19. Level of Marriage Satisfaction

b. \*\*  $p < .01$ , \*  $p < .05$  (2-tailed).

Table 8. Pearson Correlation Coefficients for Study Variables for the Korean Immigrant Sample (N=173)

1 <sup>a,b</sup>	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 <sup>b</sup>	.596**	.238**	.398**	.324**	.460**	.608**	.641**	.122	.771**	.786**	.774**	.783**	.422**	-.027	.589**	-.134	-.214**	-.568**	-.211**	-.370**
2		.277**	.367**	.250**	.449**	.416**	.455**	.161*	.543**	.512**	.565**	.579**	.278**	.034	.361**	-.038	-.164*	-.577**	-.039	-.307**
3			.317**	.191*	.186*	.153*	.254**	-.069	.278**	.293**	.265**	.291**	.228**	.021	.224**	.041	-.096	-.163*	.020	-.075
4				.223**	.267**	.237**	.288**	.094	.399**	.373**	.364**	.409**	.207**	.054	.316**	-.159*	-.183*	-.250**	-.157*	-.164*
5					.184*	.333**	.256**	.111	.458**	.443**	.471**	.448**	.347**	-.026	.435**	.017	-.060	-.122	-.058	-.218**
6						.458**	.481**	.147	.477**	.456**	.489**	.499**	.250**	-.065	.333**	-.088	-.163*	-.359**	-.215**	-.298**
7							.552**	.285**	.624**	.657**	.568**	.579**	.317**	-.018	.460**	-.104	-.122	-.397**	-.057	-.231**
8								.251**	.701**	.668**	.672**	.690**	.442**	-.039	.503**	-.219**	-.280**	-.479**	-.222**	-.331**
9									.277**	.268**	.250**	.233**	.151*	.060	.221**	-.052	-.123	-.133	-.095	-.018
10										.902**	.912**	.933**	.638**	.031	.738**	-.264**	-.334**	-.480**	-.299**	-.323**
11											.869**	.900**	.535**	-.058	.664**	-.195*	-.230**	-.475**	-.188*	-.291**
12												.920**	.641**	-.030	.756**	-.252**	-.306**	-.528**	-.261**	-.375**
13													.588**	.005	.705**	-.230**	-.312**	-.494**	-.267**	-.394**
14														-.056	.747**	-.268**	-.329**	-.182*	-.152	-.137
15															.172*	-.092	-.139	.111	-.166*	.113
16																-.266**	-.319**	-.345**	-.239**	-.158*
17																	.692**	.077	.578**	.058
18																		.056	.620**	.143
19																			.037	.446**
20																				.275**
21																				

Note. a. 1. Hwa-Byung, 2. Life Stress (LS) Husband, 3. LS: Children, 4. LS: Father-in-law family, 5. LS: Friends, 6. LS: Finance, 7. LS: Health, 8. LS: Household chores, 9. LS: Workplace, 10. Emotional Stress Response, 11. Somatic Stress Response, 12. Cognitive Stress Response, 13. Behavioral Stress Response, 14. Anger Expression, 15. Anger Suppression, 16. Anger Control, 17. Age, 18. Years of Marriage, 19. Level of Marriage Satisfaction, 20. Years of Living in the U.S., 21. Level of Acculturation  
b. \*\*  $p < .01$ , \*  $p < .05$  (2-tailed).

### Mean Differences of the Main Study Variables

In the next step, a series of *t*-tests and one-way analyses of variance (ANOVAs), were carried out to examine the mean differences across the study variables by the 7 categorical demographic variables, including marital status, living areas, supporting parents, living status, religion, educational background, and employment in each sample. First, the researcher also conducted Levene's Tests for the study variables to confirm the equality of variance between the two samples, native Koreans vs. Korean immigrants, which is one of the assumptions of *t*-tests and the uni-variant test. All those results were not significant, which means the equal variance between the two samples was assumed in all variables.

Next, two independent sample comparisons and a series of ANOVA for three or more sample comparison were employed to calculate the mean differences by groups with 7 demographic variables in each sample (see APPENDIX E for details). The Bonferroni correction was adopted for a test-wise alpha value to control for conducting the series of multiple *t*-tests and one-way analyses of variance (Hays, 1994). There is a rule of thumb among researchers, in order to determine the effect size of the study, when Cohen's  $d = .2$  in, it indicates small effect;  $d = .5$  is medium effect; and  $d = .8$  is large effect.

Several significant results were reported from the mean difference tests. In general, the variables of marital status (currently married vs. others (i.e., separated/divorced/widowed)) and religion (i.e., Christian, Catholic, Buddhist, and none) related to the mean differences of the study variable in the native Korean sample, while living status was solely found in the Korean immigrant sample to be related to the mean differences of the independent variables. Among the seven categorical demographic variables selected in this study, no significant mean differences on the four study

variables were detected with the two variables of employment and supporting parent in either sample.

Followed by the results of the overall mean difference, the Bonferroni post-hoc test, in turn, was carried out at  $p < .05$ , to figure out which groups contributed the overall mean differences of the study variable.

To be specific, first, in the native Korean sample, the mean of Hwa-Byung was significantly different by marital status ( $t = -2.443, p < .05$ ) and religion ( $\chi^2 = 16.475, p < .001$ ). From the Bonferroni post-hoc, the values of the mean differences between no religion specified and Christian was 15.451; Catholic, 18.205; and Buddhist, 15.019 (all at  $p < .001$ ). No significant difference among the three religious groups was found. On the other hand, in the Korean immigrant sample, the mean of Hwa-Byung was not significantly differed by any of the demographic variables, interestingly.

The mean of life stress ( $t = -3.547, p < .001$ ) in the native Korean sample were significantly differed by marital status between currently married ( $n=169$ ) versus a group of separated, divorced or widowed women ( $n=8$ ). The mean of life stress ( $\chi^2 = 9.907, p < .05$ ) was also significantly differed by religious groups. Based on the Bonferroni post-hoc test, in the mean difference of life stress by religious group, between no religion specified and all of other religious groups, the mean differences significantly differed: Christianity (12.683), Catholics (14.757), or Buddhist (14.369). In the Korean immigrant group, the mean difference of life stress by living status was significant ( $\chi^2 = 17.819, p < .01$ ), and the mean differences between Korean immigrant women who live only with their partner and with partner and children together (10.477,  $p < .001$ ) contributed to the overall mean differences.

In the native Korean group, the stress response significantly differed among religious groups ( $\chi^2 = 15.294, p < .01$ ), particularly, between no religion specified and all of the three other religious groups; Christian (mean diff. = 50.671,  $p < .001$ ), Catholic (mean diff. = 59.486,  $p < .001$ ) and Buddhist (mean diff. = 55.325,  $p < .001$ ). In the

Korean immigrant group, there was a significant difference on the mean of stress response by living status ( $\chi^2 = 16.722, p < .01$ ). The mean difference (-21.983,  $p < .01$ ) between when living only with partner and when living with partner and children together contributed to the overall mean difference of stress response by living status in the Korean immigrant sample.

#### Composition of re-classified samples

However, with regards to the results of the mean differences noted in living areas, a group of those who live out of South Korea, which significantly contributed to the overall mean difference, may not have a Korean cultural background. Accordingly, by classifying the total samples as eight groups, 2 membership (native Koreans vs. Korean immigrant women) by 4 living areas (i.e., urban, suburban, rural, and outside), the analysis of one-way ANOVA for anger regulation, as well as other study variables was conducted, just in case, to see the group differences, in Table 9. As a result, the mean differences of the anger regulation ( $F(7,335) = 3.39, p < .01$ ) and stress response ( $F(7,335) = 2.313, p < .5$ ) by the 8 groups were significant. The results of the Bonferonni post-hoc test are shown in Table 10. The post-hoc results conclude that a group of native Koreans who live in out of South Korea is significantly heterogeneous in comparison to the three other groups native Koreans, regardless of where they live. Accordingly, the group of native Koreans who live in out of South Korea was re-classified as a Korean immigrant for the main analysis. Out of the total sample size of 356, 183 participants were classified as a group of native Koreans (mean age was 48.27,  $SD=7.96$ ) and 173 participants as a group of Korean immigrants (mean age was 50.96,  $SD10.124$ ).

As the results of the preliminary analyses above show, the categorical variables of marital status, education, religion, and living status were reported to significantly correlate with some of the study variables. Hence, these variables were included as controlling variables in the next steps of the hierarchical regression analyses for the main

Research Questions of this study. These variables were simultaneously entered at the first step in the hierarchical regression tests.

Table 9. One-Way ANOVA by 8 Groups of Living Areas

		Sum of Squares	df	Mean Square	<i>F</i>	<i>Sig.</i>
Anger Regulation	Between Groups	3981.266	7	568.752	3.390	.002
	Within Groups	56209.579	335	167.790		
	Total	60190.845	342			
Hwa-Byung	Between Groups	1593.748	7	227.678	1.769	.093
	Within Groups	43126.445	335	128.736		
	Total	44720.192	342			
Life Stress	Between Groups	1496.804	7	213.829	1.207	.298
	Within Groups	59360.292	335	177.195		
	Total	60857.096	342			
Stress Response	Between Groups	17656.508	7	2522.358	2.313	.026
	Within Groups	365257.673	335	1090.321		
	Total	382914.181	342			

Table 10. Bonferroni Post-hoc for the Mean Difference by 8 Groups of Living Areas

		N	Mean	SD	Sig. Mean difference ( <i>i-j</i> )	<i>Sig.</i>
Anger Regulation	1. NK-Urban	99	26.19	13.230		
	2. NK-Suburban	59	25.66	11.910		
	3. NK-Rural	18	25.83	17.527		
	4. NK-Out of KR	12	41.67	19.341	-15.475 (1-4)	<i>P</i> < .05
	5. KA-Urban	78	29.09	10.902	-16.006 (2-4)	
	6. KA-Suburban	47	32.45	13.553	-15.833 (3-4)	
	7. KA-Rural	20	28.45	10.490		
	8. KA-Out of US	10	26.90	14.138		
Stress Response	1. NK-Urban	99	30.82	31.531		
	2. NK-Suburban	59	30.10	28.229		
	3. NK-Rural	18	35.94	41.608		
	4. NK-Out of KR	12	62.25	48.370		
	5. KA-Urban	78	34.74	34.218	-31.432 (1-4)	<i>P</i> < .05
	6. KA-Suburban	47	37.43	32.518		
	7. KA-Rural	20	34.00	29.142		
	8. KA-Out of US	10	58.00	35.749		



## Main analyses

### Research Questions

As a reminder, the research questions of this study to investigate the similarities and differences of Hwa-Byung in two cultural contexts included the following:

1. How different or how similar are the relations of life stress to the level of Hwa-Byung between Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?
2. How different or how similar are the effects of life stress on the level of Hwa-Byung, which may be mediated by stress response, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?
3. How different or how similar are the effect of life stress on the level of Hwa-Byung, which may be mediated by anger regulation, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?

### Preceding Procedures

To conduct the main analyses of this study, correlations and regression, the assumptions should be qualified, which are normality, linearity, and homoscedasticity (Cohen, Cohen, West, & Aiken, 2003).

First, as above mentioned in the section on the descriptive data of the current samples, the distributions of Hwa-Byung, life stress and anger regulation were found to closely approximate normal curves enough as shown in Figure 2 (mean = 5.19, SD=2.865, N=356). In addition, even though the values of skewness were not as good as recommended by the literature, given the sample sizes (196 and 160) of this study, the analyses concluded are robust. The issue of skewness for the variable of Stress Response was solved by converting the original scores with a square root transformation, in order

to meet the normality assumption of correlation and multiple regression analyses, as presented in Figure 3. That is, by using the transformed scores, the normality assumption for the regression analyses was addressed in order to be qualified.

Next, in terms of the centering procedure, the original and transformed scores of continuous variables were standardized to Z scores, for the purpose of improving the computational accuracy of the results by minimizing multi-collinearity among variables, thereby increasing tolerance for the entry term in the hierarchical multiple regressions. For the multiple regressions, collinearity diagnostics were also employed in each regression analysis, to reduce its possibility, even though the standardized scores were used in analysis.

From the scatter plot of the standardized scores, some outliers that were over 3 were examined; however, the outliers were addressed in analyses through the method of casewise diagnostics in regression models. With the standardized scores of each variable, the assumptions of regression analysis were diagnosed as follows:

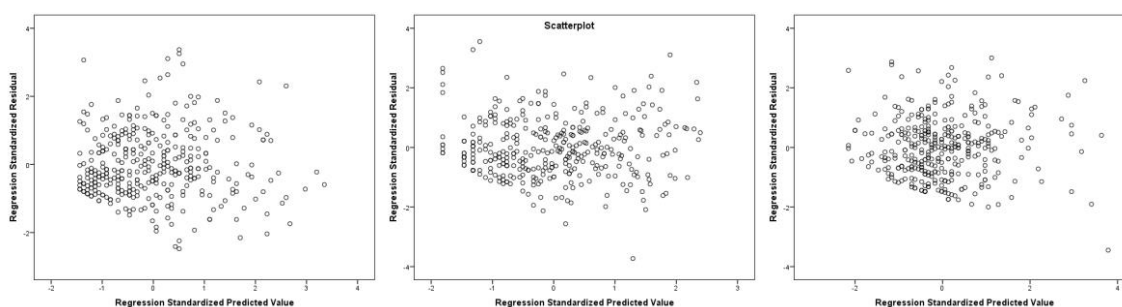


Figure 4. Scatter plots of the Regression Standardized Residuals (ZRESID) by Regression Standardized Predicted Value (ZRED) in each Regression analysis. From the left to the right, life stress by Hwa-Byung, stress response by Hwa-Byung, and anger Regulation by Hwa-Byung.

First, to check the homoscedacity and independency of the residuals scatter plots of the regression standardized residuals (ZRESID) by the regression standardized predicted value (ZRED) in each regression were drawn in Figure 4. Since the scatter plots of the residuals did not show any patterns and spread out roughly symmetrical above 0 and below 0 of the ZRESID, the assumptions of homoscedacity and independency of the residuals were met.

In addition, to examine the normality of the errors, a series of Normal Probability plots (Normal P-P) of the regression standardized residuals were also drawn as shown in Figure 5 (Presented in the same order as Figure 4). Each of Normal P-P was approximately close to the reference line, indicating that all regression analyses met the assumption of the normality of the error.

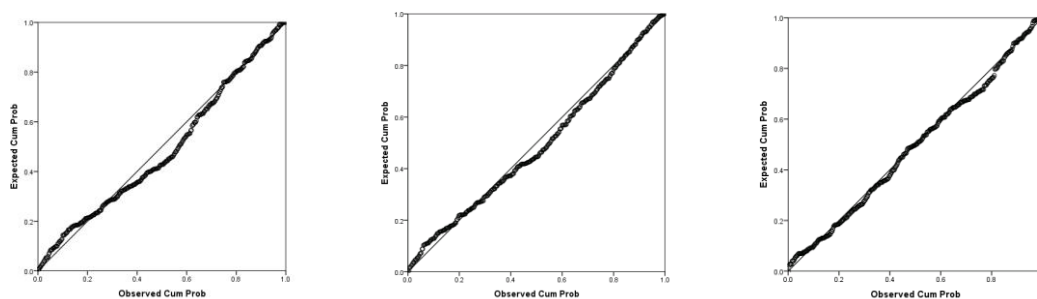


Figure 5. Normal Probability Plots of the Regression Standardized Residuals

To sum, based on the sequence of diagnostic examinations described above, it was concluded that there was no violation of the assumptions for correlation and regression analyses.

### Analyses for Research Question 1

Research Question 1 investigated the differences or similarities in the relationships of life stress to the level of Hwa-Byung between the two samples, native

Koreans in South Korea and Korean immigrants in the United States. To answer the research question, a series of *t*-tests was initially carried out (as shown in Table 11), in the subscale level of Hwa-Byung symptom and life stress. Due to re-locating a group of native Korean participants who live out of Korea into the Korean immigrant group, the difference of the sample size between the two groups was decreased; 183 native Koreans, 173 Korean immigrants, making a total of 356 participants, excluding the missing cases.

Table 11. Results of *t*-tests for Hwa-Byung Symptoms, Life Stress, and Demographic Variables between Native Koreans and Korean Immigrants

N=356	Native Korean (N=183)		Korean Immigrant (N=173)		<i>t</i> (df=354)	<i>Sig.</i> (2-tailed)	Mean Diff.
	Mean	SD	Mean	SD			
Hwa-Byung Total	.030	.959	-.031	1.043	.586	.558	.062
Physical Symptom	.029	1.007	-.030	.993	.567	.571	.060
Emotional Symptom	.026	.945	-.028	1.056	.520	.604	.055
Life Stress Total	-.1051	.905	.111	1.082	-2.049	.041	-.216
Interpersonal	-.398	2.360	.421	2.817	-2.981	.003	-.819
Husband	-.122	.9211	.129	1.064	-2.384	.018	-.251
Children	.003	1.004	-.003	.998	.067	.947	.007
Husband-in-law	-.014	1.012	.015	.989	-.287	.774	-.030
Friend	-.264	.762	.280	1.138	-5.334	.000	-.544
Tasks	-.145	2.524	.153	3.161	-.990	.323	-.299
Financial issue	.073	.965	-.077	1.032	1.433	.153	.151
Health	-.041	.919	.044	1.079	-.811	.418	-.085
House Chores	-.081	.958	.085	1.037	-1.577	.116	-.166
Workplace	-.096	.657	.101	1.259	-1.877	.061	-.198
Age	48.260	7.940	50.850	10.036	-2.689 (347)	.008	-2.597
Marriage Life (months)	238.280	120.190	248.890	142.100	-.749 (342)	.454	-10.610
Marriage Satisfaction	6.480	2.387	6.580	2.676	-.350 (333)	.726	-.097

Above all, there was no significant difference on the level of Hwa-Byung symptoms, either with subscales or overall levels, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the U.S. This was the same trend of the Hwa-Byung rate in the descriptive characteristics of participants of this study: 13.3% of native Koreans vs. 15% of Korean immigrants.

Within the independent variable of life stress for women, there were two dimensions, the interpersonal stress and the task-related stress. No significant mean differences between native Korean and Korean immigrants in the task dimension were found; however, the two factors of the life stress in the interpersonal relationships with a husband ( $t = -2.384, p < .05$ ) and friends ( $t = -5.334, p < .001$ ) showed a significant mean difference between native Koreans and Korean immigrants. From this effect, the interpersonal stress ( $t = -2.981, p < .05$ ) also reported a significant mean difference; likewise, the total score of life stress ( $t = -2.049, p < .05$ ) was significantly different between the two samples. Results from a series of *t*-tests concluded that Korean immigrants in the U.S. were likely to experience more stress in relationships with their husbands and friends than native Koreans in South Korea did, which indicated that in Korean American society, the value of interpersonal life may be higher and more weighted than in South Korea.

Regarding the demographic variables of the study, coded by continuous scale, the mean age ( $t = -2.689, p < .01$ ) was significantly different between native Koreans and Korean immigrant groups, which indicated that the mean age of native Koreans was younger than that of Korean immigrant participants. Other than that, the mean differences on the length of marriage life and the level of satisfaction with marriage was not found in this sample. Therefore, age should be controlled for in the multiple regression models. In addition, the variables of the level of acculturation to the America culture and years of living in the U.S., was not eligible to be compared in the two groups, due to the nature of the questions, as they were only pertinent to apply to the Korean immigrant group.

In the next step, the multiple regression analyses were conducted individually in the native Korean and Korean immigrant groups, in order to examine the relationships between the Hwa-Byung as a dependent variable and eight factors of life stress as independent variables. This was because, when adding the group membership as a dummy variable in the multiple regressions, the results did not find that Hwa-Byung was explained by the group membership, so the researcher was not able to investigate the differences and similarities of the Hwa-Byung between the two cultural contexts. Accordingly, the multiple regression analyses were conducted individually in each group and then the results were compared with each other. In addition, as controlling variables, age, marital status (either currently living alone, separated, divorced, widowed, and single, or married), religion, and education level were simultaneously entered in the first block of the hierarchical multicultural regression, and then the eight factors of life stress were entered in the second block, using a stepwise approach. In this way, the relationships between Hwa-Byung and life stress were examined in each group. Results of the multiple regression analyses are presented in Table 12.

Above all, regarding the demographic factors (age, marriage status, religion, and education), the models were significant in both groups. That is, these four factors significantly accounted for 9% of the variance in the level of Hwa-Byung in native Koreans ( $F(4,119) = 4.038$ ,  $p < .01$ ), while 6.8% of the variance in the level of Hwa-Byung in the Korean immigrants group ( $F(4,158) = 3.937$ ,  $p < .01$ ). However, to investigate the relationship between Hwa-Byung and life stress (Research Question 1), the effects of demographic variables were ruled out by controlling in the first block of the hierarchical multiple analyses.

Moreover, after controlling the effects of these demographic factors, in the native Korean group, three factors of life stress significantly explained the variance on Hwa-Byung; health ( $\Delta R^2 = .284$ ,  $\beta = .363$ ), household chores ( $\Delta R^2 = .046$ ,  $\beta = .210$ ), and the relationship with husband ( $\Delta R^2 = .018$ ,  $\beta = .175$ ) in the final model ( $p < .05$ ). On the other

hand, in the Korean immigrant group, although these three factors ( $p < .001$ ) significantly explained variance of Hwa-Byung, the extent of how much of the variance on Hwa-Byung could be accounted for by these three factors of life stress was different from those of the native Korean group; household chores ( $\Delta R^2 = .347$ ,  $\beta = .301$ ), the relationship with husband ( $\Delta R^2 = .115$ ,  $\beta = .339$ ), and health ( $\Delta R^2 = .055$ ,  $\beta = .293$ ) in order of significance.

That is, the variables of the relationship with husband, household chores, and health condition were the three main factors to impact the level of Hwa-Byung in both groups. 43.5% of the variance on Hwa-Byung in native Korean middle-aged women, while 59.0% of the variance on Hwa-Byung in Korean immigrant middle-aged women was significantly explained by these three factors of life stress and four demographic factors. The difference on the adjust R square values between the native Korean group (.435) and Korean immigrant group (.590) indicates that in the native Korean group, there may be other variables related to the Hwa-Byung phenomenon, beyond the variables used in this study, than those in the Korean immigrant women group.

Table 12. The Results of the Hierarchical Multiple Regression Analyses Explaining Hwa-Byung from Life Stress in Both Native Korean and Korean Immigrant Groups

		(A) Native Korean Middle-aged Women					(B) Korean Immigrant Middle-aged Women								
	Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t		Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t
1	(Constant)			.315	.760		.415		(Constant)			1.665	.657		2.535*
	Age			-.024	.010	-.212	-2.389*		Age			-.030	.008	-.282	-3.548***
	Marriage Status	.120	.120	.820	.423	.168	1.939		Marriage Status	.091	.091	.410	.287	.110	1.431
	Religion			.163	.091	.159	1.788		Religion			.040	.080	.038	.501
	Education			-.189	.132	-.125	-1.429		Education			-.317	.148	-.168	-2.137*
2	(Constant)			.626	.629		.994		(Constant)			.201	.539		.373
	Age			-.018	.008	-.156	-2.117*		Age			-.006	.007	-.057	-.845
	Marriage Status	.403	.284	.377	.355	.077	1.062		Marriage Status	.437	.347	.296	.227	.079	1.307
	Religion			.137	.075	.133	1.819		Religion			.010	.063	.010	.160
	Education			-.233	.110	-.154	-2.122*		Education			-.150	.118	-.079	-1.269
	LS: Health			.573	.076	.546	7.486***		LS: House Chores			.633	.064	.629	9.832***
3	(Constant)			.394	.611		.645		(Constant)			.468	.484		.967
	Age			-.013	.008	-.114	-1.573		Age			-.007	.006	-.068	-1.138
	Marriage Status			.299	.343	.061	.870		Marriage Status			-.021	.209	-.006	-.099
	Religion	.449	.046	.136	.073	.133	1.876		Religion	.553	.115	.026	.057	.025	.467
	Education			-.175	.107	-.116	-1.634		Education			-.114	.106	-.060	-1.074
	LS: Health			.432	.086	.412	5.001***		LS: House Chores			.443	.065	.440	6.823***
	LS: House Chores			.265	.084	.262	3.141**		LS: Husband			.384	.061	.397	6.344***
4	(Constant)			.615	.614		1.002		(Constant)			.417	.455		.916
	Age			-.013	.008	-.116	-1.626		Age			-.009	.006	-.081	-1.445
	Marriage Status			.054	.361	.011	.149		Marriage Status			-.032	.196	-.009	-.162
	Religion	.467	.018	.134	.072	.131	1.867		Religion	.608	.055	.038	.053	.036	.711
	Education			-.133	.108	-.087	-1.225		Education			-.054	.100	-.029	-.542
	LS: Health			.381	.089	.363	4.278***		LS: House Chores			.303	.068	.301	4.455***
	LS: House Chores			.212	.087	.210	2.430*		LS: Husband			.328	.058	.339	5.636***
	LS: Husband			.187	.094	.175	1.981*		LS: Health			.283	.061	.293	4.658***

Note. a. LS : Life Stress

b. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



### Analyses for Research Question 2

In order to answer Research Question 2, “How different or how similar are the effects of life stress on the level of Hwa-Byung, which may be mediated by stress response, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?,” the sets of hierarchical multiple regression analyses were also conducted in both groups, individually, with Hwa-Byung as a dependent variable and both life stress and stress response as independent variables, after controlling the effects of demographic variables. Since there were correlations both between life stress and stress response and between stress response and the level of Hwa-Byung, according to the Table 7 and Table 8, it could assume that there may be mediating effects of stress response on the relationship between life stress and the level of Hwa-Byung. The results were presented in Table 13. Like the order in Research Question 1, four demographic variables were entered in the first block, to control their effects on Hwa-Byung, and then both variables of life stress and stress response together were entered in the second block in a stepwise approach. Through comparing to the results of Research Question 1, the mediating effects of stress response were able to be determined.

Regarding the mediating effect of stress response, while the effect of life stress on Hwa-Byung was mediated by cognitive stress response ( $\Delta R^2 = .391$ ) in native Korean groups, it was mediated by somatic stress response ( $\Delta R^2 = .549$ ) in the Korean immigrants. Their effect sizes of cognitive stress response in both groups was medium ( $\beta = .498$ ,  $\beta = .512$ ), based on Cohen’s convention; values of .2, .5, and .8 are often interpreted as small, medium, and large effects respectively.

First, the cognitive stress response ( $\Delta R^2 = .391$ ) significantly changed the effect of life stress on Hwa-Byung in the native Korean group. To be specific, the variable of household chores was removed from the final model of the hierarchical multiple regression analyses, and the effect size of health (from  $\beta = .363$  to  $\beta = .183$ ) was

decreased, which also indicated that there was no suppressor variables; yet, the effect of the relationship with husband on Hwa-Byung was maintained ( $\beta = .175$  vs.  $\beta = .177$ ) as a small effect size. From the final model of the hierarchical multiple regression analyses, 53.9% of the variance on Hwa-Byung was explained by the three variables of cognitive response ( $p < .05$ ), the relationship with husband ( $p < .001$ ), and health condition ( $p < .05$ ). In conclusion, the variance of Hwa-Byung significantly explained by the effect of life stress increased from 43.5 % to 53.9% when the effect of life stress and stress response confounded in the native Korean middle-aged women.

Otherwise, in the Korean immigrant group, the somatic stress response ( $\Delta R^2 = .549$ ) also significantly changed the effects of life stress on Hwa-Byung. As a result, when comparing the effect size of life stress in Research Question 1, the effect sizes of all household chores (from  $\beta = .301$  to  $\beta = .137$ ), health (from  $\beta = .293$  to  $\beta = .135$ ), and the relationship with husband (from  $\beta = .339$  to  $\beta = .231$ ) were moderately reduced, while the effect of stress in the workplace was entered ( $\beta = -.122$ ) in a negative direction, when the effect of stress response was added to the final model. In sum, 70.3 % of the variance on Hwa-Byung was significantly explained by the somatic stress response ( $p < .001$ ) and life stresses in the relationship with husband ( $p < .001$ ), household chores ( $p < .05$ ), work place ( $p < .01$ ), and health ( $p < .05$ ) in Korean immigrant middle-aged women. Accordingly, the variance of Hwa-Byung significantly explained by the effect of life stress increased from 59.0 % to 70.3 % when the effect of life stress and stress response confounded in this group.

In conclusion, by adding the variable of stress response, the proportion of explaining the variance of Hwa-Byung associated with life stress increased almost 10 % in both groups, which indicated that a way of stress response significantly changes the effect of life stress on Hwa-Byung, either through a cognitive or somatic response.

Table 13. The Results of the Hierarchical Multiple Regression Analyses Explaining Hwa-Byung from Life Stress and Stress Response in Both Native Korean and Korean Immigrant Groups

(A) Native Korean Middle-aged Women							(B) Korean Immigrant Middle-aged Women						
Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t	Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t
(Constant)			.315	.760		.415	(Constant)			1.665	.657		2.535*
Age			-.024	.010	-.212	-2.389*	Age			-.030	.008	-.282	-3.548***
1 Marriage Status	.120	.120	.820	.423	.168	1.939	Marriage Status	.091	.091	.410	.287	.110	1.431
Religion			.163	.091	.159	1.788	Religion			.040	.080	.038	.501
Education			-.189	.132	-.125	-1.429	Education			-.317	.148	-.168	-2.137*
(Constant)			-.249	.572		-.435	(Constant)			-.207	.432		-.480
Age			.003	.008	.023	.323	Age			-.002	.006	-.022	-.423
2 Marriage Status	.511	.391	.296	.321	.060	.920	Marriage Status	.639	.549	.259	.182	.069	1.427
Religion			.090	.069	.087	1.305	Religion			.035	.051	.034	.695
Education			-.161	.099	-.106	-1.625	Education			-.043	.095	-.023	-.449
SR: Cognitive			.670	.069	.686	9.713***	SR: Somatic			.778	.050	.786	15.453***
(Constant)			.109	.564		.193	(Constant)			.015	.405		.037
Age			.001	.008	.011	.158	Age			-.003	.005	-.031	-.634
Marriage Status			-.059	.331	-.012	-.179	Marriage Status			.048	.174	.013	.275
3 Religion	.548	.037	.091	.066	.089	1.374	Religion	.689	.050	.041	.047	.039	.870
Education			-.102	.098	-.067	-1.040	Education			-.034	.089	-.018	-.381
SR: Cognitive			.585	.072	.599	8.111***	SR: Somatic			.637	.055	.643	11.631***
LS: Husband			.245	.079	.229	3.096**	LS: Husband			.261	.052	.270	4.988***
(Constant)			.231	.558		.414	(Constant)			-.124	.404		-.308
Age			-.001	.008	-.009	-.133	Age			-.001	.005	-.009	-.175
Marriage Status			-.035	.326	-.007	-.109	Marriage Status			.059	.172	.016	.344
4 Religion	.565	.018	.095	.065	.092	1.456	Religion	.700	.011	.034	.047	.033	.731
Education			-.134	.097	-.089	-1.382	Education			-.029	.088	-.015	-.325
SR: Cognitive			.487	.084	.498	5.780***	SR: Somatic			.557	.064	.562	8.711***
LS: Husband			.190	.082	.177	2.315*	LS: Husband			.236	.053	.245	4.498***
LS: Health			.192	.088	.183	2.177*	LS: House Chores			.149	.063	.148	2.355*

		(A) Native Korean Middle-aged Women					(B) Korean Immigrant Middle-aged Women							
	Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t	Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t
5	N/A							(Constant)	.710	.011	-0.196	.399		-.490
								Age			-.001	.005	-.006	-.116
								Marriage Status			.106	.171	.028	.620
								Religion			.038	.046	.036	.824
								Education			-.027	.086	-.014	-.314
								SR: Somatic			.578	.064	.584	9.084***
								LS: Husband			.232	.052	.240	4.478***
								LS: House Chores			.166	.063	.165	2.646**
LS: Workplace	-.088	.037	-.108	-2.364*										
6	N/A							(Constant)	.720	.010	-0.159	.394		-.404
								Age			-.002	.005	-.018	-.377
								Marriage Status			.097	.168	.026	.577
								Religion			.043	.045	.041	.941
								Education			-.009	.086	-.005	-.110
								SR: Somatic			.516	.068	.521	7.538***
								LS: Husband			.223	.051	.231	4.343***
								LS: House Chores			.138	.063	.137	2.183*
								LS: Workplace			-.099	.037	-.122	-2.670**
								LS: Health			.130	.057	.135	2.279*

Note. a. LS : Life Stress, SR: Stress Response  
b. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

### Analyses for Research Question 3

The procedure of data analyses to answer Research Question 3, “How different or how similar are the effect of life stress on the level of Hwa-Byung, which may be mediated by anger regulation, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States?” was similar to Research Question 2, but the variable of stress response was replaced by anger regulation in order to examine the mediating effect of anger regulation at this time. In addition, as necessary conditions for examining mediating effects, likely to Research Question 2, both relations of between life stress and anger regulation, and between anger regulation and the level of Hwa-Byung were already observed from the Table 7 and Table 8. Thus, a detailed explanation about the procedure was avoided; instead the results tables are presented in Table 14.

First, anger expression ( $\Delta R^2 = .099$ ) changed the effect of life stress on Hwa-Byung from the third model in native Korean women, while anger control ( $\Delta R^2 = .024$ ) was entered in the fifth model of the hierarchical multiple regression in Korean immigrant women. The effect sizes of anger expression ( $\beta = .328$ ) and anger control ( $\beta = .210$ ) in the final model were small in both groups, based on Cohen’s convention.

Anger expression, in particular, moderately changed the effect of life stress on Hwa-Byung in the native Korean group, as the effect sizes of health (from  $\beta = .363$  to  $\beta = .300$ ), household chores (from  $\beta = .210$  to  $\beta = .169$ ), and the relationship with husband (from  $\beta = .175$  to  $\beta = .162$ ) decreased, when comparing with the final model in Research Question 1. Therefore, 51.7% of the variance of Hwa-Byung was explained by these three life stress variables (health  $\Delta R^2 = .284$ ,  $p < .001$ ; household chores  $\Delta R^2 = .031$ ,  $p < .05$ ; and the relationship with husband  $\Delta R^2 = .015$ ,  $p < .05$ ); the proportion of which also increased from 43.5% to 51.7% when adding in the anger regulation effect.

On the other hand, in the Korean immigrant group, the effect of anger regulation (anger control  $\Delta R^2 = .024$ ,  $\beta = .210$ ) was relatively very small. Accordingly, the effects of

life stress on Hwa-Byung, specifically, household chores (from  $\beta = .301$  to  $\beta = .267$ ,  $p < .001$ ), the relationship with husband (from  $\beta = .339$  to  $\beta = .305$ ,  $p < .001$ ), and health (from  $\beta = .293$  to  $\beta = .265$ ,  $p < .001$ ), changed only slightly to decrease, by adding the anger regulation; instead, the variable of stress in the workplace ( $\Delta R^2 = .011$ ,  $\beta = -.112$ ,  $p < .05$ ) was added to the final model of the hierarchical multiple regression analyses. In the end, 62.1% of the variance on Hwa-Byung was significantly explained by the effect of life stress and anger control, which increased slightly from 59 %, when the effect of life stress and anger regulation confounded in Korean immigrant middle-aged women.

### Summary

In Chapter IV, the results of the mean comparison of Hwa-Byung via *t*-tests, between native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States, indicated that there were no significant differences. However, the means of life stress, especially in the variables of the relationship with husband and friends in the interpersonal dimension, were significantly different between two cultural contexts, and which in turn reported the significant mean difference in the overall score of life stress, even though there was no difference in the task dimension in life stress. In addition, by comparing the results of a series of hierarchical multiple regressions in each group, the relationships on Hwa-Byung and life stress was examined. In both groups, three significant factors were found to have a significant effect on Hwa-Byung: (a) the relationship with husband, (b) household chores, and (c) health condition. In addition, by conducting another set of hierarchical multiple regressions in order to investigate the mediation effects of stress response and anger regulation, the effect of life stress on Hwa-Byung was mediated by cognitive stress response and anger expression in native Korean middle-aged women in South Korea, while that was mediated by somatic stress response and anger control in Korean immigrant middle-aged women in the United States. These findings will be discussed in

more detail in the following chapter, along with implications for counseling strategies, depending on the cultural differences taken into interpretation.

Table 14. The Results of the Hierarchical Multiple Regression Analyses Explaining Hwa-Byung from Life Stress and Anger Regulation in Both Native Korean and Korean Immigrant Groups

(A) Native Korean Middle-aged Women							(B) Korean Immigrant Middle-aged Women						
Predictor Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t	Predictor Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	t
(Constant)			.315	.760		.415	(Constant)			1.665	.657		2.535*
Age			-.024	.010	-.212	-2.389*	Age			-.030	.008	-.282	-3.548***
1 Marriage Status	.120	.120	.820	.423	.168	1.939	Marriage Status	.091	.091	.410	.287	.110	1.431
Religion			.163	.091	.159	1.788	Religion			.040	.080	.038	.501
Education			-.189	.132	-.125	-1.429	Education			-.317	.148	-.168	-2.137*
(Constant)			.626	.629		.994	(Constant)			.201	.539		.373
Age			-.018	.008	-.156	-2.117*	Age			-.006	.007	-.057	-.845
2 Marriage Status	.403	.284	.377	.355	.077	1.062	Marriage Status	.437	.347	.296	.227	.079	1.307
Religion			.137	.075	.133	1.819	Religion			.010	.063	.010	.160
Education			-.233	.110	-.154	-2.122*	Education			-.150	.118	-.079	-1.269
LS: Health			.573	.076	.546	7.486***	LS: House Chores			.633	.064	.629	9.832***
(Constant)			.635	.578		1.100	(Constant)			.468	.484		.967
Age			-.010	.008	-.086	-1.238	Age			-.007	.006	-.068	-1.138
Marriage Status			.273	.326	.056	.836	Marriage Status			-.021	.209	-.006	-.099
3 Religion	.502	.099	.058	.071	.057	.817	Religion	.553	.115	.026	.057	.025	.467
Education			-.283	.101	-.187	-2.796**	Education			-.114	.106	-.060	-1.074
LS: Health			.469	.073	.448	6.389***	LS House Chores			.443	.065	.440	6.823***
AR: Expression			.359	.075	.359	4.811***	LS: Husband			.384	.061	.397	6.344***
(Constant)			.444	.566		.785	(Constant)			.417	.455		.916
Age			-.006	.008	-.056	-.823	Age			-.009	.006	-.081	-1.445
Marriage Status			.216	.318	.044	.679	Marriage Status			-.032	.196	-.009	-.162
4 Religion	.533	.031	.063	.069	.062	.915	Religion	.608	.055	.038	.053	.036	.711
Education			-.232	.100	-.153	-2.317*	Education			-.054	.100	-.029	-.542
LS: Health			.361	.081	.344	4.429***	LS: House Chores			.303	.068	.301	4.455
AR: Expression			.333	.073	.333	4.543***	LS: Husband			.328	.058	.339	5.636***
LS: House Chores			.218	.079	.216	2.773**	LS: Health			.283	.061	.293	4.658***



(A) Native Korean Middle-aged Women							(B) Korean Immigrant Middle-aged Women						
Predictor Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	<i>t</i>	Predictor Variables	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE(B)	β	<i>t</i>
(Constant)			.649	.568		1.141	(Constant)			.102	.454		.225
Age			-.007	.008	-.059	-.879	Age			-.004	.006	-.035	-.621
Marriage Status			-.010	.334	-.002	-.030	Marriage Status			.007	.191	.002	.035
Religion			.062	.068	.061	.911	Religion			.039	.052	.038	.762
5 Education	.548	.015	-.191	.101	-.126	-1.896	Education	.631	.024	-.057	.098	-.030	-.585
LS: Health			.314	.084	.300	3.758***	LS: House Chores			.254	.068	.253	3.740***
AR: Expression			.328	.072	.328	4.531***	LS: Husband			.300	.057	.310	5.237***
LS: House Chores			.170	.081	.169	2.091*	LS: Health			.236	.061	.245	3.874***
LS: Husband			.173	.087	.162	1.986*	AR: Control			.191	.061	.197	3.146**
							(Constant)			.026	.450		.058
							Age			-.003	.006	-.032	-.577
							Marriage Status			.054	.190	.014	.282
							Religion			.044	.051	.042	.861
							Education			-.054	.097	-.029	-.564
6 N/A							LS: House Chores	.642	.011	.269	.067	.267	3.986***
							LS: Husband			.295	.057	.305	5.207***
							LS: Health			.255	.061	.265	4.198***
							AR: Control			.204	.060	.210	3.383***
							LS: Workplace			-.092	.042	-.112	-2.178*

Note. a. LS : Life Stress, AR: Anger Regulation  
b. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## CHAPTER V

### DISCUSSION

Chapter V will provide an overview of the study and discussion of the findings in this study with possible explanations. In addition, this chapter will present the implications for the field of counseling and review limitations of this study. Finally, the chapter will suggest directions for future research.

#### Overview of the Study

The purpose of this study was to examine the differences and similarities of the experience of Hwa-Byung between native Korean women in South Korea and Korean immigrant women in the United States, roughly between the age range of late 30's to middle 60's, by investigating the effect of life stress on Hwa-Byung, which may be changed by the stress response and anger regulation.

For this cross-cultural design, two target populations, namely, native Korean middle-aged women in South Korea and Korean immigrant middle-aged women in the United States, were used. The inclusion criteria for the native Korean sample to participate in this study were (a) reside in South Korea and (b) be middle aged between 35 and 65, while the Korean immigrant samples were those who (a) met the same criteria of age, (b) were the first or 1.5 generations of Korean immigrants in U.S., (c) possess a Korean cultural background in their individual and/or family history, and (d) currently reside in the United States.

Data was collected through both the online and hard-copy surveys in both samples during the time between December 2013 and March 2014. The hard-copy survey was mainly conducted in the metropolitan and suburban areas of the United States (Chicago, Minneapolis, San Francisco, and Los Angeles), as well as in South Korea (Seoul, Busan, and Suwon), and the survey link for the online survey was posted on Internet sites

popular among Koreans / Korean immigrant women in South Korea and in the United States. Both the web-based and paper-pencil based surveys consisted of five sections: (a) Hwa-Byung scale (Kwon, Kim, Park, Lee, Min, & Kwon, 2008), (b) Life Stress for Korean Women (Chon & Kim, 2003) (c) Stress Response Inventory (Koh, Park, & Kim, 2002), (d) Anger Regulation (Hahn, Chon, Lee, & Spielberger, 1997), and (e) demographic information (developed by the researcher), in addition to the consent letter and form requesting the email address for compensation. The average time to complete the online surveys was between 12 and 16 minutes, and the time for completing a hardcopy survey may have been similar or more because the survey items were the same.

The Korean instruments of the Hwa-Byung Scale, Life Stress for Korean women, Stress Response Inventory (SRI), and some items of the Anger Expression scale (STAXI-K) were translated from Korean into English, using a back-translation process, embedded in order to achieve language equivalence in the cross-cultural design; also, the questionnaires for Korean immigrant samples were formatted by presenting both Korean and English for each item in order to minimize possible measuring errors coming from language differences.

Among the total of 392 participants in the study (217 native Koreans, 182 Korean immigrants), a total of 356 samples were valid after ruling out missing values, with a mean age of 49.51 (SD=9.09), consisting of 196 native Korean women (171 from the hard-copy and 25 from the online survey) in South Korea and 160 Korean immigrant women (71 from hard-copy and 89 from the online survey) in the United States. However, after re-classifying the 12 native Korean participants who currently or previously lived outside South Korea to the group of Korean immigrant sample, the sample consisted of 183 native Koreans (mean age was 48.27, SD=7.96) and 173 Korean immigrants (mean age was 50.96, SD10.124) in the final data analyses.

To analyze the data, a series of *t*-tests, one-way analyses of variance, correlations, and the hierarchical multiple regression were conducted to answer the research questions

of this study, to examine the similarities and differences regarding the effects of life stress on Hwa-Byung, which may be changed by the stress response and anger regulation between native Korean women in South Korea and Korean immigrant women in the United States. In the next section, the findings of this study will be discussed.

### Discussion of Findings

The findings of this study provide meaningful information and insight into the relationship between Hwa-Byung and life stress, which was changed by the effect of stress response and anger regulation, and which was also different depending on the cultural context between native Koreans in South Korea and Korean immigrants in the United States. In this section, findings that emerged from this study were reviewed and discussed in more detail, including descriptive analyses and mean difference tests of the current samples, as well as the results from the main analyses for research questions in this study.

#### Findings from Descriptive Characteristics of Participants

First, this study revealed that the prevalence rate of Hwa-Byung was not significantly different in the two samples, native Koreans in South Korea (13.3%) and Korean immigrants in the U.S. (15.0%). In particular, the prevalence rate of Hwa-Byung in the U.S. sample (14.0%) was slightly higher than in other previous studies with Korean immigrants that found a prevalence rate of Hwa-Byung that ranged from the lowest at 2.9 % on the East Coast of the U.S. (Lee, 2013) to the highest at 11.9% on the West Coast of the U.S. (Lin et al., 1992). This indicates that people who are aware of cultural expectations of having a Korean background may share the behavioral patterns, which is to refrain from expressing negative feelings and emotions, regardless of where they currently live, when Hwa-Byung developed from suppressed anger (Kim, 1997; Lin, 1983; Lin et al., 1992; Min, 1989). In addition, the total prevalence rate of Hwa-Byung of this current sample was considerably higher than in previous studies; 4.1% (Min,

Namkoong, & Lee, 1990) and 3.64 % (Min, Park, & Han, 1993). However, those studies used different measures to identify the prevalence of Hwa-Byung; thus, to compare the rates of Hwa-Byung is meaningless at this time.

Second, because this study employed a cross-cultural design, it is meaningful to compare the demographic characteristics of the two samples. There was a significant difference ( $\chi^2 = 11.391, p < .05$ ) in the types of marital status (i.e., single, married, divorced, separated, widowed, or remarried) between native Koreans in South Korea and Korean immigrants in the U.S. The differences of marital status may cause significant differences in the kind of life stress and anger regulation by the mean difference analyses, especially in the group of native Koreans in South Korea. Apparently, people who are currently married (92.33, 92.68) showed lower scores than people with other marital status (143.44, 135.50) on the scales life stress and anger regulation, respectively. However, the two different groups (married vs. others) of marital status were not significant to support difference in Hwa-Byung symptoms. This result points to that the history of marriage life for native Koreans impacts the level of Hwa-Byung among middle-aged women in South Korea. However, this result was not the case for the group of Korean immigrants. Therefore, one can conclude that the status of marriage life is more valued in South Korea than in the U.S., and a traditional value of Confucianism, family-centered culture, is still crucially reflected in South Korean culture.

Third, there were also differences in current living status, in terms of family structure: 74.4 % of native Koreans live with their partner and children only and 13.4% with partner only, while 56.1 % of Korean immigrants live with their partner and children together and 32.9 % with partner only. That is, native Koreans tend to reside with all family members together at a later age, which is also the traditional family structure in South Korea, compared to Korean immigrants.

Other than those differences, there were also significant differences in living status, religion, level of education, and employment between native Koreans in South

Korea and Korean immigrants in the U.S. These differences of demographic characteristics imply that the life styles between the two cultures are different, which may require different strategies of coping with stress.

#### Findings from the Mean Difference Tests

Based on the above results about the two-group differences on demographic characteristics, the mean differences of the study variables were explained by significant demographic factors, including marital status, employment, education, living areas, religion, and living status. (See APPENDIX E. TABLES OF SUPPLEMENTAL ANALYSES for more detail.) As a result, in sum, there was only one demographic variable that significantly impacted the differences in the level of Hwa-Byung in the native Korean sample, and no variable in Korean immigrants. To be specific, the level of Hwa-Byung was different by religion, differentiated from either having religious faith or not. Other demographic factors did not contribute to differences in the level of Hwa-Byung in the native Korean sample. This result was different than in previous studies, in that education status (Kim, Hogge, Ji, Shim, & Lothspeich, 2013; Lee, 2013) also significantly impacted the level of Hwa-Byung among demographic variables.

Regarding other study variables, in native Korean samples, marital status (either currently married vs. other) significantly contributed to the mean differences on both the level of life stress and anger regulation. In addition, there were significant differences in anger regulation by education and all study variables by religion. On the other hand, in the Korean immigrant sample, there was no difference in the study variables (life stress, stress response and anger regulation) by the demographic variables, except for marital status on life stress, and living status on life stress, stress response and anger regulation. This result was also reflected in the results of the hierarchical multiple regressions in the research questions, in that native Koreans in South Korea are more impacted by demographic variables than Korean immigrants in the U.S. when it comes to the level of

Hwa-Byung, although each variable itself did not significantly explain the level of Hwa-Byung. In other words, compared to the Korean immigrant society, native Korean society is more sensitive to the demographical classification as a kind of stressor that may impact the development of Hwa-Byung.

### Findings from the Research Questions

Three research questions were designed to examine the mediation effect of stress response (Research Question 2) and anger regulation (Research Questions 3) to compare the results between native Koreans in South Korea and Korean immigrants in the United States. Each research question itself provides meaningful results by comparing the results between the two cultures. The findings of the study are as follows:

#### Findings from Research Question 1

As noted above, the prevalence rate of Hwa-Byung between native Koreans in South Korea and Korean immigrants in the United States was not different. However, significant differences were found in eight factors of life stress that play a role as potential causal factors in developing Hwa-Byung. The results of the Chi-square tests in Research Question 1, in particular, revealed that Korean immigrants in the U.S. are likely to become more stressed in the relationships with their husband and friends than native Koreans in South Korea are, which conversely indicates that interpersonal relationships in Korean immigrant society are more valued than in South Korea. This finding was approved by comparing the results of the hierarchical multiple regressions between the two samples. Whereas stress from the relationship with husband accounted for 1.8% of the variance of Hwa-Byung in the native Korean sample, the stress accounted for 11.5% of the variance of Hwa-Byung in the Korean immigrants, which is 10 times the difference. This result also relates to living status, as stated above. More Korean immigrants live only with their partner than native Koreans, which means that the relationship with one's husband is more important when part of a couple.

However, even though there were no differences of level of stress in health and household chores from the result of *t*-tests, between native Koreans and Korean immigrants, the proportion of Hwa-Byung explained by health (28.4 % vs. 5.5%) and household chores (4.6% vs. 34.7%) considerably differs between native Koreans in South Korea and Korean immigrants in the U.S. The findings also reveal differences in that certain factors of life stress were more valued than others, which caused a higher level of stress to impact the level of Hwa-Byung in each cultural context. For example, the health factor of life stress accounted for 28.4% of Hwa-Byung in native Koreans, compared to 5.5% in Korean immigrants. Because apparently native Koreans pay closer attention to their health concerns than Korean immigrants, which can be explained in the explained proportions and which are is reflected in the cultural values in each society. Frankly speaking, native Koreans are more sensitive to body shape, nutrition, and physical appearance than Americans. Likewise, the level of stress from household chores might be higher in the United States than in South Korea because an average size of a house in the U.S. is larger and Americans are more likely to fix problems in houses by themselves due to high labor fees, for example. This sort of different life style may be reflected in the high level of stress for household chores and in turn, increase the level of Hwa-Byung.

In conclusion, although there were differences in the extent of stress from the relationship with husband, health concerns, and household chores between the native Korean group and the Korean immigrant group, these three factors were the main variables that significantly account for the difference in level of Hwa-Byung in both cultures.

#### Findings from Research Question 2

The findings from Research Question 2 answered the questions (a) what types of stress response regulate the relationship between life stress and the level of Hwa-Byung and (2) how are the types of stress response different or similar between the native



Korean group and Korean immigrant group. The results were that the cognitive stress responses change the relationship between life stress and the level of Hwa-Byung in native Koreans, while the somatic stress responses change the Korean immigrants. Cognitive response in this study refers to ways of thinking after experiencing life stress and includes negative thoughts, aggressive-hostile thoughts, and self-depreciative thoughts. That is, native Koreans tend to react more cognitively than in other ways (emotional, somatic, and behavioral) to the stressor; these irrational ways of thinking was the main factor that increased the level of Hwa-Byung by confounding the life stress in native Koreans. Therefore, for native Koreans, changing ways of thinking, in terms of using a cognitive approach, can be a key strategy to reduce the stress and Hwa-Byung in the end. However, at this time, there was no evidence which type of cognitive response had a greater impact on the level of Hwa-Byung because the items in each type of cognitive response were not able to be measured.

The researchers who developed the Stress Response Scale (SRI) also developed the Cognitive Stress Response Scale (CSRS) (Koh & Park, 2004), specifically. By using the CSRS scale, researchers will be able to obtain more accurate evidence regarding effective type of cognitive response to life stress and Hwa-Byung, which is one of the suggestions for future research by this researcher.

On the other hand, Korean immigrants are likely to employ somatic reactions to mediate the effect of life stress on Hwa-Byung. This is not surprising because Hwa-Byung can be viewed as a kind of somatization disorder, but a culturally-bound syndrome presenting various physical symptoms (i.e., fatigue, sighing, indigestion, headache and stomach). Thus, the kind of somatic response explained 54.9% of the variance of Hwa-Byung in this sample.

### Findings from Research Question 3

The findings from Research Questions 3 gave the same answer regarding the mediating factor of anger regulation and its differences and/or similarities between the native Korean group and Korean immigrant group. To conclude, anger expression mediated the effect of life stress on Hwa-Byung in native Koreans, while anger control did so with Korean immigrants. The items in anger expression included “I raise my voice”, “I argue with others”, and “I yell out”, for example. In other words, by expressing negative feelings toward others or objects in the environment (Spielberger & Sydeman, 1994), native Koreans try to decrease life stress and its effect on Hwa-Byung. It is a seemingly very interesting result in that the ways of expressing negative feelings significantly related to how Hwa-Byung typically developed when people hold negative feelings and emotions inside. However, there are possible explanations. First, according to the Research Diagnostic Criteria for Hwa-Byung (Table 1), ‘expressed anger’ is one of six Hwa-Byung-specific symptoms; therefore, it makes sense (Min, Suh, Cho, Huh, & Song, 2009). Second, considering the timeframe and extent of anger associated with the Integrated Model of Hwa-Byung Development (Kim, Jung, Kang, Lee, & Chung, 2013), which requires that a traumatic event and lasting period occurs when negative feelings and emotions are suppressed. That is, one can conclude that the ways of anger expression for native Koreans are not effective, and are even dysfunctional. This is because native Koreans are more likely to express anger about small and superficial matters immediately toward the people and objects, while they are not able to express emotions that are chronic and related to a profound type of anger. Therefore, the tendency that native Koreans hold should be considered when dealing with anger management and Hwa-Byung treatment.

In other ways, Korean immigrants are more likely to control their negative feelings, thereby significantly decreasing the life stress and its impact on Hwa-Byung. Anger control refers to attempts to control feelings of anger ‘by monitoring and

preventing its expression' (Spielberger & Sydeman, 1994; Spielberger, 1988); relevant characteristics of anger control were identified between anger expression and anger suppression when developing the Anger Expression scale. That is, Korean immigrants tend to regulate their anger "by monitoring and preventing its expression", which successfully decreased the effect of life stress on Hwa-Byung. Compared to the findings from native Koreans, these findings offer answers to the question how to effectively manage negative feelings and emotions.

### Implications of the Study

Based on the findings of this study, the following implications are suggested for practitioners in the United States and South Korea.

#### Implications for practitioners in the United States

This study provides some implications for practitioners who are working with populations of Korean immigrants or Korean Americans in the United States in the field of mental health. First, practitioners should be aware of Hwa-Byung and related symptoms, a unique illness, distinguished from depression or other somatic disorder. In particular, to rule out the real organic problems from physical complaints of Hwa-Byung symptoms, physical check-up by physicians should be the first step when working with Hwa-Byung clients (Kim-Goh, 1998). Then, when their clients are talking about depressive and angry feelings, practitioners should examine whether these make up the unique symptoms characteristic of Hwa-Byung. In fact, Koreans usually use the term 'Hwa-Byung' interchangeably with depression because they also are not clearly aware of the differences between Hwa-Byung and depression, due to shared physical symptoms, such as insomnia or headache, and also because loosely using the term Hwa-Byung seems to alleviate their status of dysfunction. Hence, Koreans prefer to avoid using the psychiatrically diagnostic terms, like 'disorder', which may threaten them to feel stigmatized. In further understanding these reasons, practitioners should be able to

distinguish Hwa-Byung from major depression, clearly articulate their client's major issue(s) (whether related to Hwa-Byung or depression), and appropriately establish treatment goals. The Research Diagnostic Criteria for Hwa-Byung in Table 1 (Min, Suh, Cho, Huh, & Song, 2009) and The Integrated Model of Hwa-Byung in Figure 1 (Kim, Jung, Kang, Lee, & Chung, 2013) provide guidelines for practitioners as to how to distinguish Hwa-Byung from the major depression episode and what should be examined to determine Hwa-Byung based on the developmental process of Hwa-Byung from the client's history.

As presented in Table 1, Hwa-Byung holds subjective anger, feelings of unfairness, expressed anger, heat sensation, hostility, and Haan, which are Hwa-Byung-specific symptoms, compared to other somatic or depressive disorders. Accordingly, dealing with the feelings of unfairness, listening to their story of accumulated Haan, and confronting the expressed and subjective anger might be effective strategies in counseling sessions.

In light of traumatic events that can facilitate the development of Hwa-Byung, practitioners should consider the client's current social assets in relationships with husband, children, friends, and religious community and examine the level of stress caused from these relationships. Additionally, because Collectivism and Confucianism still underscore the ways of maintaining interpersonal relationships within Korean-American society, traditional cultural values should also be considered, even though they adapt American cultural values in order to survive in the U.S.

Moreover, exploring a client's patterns of stress response and anger regulation would be helpful to understand the relationship between the level of stress and the Hwa-Byung-related symptoms. Although the results of this study presented somatic response as a main factor related to Hwa-Byung among Korean immigrants in the United States, the patterns of stress response and anger regulations are totally up to individuals' characteristics; a client's pattern might be more obviously a concern rather than the

people who participated in this study. Therefore, practitioners should examine their coping styles when dealing with stress, negative feelings and emotions, and then address them to be well-functioning within stressful situations and relationships in counseling sessions.

In sum, practitioners working with Korean immigrants or Korean Americans in the United States should be aware of and have knowledge of Hwa-Byung, and clearly understand the developmental process of Hwa-Byung, when listening to the client's story, in order to reach the root of current issues. Then, practitioners can establish attainable goals in counseling by considering to what extent they could address any current issues the client may face. Exploring styles or patterns of the stress response and anger regulations also helps choosing counseling strategies, as in cognitive or behavioral approaches. Above all, practitioners working with Korean immigrants and Korean Americans should understand the Korean cultural values, so they may provide culturally-competent services to their clients.

#### Implications for practitioners in South Korea

This study also has some implications for counselors in South Korea based on the cross-cultural design. Korean society has been rapidly changing since late 1990, in terms of multicultural issues. In addition to the great number of immigrants from other countries in Asia, a group of native Koreans who experienced living outside Korea for various reasons, and plus the other group of second generation-Korean immigrants who return to and stay in Korea have increased. Although they share Korean cultural values and background, this population also showed significantly different characteristics from native Koreans, as revealed by some of the native Koreans in the sample of this study, namely, those who lived outside Korea at some point in their lives. Therefore, the findings of this study provide significance to practitioners in South Korea as well.

Even though almost all the counseling practitioners have a substantial amount of knowledge and understanding of the topic of Hwa-Byung, they might not be aware of how mediating the effect of stress response and anger regulations can be, or how differently that plays in the relationship between life stress and Hwa-Byung, between native Koreans and others from culturally different backgrounds. At this point, this study has significance for practitioners in South Korea, in that it provides clear evidence of the differences and similarities in the experience of Hwa-Byung, between native Korean middle-aged women in South Korea and Korean immigrants in the U.S. That is, practitioners in South Korea can support their rationale to employ different strategies for stress and anger management associated with Hwa-Byung, when considering the client's cultural background.

Moreover, in order to work on the topic of Hwa-Byung with native Koreans with only a background in Korean culture, their stress coping patterns of anger expressions should be addressed first. In particular, practitioners should carefully observe a client's patterns of anger expression, to see, for example, if there is two-facedness, i.e., easily and habitually express small and superficial anger, but finds it challenging to face their real and profound anger. Of course, practitioners are not recommended to directly deal with the underlying anger from the initial stage of the counseling journey, but they should keep in mind what was there and how it has impacted to manifest the symptoms of Hwa-Byung and other related current issues the clients brings to the counseling session. It is also important to examining how a client's ways of cognitive response relates to their current issue, especially because the results of this result found that cognitive responses explain 39% of variation in Hwa-Byung, as well as other possible factors to develop Hwa-Byung. Then, practitioners could try to find more effective coping strategies for the clients, in order to reduce their level of negative experiences and feelings, which in turn can decrease the level of Hwa-Byung.

### Limitations of this Study

Several limitations that emerged from this study should be kept in mind when considering the interpretations of the findings, in addition to the limitations inherited in all quantitative studies, such as generalization of the results from the given samples toward populations and loss of detailed narrative in explaining the particular phenomenon (Creswell, 2009).

First, there was the limitation associated with the nature of self-administered survey, in terms of under- or over-reporting of scores. Since some questions of the survey asked to report participants' privacy on topics, for example, like the relationship with husband, the relevancy of scores might be underestimated. Moreover, expressions of the questions, especially associated with the Stress Response Inventory and Anger Expression Scale, were seemingly negative nuanced; thus, participants' biases associated with the terms and expressions of questions may be reflected in their responses, with a desire to be shown as a healthy person. In other words, due to the saving face element implicit in South Korean culture, the scores obtained by the self-reporting survey might be underreported. The issue of underscoring may be also reflected in the high skewness of the distributions of study variables, especially in the stress response variable, which was extremely skewed to the right. Therefore, such issues with response biases should be addressed when considering the results and findings of this study.

There was also an inherent limitation of the cross-cultural design, with regard to the cultural validity of the instruments originally developed in South Korea and not validated in other cultures yet. Although Korean immigrants share part of Korean cultural values, they also might adjustably accept Korean culture, as well as American culture. Accordingly, Korean immigrants in the U.S. may have a different culture from native Koreans in South Korea. However, neither exploratory nor confirmatory factor analyses could be performed in this study because such analyses require a larger sample size.

Instead of factor analyses, the internal consistency of the overall scale and subscales was carefully confirmed, using the current samples of this study.

In addition, the issue of the validity of Hwa-Byung scale is important to point out as a limitation, not only for making appropriate interpretations of the results, but also for deciding whether to use the Hwa-Byung scale to measure the real nature of Hwa-Byung symptoms, not those which may coincide with other mental or physical issues. To be specific, the symptoms indicating presence of Hwa-Byung coincided with symptoms associated with the onset of menopause. In general, women usually experience emotional and physical menopausal symptoms around the age of 50; some of which appears similar to Hwa-Byung symptoms, such as “I am frequently disappointed in myself” in question No. 8, and “my face is frequently flushed and I feel feverish” in question No. 9 on the Hwa-Byung scale. Two participants directly pointed out that some of their answers related to their experience of menopause and its subsequent hormone changes, as opposed to Hwa-Byung symptoms or stresses in their daily life. The similarity of symptoms should be carefully addressed to measure the Hwa-Byung symptoms.

There was another limitation of this study, in terms of the reliability of participants' responses. In fact, there was some feedback from participants, especially from older-aged participants that, at the end of the survey, the total number of questions was too high to answer with complete concentration. In particular, the format of the survey for Korean immigrants was much longer than that for native Koreans because both Korean and English were presented in each line, so Korean immigrants may have felt burdened to complete the answering of all questions, which may be reflected in participants' responses as ways of skipping questions or answering the same choice to questions.

Furthermore, a limitation was recognized in the sampling procedures used in this study. The samples of this study were collected via two resources, either paper-pencil or online surveys. Two ways of data collection may have contributed to an increase of a



possibility of within-group variations. In addition, two-group samples showed a different rate of data collection methods between the native Korean sample and Korean immigrant sample, which may reveal the issue of sampling equivalency in cross-cultural design. However, these possible variations were not addressed in the data analyses process in this study, which might in turn impact the findings of this study.

In conclusion, the limitations mentioned above should be taken into account when considering the interpretation of the findings of this study.

#### Directions for Future Research

When considering several limitations of this study, additional and extended studies are needed to develop the evidence-based research. First, the Hwa-Byung scale development should first be conducted in order to accurately measure the concept of Hwa-Byung, to differentiate it from other mental disorders like major depression and physical changes like menopause. In addition, for the future cross-cultural study, three types of measurement invariance (configural, metric, and scalar) should be tested using confirmatory factor analysis with a larger sample size, in order to interpret differences in statistics and make sure that the instruments are understood/conceptualized in similar ways by participants between cross-cultural groups.

In addition, although there is an agreement that Hwa-Byung is mainly experienced among middle-aged women, other groups with a variation of age, gender, and culture should be examined. For instance, men in this era also face many stressful situations from both their interpersonal relationship with family member and coworkers, in addition to their tasks and duties at home and in society, and consequently, there is a report that their level of stress is also extensively high. At the same time that changes in laws have increased women's rights in the society of South Korea and changes of gender roles, status, and social structure and values occurred, the power and authority males have in the Korean traditional society rapidly decreased, also a world-wide trend. Under these

society changes, a large number of men appeal that they too experience the same symptoms of Hwa-Byung. In addition, there are many other cultures and communities where people are forced to suppress or hide their negative feelings and emotions. Therefore, it will be meaningful to study Hwa-Byung with various populations.

Furthermore, when considering the Hwa-Byung development, it takes a long time for Hwa-Byung symptoms to manifest, and there may be great narratives from the traumatic events. However, this research was studied at one point to see the relationship between life stress as causal factors and Hwa-Byung as a result. Accordingly, a longitudinal study, as well as a qualitative approach, should be incorporated to best describe the whole process of Hwa-Byung development and examine other possible related factors to Hwa-Byung. Moreover, the researcher already noted the use of the Cognitive Stress Response Scale (CSRS) to examine detailed cognitive reactions that may impact the development of Hwa-Byung for the future research.

### Conclusion

In spite of increased attention on mental health for Korean immigrants and/or Korean Americans in the United States, minimal empirical evidence supporting what regulates their mental health conditions exists. In a cross-cultural design, this study compared Korean immigrants in the U.S. to native Koreans in South Korea, focusing on the topic of Hwa-Byung frequently observed in Korean society, but a unique phenomenon from a global perspective. Although there were several limitations to generalize from the results of this study to all types of groups among Korean immigrants, the findings at least revealed that there was a significant difference in the relationship between life stress and Hwa-Byung, which was mediated by stress response and anger regulation between native Koreans and Korean immigrants. The results imply how to deal with stressful situations and its relation to Hwa-Byung in a healthy and culturally appropriate way, in the field of counseling studies.

## APPENDIX A. INSTRUMENT TRANSLATION PROCEDURE

Table A1. Translation Procedure of the Instrument Used in this Study.

Process	Explanations
1. Selecting Instruments	These are necessary to translate from Korean into English. a) Hwa-Byung Scale (Kwon, Kim, Park, Lee, Min & Kwon, 2008) b) Life Stress for Korean women (Chon & Kim, 2003) c) Stress Response Inventory (Koh, Park, & Kim, 2000) d) Part of the Anger Expression scale (Hahn, Chon, Lee & Spielberger, 1997)
2. Initial translation	By the researcher who is originally from South Korea, translated Korean instruments into English.
3. Revision of English expression	By an English-speaking writing consultant who revised the English expressions of the initial translation version of instruments.
4. Back translation	By a Korean American rhetoric instructor at the University of Iowa who is familiar with both culture and languages, translated from English into Korean
5. Second revision	By the researcher and a back-translator who examined the adequacy of the translation by comparing the original Korean version of instruments to the back-translated ones, and modified the English expressions.
6. Final revision	By a professional translator who revised the discrepant items between Korean expressions between original items and back-translated items, by a professional translator,
7. Item finalization	Finalized items are presented in the survey packages for the Korean immigrants.

## APPENDIX B. IRB APPROVED DOCUMENT

B-1. Research Invitation Email

FOR IRB USE ONLY APPROVED BY: IRB-02 IRB ID #: 201311705 APPROVAL DATE: 11/11/13 EXPIRATION DATE: 11/11/14
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안녕하세요.

미국 아이오와 대학교 상담자 교육 및 수퍼비전(Counselor Education and Supervision)을 전공하고 있는 이지향입니다. 현재 박사과정 학위논문을 위하여 35-65세 중년여성들이 경험하는 화병에 대한 한국여성(대한민국)과 1세대 or 1.5세대 한국인 이민자(미국)의 문화비교 연구를 진행하고 있습니다.

본 연구는 온라인 & 오프라인 설문지를 통하여 동시에 실시하고 있으며, 설문지 응답을 완료하는데 약 25-30분 가량 소요됩니다. 설문은 익명으로 실시되며 모든 정보는 비밀보장이 될 것 입니다.

연구 참여에 대한 감사의 의미로 소정의 보상이 지급됩니다.

본 연구와 관련한 문의사항은, 연구자 이지향 ([jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu), (979)900-8450) 에게 연락바랍니다.

아래 링크를 클릭하시면 설문에 참여하실 수 있습니다.

- 1) 한국 여성: [https://uiowa.qualtrics.com/SE/?SID=SV\\_8xmuke4wA1jXKpD](https://uiowa.qualtrics.com/SE/?SID=SV_8xmuke4wA1jXKpD)
- 2) 한국인 이민자 여성: [https://uiowa.qualtrics.com/SE/?SID=SV\\_3DCXgidBnWSefY9](https://uiowa.qualtrics.com/SE/?SID=SV_3DCXgidBnWSefY9)

본 연구에 참여해주셔서 대단히 감사 드립니다.

이지향 올림

Doctoral Candidate in Counselor Education and Supervision.  
 The University of Iowa.  
 N358 Lindquist Center, Iowa City, IA 52242.  
 Cell. (+1) 979-900-8450  
 Phone. (+82) 70-8245-3251  
 e-mail. [jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu)

=====

Hello,

You are invited to participate in a research study titled A CROSS-CULTURAL STUDY OF HWA-BYUNG WITH MIDDLE-AGED WOMEN BETWEEN NATIVE KOREANS IN

FOR IRB USE ONLY APPROVED BY: IRB-02 IRB ID #: 201311705 APPROVAL DATE: 11/11/13 EXPIRATION DATE: 11/11/14
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**SOUTH KOREA AND KOREAN IMMIGRANTS IN THE UNITED STATES.** This study is being conducted by Jee Hyang Lee, a doctoral candidate in the Rehabilitation and Counselor Education department, The University of Iowa. This is her dissertation study. The purpose of this study is to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and the 1<sup>st</sup> or 1.5 generation of Korean immigrants in the United States, between the age range of 35-65, by investigating influencing factors of stressful life events, stress response, anger expression, and demographic background.

You may participate in this study by taking an on-line or hard-copy survey that will take approximately 25-30 minutes to complete. Your answers are confidential and anonymous.

Compensation may be available.

If you have any questions about this study, please contact Jee Hyang Lee, [jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu), (979) 900-8450.

To access the on-line survey, please click on the following link:

- 1) Native Korean women: [https://uiowa.qualtrics.com/SE/?SID=SV\\_8xnuke4wA1jXKpD](https://uiowa.qualtrics.com/SE/?SID=SV_8xnuke4wA1jXKpD)
- 2) Korean immigrant women: [https://uiowa.qualtrics.com/SE/?SID=SV\\_3DCXgidBnWSeFY9](https://uiowa.qualtrics.com/SE/?SID=SV_3DCXgidBnWSeFY9)

Thank you very much for you time and participation.

Sincerely,

Jee Hyang Lee

Doctoral Candidate in Counselor Education and Supervision.  
The University of Iowa.  
N358 Lindquist Center, Iowa City, IA 52242.  
Cell. (+1) 979-900-8450  
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## B-2. Research Invitation Flyers

1) For Korean immigrants in the U.S.



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IRB ID #: 201311705  
APPROVAL DATE: 11/11/13  
EXPIRATION DATE: 11/11/14



## Research Invitation

You are invited to participate in a research study titled a Cross-Cultural Study of **Hwa-Byung** with Middle-aged Women between Native Koreans in South Korea and Korean Immigrants in the United States.

You can participate in this study in the following link.

Native Koreans	Korean Immigrants
 Korean middle-aged (35-65 years old) women in South Korea  <a href="https://uiowa.qualtrics.com/SE/?SID=SV_5xsnke4wA1jXKpD">https://uiowa.qualtrics.com/SE/?SID=SV_5xsnke4wA1jXKpD</a>	 1 <sup>st</sup> or 1.5 generation Korean immigrant middle-aged (35-65 years old) women in the U.S.  <a href="https://uiowa.qualtrics.com/SE/?SID=SV_3DCXqjdBnWSeFY9">https://uiowa.qualtrics.com/SE/?SID=SV_3DCXqjdBnWSeFY9</a>

This survey will take approximately 25 to 30 minutes to complete.

Your answers are confidential and anonymous.

Compensation may be available.

If you have any questions about this study, please contact Jee Hyang Lee.

**Thank you very much for your time and participation.**

---

**Jee Hyang Lee**

Doctoral Candidate in Counselor Education and Supervision, The University of Iowa.  
(U.S.) N 358 Lindquist Center, Iowa City, IA 52242 | Call: (+1) 979-900-8450  
(S. Korea) Kolon Apt. # 103-1002, Daerim 3-dong, Yeongdeungpo-gu, Seoul, Rep. of Korea.  
150-915 | Phone. (+82) 070-8245-3251  
e-mail: jee-hyang-lee@uiowa.edu

2) For native Koreans in South Korea

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IRB ID #: 201311705  
APPROVAL DATE: 11/11/13  
EXPIRATION DATE: 11/11/14



## 연구참여자 모집

**35-65세 중년여성들이 경험하는 **화병**과 관련하여**  
**한국인(대한민국)과 한국인 이민자(미국)의 문화비교연구를 위하여**  
연구참여자를 모집합니다.

아래 링크를 통하여 연구에 참여하실 수 있습니다.

한국 여성	한국인 이민자 여성
 <p>현재 <b>한국에</b> 거주하고 있는 중년 여성 (35~65세)</p> <p><a href="https://uiowa.qualtrics.com/SE/?SID=SV_5xmk4wA1jXKpD">https://uiowa.qualtrics.com/SE/?SID=SV_5xmk4wA1jXKpD</a></p>	 <p>현재 <b>미국에</b> 거주하고 있는 1<sup>st</sup> or 1.5세대 <b>이민자 중년</b> 여성 (35~65세)</p> <p><a href="https://uiowa.qualtrics.com/SE/?SID=SV_3DCXgjdBoWSeFY9">https://uiowa.qualtrics.com/SE/?SID=SV_3DCXgjdBoWSeFY9</a></p>

설문 응답을 완료하는데 **약 25-30분 가량** 소요되며,  
연구 참여에 대한 감사의 의미로 소정의 보상이 지급됩니다.  
본 설문은 **익명으로 실시**되며 모든 정보는 **비밀보장**이 될 것 입니다.

본 연구와 관련한 문의사항은 아래 안내된 연락처로 연구자 이지향에게  
연락바랍니다.

**연구에 참여해주셔서 대단히 감사 드립니다.**

연구자 이지향 (Jee Hyang Lee)

Doctoral Candidate in Counselor Education and Supervision, The University of Iowa,  
N 358 Lindquist Center, Iowa City, IA 52242 | Call: (+1) 979-900-8450

서울특별시 영등포구 대림3동 코오름아파트 103동 1002호 150-915 | Phone. (+82) 070-8245-3251  
e-mail: jee-hyang-lee@uiowa.edu

## APPENDIX C. A SURVEY PACKET FOR NATIVE KOREANS

## 화병연구 설문지

안녕하십니까?

여러분들의 귀중한 시간을 허락해주셔서 감사드립니다.

이 설문지는 35-65세 중년여성들이 경험하는 화병에 대한 한국여성과 한국인 이민자의 문화 비교연구를 위해서 제작되었습니다. 일상생활 스트레스, 스트레스 대처방안, 분노표현방법, 그리고 인적사항들이 한국인의 화병에 어떠한 영향을 미치는지 알아보고자 합니다.

여러분의 답변은 저의 연구에 소중한 자료가 될 뿐만 아니라, 중년 여성들의 심리적 건강을 위한 상담에 큰 도움이 될 것 입니다.

이 설문지는 본 연구 이외의 다른 목적으로는 사용되지 않을 것이며, 여러분의 자르는 절대 비밀이 보장됨을 약속 드립니다.

각 문항에는 옳고 그른 정답이 없습니다. 부디 한 문항도 빠짐없이 편안한 마음으로 솔직하고 성실한 답변을 부탁드립니다.

설문지 마지막에는 연구참여자들을 대상으로 실시하는 경품추첨을 위한 이메일 주소 (email address) 제공 안내문이 있습니다. 5명 당 1명씩 현금 10,000원에 해당하는 해피머니 상품권을 제공할 예정이며, 연구에 대한 보다 자세한 안내는 설문지 마지막에 첨부되어 있습니다.

다시 한 번 본 연구에 협조하여 주셔서 진심으로 감사드립니다.

연구자: 이 지 향 (아이오와 대학교, 상담자 교육과정)

(The University of Iowa, Counselor Education and Supervision)

지도교수: Dr. Tarrell Portman.



### 1. 화병 자가진단 척도

다음은 한국인의 화병과 관련된 문항들입니다. 아래의 각 문항을 주의 깊게 읽은 후, 자신에게 해당되는 정도를 체크해 주십시오.

	문항	전혀 그렇지 않다	그렇지 않은 편이다	중간 정도 그렇다	상당히 그렇다	완전히 그렇다
1	내 삶은 불행한 편이다.	0	1	2	3	4
2	한스러워지는 때가 있다.	0	1	2	3	4
3	내 인생이 서글프다고 느낀다.	0	1	2	3	4
4	나는 서러움을 느낀다.	0	1	2	3	4
5	나는 억울함을 느낀다.	0	1	2	3	4
6	나는 신경이 아주 약해져서, 마음을 가눌 수 없다.	0	1	2	3	4
7	나는 손발이 떨리고 안절부절 못한다.	0	1	2	3	4
8	나는 내 자신에게 실망할 때가 많다.	0	1	2	3	4
9	얼굴에 열이 자주 달아오른다.	0	1	2	3	4
10	가슴속에 열이 차 있는 것을 자주 느낀다.	0	1	2	3	4
11	무언가가 아래(다리 또는 배)에서 위(가슴)로 치미는 것을 자주 느낀다.	0	1	2	3	4
12	화가 나면 손이 저리거나 떨린다.	0	1	2	3	4
13	소화가 잘 안 되고 체하는 편이다.	0	1	2	3	4
14	몹시 피곤하다.	0	1	2	3	4
15	세상이 불공평하다고 느낀다.	0	1	2	3	4

## 2. 주부생활 스트레스

아래에는 주부님들이 일상 생활에서 흔히 겪을 수 있는 여러 가지 사건들이 적혀 있습니다. 각 문항을 자세히 읽어보신 후, **지난 1년 (12개월) 동안**에 각 사건이 얼마나 자주 발생했었는지를 평가해주시요. 이 때 지난 1년 동안 **전혀** 경험하지 않았다면 0, **보통** 정도 경험했다면 1, 그리고 **자주** 경험했다면 2에 O표를 하여주시기 바랍니다. (만약 직장생활을 하지 않는 분은 직장 생활 부분은 생략하시기 바랍니다).

문 항		전혀	보통	자주
남편과의 관계				
1	남편이 사망했다.	0	1	2
2	별거하거나 이혼했다.	0	1	2
3	남편과 크게 다투었다.	0	1	2
4	남편에게 맞았다.	0	1	2
5	남편이 예고 없이 외박을 하였다.	0	1	2
6	남편과 성적 문제가 있었다.	0	1	2
7	남편과 마음 터놓고 이야기하기가 어려웠다.	0	1	2
8	남편이 약속을 지키지 않았다.	0	1	2
자녀와의 관계				
9	아이의 건강이 악화되었다.	0	1	2
10	아이가 친구들과 문제가 있음을 알게 되었다.	0	1	2
11	아이로부터 배신감을 느낀다.	0	1	2
12	아이와 심각한 의견충돌이 있었다.	0	1	2
13	아이가 말을 듣지 않았다.	0	1	2
14	아이가 너무 늦게 집에 들어왔다.	0	1	2
15	아이가 자기 할 일을 하지 않았다.	0	1	2
16	아이의 성적이 떨어졌다.	0	1	2

문 항		전혀	보통	자주
시댁과의 관계				
17	시부모와 심각한 다툼이 있었다.	0	1	2
18	시부모와 의견충돌이 있었다..	0	1	2
19	시부모가 나의 입장을 몰라주었다.	0	1	2
20	시부모로부터 꾸지람을 들었다.	0	1	2
21	시부모께서 나를 못마땅하게 대했다.	0	1	2
친구관계				
22	친구로부터 부당한 오해를 받았다.	0	1	2
23	친구와의 관계가 악화되었다.	0	1	2
24	친구에게 배신당했다.	0	1	2
25	친구와 갈등을 겪었다.	0	1	2
26	친구들에게 따돌림 당했다.	0	1	2
경제 문제				
27	금전적으로 어려워서 필요한 물품을 구입할 수 없었다.	0	1	2
28	투자에 실패해서 금전적으로 손해를 보았다.	0	1	2
29	기대했던 돈이 들어오지 않았다.	0	1	2
30	돈을 꾸기 위해서 애써야 했다.	0	1	2
31	수입이 이전에 비해서 줄어들었다.	0	1	2
32	자녀의 사교육비가 부담이 되었다.	0	1	2
건강문제				
33	체중이 과도하게 증가되었다.	0	1	2
34	신체적으로 병을 얻게 되었다.	0	1	2
35	병을 적절하게 치료할 수 없었다.	0	1	2
36	피로 때문에 할 일을 제대로 하지 못했다.	0	1	2
37	건강이 악화되었다.	0	1	2
38	공해로 인하여 안과 또는 호흡기 질환 등으로 고생했다.	0	1	2

문 항		전혀	보통	자주
39	몸이 아파서 병원에 가야만 했다.	0	1	2
가사노동 문제				
40	남편과 자녀들을 뒷바라지하기가 힘들었다.	0	1	2
41	집안 일이 너무 많았다.	0	1	2
42	집안 일 때문에 내 시간을 갖기가 어려웠다.	0	1	2
43	집안 일 때문에 항상 지치고 피곤했다.	0	1	2
44	가족들이 집안 일을 협조해 주지 않았다.	0	1	2
45	가사 일이 무의미하게 느껴졌다.	0	1	2
직장생활 문제(*직장 생활을 하시는 분만 응답하시기 바랍니다.)				
46	상사로부터 질책을 당했다.	0	1	2
47	수행한 업무에 대하여 나쁜 평가를 받았다.	0	1	2
48	직장 생활에서 부당한 대우를 받았다.	0	1	2
49	직장에서 너무 많은 일을 해야했다.	0	1	2
50	직장에서 맡고 있는 일이 너무 힘들었다.	0	1	2
51	직장 동료와 가치관의 차이로 인한 갈등을 경험했다.	0	1	2
52	직장 상사가 지나치게 간섭을 했다.	0	1	2

### 3. 스트레스 반응척도

다음 문항들은 여러분이 일상생활에서 스트레스를 받았을 때 경험할 수 있는 것들입니다. 각 문항을 주의 깊게 읽으면서 오늘을 포함하여 지난 일주일(7일) 동안에 어느 정도로 경험했는지를 해당되는 빈칸에 O 표 하십시오.

	문 항	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
1	일에 실수가 많다.	0	1	2	3	4
2	말하기 싫다.	0	1	2	3	4
3	가슴이 답답하다.	0	1	2	3	4
4	화가 난다.	0	1	2	3	4

	문항	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
5	안절부절 못한다.	0	1	2	3	4
6	소화가 안된다.	0	1	2	3	4
7	배가 아프다.	0	1	2	3	4
8	소리를 지르고 싶다.	0	1	2	3	4
9	한숨이 나온다.	0	1	2	3	4
10	어지럽다.	0	1	2	3	4
11	만사가 귀찮다.	0	1	2	3	4
12	잡념이 생긴다.	0	1	2	3	4
13	쉽게 피로를 느낀다.	0	1	2	3	4
14	온몸에 힘이 빠진다.	0	1	2	3	4
15	자신감을 잃었다.	0	1	2	3	4
16	긴장된다.	0	1	2	3	4
17	몸이 떨린다.	0	1	2	3	4
18	누군가를 때리고 싶다.	0	1	2	3	4
19	의욕이 떨어졌다.	0	1	2	3	4
20	울고 싶다.	0	1	2	3	4
21	신경이 날카로워졌다.	0	1	2	3	4
22	내가 하는 일에 전망이 없다.	0	1	2	3	4
23	멍하게 있다.	0	1	2	3	4
24	누군가를 미워한다.	0	1	2	3	4
25	한가지 생각에서 헤어날 수 없다.	0	1	2	3	4
26	목소리가 커졌다.	0	1	2	3	4
27	마음이 급해지거나 일에 쫓기는 느낌이다.	0	1	2	3	4

	문항	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
28	행동이 거칠어졌다 (난폭운전, 욕설, 몸싸움 등.)	0	1	2	3	4
29	무엇인가를 부수고 싶다.	0	1	2	3	4
30	말이 없어졌다.	0	1	2	3	4
31	머리가 무겁거나 아프다.	0	1	2	3	4
32	가슴이 두근거린다.	0	1	2	3	4
33	누군가를 죽이고 싶다.	0	1	2	3	4
34	얼굴이 붉어지거나 화끈거린다.	0	1	2	3	4
35	지루하다.	0	1	2	3	4
36	참을성이 없다.	0	1	2	3	4
37	얼굴표정이 굳어졌다.	0	1	2	3	4
38	나는 아무 쓸모가 없는 사람이다.	0	1	2	3	4
39	움직이기 싫다.	0	1	2	3	4

### 5. 분노표현척도 (Korean Version)

사람들은 누구나 때로 화가 나거나 분노를 느끼지만, 화가 났을 때 반응하는 방식은 서로 다릅니다. 각 문항을 잘 읽은 후, **당신이 화가 나거나 분노를 느꼈을 때 일상적으로 얼마나 자주 아래에 적힌 바와 같이 반응하거나 행동하는가를 ‘0’ 표로 작성해주시기 바랍니다.** 이러한 문제에는 옳고 그른 답이 없습니다. 어느 한 문항에 너무 오래 생각하지 마시고 응답하여 주시기 바랍니다.

	화가 나거나 분노를 느낄 때	거의 전혀 아니다	가끔 그렇다	자주 그렇다	거의 언제나 그렇다	언제나 그렇다
1	나는 화를 참는다.	0	1	2	3	4
2	나는 화난 감정을 표현한다.	0	1	2	3	4

	화가 나거나 분노를 느낄 때	거의 전혀 아니다	가끔 그렇다	자주 그렇다	거의 언제나 그렇다	언제나 그렇다
3	나는 말을 하지 않는다	0	1	2	3	4
4	나는 사람들에게 인내심을 갖고 대한다.	0	1	2	3	4
5	나는 똥해지거나 토라진다	0	1	2	3	4
6	나는 사람들을 피한다.	0	1	2	3	4
7	나는 소리를 지른다	0	1	2	3	4
8	나는 냉정을 유지한다.	0	1	2	3	4
9	나는 문을 쾅 닫아버리는 식의 행동을 한다.	0	1	2	3	4
10	나는 상대의 시선을 피한다	0	1	2	3	4
11	나는 나의 행동을 자제한다	0	1	2	3	4
12	나는 사람들과 말다툼한다.	0	1	2	3	4
13	나는 아무에게도 말하지 않으나, 안으로 앙심을 품는 경향이 있다.	0	1	2	3	4
14	나는 목소리를 높인다	0	1	2	3	4
15	나는 화가 나더라도 침착하게 자제할 수 있다.	0	1	2	3	4
16	나는 속으로 다른 사람을 비판한다	0	1	2	3	4
17	나는 나 자신이 인정하고 싶은 것보다 화가 더 나 있다	0	1	2	3	4
18	나는 대부분의 사람들보다 진정을 빨리 회복한다.	0	1	2	3	4
19	나는 욕을 한다	0	1	2	3	4
20	나는 참고 이해하려고 노력한다	0	1	2	3	4
21	나는 다른 사람들이 알고 있는 것보다 분통이 더 나 있다.	0	1	2	3	4
22	나는 자제심을 잃고 화를 낸다.	0	1	2	3	4
23	나는 화난 표정을 짓는다	0	1	2	3	4
24	나는 화난 감정을 자제한다.	0	1	2	3	4

## 6. 인적사항

다음은 귀하의 인적사항과 관련된 문항입니다. 아래 문항들 또한 화병 연구의 중요한 자료가 되오니 빠짐없이 기록하여 주시면 감사드리겠습니다.

1. 나이: \_\_\_\_\_ 세 / 19 \_\_\_\_\_ 년생
2. 태어난 곳은 어디입니까?: 대한민국 \_\_\_\_\_ 도 \_\_\_\_\_ 시
3. 현재 거주하고 있는 곳은 어디입니까?
  - a. 대한민국 \_\_\_\_\_ 도 \_\_\_\_\_ 시
  - b. 한국 이외의 지역: 국가(Country) \_\_\_\_\_  
 도시 (City) \_\_\_\_\_  
 주 (State) \_\_\_\_\_  
 거주기간: \_\_\_\_\_ 년 \_\_\_\_\_ 개월
4. 현재 결혼 상태는 어떠하십니까? (\*해당사항에 모두 체크해주세요)
  - a. \_\_\_\_\_ 미혼
  - b. \_\_\_\_\_ 기혼
  - c. \_\_\_\_\_ 이혼
  - d. \_\_\_\_\_ 별거
  - e. \_\_\_\_\_ 사별
  - f. \_\_\_\_\_ 재혼
5. 결혼생활 기간은 얼마나 되십니까?: \_\_\_\_\_ 년 \_\_\_\_\_ 개월
6. 자녀는 몇 분이나 있습니까?
  - a. 0 명
  - b. 1 명
  - c. 2 명
  - d. 3 명
  - e. 4 명
  - f. 5 명 이상
7. 큰 아들/딸의 나이는 어떻게 되십니까?: \_\_\_\_\_ 년 \_\_\_\_\_ 개월
8. 현재 본인의 결혼 만족도는 얼마나 되십니까?
 

매우 불만족 ←—————→ 매우 만족

0    1    2    3    4    5    6    7    8    9    10
9. 현재 거주 상태는 어떻게 되십니까?
  - a. 혼자 살고 있음
  - b. 부부만 살고 있음.



- c. 부부 및 자녀와 살고 있음.
  - d. 시댁 식구와 같이 살고 있음.
  - e. 친정 식구와 같이 살고 있음
10. 현재 부모님을 모시고 있습니까?
- a. 예
    - i. 같은 집에서 살고 있다.
    - ii. 경제적인 지원만 해드리고 있다.
  - b. 아니오
11. 종교가 어떻게 되십니까?
- a. 기독교
  - b. 카톨릭
  - c. 불교
  - d. 무교
  - e. 기타 \_\_\_\_\_
12. 교육배경은 어떻게 되십니까?
- a. 독학
  - b. 초등학교 졸업
  - c. 중학교 졸업
  - d. 고등학교 졸업
  - e. 전문대학 졸업
  - f. 대학교 졸업
  - g. 대학원 석사졸업
  - h. 대학원 박사졸업
  - i. 기타 \_\_\_\_\_
13. 현재 고용상태는 어떠하십니까? (\*해당사항에 모두 체크해주세요)
- a. 비정규직 (part-time job)
  - b. 정규직 (full-time job)
  - c. 전문직
  - d. 사무직
  - e. 자영업
  - f. 전업주부
  - g. 기타 \_\_\_\_\_
14. 한 달 수입은 얼마나 되십니까?
- a. 100만원 이하
  - b. 100만원 ~ 150만원
  - c. 150만원 ~ 200만원
  - d. 200만원 ~ 300만원
  - e. 300만원 ~ 500 만원
  - f. 500만원 이상
- 
-

다시 한 번 본 연구에 참여해주셔서 감사 드립니다.

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The University of Iowa

## 경품추첨을 위한 이메일 주소 제공 안내

설문에 응답해 주셔서 감사합니다.

본 설문지에 응답하신 참여자 중에서, 5명 중 1명씩을 뽑아 현금 10,000 원에 해당하는 해피머니 상품권 (HappyMoney Gift Card)를 제공하고자 합니다. 이 경품 추첨에 참여를 원하시면, 아래에 이메일 주소를 적어 주시길 바랍니다. 만약, 사용하고 있는 이메일 계정이 없으면, 우편으로 상품권을 받을 주소와 이름을 적어주시길 바랍니다.

제공해주신 연구참여자의 이름, 우편주소, 이메일 주소는 오직 상품권 추천과 발송을 위해서만 사용 될 것입니다. 본 경품추첨을 위한 이메일 주소 안내지는 연구자가 설문지를 회수한 즉시 설문지의 응답과는 분리되어 보관될 것입니다. 또한, 수집된 모든 정보는 상품 발송 이후 즉시 폐기될 것 입니다.

이메일 주소 (E-mail address)

\_\_\_\_\_ @ \_\_\_\_\_

OR

우편 주소 (\*e-mail 계정이 없을 경우)

\_\_\_\_\_  
\_\_\_\_\_

받는 사람

\_\_\_\_\_

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이 연구의 목적은 35-65세 중년여성들의 경험하는 화병에 대한 한국여성과 한국인 이민자의 문화비교연구입니다. 일상생활 스트레스, 스트레스 대처방안, 분노표현방법, 그리고 인적 사항들이 한국인의 화병에 어떠한 영향을 미치는지 알아보고자 합니다.

You are invited to participate in a research study. The purpose of the study is to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, between the ages of 35-65, by investigating influencing factors of stressful life events, stress response, anger expression, and demographic background.

당신은 (1) 한국에 거주하고 있는, (2) 나이 35-65세에 속하는 중년 여성에 해당하므로 본 연구에 초대되었습니다. 본 연구에는 약 600명이 참여하게 될 것 입니다.

You are invited to be in this study because you are a native Korean who (a) resides in South Korea and (b) is aged between 35-65. Approximately 600 people will participate in this study

본 질문지는 화병질문지, 일상생활 스트레스, 스트레스 반응, 분노표현방법, 기본적인 인적 사항에 관한 질문들로 구성되어 있으며, 설문에 참여하는데 걸리는 시간은 약 25-30분이 소요될 것입니다. If you agree to participate, you will be asked to answer questions in five sections, including Hwa-Byung scale, Life Stress for Korean Women, Stress Response inventory, Korean version of Anger Expression, and demographic information. It will take approximately 25-30 minutes to complete the survey.

설문을 끝마치신 후에는 일주일 이내에 동봉된 설문지 회수봉투에 응답하신 설문지를 넣어 연구자에게 우편으로 보내주시시오. 설문 도중 답하고 싶지 않은 문항이 있을 경우 응답하지 않고 넘어가셔도 좋습니다. 또한, 설문도중 참여를 중단하고 싶으실 때는 언제든지 중단하셔도 됩니다. After you complete the survey, please mail your responses to the researcher using the enclosed stamped, return-address envelope within one week. You are free not to answer any questions. You are also free to no longer participate in the study at any time.

설문에 참여하고 싶지 않으시면 일주일 이내에 동봉된 참여거부 카드와 함께 빈 설문지를 연구자에게 보내주시기 바랍니다.

If you do not want to participate, please mail the enclosed postcard and a blank survey packet to the researcher using the enclosed stamped, return-address envelope within one week.

귀하께서 제공해주신 모든 정보는 비밀보장이 됩니다. 다만, 연방 관리 기관 (Federal regulatory agencies)과 아이오와 대학교 기관 심의 위원회(University of Iowa Institutional Review Board)에서 연구와 관련된 사항을 조사할 수 있습니다. 본 설문은 익명으로 이루어지고 귀하의 응답 또한 ID 코드번호로 저장되어 보관 될 것이므로, 연구자는 귀하의 신상정보를 알 수 없습니다. 제공해주신

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모든 응답은 연구자만 접근이 가능한 안전한 장소에 보관될 것이고, 연구가 끝나는 즉시 모두 파기될 것입니다.

We will keep the information you provide confidential; however, federal regulatory agencies and the University of Iowa Institutional Review Board (a committee that reviews and approves research studies) may inspect and copy records pertaining to this research. The survey is totally anonymous and your responses will be stored using an ID code number, so that the researcher will not know who returns it. In addition, all information will be destroyed after the study is over. If the researcher writes a report about this study, it will be done in such a way that you cannot be identified.

본 연구를 참여하시는데 있어서 알려진 위험사항 및 개인적으로 받게 되는 혜택은 없습니다. 그러나 귀하의 자료는 본 연구의 결과에 큰 도움이 될 것이며, 다른 사람들에게도 도움이 될 것입니다.

There are no known risks from being in this study, and you will not benefit personally. However, the hope is that others may benefit in the future from what is learned as a result of this comprehensive study.

이 연구에 참여하는데 드는 비용은 없습니다.

There will not be any costs to participate in this research study.

연구 참여에 대한 감사의 의미로 설문에 끝까지 참여해주신 분들 중 상품권 추첨에 동의하신 분에 한하여, 5명 당 1명씩 현금 10,000원에 해당하는 해피머니 상품권 (HappyMoney Gift Card)을 받게 되실 것 입니다. 이 상품권은 한국 내 20,000여개의 오프라인 매장, 600여개의 온라인 매장에서 사용할 수 있습니다. 상품권 추첨에 참여하고 싶으시면, 설문지 마지막에 이메일 주소를 남겨주시면 됩니다. (만, 이메일 주소가 없으신 분은 우편으로 상품권을 받으실 주소를 남겨주시면 됩니다.) 제공해주신 연구참여자의 이름, 우편주소, 이메일 주소는 오직 상품권 추천과 발송을 위해서만 사용 될 것입니다.

Compensation may be available for your participation in this study. One in every 5<sup>th</sup> participant who complete the survey and agrees to participate in the raffle, will receive a HappyMoney Gift Card (10,000won, \$10 value) that can be used in 20,000 off-line and/or 600 on-line or mobile markets. If you participate in the raffle, you will be asked to provide your e-mail address at the end of the survey. (If you do not have an e-mail account, you can provide your mailing address instead.) Your name, e-mail, and mailing address will not be linked with your survey responses.

본 연구 참여는 자발적으로 이루어지므로 특정질문에 대해 답을 하고 싶지 않거나, 질문지 작성 도중 참여를 중단하고 싶으실 때는 언제든지 그만두셔도 됩니다. 이에 대하여 연구참여자가 입으시는 불이익이나 피해는 없을 것 입니다.

Taking part in this research study is completely voluntary. If you decide to not participate in this study, or if you stop participating at any time, you will not be penalized or lose any benefits for which you otherwise qualify.

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본 연구와 관련된 모든 질문이나, 혹은 연구와 관련하여 피해를 경험하셨다면, 이지향 ([jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu)) 혹은 Dr. Portman ([tarrell-portman@uiowa.edu](mailto:tarrell-portman@uiowa.edu)) 에게 연락주시길 바랍니다.

연구참여자의 권리와 관련된 질문은 Human Subjects Office, 105 Hardin Library for the Health Sciences, 600 Newton Rd, The University of Iowa, Iowa City, IA 52242-1098, (+1) 319-335-6564, 로 연락 하시거나 [irb@uiowa.edu](mailto:irb@uiowa.edu) 로 이메일 주십시오. 연구참여자로서 당신의 경험을 제공하길 원하시거나 연구자 외의 사람과 연락하길 원하신다면 위의 번호로 전화 하시길 바랍니다.

If you have any questions about the research study itself, please email Jee Hyang Lee at [jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu) or Dr. Tarrell Portman at [tarrell-portman@uiowa.edu](mailto:tarrell-portman@uiowa.edu). If you have questions about the rights of research subjects, please contact the Human Subjects Office, 105 Hardin Library for the Health Sciences, 600 Newton Rd, The University of Iowa, Iowa City, IA 52242-1098, (+1) 319-335-6564, or e-mail [irb@uiowa.edu](mailto:irb@uiowa.edu). To offer input about your experiences as a research subject or to speak to someone other than the research staff, call the Human Subjects Office at the number above.

귀중한 시간 내어 설문에 참여해주셔서 대단히 감사합니다.  
Thank you very much for your time and participation.

Sincerely,

이지향 올림 (Jee Hyang Lee)

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## APPENDIX D. A SURVEY PACKET FOR KOREAN IMMIGRANTS

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이 연구의 목적은 35-65세 중년여성들의 경험하는 화병에 대한 한국여성과 한국인 이민자의 문화비교연구입니다. 일상생활스트레스, 스트레스 대처방안, 분노표현방법, 그리고 인적 사항들이 한국인의 화병에 어떠한 영향을 미치는지 알아보려고 합니다.

You are invited to participate in a research study. The purpose of the study is to examine the differences and similarities of Hwa-Byung in native Korean middle-aged women in South Korea and Korean immigrants in the United States, between the ages of 35-65, by investigating influencing factors of stressful life events, stress response, anger expression, and demographic background.

당신은 (1) 1세대 혹은 2세대 한국인 이민자로서, (2) 한국의 문화적 배경을 가지고 있고, (3) 현재 미국에 거주하고 있으며, (4) 나이 35-65세에 속하는 중년 여성에 해당하므로 본 연구에 초대되었습니다. 본 연구에는 약 600명이 참여하게 될 것 입니다.

You are invited to be in this study because you are Korean immigrant women who (1) are the 1<sup>st</sup> or 1.5 generation, (b) possess a Korean cultural background in your individual and/or family history, (c) currently reside in the United States, and (d) are aged between 35-65. Approximately 600 people will participate in this study

본 질문지는 화병질문지, 일상생활 스트레스, 스트레스 반응, 분노표현방법, 기본적인 인적 사항에 관한 질문들로 구성되어 있으며, 설문에 참여하는데 걸리는 시간은 약 25-30분이 소요될 것입니다.

If you agree to participate, you will be asked to answer questions in five sections, including Hwa-Byung scale, Life Stress for Korean Women, Stress Response inventory, Korean version of Anger Expression, and demographic information. It will take approximately 25-30 minutes to complete the survey.

설문을 끝마치신 후에는 일주일 이내에 동봉된 설문지 회수봉투에 응답하신 설문지를 넣어 연구자에게 우편으로 보내주시시오. 설문 도중 답하고 싶지 않은 문항이 있을 경우 응답하지 않고 넘어가셔도 좋습니다. 또한, 설문도중 참여를 중단하고 싶으실 때는 언제든지 중단하셔도 됩니다. After you complete the survey, please mail your responses to the researcher using the enclosed stamped, return-address envelope within one week. You are free not to answer any questions. You are also free to no longer participate in the study at any time.

설문에 참여하고 싶지 않으시면 일주일 이내에 동봉된 참여거부 카드와 함께 빈 설문지를 연구자에게 보내주시기 바랍니다.

If you do not want to participate, please mail the enclosed postcard and a blank survey packet to the researcher using the enclosed stamped, return-address envelope within one week.

귀하께서 제공해주신 모든 정보는 비밀보장이 됩니다. 다만, 연방 관리기관 (Federal regulatory



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agencies)과 아이오와 대학교 기관 심의 위원회(University of Iowa Institutional Review Board)에서 연구와 관련된 사항을 조사할 수 있습니다. 본 설문은 익명으로 이루어지고 귀하의 응답 또한 ID 코드번호로 저장되어 보관 될 것이므로, 연구자는 귀하의 신상정보를 알 수 없습니다. 제공해주신 모든 응답은 연구자만 접근이 가능한 안전한 장소에 보관될 것이고, 연구가 끝나는 즉시 모두 파괴될 것입니다.

We will keep the information you provide confidential; however, federal regulatory agencies and the University of Iowa Institutional Review Board (a committee that reviews and approves research studies) may inspect and copy records pertaining to this research. The survey is anonymous and your responses will be stored using an ID code number, so that the researcher will not know who returns it. In addition, all information will be destroyed after the study is over. If the researcher writes a report about this study, it will be done in such a way that you cannot be identified.

본 연구를 참여하시는데 있어서 알려진 위험사항 및 개인적으로 받게 되는 혜택은 없습니다. 그러나 귀하의 자료는 본 연구의 결과에 큰 도움이 될 것이며, 다른 사람들에게도 도움이 될 것입니다.

There are no known risks from being in this study, and you will not benefit personally. However, the hope is that others may benefit in the future from what is learned as a result of this comprehensive study.

이 연구에 참여하는데 드는 비용은 없습니다.

There will not be any costs to participate in this research study.

연구 참여에 대한 감사의 의미로 설문에 끝까지 참여해주신 분들 중 상품권 추첨에 동의하신 분에 한하여, 5명 당 1명씩 현금 \$10에 해당하는 아마존 상품권 (Amazon Gift Card)을 받게 되실 것 입니다. 이 상품권은 미국 내 아마존 사이트(www.Amazon.com)에서 다양한 물품(책, 옷, 영화표, 등) 구입하는데 현금처럼 사용하실 수 있습니다. 상품권 추첨에 참여하고 싶으시면, 설문지 마지막에 이메일 주소를 남겨주시면 됩니다(단, 이메일 주소가 없으신 분은 우편으로 상품권을 받으실 주소를 남겨주시면 됩니다). 제공해주신 연구참여자의 이름, 우편주소, 이메일 주소는 오직 상품권 추천과 발송을 위해서만 사용 될 것입니다.

Compensation may be available for your participation in this study. One in every 5<sup>th</sup> participant who completes the survey and agrees to participate in the raffle, will receive a \$10 value Amazon Gift Card that can be used for purchasing a variety of merchandise and services (e.g., books, apparel, movie tickets, restaurants, etc.) at www.Amazon.com. If you participate in the raffle, you will be asked to provide your e-mail address at the end of the survey. (If you do not have an e-mail account, you can provide your mailing address instead.) Your name, e-mail, and mailing address will not be linked with your survey responses.



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본 연구 참여는 자발적으로 이루어지므로 특정질문에 대해 답을 하고 싶지 않거나, 질문지 작성 도중 참여를 중단하고 싶으실 때는 언제든지 그만두셔도 됩니다. 이에 대하여 연구참여자가 입으시는 불이익이나 피해는 없을 것 입니다.

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본 연구와 관련된 모든 질문이나, 혹은 연구와 관련하여 피해를 경험하셨다면, 이지향([jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu)) 혹은 Dr. Portman ([tarrell-portman@uiowa.edu](mailto:tarrell-portman@uiowa.edu)) 에게 연락주시길 바랍니다.

연구참여자의 권리와 관련된 질문은 Human Subjects Office, 105 Hardin Library for the Health Sciences, 600 Newton Rd, The University of Iowa, Iowa City, IA 52242-1098, (+1) 319-335-6564, 로 연락 하시거나 [irb@uiowa.edu](mailto:irb@uiowa.edu)로 이메일 주십시오. 연구참여자로서 당신의 경험을 제공하길 원하시거나 연구자 외의 사람과 연락하길 원하신다면 위의 번호로 전화 주시길 바랍니다.

If you have any questions about the research study itself, please email Jee Hyang Lee at [jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu) or Dr. Tarrell Portman at [tarrell-portman@uiowa.edu](mailto:tarrell-portman@uiowa.edu). If you have questions about the rights of research subjects, please contact the Human Subjects Office, 105 Hardin Library for the Health Sciences, 600 Newton Rd, The University of Iowa, Iowa City, IA 52242-1098, (+1) 319-335-6564, or e-mail [irb@uiowa.edu](mailto:irb@uiowa.edu). To offer input about your experiences as a research subject or to speak to someone other than the research staff, call the Human Subjects Office at the number above.

귀중한 시간 내어 설문에 참여해주셔서 대단히 감사합니다.  
Thank you very much for your time and participant.

Sincerely,

이지향 올림 (Jee Hyang Lee)

Doctoral Candidate, Counselor Education and Supervision.  
College of Education, The University of Iowa.  
N358 Lindquist Center, Iowa City, IA 52242.  
Phone. (+1) 979-900-8450 / (+82) 70-8245-3251  
e-mail. [jee-hyang-lee@uiowa.edu](mailto:jee-hyang-lee@uiowa.edu) or [yijeehyang@gmail.com](mailto:yijeehyang@gmail.com)

**Q. 당신은 몇 세대 이민자 입니까? (What generation are you in Korean immigrants?)**

- a. 1 세대 (1<sup>st</sup> generation)
- b. 1.5 세대 (1.5 generation)
- c. 2 세대 (2<sup>nd</sup> generation)

↳ 2 세대 이민자 여러분들께.

죄송하지만 귀하는 본 연구의 대상에 해당되지 않습니다. 본 연구에 관심 가져주셔서 감사합니다. (I am sorry that you are not eligible for the purpose of this study. Thank you very much for showing your interest in this study.)

**1. 화병 자가진단 척도 (Hwa-Byung Scale)**

다음은 한국인의 화병과 관련된 문항들입니다. 아래의 각 문항을 주의 깊게 읽은 후, 자신에게 해당되는 정도를 체크해 주십시오.

Read the following descriptions related to Koreans' Hwa-Byung and please check your agreement with each item by indicating the appropriate number.

	문 항	전혀 그렇지 않다	그렇지 않은 편이다	중간 정도 그렇다	상당히 그렇다	완전히 그렇다
		Strongly disagree	Slightly disagree	Slightly agree	Consider- ably Agree	Strongly agree
1	내 삶은 불행한 편이다. My life seems unhappy.	0	1	2	3	4
2	한스러워지는 때가 있다. I am sometime remorseful (Haan).	0	1	2	3	4
3	내 인생이 서글프다고 느낀다. I regret how I spent my life.	0	1	2	3	4
4	나는 서러움을 느낀다. I feel sad and resentful about how my life turned out.	0	1	2	3	4
5	나는 억울함을 느낀다. I have feelings of unfairness (Uk-wool).	0	1	2	3	4
6	나는 신경이 아주 약해져서, 마음을 가눌 수 없다. It is difficult to control my thoughts/mind because I am a nervous wreck.	0	1	2	3	4

	문항	전혀 그렇지 않다	그렇지 않은 편이다	중간 정도 그렇다	상당히 그렇다	완전히 그렇다
		Strongly disagree	Slightly disagree	Slightly agree	Consider -ably Agree	Strongly agree
7	나는 손발이 떨리고 안절부절 못한다. My nervousness extends to physically shaking my hands and body, so I can't do anything.	0	1	2	3	4
8	나는 내 자신에게 실망할 때가 많다. I am frequently disappointed in myself.	0	1	2	3	4
9	얼굴에 열이 자주 달아오른다. My face is frequently flushed and I feel feverish.	0	1	2	3	4
10	가슴속에 열이 차 있는 것을 자주 느낀다. I often feel burning sensation in my chest when I get angry.	0	1	2	3	4
11	무언가가 아래(다리 또는 배)에서 위(가슴)로 치미는 것을 자주 느낀다. I often feel something rising up to my chest when I get angry.	0	1	2	3	4
12	화가 나면 손이 저리거나 떨린다. When I get angry, my hands feel numb or shake.	0	1	2	3	4
13	소화가 잘 안 되고 체하는 편이다. I have a difficulty digesting foods and frequently have upset stomachs.	0	1	2	3	4
14	몹시 피곤하다. In general, I am very tired.	0	1	2	3	4
15	세상이 불공평하다고 느낀다. I think life is unfair and things are unjust.	0	1	2	3	4

## 2. 주부생활 스트레스 (Life stress for Korean women)

아래에는 주부님들이 일상 생활에서 흔히 겪을 수 있는 여러 가지 사건들이 적혀 있습니다. 각 문항을 자세히 읽어보신 후, **지난 1 년 (12 개월) 동안**에 각 사건이 얼마나 자주 발생했었는지를 평가해주시요. 이 때 지난 1 년 동안 **전혀** 경험하지 않았다면 0, **보통** 정도 경험했다면 1, 그리고 **자주** 경험했다면 2에 O 표를 하여주시기 바랍니다. (만약 직장생활을 하지 않는 분은 직장 생활 부분은 생략하시기 바랍니다).

There are descriptions of life events you may commonly experience on a daily basis. Please read the following statement carefully and answer how often you have experienced what is listed during the last year (12 months). If you did not experience it at all, check 0; if there are any you experienced a few times, check 1; and if there are any you frequently experienced, please check 2. (If you were not employed, please skip questions 58 through 64, which discuss problems in your workplace)

문 항 (Item descriptions)		전혀	보통	자주
		Not at all	A few times	Frequently
남편과의 관계 (Relationship with my husband)				
1	남편이 사망했다.   He passed away.	0	1	2
2	별거하거나 이혼했다.   I'm separated or got divorced.	0	1	2
3	남편과 크게 다투었다.   We had major arguments.	0	1	2
4	남편에게 맞았다.   My husband hit me.	0	1	2
5	남편이 예고 없이 외박을 하였다.   My husband went out overnight without having given me notice.	0	1	2
6	남편과 성적 문제가 있었다.   We had sexual problems.	0	1	2
7	남편과 마음 터놓고 이야기하기가 어려웠다.   It was difficult for us to freely communicate.	0	1	2
8	남편이 약속을 지키지 않았다.   My husband broke promises.	0	1	2
자녀와의 관계 (Relationship with my children)				
9	아이의 건강이 악화되었다.   My child's health has deteriorated.	0	1	2
10	아이가 친구들과 문제가 있음을 알게 되었다.   I realized that my children have friendship issues.	0	1	2

문항 (Item descriptions)		전혀	보통	자주
		Not at all	A few times	Frequently
11	아이로부터 배신감을 느낀다. I felt betrayed by my children.	0	1	2
12	아이와 심각한 의견충돌이 있었다. My children and I have marked disagreements.	0	1	2
13	아이가 말을 듣지 않았다.   My kid(s) disobey me.	0	1	2
14	아이가 너무 늦게 집에 들어왔다. My kid(s) come home too late.	0	1	2
15	아이가 자기 할 일을 하지 않았다. My kid(s) avoid doing homework and/or chores.	0	1	2
16	아이의 성적이 떨어졌다.   My child's grades have dropped.	0	1	2
시댁과의 관계 (Relationship with your husband side family-in-law)				
17	시부모와 심각한 다툼이 있었다. I had serious disagreements with my husband's parents.	0	1	2
18	시부모와 의견충돌이 있었다. I had a mild disagreement with my husband's parents.	0	1	2
19	시부모가 나의 입장을 몰라주었다. My husband's parents were not aware of my situations (incl. financial, emotional, and interpersonal, roles, etc).	0	1	2
20	시부모로부터 꾸지람을 들었다. My husband's parent scolded me.	0	1	2
21	시부모께서 나를 못마땅하게 대했다. My husband's parents treated me unfavorably.	0	1	2
친구관계 (Relationship with my friends)				
22	친구로부터 부당한 오해를 받았다. I was improperly misunderstood by my friends.	0	1	2
23	친구와의 관계가 악화되었다. My friendships have become worse.	0	1	2
24	친구에게 배신당했다.   I felt betrayed by my friends.	0	1	2
25	친구와 갈등을 겪었다.   I argued with my friends.	0	1	2
26	친구들에게 따돌림 당했다.   I felt excluded by my friends.	0	1	2

문항 (Item descriptions)		전혀	보통	자주
		Not at all	A few times	Frequently
경제 문제 (Financial difficulty)				
27	금전적으로 어려워서 필요한 물품을 구입할 수 없었다.   Due to financial difficulties, I was unable to purchase necessities.	0	1	2
28	투자에 실패해서 금전적으로 손해를 보았다.   I lost money because of poor investments.	0	1	2
29	기대했던 돈이 들어오지 않았다.   I did not get money that I have expected.	0	1	2
30	돈을 꾸기 위해서 애써야 했다.   I tried to borrow money.	0	1	2
31	수입이 이전에 비해서 줄어들었다.   My current income has shrunk.	0	1	2
32	자녀의 사교육비가 부담이 되었다.   The cost of private tutoring for my children was burdensome.	0	1	2
건강문제 (Health concerns)				
33	체중이 과도하게 증가되었다.   I experienced an excessive weight gain.	0	1	2
34	신체적으로 병을 얻게 되었다.   I got physically ill.	0	1	2
35	병을 적절하게 치료할 수 없었다.   I was unable to get proper treatment for my illness(es).	0	1	2
36	피로 때문에 할 일을 제대로 하지 못했다.   I was unable to work because of exhaustion.	0	1	2
37	건강이 악화되었다.   My health has deteriorated.	0	1	2
38	공해로 인하여 안과 또는 호흡기 질환 등으로 고생했다.   I suffered from ophthalmic or respiratory diseases due to pollution.	0	1	2
39	몸이 아파서 병원에 가야만 했다.   I had to be hospitalized for my pain.	0	1	2

문항 (Item descriptions)		전혀	보통	자주
		Not at all	A few times	Frequently
가사노동 문제 (Problems of house chores)				
40	남편과 자녀들을 뒷바라지하기가 힘들었다. Taking care of my husband and children became difficult.	0	1	2
41	집안 일이 너무 많았다. I struggled with endless chores.	0	1	2
42	집안 일 때문에 내 시간을 갖기가 어려웠다. It was difficult for me to have time for myself due to doing chores.	0	1	2
43	집안 일 때문에 항상 지치고 피곤했다. I always felt tired and exhausted from house chores.	0	1	2
44	가족들이 집안 일을 협조해 주지 않았다. Other family members did not do anything to help around the house.	0	1	2
45	가사 일이 무의미하게 느껴졌다. I felt that doing chores was useless.	0	1	2
직장생활 문제(*직장 생활을 하시는 분만 응답하시기 바랍니다.) Problems at your workplace (*please answer if you are currently employed)				
46	상사로부터 질책을 당했다. I got reprimanded from my boss.	0	1	2
47	수행한 업무에 대하여 나쁜 평가를 받았다. I received a poor evaluation.	0	1	2
48	직장 생활에서 부당한 대우를 받았다. I have been unfairly treated at my workplace.	0	1	2
49	직장에서 너무 많은 일을 해야 했다.   I was in charge of so many things to work on areas at my job.	0	1	2
50	직장에서 맡고 있는 일이 너무 힘들었다.   I was unable to complete the tasks that I was in charge of.	0	1	2
51	직장 동료와 가치관의 차이로 인한 갈등을 경험했다.   I had disagreements with my coworker due to different values.	0	1	2
52	직장 상사가 지나치게 간섭을 했다. My boss interfered in my work excessively.	0	1	2

### 3. 스트레스 반응척도 (Stress Response Inventory)

다음 문항들은 여러분이 일상생활에서 스트레스를 받았을 때 경험할 수 있는 것들입니다. 각 문항을 주의 깊게 읽으면서 오늘을 포함하여 지난 일주일 (7 일) 동안에 어느 정도로 경험했는지를 해당되는 빈칸에 O 표 하십시오.

The following statements describe reactions experienced during stress in daily life. Read carefully and please indicate the level of agreement how often or not you experienced each reaction during the last week, including today.

	문 항 Item descriptions	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
		Not at all	Slightly agree	Mildly agree	Considerably Agree	Strongly agree
1	일에 실수가 많다. I often make mistakes.	0	1	2	3	4
2	말하기 싫다. I do not want to speak.	0	1	2	3	4
3	가슴이 답답하다. I feel tightness in my chest.	0	1	2	3	4
4	화가 난다.   I am angry	0	1	2	3	4
5	안절부절 못한다.   I am fidgety.	0	1	2	3	4
6	소화가 안된다. I have difficulty digesting foods.	0	1	2	3	4
7	배가 아프다.   I get a stomach ache.	0	1	2	3	4
8	소리를 지르고 싶다.   I want to yell.	0	1	2	3	4
9	한숨이 나온다.   I sigh deeply.	0	1	2	3	4
10	어지럽다.   I get dizzy.	0	1	2	3	4
11	만사가 귀찮다. I feel tired of everything.	0	1	2	3	4
12	잡념이 생긴다.   I have many petty insignificant thoughts.	0	1	2	3	4
13	쉽게 피로를 느낀다. I get tired easily.	0	1	2	3	4
14	온몸에 힘이 빠진다. I feel a loss of energy from my body.	0	1	2	3	4



	문항 Item descriptions	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
		Not at all	Slightly agree	Mildly agree	Considerably Agree	Strongly agree
15	자신감을 잃었다. I lose confidence easily.	0	1	2	3	4
16	긴장된다.   I get nervous.	0	1	2	3	4
17	몸이 떨린다. I get shivers and tremble.	0	1	2	3	4
18	누군가를 때리고 싶다. I want to hit someone.	0	1	2	3	4
19	의욕이 떨어졌다.   I feel unmotivated.	0	1	2	3	4
20	울고 싶다.   I want to cry.	0	1	2	3	4
21	신경이 날카로워졌다. I get touchy.	0	1	2	3	4
22	내가 하는 일에 전망이 없다. I think my future is bleak.	0	1	2	3	4
23	멍하게 있다.   I am in a daze.	0	1	2	3	4
24	누군가를 미워한다. I feel hate someone.	0	1	2	3	4
25	한가지 생각에서 헤어나지 못한다. I am only focused on one thing or thought.	0	1	2	3	4
26	목소리가 커졌다. My voice becomes louder.	0	1	2	3	4
27	마음이 급해지거나 일에 쫓기는 느낌이다. I feel rushed and pressed by work.	0	1	2	3	4
28	행동이 거칠어졌다 (난폭운전, 욕설, 몸싸움 등.   My behavior becomes reckless (i.e. driving, speaking, and arguing).	0	1	2	3	4
29	무엇인가를 부수고 싶다. I want crush something.	0	1	2	3	4
30	말이 없어졌다.   I talked less.	0	1	2	3	4

	문항 Item descriptions	전혀 그렇지 않다	약간 그렇다	웬만큼 그렇다	상당히 그렇다	아주 그렇다
		Not at all	Slightly agree	Mildly agree	Considerably Agree	Strongly agree
31	머리가 무겁거나 아프다. I experience headache or feel dull in my head. .	0	1	2	3	4
32	가슴이 두근거린다. My heart pounds.	0	1	2	3	4
33	누군가를 죽이고 싶다. I feel like killing someone.	0	1	2	3	4
34	얼굴이 붉어지거나 화끈거린다. My face turns red or is flushed.	0	1	2	3	4
35	지루하다.   I feel bored.	0	1	2	3	4
36	참을성이 없다.   I lose my patience.	0	1	2	3	4
37	얼굴표정이 굳어졌다. My facial expressions become rigid.	0	1	2	3	4
38	나는 아무 쓸모가 없는 사람이다. I am useless.	0	1	2	3	4
39	움직이기 싫다. I do not feel like moving.	0	1	2	3	4

#### 4. 분노표현척도 (State-Trait Anger Expression Inventory- Korean version, STAXI-K: AXI) (Korean Version)

사람들은 누구나 때로 화가 나거나 분노를 느끼지만, 화가 났을 때 반응하는 방식은 서로 다릅니다. 각 문항을 잘 읽은 후, **당신이 화가 나거나 분노를 느꼈을 때 일상적으로 얼마나 자주 아래에 적힌 바와 같이 반응하거나 행동하는가를 ‘0’표로 작성해주시기 바랍니다.** 이러한 문제에는 옳고 그른 답이 없습니다. 어느 한 문항에 너무 오래 생각하지 마시고 응답하여 주시기 바랍니다.

All people feel anger, but the reactions to anger are different from each other. Read the following statements carefully and please indicate how often (or not) you behave or react when you feel anger. Please answer each statement as quickly as you can. There is no right or wrong answer.

	화가 나거나 분노를 느낄 때 When you feel anger	거의 전혀 아니다	가끔 그렇다	자주 그렇다	거의 언제나 그렇다	언제나 그렇다
		Never	Occasio nally	Very Often	Almost always	Always
1	나는 화를 참는다.   I hold my anger in.	0	1	2	3	4
2	나는 화난 감정을 표현한다. I express my anger.	0	1	2	3	4
3	나는 말을 하지 않는다 I keep my thoughts to myself	0	1	2	3	4
4	나는 사람들에게 인내심을 갖고 대한다.   I face others with patience.	0	1	2	3	4
5	나는 똥해지거나 토라진다. I get moody or sulk.	0	1	2	3	4
6	나는 사람들을 피한다. I withdraw from other people.	0	1	2	3	4
7	나는 소리를 지른다. I angrily yell at somebody.	0	1	2	3	4
8	나는 냉정을 유지한다. I try to become and stay calm.	0	1	2	3	4
9	나는 문을 광 닫아버리는 식의 행동을 한다.   I do things like slamming doors.	0	1	2	3	4
10	나는 상대의 시선을 피한다 I avoid making eye contact.	0	1	2	3	4
11	나는 나의 행동을 자제한다. I control my behavior.	0	1	2	3	4
12	나는 사람들과 말다툼한다. I argue with others.	0	1	2	3	4
13	나는 아무에게도 말하지 않으나, 안으로 앙심을 품는 경향이 있다. I tend to bear malice, but I do not tell anyone.	0	1	2	3	4
14	나는 목소리를 높인다.   I raise my voice.	0	1	2	3	4
15	나는 화가 나더라도 침착하게 자제할 수 있다.   I restrain my anger.	0	1	2	3	4

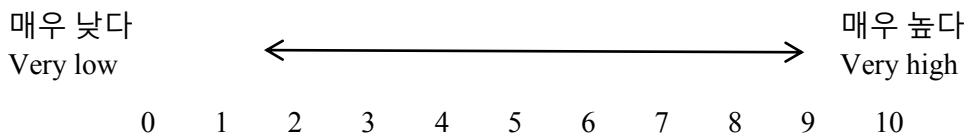
	화가 나거나 분노를 느낄 때 When you feel anger	거의 전혀 아니다	가끔 그렇다	자주 그렇다	거의 언제나 그렇다	언제나 그렇다
		Never	Occasio nally	Very Often	Almost always	Always
16	나는 속으로 다른 사람을 비판한다. I blame others without expressing it.	0	1	2	3	4
17	나는 나 자신이 인정하고 싶은 것보다 화가 더 나 있다. I am angrier than I am willing to admit.	0	1	2	3	4
18	나는 대부분의 사람들보다 진정을 빨리 회복한다. I get calm faster than others.	0	1	2	3	4
19	나는 욕을 한다.   I say nasty things.	0	1	2	3	4
20	나는 참고 이해하려고 노력한다. I try to simmer down and be understanding.	0	1	2	3	4
21	나는 다른 사람들이 알고 있는 것보다 분통이 더 나 있다. I am much angrier than others can see.	0	1	2	3	4
22	나는 자제심을 잃고 화를 낸다. I lost my self-control and get angry.	0	1	2	3	4
23	나는 화난 표정을 짓는다. Everyone knows how I feel from my facial expressions.	0	1	2	3	4
24	나는 화난 감정을 자제한다. I keep my anger at bay.	0	1	2	3	4

### 5. 인적사항 (Demographic information)

다음은 귀하의 인적사항과 관련된 문항입니다. 아래 문항들 또한 화병 연구의 중요한 자료가 되오니 빠짐없이 기록하여 주시면 감사 드리겠습니다.

Please fill in the blank or make a check mark in the appropriate answer. The information you provide is valuable and important to this 'Hwa-Byung' study.

1. 몇 년도에 태어나셨습니까? Birth in 19\_\_\_\_\_
2. 현재 나이는 어떻게 되십니까? (Age): \_\_\_\_\_ years old
3. 태어난 곳은 어디입니까? (Birth place):  
 국가 (Country) \_\_\_\_\_  
 도시 (City) \_\_\_\_\_  
 주 (State) \_\_\_\_\_
4. 현재 거주하고 있는 곳은 어디입니까? (Current address):  
 국가 (Country) \_\_\_\_\_  
 도시 (City) \_\_\_\_\_  
 주 (State) \_\_\_\_\_
- 4-1) 미국 내 거주기간은 얼마나 되십니까? (Years of living in the U.S.):  
 \_\_\_\_\_년(years) \_\_\_\_\_개월(months)
- 4-2) 미국 내 거주 상태는 어떻게 되십니까? (Resident status)
  - a. 미국 시민권 (U.S. Citizenship)
  - b. 미국 영주권 (Permanent resident in the U.S., holding a green card)
  - c. 일시 거주 (Temporary residence in the U.S., holding a Korean citizenship).
- 4-3) 현재 본인의 미국문화 적응 정도는 얼마나 된다고 생각하십니까?  
 (Level of acculturation to American culture)



1. 현재 결혼 상태는 어떠하십니까? (Marital status)  
 \*해당사항에 모두 체크해주세요 (Check all that apply)
  - a. 미혼 (Single)
  - b. 기혼 (Married)
  - c. 이혼 (Divorced)
  - d. 별거 (Separated)
  - e. 사별 (Widowed)
  - f. 재혼 (Remarried)

2. 결혼생활 기간은 얼마나 되십니까? (Years of Marriage):

\_\_\_\_\_ 년(years) \_\_\_\_\_ 개월 (Months)

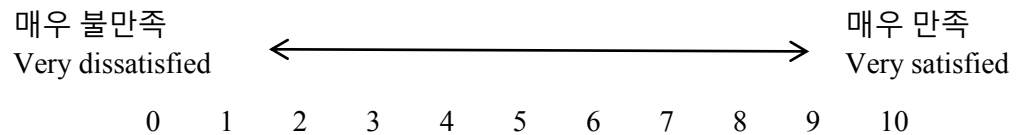
3. 자녀는 몇 분이나 있습니까? (Number of Children)

- |      |              |
|------|--------------|
| a. 0 | d. 3         |
| b. 1 | e. 4         |
| c. 2 | f. 5 or more |

4. 큰 아들/딸의 나이는 어떻게 되십니까? (Age of the 1<sup>st</sup> child):

\_\_\_\_\_ 년(years) \_\_\_\_\_ 개월(months)

5. 현재 본인의 결혼 만족도는 얼마나 되십니까?  
(Level of satisfaction with your marriage life)



6. 현재 거주 상태는 어떻게 되십니까? (Living status)

- 혼자 살고 있음 (Living alone)
- 부부만 살고 있음 (Living with partner only)
- 부부 및 자녀와 살고 있음 (Living with partner and children together)
- 시댁 식구와 같이 살고 있음 (Living with father-in-law)
- 친정 식구와 같이 살고 있음 (Living with mother-in-law)
- 자녀와만 함께 살고 있음 (Living with children only)

7. 현재 부모님을 모시고 있습니까?

(Do you have some responsibility to support aging parents?)

- 예 (Yes)
  - 같은 집에서 살고 있다 (Living together)
  - 경제적인 지원만 해드리고 있다 (Only financial support)
- 아니오(No)

8. 종교가 어떻게 되십니까? (Religion)
- 기독교 (Protestant)
  - 카톨릭 (Catholic)
  - 불교 (Buddhist)
  - 무교 (None)
  - 기타 (Other) \_\_\_\_\_
9. 교육배경은 어떻게 되십니까? (Educational background)
- 독학 (Self-educated)
  - 초등학교 졸업 (Elementary)
  - 중학교 졸업 (Middle School)
  - 고등학교 졸업 (High School)
  - 전문대학 졸업 (Vocational/Technical School, 2 years)
  - 대학교 졸업 (Undergraduate)
  - 대학원 석사 졸업 (Graduate- Master)
  - 대학원 박사 졸업 (Graduate- Doctorate)
  - 기타 (Other) \_\_\_\_\_
10. 현재 고용상태는 어떠하십니까? (Employment)
- \*해당사항에 모두 체크해주세요(circle all that apply)
- 비정규직 (Part-time job)
  - 정규직 (Full-time job)
  - 전문직 (Professional)
  - 사무직 (Office clerk)
  - 자영업 (Self-employed)
  - 전업주부 (Housewife)
  - 기타 (Other) \_\_\_\_\_
11. 한 달 수입은 얼마나 되십니까? (Monthly income)
- Less than \$1,000
  - \$1,000 ~ \$1,500
  - \$1,500 ~ \$2,000
  - \$2,000 ~ \$3,000
  - \$3,000 ~ \$5,000
  - More than \$5,000

**경품추첨을 위한 이메일 주소 제공 안내**  
**(E-mail Address Request Form)**

설문에 응답해 주셔서 감사합니다.

Thank you for your participation in this study.

본 설문지에 응답하신 참여자 중에서, 5명 중 1명씩을 뽑아 현금 \$10에 해당하는 Amazon Gift Card를 제공하고자 합니다. 이 경품 추첨에 참여를 원하시면, 아래에 이메일 주소를 적어 주시길 바랍니다. 만약, 사용하고 있는 이메일 계정이 없으면, 우편으로 상품권을 받을 주소와 이름을 적어주시길 바랍니다.

If you would like to participate in the raffle in which one of every five participants will be given a gift card (\$10 value) as compensation for participation, please provide your e-mail address below. However, if you do not have any e-mail, please provide your name and mailing address instead.

제공해주신 연구참여자의 이름, 우편주소, 이메일 주소는 오직 상품권 추천과 발송을 위해서만 사용 될 것입니다. 본 경품추첨을 위한 이메일 주소 안내지는 연구자가 설문지를 회수한 즉시 설문지의 응답과는 분리되어 보관될 것입니다. 또한, 수집된 모든 정보는 상품 발송 이후 즉시 폐기될 것입니다.

Your name, e-mail, and mailing address will be used only for selecting raffle winners and sending the gift card (if you win) as compensation for your participation. Your name, e-mail, and mailing address will not be linked with your survey responses. This e-mail address request form will be separately stored from your survey responses immediately after we receive the survey packet; in addition, all survey participants' personal information will be destroyed after sending the gift card to raffle winners.

이메일 주소(E-mail Address)

\_\_\_\_\_ @ \_\_\_\_\_

OR

우편 주소(Mailing Address)

\*e-mail 계정이 없을 경우(Only if you do not have an e-mail address)

\_\_\_\_\_  
 \_\_\_\_\_

받는 사람 (Name) \_\_\_\_\_



## APPENDIX E. TABLES OF SUPPLEMENTAL ANALYSES

Table E1. Mean Differences of the Study Variables by Marital Status

	Variables	Marital Status				<i>t</i>	<i>Sig.</i> (2-tailed)
		Currently Married		Separated / Divorced / Widowed			
		M	SD	M	SD		
Native Korean	Hwa-Byung	-.02238	.923319	.81307	1.368681	-2.443	.016
	Life Stress	-.16373	.871344	.97389	1.192637	-3.547	.001
	Stress Response	-.16954	.947132	.59564	1.161522	-2.211	.028
	Anger Regulation	-.22476	.962465	.74145	1.324180	-2.726	.007
	N=177	169		8			
Korean Immigrants	Hwa-Byung	-.03857	1.050107	.12638	1.083558	-.579	.563
	Life Stress	.07846	1.096233	.55625	.929405	-1.631	.105
	Stress Response	.11970	1.055313	.24071	.713225	-.434	.665
	Anger Regulation	.20042	1.021544	.07186	.496630	.481	.631
	N=169	154		15			

Table E2. Mean Differences of the Study Variables by Employment

	Variables	Employment				<i>t</i>	<i>Sig.</i> (2-tailed)
		Unemployed		Employed			
		M	SD	M	SD		
Native Korean	Hwa-Byung	.05862	.952267	-.00027	.989042	.343	.732
	Life Stress	-.26203	.929989	-.06294	.913137	-1.239	.217
	Stress Response	-.16958	1.111869	-.13229	.936936	-.216	.829
	Anger Regulation	-.13877	1.229262	-.18371	.921233	.254	.800
	N=170	44		126			
Korean Immigrants	Hwa-Byung	.07568	1.081058	-.03980	1.043674	.682	.496
	Life Stress	.26558	1.234675	.05933	.977537	1.171	.243
	Stress Response	.26245	1.065303	.07278	1.018913	1.142	.255
	Anger Regulation	.23071	.989698	.22493	.991892	.037	.971
	N=158	73		85			

Table E3. Mean Differences of the Study Variables by Education

	Variables	Mean	SD	Education			$\chi^2$	df	<i>p</i>
				High School	Undergraduate	Graduate			
Native Korean	Hwa-Byung	17.87	11.360	102.91	90.29	89.74	2.171	2	.338
	Life Stress	18.24	12.467	99.77	92.74	85.89	1.212	2	.545
	Stress Response	33.17	33.188	97.07	92.16	95.15	.315	2	.854
	Anger Regulation	26.83	13.918	80.92	95.87	117.09	7.595	2	.022
	N=187			56	108	23			
Korean Immigrants	Hwa-Byung	16.56	11.647	97.19	75.32	74.95	3.485	2	.175
	Life Stress	20.44	14.343	102.25	73.48	77.78	5.756	2	.056
	Stress Response	37.51	34.077	95.81	74.67	77.30	3.105	2	.212
	Anger Regulation	30.00	11.937	73.50	74.11	88.49	2.962	2	.227
	N=154			16	101	37			

Table E4. Mean Differences of the Study Variables by Supporting Parent

	Variables	Mean	SD	Education			$\chi^2$	df	<i>p</i>
				No support	Living together	Financial support			
Native Korean	Hwa-Byung	17.87	11.360	94.42	103.56	81.63	1.564	2	.458
	Life Stress	18.24	12.467	94.28	92.42	93.26	.023	2	.989
	Stress Response	33.17	33.188	92.65	95.69	103.05	.643	2	.725
	Anger Regulation	26.83	13.918	91.93	92.03	112.21	2.398	2	.302
	N=187			150	18	19			
Korean Immigrants	Hwa-Byung	16.56	11.647	78.68	72.14	86.28	.668	2	.716
	Life Stress	20.44	14.343	76.61	78.50	98.78	3.393	2	.183
	Stress Response	37.51	34.077	76.78	78.95	97.03	2.826	2	.243
	Anger Regulation	30.00	11.937	78.32	64.14	94.72	3.121	2	.210
	N=157			130	11	16			

Table E5. Mean Differences of the Study Variables by Living Areas

Variables	Mean	SD	Living Areas				$\chi^2$	f	p	
			Urban	Suburban	Rural	Out of KR/US				
Native	Hwa-Byung	17.87	11.360	89.13	97.19	110.75	101.17	2.897	3	.408
Korean	Life Stress	18.24	12.467	92.21	99.59	77.97	113.17	3.769	3	.288
	Stress Response	33.17	33.188	90.44	94.31	93.19	130.88	5.929	3	.115
	Anger Regulation	26.83	13.918	93.16	90.97	83.64	139.25	9.154	3	.027
N=188				99	59	18	12			
Korean	Hwa-Byung	16.56	11.647	77.03	75.01	74.45	106.75	4.478	3	.214
Immigrants	Life Stress	20.44	14.343	74.00	81.67	74.45	99.05	3.260	3	.353
	Stress Response	37.51	34.077	73.30	80.18	77.03	106.35	4.966	3	.174
	Anger Regulation	30.00	11.937	75.21	86.79	72.05	70.35	2.747	3	.432
N=155				78	47	20	10			

Table E6. Mean Differences of the Study Variables by Religion

Variables	Mean	SD	Religion				$\chi^2$	df	p	
			Christian	Catholic	Buddhist	None				
Native	Hwa-Byung	17.87	11.360	67.51	58.73	70.53	115.15	16.475	3	.001
Korean	Life Stress	18.24	12.467	71.12	62.46	63.05	104.25	9.907	3	.019
	Stress Response	33.17	33.188	70.39	59.44	65.38	113.40	15.294	3	.002
	Anger Regulation	26.83	13.918	63.74	62.69	74.67	105.25	11.003	3	.012
N=137				53	42	32	10			
Korean	Hwa-Byung	16.56	11.647	76.78	76.64	95.71	80.33	1.246	3	.742
Immigrants	Life Stress	20.44	14.343	79.91	73.54	83.64	79.69	.776	3	.855
	Stress Response	37.51	34.077	78.35	75.44	87.14	80.00	.494	3	.920
	Anger Regulation	30.00	11.937	80.80	67.76	88.71	89.83	4.569	3	.206
N=155				80	50	7	18			

Table E7. Mean Differences of the Study Variables by Living Status

	Variables	Mean	SD	Living Status						$\chi^2$	df	<i>p</i>
				living alone	w/ partner only	w/ partner & children	w/ father-in-law	w/ mother-in-law	w/ children only			
Native Korean	Hwa-Byung	17.87	11.360	160.50	84.98	92.03	106.80	104.31	125.50	5.473	5	.361
	Life Stress	18.24	12.467	179.50	77.60	94.34	90.55	99.50	138.75	8.868	5	.114
	Stress Response	33.17	33.188	160.25	82.90	93.39	103.50	89.38	133.50	5.544	5	.353
	Anger Regulation	26.83	13.918	163.75	83.06	93.58	97.25	89.38	145.75	6.334	5	.275
N=137				2	5	139	10	8	2			
Korean Immigrants	Hwa-Byung	16.56	11.647	73.14	64.64	87.38	67.60	85.00	125.50	9.952	5	.077
	Life Stress	20.44	14.343	97.57	55.25	89.06	76.70	109.83	138.75	21.442	5	.001
	Stress Response	37.51	34.077	69.07	58.72	89.39	75.60	107.50	133.50	16.722	5	.005
	Anger Regulation	30.00	11.937	64.64	58.91	89.84	63.70	107.50	145.75	17.819	5	.003
N=155				7	51	87	5	3	2			

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