UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

STRESS, COPING BEHAVIOR, AND SOCIAL SUPPORT IN JAPAN AND THE UNITED STATES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

NAOTO OGAWA
Norman, Oklahoma
2007

STRESS, COPING BEHAVIOR, AND SOCIAL SUPPORT IN
JAPAN AND THE UNITED STATES

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

BY

Young Yun Kim, Chair

Amy Johnson

H. Dan O'Hair

Elaine Hsieh

Rockey Robbins

This dissertation is dedicated to the memory of

Dr. William B. Gudykunst

and

Dr. D. Lawrence Wieder

TABLE OF CONTENTS

LIST OF TABLES

Tables

ABSTRACT

The purpose of this research is to examine cultural similarities and differences in perceptions of stress, coping behavior, and social support within the theoretical framework of two cultural factors (individualism/collectivism and uncertainty avoidance) and five individual factors (self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem, and gender). Based on a literature review and a pilot study in Japan and the United States, a questionnaire was developed to assess the patterns of coping with stress, including stress level, four types of coping behavior (avoidance-related, active-positive, problem-focused, and emotion-focused), and three types of social support (family, same-sex friends, and opposite-sex friends). Data were collected from 269 Japanese students and 256 American students. A one-way between-groups multivariate analysis of covariance was conducted to examine the influence of cultural and individual factors on the process. The results of the cultural-level analysis suggest that, compared to Japanese college students, American college students experience less stress, engage more in avoidance-related and problem-focused coping behavior, and receive more social support from family and from friends of the opposite-sex. The results of the individual-level analysis indicate that self-construals, tolerance for ambiguity, and self-esteem have different impacts on stress, coping behavior, and social support. For example, stress is influenced by the independent self-construal, tolerance for ambiguity, and individual self-esteem. Active-positive coping is influenced by self-construals and self-esteem, while avoidance-related coping is influenced only by self-construals. Social support from friends of the same-sex is influenced by self-construals and collective self-

esteem, while social support from friends of the opposite-sex is influenced by tolerance for ambiguity and collective self-esteem. Among these individual factors, the interdependent self-construal is found to be the strongest factor in influencing the process of coping with stress; stress and social support from friends of the opposite-sex are not affected by the interdependent self-construal. The results also suggest that female college students engage less in avoidance-related coping and more in active-positive coping and emotion-focused coping than male college students, and that they receive more social support from family and from friends of the same-sex than do male college students. The results of the correlation analysis on key research variables show many interrelationships among the variables. Seventeen relationships show significant correlations in both Japan and the United States. Five relationships show significant correlations in Japan (but not in the United States) and fourteen relationships show significant correlations in the United States (but not in Japan). Finally, some theoretical implications of key findings are suggested in terms of the relationship between cultural individualism/collectivism and individual/collective self-esteem, the relationship between the cultural and the individual factors, the concept of avoidance in coping, the relationship between self-esteem and social support, the relationship between gender and social support from friends, the influence of self-construals on the process of coping with stress, the culture-general and the culture-specific interrelationships between research variables, and the importance of choosing comparable concepts in cross-cultural research. Additionally, practical implications for college students under stress are suggested based on the difference in coping with stress in the two cultures, the importance of social support from significant others when dealing with stress, and the average score for the stress scale for college

students in the two cultures.

CHAPTER I

INTRODUCTION

Life is full of stressful events, and dealing with them is a part of everyday life for most of us. Events such as moving, taking exams, or having car trouble are inevitable. Although these experiences are a source of stress, they can also be important life-changing events. For example, in today's world, an individual can easily relocate to a new culture; adapting to that new culture can be paramount if the individual is to become an effective member of that society. Although adapting to a new culture provides an opportunity for growth (e.g., learning a different way of communication), the process generally creates a lot of stress (Kim, 2001a). Human beings have successfully enlarged their scope of action beyond cultural boundaries, but have not enlarged their knowledge of how to cope with stress.

Research Purpose

The process of coping with stress (e.g., coping behavior or social support) has been widely studied in various cultures. For instance, how people cope with stress was examined in Australia (e.g., Chang et al., 2006; Lee & Gramotnev, 2007; Milgrom & Beatrice, 2003; Williams et al., 2005), Canada (e.g., Iwasaki & Bartlett, 2006; Iwasaki & Butcher, 2004; Nachshen, Woodford, & Minnes, 2003), Japan (e.g., Fukuoka, 1995; Kamimura, Ebihara, Sato, Togasaki, & Sakano, 1995; Sima, 1992, 1999; Tanaka, 2003), Mexico (e.g., Gomez-Maqueo, 2006; Lever & Pinol, 2005; Lever, Pinol, & Uralde, 2005), Taiwan (e.g., Huang, Musil, Zauszniewski, & Wykle, 2006; Hung, 2006; Mu, 2005; Song & Singer. 2006), and the United States (e.g., Aldwin, 1994; Aldwin & Revenson, 1987;

Coyne, Aldwin, & Lazarus, 1981; Folkman & Lazarus, 1980, 1985; Homes & Rahe, 1967; Lazarus, 1993; Lazarus & Folkman, 1984, 1987; Moos & Schaefer, 1986; Steptoe, 1991). These studies are primarily associated with the exploration of individual similarities and differences in the perception of stress, coping behavior, and/or social support.

To date, there are no notable cross-cultural studies that have examined how individuals cope with stress using universal theoretical concepts such as individualism/collectivism and uncertainty avoidance. It is, though, considered important to study cultural influences when understanding communicative behavior because individual behavior is affected by cultural values such as individualism and collectivism (e.g., Gudykunst & Nishida, 1994; Ogawa & Gudykunst, 1999; Singlis & Brown, 1995; Ting-Toomey, 1999; Triandis, 1988).

The purpose of this research, therefore, is to examine the similarities and differences in the perceptions of stress, coping behavior, and social support in two different cultures (i.e., Japan and the United States) based on dimensions of cultural variability (i.e., individualism/collectivism and uncertainty avoidance). Individual factors that influence perceptions (i.e., self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem, and gender) are also considered in this study. Some relationships between variables used in this research (i.e., stress, coping behavior, social support, and self-esteem) have been reported by previous studies. Since these studies were conducted within a cultural context, the relationships are also examined comparatively in the two cultures.

Focal Concepts and Working Definitions

An empirical conceptualization of stress has been primarily presented in Western culture. The awareness or practical aspects, however, have been a part of Eastern culture for some time. The first conceptualization of stress focused on the physiological aspects of the construct. Specifically, stress was defined as physiological distortion in a living body caused by external impulse (Selye, 1936). The concept of stress was later adopted to examine a variety of phenomena in terms of human life. Aldwin (1994) identifies three ways to look at stress: the state of an organism, an external event, or a transaction between a person and the environment. Thus, the current concept of stress includes both physiological and social aspects.

Stress has proven to be related to a variety of mental disorders (e.g., Nakano & Kazamatsuru, 1991; Paykel & Mayer, 1969; Schmale, 1958), physical illnesses (e.g., Mittleman et al., 1995; Nozoe, 1997; Solomon & Benton, 1994; Wolff, 1953), and even death (e.g., Eagle, 1971; Everson et al., 1996). As a result, it is critical for an individual to effectively cope with stress (e.g., in the process of a cross-cultural adaptation) in order to maintain psychological and physical well-being.

Stress can also be observed from the standpoint of communication. For humans, stress is frequently caused by communication—or lack of communication—with others: other people, other forms of life (e.g., animals, insects, plants), or external events (e.g., car accidents, blackouts, earthquakes). Because communication is the very essence of human life, it is important to focus on stress, which has a variety of negative influences to the human life, from the viewpoint of communication. Therefore, stress is viewed from the perspective of communication in the present study.

Stress, and how to cope with it, has been widely researched and results have shown that stress can be reduced or managed by using a variety of coping techniques (e.g., Aldwin, 1994; Folkman & Lazarus, 1980; Lazarus & Folkman, 1984; Moos & Schaefer, 1986; Steptoe, 1991). Folkman and Lazarus (1980) suggest that problem-focused coping and emotion-focused coping are the two basic types of coping. Problem-focused coping is an attempt to manage or alter the problem causing the distress, while emotion-focused coping attempts to regulate the emotional response to the problem (Folkman & Lazarus, 1980). Since problem-focused coping and emotion-focused coping are the basic techniques that individuals use, they are both considered in this study.

There are at least two ways to understand coping: coping as a process and coping as a personality trait. The notion of coping as a process involves the assumption that individuals will choose a coping strategy based on the specific stressor. Research based on this perspective generally focuses on an examination of the types of coping strategies that are effective for certain stressors (e.g., Folkman & Lazarus, 1980, 1985; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, 1993, 1999; Lazarus, Averill, & Opton, 1970; Lazarus & DeLongis, 1993; Lazarus & Folkman, 1984, 1987; Lazarus & Launier, 1978).

The belief in coping as a personality trait is the assumption that coping methods are determined by an individual's personality, not by the type of stress. Studies based on this perspective generally refer to examinations of consistency in coping styles (e.g., Amirkhan, 1990; Billings & Moos, 1981; Billingsley, Waehler, & Hardin, 1993; Deck & Jamieson, 1998; Dolan & White, 1988; Harnish, Aseltine, & Gore, 2000; Patterson, Smith, Grant, Clopton, & Josepho, 1990; Rohde, Lewinsohn, Tilson, & Seeley, 1990;

Sellers, 1995; Swindle, Cronkite, & Moos, 1989). Both aspects are valid and they are collectively referred to as coping behavior. Therefore, coping behavior based on the two aspects (i.e., coping as a process and coping as a personality trait) is considered in this study.

Research has also shown that culture influences communication. Since many coping behaviors take place through everyday communication, it is expected that coping will likely be influenced by culture. There may be differences in the preference for, or in the effectiveness of, specific coping strategies across cultures; however, there is no notable research that focuses on cultural similarities and differences in coping behavior.

Self-esteem is generally viewed as an individual's personal evaluation; there is a relationship between coping behavior and self-esteem (e.g., Houston, 1977; Mantzicopoulos, 1990). The concept of self-esteem originated in Western culture. As a result, it is based on individualistic attitudes toward human communication. Individualistic attitudes in the study of human communication refer to the belief that individuals exist independently of others. However, individuals also evaluate themselves as members of social groups, a process that is referred to as collective self-esteem (Luhtanen & Crocker, 1992). The emphasis on (individual) self-esteem relative to collective self-esteem differs across cultures. Individualistic cultures tend to emphasize individual self-esteem, while collectivistic cultures generally emphasize collective self-esteem (Ogawa, Gudykunst, & Nishida, 2004). Therefore, individual and collective self-esteem are both considered in the present cross-cultural study between Japanese (members of a collectivistic culture) and Americans (members of an individualistic culture).

Social support is important in times of stress because significant others can suggest ways of coping with the stress and can even participate directly in the coping process. Social support has been examined in a variety of contexts, including conceptual analysis (e.g., Albrecht & Adelman, 1987; Caplan, 1974, 1976; Cobb, 1976; Contona & Suhr, 1992; Gottlieb, 1978, 1981; House, 1981; Kahn & Antonucci, 1980; Lin, 1986; Pinneau, 1975), effectiveness (e.g., Cutrona & Russell, 1990; La Gaipa, 1990), the Internet (e.g., Kraut et al., 1998; Walther & Boyd, 2002), coping with stress (e.g., Andrews, Tennant, Hewson, & Vaillant, 1978; Komproe, Rijken, Ros, Winnubst, & Hart, 1997; Miller & Ingham, 1976; Schwarzer & Leppin, 1991; Thoits, 1986), and health (e.g., Albrecht & Adelman, 1987; Berkman & Syme, 1979; Case, Moss, Case, McDermott, & Eberly, 1992; Cohen, 1991; Connel & D'Augelli, 1990; Hibbard, 1988; Levy, Herberman, Lippman, & d'Angelo, 1987; Levy et al., 1990; Orth-Gomer, Rosengren, & Wilhelmsen, 1993; Theorell et al., 1995). These studies indicate that social support is an important factor in a variety of contexts.

Individualism/collectivism is the major dimension of cultural variability that can explain differences as well as similarities in communication across cultures (e.g., Gudykunst & Nishida, 1994; Triandis, 1988). Previous studies of culture and social support indicate that people with collectivistic values tend to receive more social support when dealing with stressful events than do those who have individualistic values. (Dayan, Doyle, & Markiewicz, 2001; Goodwin & Plaza, 2000). Communication is influenced indirectly by cultural individualism/collectivism through cultural norms and rules (Gudykunst et al., 1996). With regard to individualism/collectivism, Japan and the United States are two cultures that appear to have different norms and rules in the process of

coping with stress.

Cultural individualism/collectivism has a direct influence on cultural norms and rules (e.g., Gudykunst, 1995; Hofstede, 1980; Triandis, 1995); however, the influence on communication is mediated by the individualistic or collectivistic psychological tendencies (e.g., self-construals, whether the self is viewed as independent of or interdependent with others; Markus & Kitayama, 1991) of individual members of the culture (Gudykunst et al., 1996). For instance, allocentric (collectivistic) children tend to receive more social support from their peers than do idiocentric (individualistic) children (Dayan et al., 2001). Therefore, how members of a culture perceive norms and rules is also influenced by individual tendencies of individualism/collectivism. In this study, independent and interdependent self-construals are considered in order to examine the individual tendencies of individualism and collectivism.

Uncertainty avoidance is another cultural variable that can explain some cultural differences in the process of coping with stress. The cultural tendency for people in Japan is to avoid uncertainty, while Americans generally face it (Hofstede, 1980). Uncertainty avoidance is "the extent to which the member of a culture feels threatened by uncertain and unknown situations and the extent to which they try to avoid these situations" (Ting-Toomey, 1999, p. 71). Cultural uncertainty avoidance has an indirect influence on communicative behavior through cultural norms and rules (Gudykunst, 1995). For example, members of a highly uncertainty-avoidant culture employ more avoidant coping strategies (i.e., they avoid dealing directly with the stressor) when under stress than do members of a less uncertainty-avoidant culture (Radford, Mann, Ohta, & Nakane, 1993). Consequently, members of the highly uncertainty-avoidant culture tend to experience

higher levels of stress than do members of the less uncertainty-avoidant culture (Gudykunst, 2004). Given the cultural differences in the degree of uncertainty-avoidance, Japanese people would experience a higher level of stress than do Americans and would use avoidance-related strategies more when coping with stress than do Americans.

Cultural-level uncertainty avoidance is directly linked to cultural norms and rules, which shape the way that members of a given culture behave (e.g., Gudykunst, 1995; Hofstede, 1980). However, the influence of cultural uncertainty avoidance on individual communicative behavior is mediated by the individual's tendency toward uncertainty avoidance (Gudykunst, 1995). There are at least two individual-level factors associated with cultural uncertainty avoidance: an individual's certainty/uncertainty orientation and his or her tolerance for ambiguity. A certainty/uncertainty orientation and a tolerance for ambiguity are determined by the personality of the individual and both vary among individuals (Gudykunst & Kim, 2003).

To summarize, two universal, theoretical dimensions of culture that are relevant to the process of coping with stress are individualism/collectivism and uncertainty avoidance. The influence of cultural individualism/collectivism is mediated by independent/interdependent self-construals, while a certainty/uncertainty orientation and a tolerance for ambiguity are the individual factors of cultural uncertainty avoidance. Stress, coping behavior, and social support have important ramifications for individuals' well-being. Stress is caused by communication, as well as managed through communication. Social support is beneficial in that it provides a social network to help individuals cope with stress.

The present study attempts to extend the knowledge of coping with stress by

comparing the process in two different cultures, Japan and the United States. These two cultures are chosen based on previous studies suggesting that Japanese have greater tendencies toward collectivism and uncertainty avoidance than do Americans (e.g., Gudykunst, 2004; Gudykunst & Nishida, 1994; Hasegawa & Gudykunst, 1998; Hofstede, 1980, 2001; Ogawa & Gudykunst, 1999).

In Chapter II, previous studies on stress, coping behavior, and social support in the United States and Japan are reviewed. In Chapter III, cultural and individual factors influencing the process of coping with stress are examined, and three research questions and six hypotheses are presented based on the examination. In Chapter IV, the procedure to develop a valid questionnaire for the present cross-cultural research is explained. In Chapter V, the results of the analyses are presented. Chapter VI provides a discussion of the limitations, theoretical implications, and practical implications of the findings.

CHAPTER II

LITERATURE REVIEW

Stress, coping behavior, and social support have been widely studied within given cultures. Social support has been examined as it relates to health issues in the field of communication, while stress and coping behavior have not received as much attention in that field. However, stress has a huge impact on everyday communication, and coping with that stress is essential to maintaining a healthy life. Thus, the present study focuses on these three concepts—stress, coping behavior, and social support—that play a significant part in an individual's communicative behavior.

Stress

Stress is a fact of life and, in some cases, it explains a variety of physical and psychological phenomena. It is important to look at stress from different points of view in order to fully understand it. In this section, stress is examined in its historical, cultural, and individual health contexts. The stress-related literature published in the United States and Japan is examined to provide a broad look at the issues associated with stress. A working definition of stress, based on a synthesis of different viewpoints toward stress, is presented at the end of this section. Since the present study examines phenomena of stress cross-culturally, it is necessary to consider a variety of views toward stress.

Stress in Historical Context

Most cultures in today's world, including those of the United States and Japan, have a basic understanding of stress. As with much of the English language, the term stress has Latin roots; it became an English word in the 17th century. Stress originally

referred to suffering, oppression, difficulty, and/or adversity (Spielberger, 1979). In the 18th and the 19th centuries, the meaning of stress evolved to include "power, pressure, and/or some kinds of strong influence that affect an object and a human being" (Nakagawa, 1999, p. 44). This definition of stress, also used in physics today, includes the force of repulsion required to maintain the conditions that existed prior to the stressful event (Nakagawa, 1999).

The term stress was first used in academe in the early 20th century by Walter B. Cannon (1871-1945). According to Sakabe (1992), Cannon, a physiologist, was known for defining a basic principle of life, the concept of "homeostasis"—an effort or a condition to maintain a stable internal environment in a living thing. Cannon suggested that a living thing has an unstable and changeable nature and maintains life under the circumstances of environmental change by refusing some of the changes (or by maintaining a certain condition). For example, humans maintain a consistent body temperature regardless of changes in the air temperature. Cannon (1932) regarded stress as an external load—such as a change of air temperature—although he did not define it specifically.

Psychologist Hans Selye (1907-1980) was the first to define stress in human life as a physiological response in a living being caused by an external impulse (which he calls a stressor) (Suzuki, 2002). Since then, stress has been conceived of as a general physiological response to any kind of adversity (Hayashi, 1999). For example, when a person touches a hot stove, the physiological response is for the muscles to tighten and for blood pressure, pulse, and blood sugar to rise. This physiological response is typical for anyone who experiences a painful external stimulus (i.e., stress). Selye (1978) credits

Hippocrates (BC 460-375?), the central figure in Greek medicine and the father of Western medicine (Otsuka, 1999), for his ideas on stress. Hippocrates's awareness of the typical reactions to specific stressors (e.g., swimming in cold water, carrying a heavy stone, working with no food) is apparent in his examination of illness (Selye, 1978). However, in spite of Hippocrates's observations, stress existed for the intervening years without a clear definition.

Since Selye (1936) defined stress, it has become a popular theme to study in physiology (health and medicine) and physics (science), as well as in psychiatry and psychology (mental health). Research on stress has been conducted in a variety of formats. Aldwin (1994) identifies three ways to look at stress: 1) a state of the organism, 2) an external event, or 3) as a transaction between the person and the environment. First, an organism's response to stress is determined by the threat and will fall into one of two categories: neuroendocrine or immunological. Neuroendocrine responses refer to the body's physiological—i.e., fight or flight—response to a threat (i.e., stress). An organism's blood pressure, heart rate, and respiration automatically increase to provide more oxygen to the brain and muscles for a quick reaction to the threat. Immunological responses deal with biological threats, such as bacteria, viruses, parasites, toxins, or internal malfunctions (such as malfunctioning cells) (Aldwin, 1994). These immunological stressors are directly aligned with Selye's (1936) classic concept of stress, still useful in physiology today, which regards stress as a physiological distortion in a living body caused by an external impulse.

Second, according to Aldwin (1994), stress can also be triggered by an external event. This historical notion of stress includes physical and sociocultural stressors.

Physical stressors are threats of immediate bodily harm, which can include death (e.g., reckless drivers, fires, earthquakes, or hurricanes) or long-term physical threats with more subtle, but nonetheless significant, harmful effects (e.g., noise, pollution, or poor living conditions). Job loss, divorce, and similar setbacks fall into the category of sociocultural stressors, which by their very nature are imbedded in the social structure (Aldwin, 1994).

Aldwin's third approach to stress—as a transaction between the person and the environment—refers to Lazarus's research on stress and coping (e.g., Lazarus, 1991; Lazarus & Folkman, 1984). This research focuses on the perception of stress by the individual who is experiencing it. According to Aldwin (1994), "what is stressful for one individual at one point in time may not be stressful for another individual; or for the same individual at another point in time" (p. 38). For instance, having the flu may have differing consequences depending upon a person's age. The flu can be a life threatening event for elderly people, while it is more of a nuisance for someone who is young and healthy.

The term, stress, which has Latin roots, had been used generally in Western culture until Cannon introduced it in academe in the early 20th century. The definition of stress in relation to human life was first suggested by Selye in 1936. Because stress is the main focal concept of the present cross-cultural research between Western (American) and Eastern (Japanese) cultures, it is crucial to understand its historical roots. The concept of stress is clearly based in Western culture.

Stress in Cultural Context

Although stress was originally defined in Western culture, the definition and practical understanding of the concept has also been ingrained in Eastern culture.

Historically, both cultures seem to have similar ideas about stress; that is, individual health is understood to be influenced by something external (e.g., stress) in both Western and Eastern cultures. Traditional medicine in China (which has a 3000-year history) suggests that people become mentally or physically ill when *ki* (気)—a fundamental energy flow—is not consistent throughout the body (Kikuchi, 1999). Chinese medicine does not separate mental health from physical health but rather sees a very close link between the two (Kikuchi, 1999). The concept of *ki*—an essential concept to understanding stress and health in Eastern culture—does not exist in Western culture. This is a significant difference in cultural attitudes that has a direct relationship on the cross-cultural study of stress.

According to Kikuchi (1999) there are three factors that negatively influence *ki*: 1) external causes, 2) internal causes, and 3) causes that are neither external nor internal. External causes are (外因) based on six elements: wind (風), cold (寒), heat (暑), humidity (湿), dryness (燥), and fire (火). These factors appear similar to the Western notion of stress triggered by an external event.

The second factor, internal causes (内因), has seven sub-categories related to excess: too much joy (過度の喜), too much anger (過度の怒), too much apprehension (過度の憂), too much thought (過度の思), too much sadness (過度の悲), too much fear (過度の恐), and too much surprise (過度の驚). These factors seem to refer to the emotional consequences of experiencing stressful events.

The third factor, related to neither external nor internal causes (不内外因), has eight elements: [too much] eating and drinking (飲食); tiredness (疲労); too much sex (房室の不節制); injury (創傷); injury by insects and animals (虫獣傷害); parasite

infection (虫積); food and medical poisoning (中毒); and heredity (遺伝). These factors appear to refer to specific stressors that people experience occasionally.

Chinese medicine was introduced to Japan in the 6th century and it influenced the Japanese understanding of disease. For example, Kaibara (1713/1982), a Japanese Confucian scholar, suggests that there are some things we must avoid—internal desires and external, harmful *ki*—in order to maintain a healthy life. Internal desires to be avoided include the desire to eat and drink (飲食の欲), the desire to be amorous (好色の欲), the desire to sleep (眠りの欲), the desire to say whatever we want (言語を欲しいままにする欲), and the desires associated with the emotions of joy (喜), anger (怒), apprehension (憂), thought (思), sadness (悲), fear (恐), and surprise (驚).

Kaibara insists that people become ill when influenced by external, harmful *ki*: wind (風), cold (寒), heat (暑), and humidity (湿). To be protected from harmful, external *ki*, internal desires must be controlled. To clarify, people are always influenced by external harmful *ki* but only become ill when internal desires are out of control (Kaibara, 1713/1982). The ideas of Chinese medicine, however, became somewhat diluted by Western thought when the Dutch brought Western medicine to Japan in the 18th century. In present day Japan, Western medicine is more popular than Chinese medicine; therefore, Japanese perception of stress is influenced by both Western and Eastern ways of understanding stress.

To summarize, the classic definition of stress put forth by Selye in 1936 has actually existed in Western and Eastern cultures since ancient times. Moreover, because anyone can fall ill when dealing with stressful circumstances, this is clearly a universal phenomenon that applies to human beings in all of the world's cultures. Consequently,

the similarity in the understanding of stress in Western and Eastern cultures is the belief that individual health is influenced by an "external something," including stressful events and harmful *ki*.

The perceived relationship between stress and illness, however, is different in different cultures. For example, *ki* is an essential element of health and illness in Eastern cultures, while any similar element is absent in the West. Consequently, people in the East and the West understand the process of contracting an illness differently. Both, though, experience the same condition that is the cause of the illness (i.e., a stressor). For people in the East, a stressor affects health through *ki*; in the West, stressors affect health directly. Understanding these cultural differences is vital to an understanding of stress across cultures.

Stress and Health

Stress can be the primary cause of many types of physical illnesses. For example, Nozoe (1997) suggests that long-term exposure to stress may cause high blood pressure and chronic digestive problems. Wolff (1953) examined asthma from the perspective of stress and found that stress could trigger an asthma attack. Mittleman et al. (1995) investigated adults who had experienced a heart attack and found that heart attacks tended to occur twice as often during the two hours following an outburst of anger. Solomon and Benton (1994) studied interrelationships between age, depression, immune systems, and physical health, and they found that depressed elderly people had a suppressed immune system, which might lead to a higher risk of infection and cancer.

Stress can even be the cause of death. Eagle (1971) examined the relationship between sudden death and stress and found that many victims of sudden death had

recently experienced a significant personal loss such as the death of a spouse or child or a separation from a loved one. Everson et al. (1996) conducted research on feelings of hopelessness and risks of mortality and found that feelings of hopelessness were associated with a high risk of death, including violent death and injury.

Stress can also cause a variety of mental disorders, including anxiety and adjustment disorders. These can be due to living in a stressful environment for an extended period of time (Nakano & Kazamatsuru, 1991). Schmale (1958) examined the relationship between stress and depression and found that the stress associated with the separation from a loved one often causes depression. Paykel and Mayer (1969) also found a strong relationship between stressful life events and depression.

These mental and physical illnesses are more likely to occur when stress is not managed or is managed poorly. Therefore, coping with stress is central to avoiding and/or reducing the effects of mental and physical illnesses, including those that can ultimately lead to death.

As reviewed, there are at least two types of stress that influence individual health: stress in reaction to life's events (e.g., death of a spouse, divorce, marital separation, or a jail term) and stress based on daily life. Homes and Rahe (1967) developed the Social Readjustment Rating Scale (SRRS) to examine the social readjustment required or degree of stress related to 43 stressful life events. The life events presented by Homes and Rahe cause stress, but can affect people differently. Lazarus and Folkman (1984) argue that daily stress has a greater impact on individual health than stress in reaction to life's events. Therefore, this study focuses on the stress found in daily life.

Summary

This section reviewed the research on the concept of stress, the cultural similarities and differences in the understanding of stress, and the relationship of stress to self-esteem and health. The term, stress, first used in academe in the early 20th century by Walter B. Cannon, was defined specifically in terms of human life by psychologist Hans Selye (1907-1980).

All humans can become ill when stressed, and consequently an awareness of the effect of stress on health has existed in cultures since ancient times. Specifically, people in both Western and Eastern cultures perceive external causes that influence health. However, there is a fundamental difference in the way that individuals look at the relationship between stress and illness in different cultures; for example, there is no Western counterpart for the Eastern philosophy of *ki*.

In approaching stress, we can refer to 1) the physical state of the organism, 2) an external event, or 3) a transaction between the person and the environment. First, an organism's response to stress can be categorized in one of two ways: neuroendocrine, which is the body's automatic response to an external threat (fight or flight), or immunological (i.e., the physiological response to biological threats: bacteria, viruses, parasites, toxins, or internally malfunctioning cells). Second, stress can be triggered by an external event. Third, stress can be studied as a relationship between an individual and the environment. Using this focus, we can observe the varying ways that individuals perceive stress.

Stress is the cause of many types of physical illnesses (e.g., asthma attacks, heart attacks, suppressed immune systems), mental disorders (e.g., emotional disorders,

depression), and death. Therefore, successfully coping with stress is important to maintain a healthy life.

A synthesis of the previous conceptions of stress suggests that there are a variety of features to be considered in understanding the phenomenon of stress. First, since there are different ways to perceive stress, this definition will refer to the subjective self-reported experience of an individual. Second, stress occurs in reaction to something, such as a threat to the organism, an external event, or a change in the relationship between an individual and its environment. Third, stress is experienced through communication because it is a communication phenomenon that individuals experience stress through taking in certain information from the environment and responding to the information. Fourth, stress gives individuals the perception that they lack a sense of control, often related to uncertainty and/or anxiety, that can make them feel—or actually be—physically and/or mentally ill. Taking all of these into account, stress is defined here as "*the subjective experience of lacking a sense of control frequently associated with uncertainty and/or anxiety, in reaction to communication (information exchange) with external sources, including humans, other living things, events, and environments.*"

Coping Behavior

Since stress is inevitable for most living things (including humans), the ability to cope with stress is important. Coping successfully with stress generally reduces the effect of stress. According to Lazarus and Folkman (1984), the concept of coping was originally used in two different research fields: animal experimentation and psychoanalytic ego psychology. In the animal experimentation literature, coping is defined as "acts that control aversive environmental conditions, thereby lowering psychophysiological

disturbance" (Lazarus & Folkman, 1984, p. 118). In the psychoanalytic ego literature, coping is identified as "realistic and flexible thoughts and acts that solve problems and thereby reduce stress" (Lazarus & Folkman, 1984, p. 18). Compared to the animal experimentation model, psychological research focuses on individuals' perceptions and relationship with the environment (Lazarus & Folkman, 1984). The present study employs the latter approach, since coping is generally considered to be a communicative behavior.

Definition

According to Lazarus (1993), there are two primary ways to look at the studies on coping: coping as a process and coping as a personality trait. Coping as a process means that individuals use coping methods based on the nature of the stressful event and on how the individual perceives the event. Coping is considered to be the "process" one uses to adapt to stressful circumstances, and researchers refer to "coping strategies." As such, the methods used and the effectiveness of coping may be different in different situations. Individuals are "flexible in their choice of coping strategies and modify their strategies according to the demands of the particular problem" (Aldwin, 1994, p. 104).

Lazarus has suggested this view in many studies of stress and coping (e.g., Folkman & Lazarus, 1980, 1985; Folkman et al., 1986; Lazarus, 1993, 1999; Lazarus et al., 1970; Lazarus & DeLongis, 1993; Lazarus & Folkman, 1984, 1987; Lazarus & Launier, 1978). For example, Lazarus and Folkman (1984) define coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). Lazarus and Folkman explain that "definition of coping must include efforts to manage

stressful demands, regardless of outcome. This means that no one strategy is considered inherently better than any other" (p. 134). Aldwin (1994) points out that the majority of current studies on coping are associated with some aspects of this perspective.

The idea of coping as a personality trait assumes that individuals have stable characteristics and that each individual, based on his/her personality, uses the same patterns to cope regardless of the type of stressors (Aldwin, 1994). Researchers with this view often refer to "coping styles" (Aldwin, 1994). Since how an individual copes with stress is determined by his/her personality, consistency can be found in his/her coping styles. Consistency in coping styles is based on time and situations (Krahe, 1992). Continuous (time) consistency (i.e., individuals exhibiting the same coping style across time) is generally supported empirically (e.g., Amirkhan, 1990; Billingsley et al., 1993; Dolan & White, 1988; Rohde et al., 1990; Swindle et al., 1989). However, situational consistency (i.e., individuals exhibiting the same coping style across situations) is not supported by many empirical studies (e.g., Billings & Moos, 1981; Deck & Jamieson, 1998; Harnish et al., 2000; Patterson et al., 1990; Sellers, 1995). Because situational consistency in coping styles is not generally reported, how individuals cope with stress may not be determined completely by their personalities. Rather, individuals may have some free will in how they cope with stress.

Although individuals select different ways to cope based on the stressor, coping choices are limited and probably determined by the personality of the individual. Therefore, some consistency (e.g., continuous consistency) can be found in coping styles. However, an exclusive distinction between the two perspectives (coping as a process vs. coping as a personality trait) is ineffective in the study of coping because coping is a

complex phenomenon. Coping techniques may be influenced initially by personality, but individuals can learn new coping strategies. The opportunity to choose more effective coping strategies increases as an individual learns additional coping strategies through interaction with others, through reading about stress management, or through first-hand experience with stressful events. For this reason, both aspects are included in the discussion of "*coping behavior*" in the present study.

Types of Coping Behavior

Problem-focused coping and *emotion-focused coping* are the basic categories of coping behavior suggested by Folkman and Lazarus (1980). According to Folkman and Lazarus, problem-focused coping refers to attempts to manage or alter the problem causing the distress. Emotion-focused coping is associated with attempts to regulate the emotional response to the problem (Folkman & Lazarus, 1980). Individuals are more likely to attempt problem-focused coping when they believe they can change the situation. On the other hand, they tend to engage in emotion-focused coping when they think they cannot change the situation (Folkman & Lazarus, 1980). Lazarus and Folkman (1984) also suggest that both problem-focused coping and emotion-focused coping can facilitate or impede each other in the coping process.

Several empirical studies also suggest that it is too simple to merely classify coping behavior as problem-focused or emotion-focused (e.g., Aldwin & Revenson, 1987; Coyne, Aldwin, & Lazarus, 1981; Folkman & Lazarus, 1985; Parkes, 1984; Scheier, Weintraub, & Carver, 1986). The distinction, however, provides a useful framework for understanding various types of coping behavior because the distinction refers to the essential categories of coping behavior. Several studies have used this framework to

expand the definition of coping behavior. Steptoe (1991) expands the two-pronged definition of problem- and emotion-focused coping into four kinds of coping behavior. Steptoe argues that coping behavior is also determined at both the behavioral and the cognitive levels. First, *problem-focused behavioral coping* refers to "overt actions intended to deal directly with the situation" (p. 213). Coping of this kind includes active problem solving, in other words, attempts to control, avoid, or withdraw (i.e., escape) from the situation (Steptoe, 1991). Second, *problem-focused cognitive coping* is associated with "attempts to manage the way in which stressful events are perceived" (p. 216). This coping method includes activities such as selective attention to the positive aspects of the situation, redefining events in a non-threatening fashion, and deciding that an experience is an opportunity for personal growth rather than a tragedy (Steptoe, 1991).

Third, the goal of *emotion-focused behavioral coping* is "ameliorating the emotional impact of aversive events" (p. 218). Examples of this method of coping include seeking information and social support, or displacement, distraction, and information avoidance (Steptoe, 1991). Fourth, *emotion-focused cognitive coping* refers to "the way in which people manage the emotion aroused in stressful encounters at a cognitive level" (p. 221). This kind of coping behavior includes the expression of appropriate affect, emotional inhibition, repression, and denial (Steptoe, 1991).

Moos and Schaefer (1986) analyze problem- and emotion-focused coping, and they suggest three sub-categories in each type of coping for a total of six specific coping behaviors. According to Moos and Schaefer, problem-focused coping is based on: seeking information and support, taking problem-solving action, and identifying alternative rewards. Seeking information and support involves "obtaining information

about the crisis, and alternate courses of action and their probable outcome" (p. 16). Taking problem-solving action is associated with "taking concrete action to deal directly with a crisis or its aftermath" (p. 17). Identifying alternative rewards includes "attempts to replace the losses involved in certain transitions and crises by changing one's activities and creating new sources of satisfaction" (p. 17).

Moos and Schaefer further explain that emotion-focused coping consists of affective regulation, emotional discharge, and resigned acceptance. Affective regulation includes "efforts to maintain hope and control one's emotions when dealing with a distressing situation" (p. 18). Emotional discharge is "openly venting one's feelings of anger and despair, crying or screaming in protest at news of a fateful prognosis or the sudden death of a loved one, and using jokes and gallows humor to help allay constant strain" (p. 18). It also refers to "'acting out' by not complying with social norms as well as behavior that may temporarily reduce tension…" (p. 18). Resigned acceptance involves "coming to terms with a situation and accepting it as it is, deciding that the basic circumstances cannot be altered, and submitting to 'certain' fate" (p. 19). This is a passive strategy to cope with stress.

Moos and Schaefer (1986) add a third coping category—*appraisal-focused coping*—to Lazarus and Folkman's (1980) original problem- and emotion-focused coping behaviors. They further define three sub-categories in appraisal-focused coping. Appraisal-focused coping refers to "attempts to understand and find a pattern of meaning in a crisis" (Moos & Schaefer, 1986, p. 14). Appraisal-focused coping includes: logical analysis and mental preparation, cognitive redefinition, and cognitive avoidance or denial (Moos & Schaefer, 1986). Logical analysis and mental preparation is associated with "paying attention to one aspect of the crisis at a time, breaking a seemingly

overwhelming problem into small, potentially manageable bits, drawing on past experiences, and mentally rehearsing alternative actions and their probable consequences" (p. 15). Cognitive redefinition refers to "cognitive strategies by which an individual accepts the basic reality of a situation but restructures it to find something favorable" (p. 15). Cognitive avoidance—denial—is related to "an array of skills aimed at denying or minimizing the seriousness of a crisis" (pp. 15-16).

Moos and Schaefer (1986) argue that these nine types of coping behavior cover the most common types of coping strategies used to deal with stress, and these strategies are usually used in a combination of two or more. For example, a person who is dealing with a stressful event may express anger, talk to friends, seek expert information, turn to family for support, and so on.

Having the resources, physical or material, to cope with stress also plays a role in coping behaviors. Along those lines, Lazarus and Folkman (1984) identify six major categories of coping resources: 1) an individual who is healthy and/or robust will have more energy to focus on coping than a frail, sick, tired or otherwise debilitated individual; 2) an individual who has a positive attitude will focus more on coping than one who does not; 3) an individual with better problem-solving skills will focus more on coping than someone with reduced problem-solving skills; 4) an individual who has good social skills will focus more on coping than one who does not; 5) an individual with social support will focus more on coping than one who does not; and 6) an individual who has greater material resources (e.g., money) will focus more on coping than one who does not.

Summary

Lazarus and Folkman's (1984) definition of coping—"constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that

are appraised as taxing or exceeding the resources of the person" [p. 141]—is popular among researchers. Lazarus (1993) suggests two primary ways to look at the research on coping: coping as a process and coping as a personality trait. In the first view, coping is considered to be the "process" one uses to adapt to stressful circumstances, while the notion of coping as a personality trait suggests that individuals have stable characteristics and will use the same patterns to cope—based on personality—regardless of the type of stressors. However, coping is a complex phenomenon and the exclusive distinction between the two perspectives is not possible in the study of how people cope with stress. Consequently, both aspects are included in the discussion of "coping behavior" within this study.

The original distinction between problem-focused and emotion-focused coping behaviors was expanded into behavioral and cognitive divisions within each of those types. A third prong, appraisal-focused coping, was added to the original two types, and three specific behaviors were identified for each type. Problem-focused coping includes seeking information and support, taking problem-solving action, and identifying alternative rewards. Emotion-focused coping refers to affective regulation, emotional discharge, and resigned acceptance. Appraisal-focused coping is based on logical analysis and mental preparation, cognitive redefinition, and cognitive avoidance or denial. In the present study, problem-focused and emotion-focused aspects of coping behavior are considered.

Social Support

Research has shown that formal and informal social support among intimates, friends, family members, acquaintances, and even strangers can have significant

consequences on mental and physical health (Albrecht & Goldsmith, 2003). Social support can help an individual maintain psychological well-being, especially in times of stress (Blanchard et al., 1995; Thoits, 1986; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Social support is, therefore, a valuable resource when an individual is dealing with stress.

Definition and Types of Social Support

A basic definition of social support includes communicative behavior that "led the subject to believe that he/she 1) is cared for and loved, 2) is esteemed and valued, and 3) belongs to a network of communication and mutual obligation" (p. 300) (Cobb, 1976). House (1981) examines Cobb's definition and identifies four types of social support: *emotional support* based on esteem, affection, trust, concern, and listening, *appraisal support,* including affirmation, feedback, and social comparison related to self-evaluation, *information support* associated with advice, suggestion, directives, and information, and *instrumental support* related to aid in-kind, money, labor, time, or environment modification.

Beyond the basics, researchers have suggested a variety of definitions of social support. Kahn and Antonucci (1980) regard social support as interpersonal transactions including at least one of three elements: affect, affirmation, or aid. Dumont and Provost (1999) suggest that social support refers to "a multidimensional concept that includes the support actually received (informative, emotional, and instrumental) and the source of the support (friends, family, strangers, and animals)" (p. 345). According to Caplan (1974, 1976), social support is observed to be a relationship between an individual and a group that enhances emotional mastery, offers guidance, and provides feedback to the individual about his or her identity and performance. Additionally, Caplan (1979)

suggests two dimensions of social support: objective/subjective and tangible/psychological. Pinneau (1975) defines three types of social support: tangible support, appraisal support, and emotional support. Gottlieb (1978) suggests four kinds of social support: emotionally sustaining behaviors, problem-solving behaviors, indirect personal influence, and environmental action. Gottlieb (1981) found three constructs in social support: social integration/participation, interactions in social networks, and access to resources in intimate peer relationships. Contona and Suhr (1992) identify five types of social support: informational support, emotional support, esteem support, tangible aid, and social network support.

In Lin's (1986) analysis of "social support," she first evaluates and defines the words that make up the term; the word "social" refers to the individual's relationships and the word "support" refers to the aid provided by those relationships. Lin suggests that the "social" component has three levels: the *community*, the *social network*, and *intimate and confiding relationships*. The community refers to an individual's "integration into, or a sense of *belongingness* in, the larger social structure" (p. 19). The social network refers to relationships with relatives, coworkers, and friends that provide the individual with "a sense of *bonding*" (p. 19). Bonding relationships are more substantial than belonging relationships (Lin, 1986). Intimate and confiding relationships "tend to be *binding* in the sense that reciprocal and mutual exchanges are expected, and responsibility for one another's well-being is understood and shared by the partners" (pp. 19-20).

The "support" component needs to include essential instrumental and expressive activities. The evaluation of support must acknowledge "the difference between

perceptions of, as well as actual access to, and use of such activities" (Lin, 1986, p. 18). Based on this, Lin's definition of social support—"the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (p. 18)—appears to include the important elements in research on social support.

Social support has also been defined as it relates to communication and health. Communication is at the center of theory and research on social support, according to Albrecht and Adelman (1987). They define social support as "verbal and nonverbal communication between recipients and providers that helps *manage* uncertainty about the situation, the self, the other, or the relationship, and that functions to enhance a perception of personal control in one's life experience" (p. 19). This suggests that people are able to "manage" rather than "reduce" the uncertainty about a stressful event through supportive communication (Albrecht & Adelman, 1987). This may be significant, because research has shown that uncertainty is a primary cause of stress, especially in health-related contexts (e.g., Albrecht, Burleson, & Goldsmith, 1994; Ford, Babrow, & Stohl, 1996).

Social support is generally considered to be helpful, but there are some circumstances in which it can be ineffective or harmful. Cutrona and Russell (1990) suggest that social support is most effective when the offered support is consistent with the needs of the individual. This suggests that support that does not match the needs of the individual can be ineffective or perhaps harmful if inaccurate informational support has been provided in regard to life threatening situations (La Gaipa, 1990).

In recent years, technology has provided individuals in need with an additional opportunity for support; as a result, computer-mediated or online social support has

become very popular. Walther and Boyd (2002) investigated the appeal of electronic social support relative to traditional face-to-face support. They identified four reasons individuals may use the Internet for social support in stressful situations: *social distance*, which may provide greater expertise, stigma management, and more candor, *anonymity*, *interaction management* optimizing expressiveness, turns, and ongoing obligations, and *access* (the Internet is available at all times). Although online support can be more beneficial than face-to-face support—particularly if it provides resources that are otherwise unavailable—frequent use of the internet is associated with a decrease in face-to-face contact and an increase in loneliness and depression (Kraut et al., 1998). Therefore, a balance between face-to-face and computer-mediated social support is advised.

Social Support and Coping Behavior

Having a social support system in place can be viewed as a coping behavior, but they are not the same (e.g., Andrews et al., 1978; Miller & Ingham, 1976; Thoits, 1986). Thoits, for example, regards social support as "coping assistance, or the active participation of significant others in an individual's stress-management efforts" (p. 417). She continues by saying "… significant others can suggest techniques of stress-management (i.e., cognitive support) or can participate directly in those efforts (i.e., behavioral support), thereby facilitating and strengthening a persona's own coping attempts" (p. 419).

Komproe et al. (1997) argue that *perceived* available support and *received* support have different effects (Schwarzer & Leppin, 1991) and that knowing the difference is necessary for understanding the actual effects of social support in stressful circumstances.

Based on this argument, Komproe et al. investigated 109 women dealing with breast cancer at 16 hospitals in the Netherlands and found that perceived available support had a direct influence on psychological well-being (i.e., perceived available support corresponded to less depression). This suggests that individuals who perceive that support is available can maintain psychological well-being independently of the coping process (Komproe at al., 1997). They also found that received support (i.e., emotional support and/or information received from others) had an indirect influence on psychological well-being; this suggests that received support can be helpful only when it plays a part in the person's coping process (Komproe at al., 1997).

Social Support and Health

Since the mid 1970s, the influence of social support on physical health has received wide attention (Cohen, 1991). Connel and D'Augelli (1990) suggest that individuals who report adequate social support perceive themselves as healthy, possibly because social support has a positive relationship with healthy behavior (Hibbard, 1988).

Albrecht and Adelman (1987) report six health-related characteristics of social support: 1) expressions of encouragement, hope, reassurance, care, and concern, 2) feedback about one's behavior related to health risks, 3) accurate information about health and the modeling of healthy behavior, 4) facilitation of coping, 5) the availability of lay referrals to professionals in the health system, and 6) assistance, especially with adherence to prescribed health regimens.

Social support has proven to be a positive influence on an individual's ability to deal with a variety of illnesses, including heart disease (Case et al., 1992; Orth-Gomer et al., 1993), breast cancer (Levy et al., 1990; Levy et al., 1987), and HIV infection

(Theorell et al., 1995). More specifically, social support has an important influence on life expectancy (Berkman & Syme, 1979). Consequently, it can be said that social support is valuable for one's psychological and physical well-being.

Summary

This section reviewed the definitions of social support, the types of social support, and the relationships between social support, coping behavior, and health that were described in previous studies. Lin's (1986) definition of social support (i.e., "the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" [p. 18]) includes most of the important aspects of social support that were suggested by several researchers.

Social support is considered to be helpful to individuals dealing with stress because support networks can provide assistance to the person dealing with stress. However, if informational support is inaccurate, it can be harmful. Because of new technology, online social support provides additional resources and is gaining in popularity.

People who report adequate social support perceive themselves as healthy, possibly because social support has a positive relationship with healthy behavior. Social support has a positive influence on an individual's ability to deal with a variety of illnesses (e.g., heart disease, breast cancer, or HIV infection); therefore, it is important for individuals to have access to a network of social support, especially when dealing with stress.

Synthesis

Three focal concepts used in the present research are stress, coping behavior, and social support. Stress exists beyond culture. The above sections reviewed stress-related

material published in the United States and Japan to understand the historical and cultural contexts of stress, how stress affects people, and, specifically, how stress can impact an individual's health. Based on a synthesis of the previous conceptions of stress, the concept of stress in cross-cultural research must include the following aspects: (1) the basic concepts of stress, (2) a communication perspective, and (3) a multi-cultural view toward stress. Consequently, stress is defined as "*the subjective experience of lacking a sense of control frequently associated with uncertainty and/or anxiety, in reaction to communication (information exchange) with external sources, including humans, other living things, events, and environments.*" This definition is used in the present study.

When individuals experience stress, they need to cope with it; successfully coping with stress is important in order to maintain a healthy life. Many different ways of coping have been reported. Although there are two primary ways to look at the research on coping (i.e., as a process and as a personality trait), coping is a complex phenomenon and the exclusive distinction between the two perspectives is not possible in the study of how people cope with stress. For the purposes of this study, both aspects are included in the discussion of "coping behavior." The classic distinction between problem- and emotion-focused coping were expanded into behavioral and cognitive levels. Appraisal-focused coping was added to the two types of coping, and three sub-categories have been identified in each type of coping for a total of nine specific coping behaviors.

Social support is a valuable resource that can help an individual maintain his/her psychological well-being, especially in times of stress, because support networks can provide assistance to the person dealing with stress. However, social support based on inaccurate information can be harmful. Social support has been examined widely across disciplines, and a variety of definitions have emerged. However, Lin's (1986) definition

(i.e., “the perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners” [p. 18]) encompasses the key aspects of social support. Since social support is related positively with healthy behavior, adequate social support is crucial for maintaining health, especially when dealing with stress.

Stress, coping behavior, and social support have significant relationships with everyday communication. Specifically, stress is frequently caused by communication (or lack of communication) with others, including other people, other forms of life, and external events. Since unmanaged stress can have a negative impact on health, stress must be coped with properly to maintain a healthy life. Coping is a part of communicative behavior, and individuals can generally choose a variety of communication strategies to meet the demands of their situation. Therefore, there are different ways to engage in coping behavior. Because social support can help individuals cope with stress, a social network is important in dealing with stress.

Studies of stress, coping behavior, and social support have focused primarily on the exploration of individual similarities and differences in the process of coping with stress. These studies have been completed within the context of a single culture, without taking into account the influence of that culture on the process. Many cross-cultural studies indicate that cultural influences are important to consider when studying communicative phenomena. Since coping is a communicative behavior, we expect it to be influenced by culture. Moreover, there may be differences in the preference for or effectiveness of specific coping strategies across cultures. However, there is no research that focuses on the process of coping with stress across cultures. This study attempts to extend the existing knowledge of coping with stress by comparing the process in two

different cultures, Japan and the United States. How cultural as well as individual factors influence this process will be examined in the next chapter.

CHAPTER III

THE PRESENT STUDY

This study examines similarities and differences in the way that individuals in Japan and the United States respond to stress and utilize coping behavior and social support. This examination is made on two levels described in the theoretical framework, the cultural level and the individual level. At the cultural level, individualism/collectivism and uncertainty avoidance are employed as explanatory factors in both cultures. At the individual level, five different factors are chosen for an analysis of individual variations in stress, coping behavior, and social support: self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem, and gender. Together, these cultural- and individual-level factors are expected to explain variations in stress, coping behavior, and social support between cultures and among individuals.

Cultural Factors

Individualism/collectivism is the primary cultural variable used to examine cross-cultural communication (e.g., Gudykunst & Nishida, 1994; Triandis, 1988) in the United States and Japan and is the foundation for many studies in both countries (e.g., Gudykunst & Nishida, 1994; Hasegawa & Gudykunst, 1998; Ogawa & Gudykunst, 1999; Ting-Toomey, Trubisky, & Nishida, 1989). Uncertainty avoidance is another cultural variable that also explains cultural differences in communication. The Japanese tend to avoid uncertainty, while Americans are more likely to face it directly (Hofstede, 1980). Because stressful situations frequently involve uncertainty, cultural uncertainty avoidance

is included in this study.

Individualism/Collectivism

Cultural norms and rules directly influence communication through cultural individualism/collectivism, according to Gudykunst et al. (1996). Hofstede (1991) argues that "individualism pertains to societies in which the ties between individuals are loose… Collectivism, as its opposite, pertains to societies in which people from birth onwards are integrated into strong, cohesive ingroups" (p. 51). Ingroups are "groups of individuals about whose welfare a person is concerned, with whom that person is willing to cooperate without demanding equitable returns, and separation from whom leads to anxiety" (Triandis, 1988, p. 75). Gudykunst and Nishida (1994) suggest that the "emphasis is placed on individuals' goals in individualistic cultures, whereas group goals have precedence over individuals' goals in collectivistic culture" (p. 20). People in individualistic cultures have a strong "I" identity; people in collectivistic cultures have a strong "we" identity (Ting-Toomey, 1988).

Triandis (1988) suggests that members of collectivistic cultures see a clear distinction between members of ingroups and members of outgroups and that they regard ingroup relationships as more intimate than do members of individualistic cultures. Outgroups are "groups with which one has something to divide, perhaps unequally, or are harmful in some way, groups that disagree on valued attributes, or groups with which one is in conflict" (Triandis, 1995, p. 9). The influence of cultural collectivism on social behavior can be examined by looking at three collectivist themes: (1) a clear distinction between ingroups and outgroups, (2) a concern for ingroup harmony and equity in outgroup situations, and (3) a willingness to sacrifice for ingroup members (Leung &

Bond, 1984).

The degree of individualism or collectivism varies across cultures. For instance, Goodwin and Plaza (2000) compared collectivistic tendencies and social support among college students in the United Kingdom and Spain. They found that Spanish students—who generally reported a higher degree of collectivism than the British students—perceived greater social support when they were in stressful situations than did the British students. Dayan et al. (2001) studied the social support system of Canadian children with varied ethnic backgrounds (i.e., Canadian, Greek, Arabic, Caribbean). While no significant effect of ethnicity was found in the study, the findings indicated that allocentric children (children with collectivistic characteristics) reported more social support (e.g., from their mother, their best friend, or their relatives) than did idiocentric children (children with individualistic characteristics). Given that Japanese culture is generally known to have a higher degree of collectivism and a correspondingly lower degree of individualism than American culture (Gudykunst & Nishida, 1994; Hofstede, 1980), it is expected that the Japanese would perceive more social support from members of their ingroups than would Americans.

Uncertainty Avoidance

Individuals usually feel anxious when facing uncertain and/or unknown situations. In some cultures, people manage this uncertainty by facing it; in other cultures individuals prefer to ignore the uncertainty. This difference can be attributed to cultural uncertainty avoidance. Uncertainty avoidance is associated with "the extent to which the member of a culture feels threatened by uncertain and unknown situations and the extent to which they try to avoid these situations" (Ting-Toomey, 1999, p. 71). People in highly

uncertainty-avoidant cultures generally show a lower tolerance "for uncertainty and ambiguity, which expresses itself in higher levels of anxiety and energy release; greater need for formal rules and absolute truth; and less tolerance for people or groups with deviant ideas or behavior" (Hofstede, 1979, p. 395).

Uncertainty avoidance, as a cultural value, appears to have a direct influence on individuals' communication behavior. According to Gudykunst (2004), members of highly uncertainty-avoidant cultures tend to show more emotions than do members of less uncertainty-avoidant cultures. In comparison, members of less uncertainty-avoidant cultures experience lower levels of stress and weaker superegos than do individuals in highly uncertainty-avoidant cultures (Gudykunst, 2004). Moreover, members of less uncertainty-avoidant cultures tend to take more risks than do members of highly uncertainty-avoidant cultures (Gudykunst, 2004). Finally, members of highly uncertainty-avoidant cultures tend to create specific procedures and rules in directing others' behavior (Ting-Toomey, 1999).

There are also differences in how individuals in both cultures view each other. In less uncertainty-avoidant cultures, the attitude of "what is different, is curious" translates to "what is different, is dangerous" in highly uncertainty-avoidant cultures (Hofstede, 1991). Consequently, individuals in highly uncertainty-avoidant cultures report a higher degree of stress than do individuals in less uncertainty-avoidant cultures (Hofstede, 1980; Radford et al., 1993).

The tendency toward uncertainty avoidance also differs across cultures (Hofstede, 1980). For example, the Japanese tend to avoid uncertainty in work situations more than Americans (Hofstede, 1980). Radford et al. (1993) examined Japanese and Australian

college students' decisional self-esteem, decisional stress, and coping styles in group discussions and found that Japanese students—members of a highly uncertainty-avoidant culture—showed a higher use of avoidance strategy when making important decisions than did the Australian students—members of a less uncertainty-avoidant culture. The Japanese students also experienced more stress than did the Australian students during the decision making process (Radford et al., 1993). Because Japanese culture is associated with a higher degree of uncertainty avoidance than is American culture (Gudykunst & Nishida, 1994; Hofstede, 1980), it is expected that people in Japan will have a greater tendency to use avoidance methods of coping that result in a higher degree of stress than Americans may experience in similar circumstances.

Reynolds (1976) provided a possible explanation as to why the Japanese tend to avoid uncertainty. Based on Morita psychotherapy, a Buddhist-based Japanese therapy for the treatment of neuroses established by Shoma Morita (1874-1934), Reynolds found one difference between Eastern and Western approaches to problem solving. According to Reynolds,

> one's phenomenological reality is a product of one's inner state and objective reality. By manipulating either factor it is possible to change phenomenological reality. It seems that, in very general terms, the West is more accepting of activity directed toward changing objective reality and the East is (or was) more accepting of activity changing one's inner attitudes toward or attention to objective reality. (p. 110)

The tendency to change one's inner state in order to accept objective reality still seems to dominate Eastern attitudes, although there are increasing exceptions due to numerous

opportunities for cross-cultural communication (Reynolds, 1976). The Japanese (or Eastern) way to solve problems has focused on changing one's inner state rather than on dealing directly with objective reality (i.e., stressors). This tendency may encourage the Japanese to avoid dealing directly with uncertainty.

American (i.e., Western) ways of coping include a similar behavior of resigned acceptance, as suggested by Moos and Schaefer (1986). There is, however, a significant difference between traditional American and traditional Japanese ways of understanding this coping behavior. Reynolds (1976) pointed out that the Japanese view of resigned acceptance is not passive resignation but rather a tactical strategy. Watts (1958), in analyzing the Zen Buddhism that has an enormous impact on Japanese values, suggested the following:

> …the skilled master of life never opposes things; he never tries to change things by asserting himself against them; he yields to their full force and either pushes them slightly out of direct line or else moves them right around in the opposite direction without ever encountering their direct opposition. That is to say, he treats them positively; he changes them by acceptance, by taking them into his confidence, never by flat denial. (p. 37)

Thus, the traditional Japanese way of coping by avoiding uncertainty is an active strategy, as opposed to a resigned acceptance (i.e., an inactive strategy).

Individual Factors

In any culture, stress will have a negative influence on health. However, not all members of a culture are influenced similarly and/or equally by the same stressful events. The event's influence is determined by how the individual perceives and copes with the

stressor. Individuals who have competent coping behaviors are less negatively influenced by stressful events than are those who do not (Aldwin, 1994; Lazarus & Folkman, 1984). Therefore, it is important to take into account individual differences when examining coping behavior.

Since some behaviors are influenced by cultural norms and rules, and others are based on individual differences within the culture, individual factors influencing communication must be considered in order to effectively understand cross-cultural communicative differences and similarities (e.g., Gudykunst, 2003; Ogawa & Gudykunst, 1999). Independent and interdependent self-construals mediate the influence of cultural individualism/collectivism on communicative behavior, while a certainty/uncertainty orientation and a tolerance for ambiguity mediate the influence of cultural uncertainty avoidance on communication. In addition, self-esteem and gender are considered in this study as individual factors that influence the process of coping with stress.

Self-Construals

When examining communicative behavior, self-construals are important in cross-cultural studies as individual-level predictors of cultural individualism/collectivism. Markus and Kitayama's (1991) concept of self-construals has been used to examine cross-cultural behavior (e.g., Gudykunst et al., 1996; Kim, Hunter, Miyahara, Horvath, Bresnahan, & Yoon, 1996; Kim, Sharkey, & Singelis, 1994; Ogawa & Gudykunst, 1999; Park & Levine, 1999; Singelis & Brown, 1995).

Markus and Kitayama (1991) draw a distinction between independent and interdependent self-construals. The independent self-construal involves individuals who view themselves as separate and unique from others, while the interdependent self-

construal involves individuals who view themselves as interconnected with other members of their ingroups. Everyone has both types of self-construals, but tend to use one more than the other to guide their behavior. Markus, Mullally, and Kitayama (1997) argue that these different "selfways" represent different ways of thinking, feeling, and acting and are not simply different ways of viewing the self.

Markus and Kitayama (1991) contend that the goal of independence "requires construing oneself as an individual whose behavior is organized and made meaningful primarily by reference to one's own internal repertoire of thoughts, feelings, and action, rather than by reference to the thoughts, feelings, and actions of others" (p. 226). An individual's attributes "determine" or "cause" their behavior when the independent self-construal is activated (Markus & Kitayama, 1998). The "important tasks" for individuals who value independent self-construals are: to be unique, to work toward personal goals, to express themselves, and to be direct (e.g., to "say what you mean" [Markus & Kitayama, 1991]).

Markus and Kitayama (1991) suggest that being interdependent "entails seeing oneself as part of an encompassing social relationship and recognizing that one's behavior is determined, contingent on, and, to a large extent organized by what the actor perceives to be the thoughts, feelings, and actions of others in the relationship" (p. 227). When the interdependent self-construal is activated, an individual's behavior is a response to other members of his/her ingroups (Markus & Kitayama, 1998). The "important tasks" for individuals emphasizing interdependent self-construal are: to fit in with their ingroups, to act in an appropriate fashion as determined by the ingroup, to promote the goals of the ingroup, to occupy their proper place, to be indirect, and to read ingroup members' minds

(Markus & Kitayama, 1991).

Self-construals are used to examine communication in stressful situations across cultures (e.g., Kim et al., 2000; Kim, Smith, & Yueguo, 1999). During medical interviews in Hong Kong, Hawaii, and the mainland U.S., Kim et al. investigated the effects of a patient's culture and self-construals on assertiveness and communication apprehension. The results suggest that the more the patient emphasizes the independent self-construal, the more positive are his/her beliefs regarding patients' participation; this, in turn, leads to increased communication with a physician. On the other hand, the greater the patient's construal-of-self as interdependent, the more negative are his/her beliefs regarding the patients' participation; this, in turn, leads to communication avoidance and apprehension during medical interviews.

Kim, Smith, and Yueguo (1999) examine the effects of a patient's self-construal on preferences in making medical decisions in Hong Kong and Beijing. The results indicate that patients with an independent self-construal prefer to make their own decisions rather than have decisions made by the family or the doctor. In contrast, patients who express an interdependent self-construal prefer that decisions be made by the physician, through joint decision-making, or by the family, rather than making personal decisions.

Certainty/Uncertainty Orientation

A certainty/uncertainty orientation mediates the influence of cultural uncertainty avoidance on communication (Gudykunst, 1995). Sorrentino and Short (1986) examine certainty/uncertainty orientations and suggest several general characteristics.

Uncertainty-oriented individuals will attempt to reduce uncertainty; certainty-

oriented individuals prefer to avoid uncertainty when it is present. Uncertainty-oriented individuals integrate new ideas with old ideas and modify their beliefs accordingly; certainty-oriented individuals tend to hold on to traditional beliefs and to refuse ideas that are different. Uncertainty-oriented individuals seek to understand themselves and their environment; certainty-oriented individuals try to maintain a sense of self without assessing themselves or their activity.

Gudykunst (2004) found that certainty-oriented individuals tend to have a high level of confidence in their prediction of, and explanations for, unknown situations or people, but their predictions and explanations may be inaccurate. Uncertainty-oriented individuals generally make more accurate predictions of and explanations for unknown situations or people. The differences between certainty-oriented and uncertainty-oriented individuals also tend to be greater when emotions are involved (Gudykunst, 2004).

Tolerance for Ambiguity

Tolerance for ambiguity is another individual predictor of cultural uncertainty avoidance, according to Gudykunst and Kim (2003). A low tolerance for ambiguity begins with the perception that ambiguous situations are threatening and undesirable (Budner, 1962).

Using first impressions to make judgments is a characteristic of a low tolerance for ambiguity (Smock, 1955), while having a high tolerance for ambiguity means being open to new information, unknown situations or people (Pilusuk, 1963). When dealing with the unknown, individuals with a low tolerance for ambiguity will gather information that supports existing beliefs, while individuals with a high tolerance for ambiguity will seek objective information (McPherson, 1983). As a result, when faced with unknown

situations or people, individuals with a high tolerance for ambiguity tend to experience less anxiety and deal with anxiety more effectively than do individuals with a low tolerance for ambiguity (Gudykunst, 2004).

Self-Esteem

Self-esteem usually refers to the personal evaluation of one's own worth. Rosenberg (1965) defines self-esteem as "the evaluation which the individual makes customarily maintains with regard to himself or herself: it expresses an attitude of approval or disapproval toward oneself" (p. 5). There is a relationship between stress and the ways in which individuals evaluate their own worth. Negative associations between self-esteem and everyday stress have been reported (Cohen, Burt, & Bjorck, 1987; Hoffman, Ushpiz, & Levy-Shiff, 1988; Rector & Roger, 1998). There are also negative associations between self-esteem and depression (e.g., Beck, 1967; Rosenberg, 1965). The concept of self-esteem has been used to examine communication across cultures (e.g., Sato & Cameron, 1999; Ogawa et al., 2004). Therefore, a discussion of self-esteem is necessary to understand the process of coping with stress in Japan and the United States.

Self-esteem appears to have a relationship with how an individual copes with stress. Positive associations have been reported between high individual self-esteem and active-positive coping styles (Mantzicopoulos, 1990); they have also been reported between low individual self-esteem and unsuccessful coping strategies (Houston, 1977). It is assumed that individuals with high self-esteem tend to perceive the stressor as controllable; therefore, they attempt to cope actively and the result tends to be positive, which leads them to view themselves positively. In contrast, individuals with low self-esteem tend to perceive the stressor as uncontrollable or troublesome; therefore, they use

passive coping strategies (such as avoidance) and the result tends to be negative, which leads them to view themselves negatively. Since coping behavior is promoted by social support, there is a positive association between self-esteem and social support (Goodwin & Plaza, 2000; Harter, 1998).

Luhtanen and Crocker (1992) suggest individuals may have positive views of themselves both as members of a social group (i.e., collective self-esteem) and as individuals (i.e., individual self-esteem). Luhtanen and Crocker isolate four components of collective self-esteem: 1) Private collective self-esteem—the degree to which individuals evaluate their social groups positively; 2) Membership esteem—the degree to which individuals evaluate themselves as good members of the social groups to which they belong; 3) Public collective self-esteem—the way that individuals perceive how others evaluate their social groups; and 4) The value of group membership to an individual—the degree to which the individuals' group memberships are central to how they define themselves.

It is important to take into account individual and collective self-esteem in cross-cultural research that focuses on similarities and differences in communicative behavior in individualistic and collectivistic cultures (Ogawa et al., 2004). Thus, collective self-esteem is considered—along with individual self-esteem—in the present study.

Gender

Many studies show that women generally report a higher degree of stress than men (e.g., Hudd et al., 2000; Megel, Hawkins, Sandstrom, Hoefler, & Willrett, 1994; Radloff & Rae, 1979). This occurs even though there is generally no difference in the number of stressful events experienced by men and women (Dekker & Webb, 1974;

Henderson, Byrne, Duncan-Jones, Scott, & Adcock, 1980; Markush & Favero, 1974; Meyers, Lindenthal, & Pepper, 1971; Vingerhoets & Van Heck, 1990) or in the way that the events impact them (Paykel, Prudoff, & Uhlenhuth, 1971; Personn, 1980). There are a variety of possible reasons such as the unequal socio-economic status between men and women or the greater tendency of women to be more aware of their psychological well-being. Another possible explanation is related to gender-specific differences in coping behavior and social support. Therefore, in this study, gender is considered to be an individual factor that influences the way that stress is managed.

Coping is a part of everyday communicative behavior. Evidently men and women communicate differently, because numerous contrasts have been reported. Zimmerman and West (1975) found that men are more likely to control the topic of conversation, including the introduction of new topics and topic development. Several studies of gender and interruptions indicate that women interrupt men less often than men interrupt women (e.g., Brooks, 1982; Porter, Geis, Cooper, & Newman, 1985). In interactions with others, women tend to disclose intimate topics more often than do men (Morgan, 1976). According to Lakoff (1975), men use fewer tag questions than women. Holmes (1988, 1989) suggests that men are less likely than women to compliment or apologize to others within same-sex dyads, perhaps because men seem to believe that such messages cause distance, while women believe that the same messages reinforce their closeness (Holmes, 1988, 1989). Fishman (1978) observed that women ask more questions than men and that women's utterances are more likely to be related to the same topic as the previous one than are men's.

In addition to gender differences in verbal communication, differences have also

been found in nonverbal communication. Some writers suggest that women gaze at conversational partners, regardless of gender, more than men do (e.g., Duncan, 1983; Knapp & Hall, 1992). Ekman and Friesen (1972) point out that men gesture more often than women during interactions. Many researchers report that women communicate in a smaller interpersonal space than men do in same-sex dyads (e.g., Aiello & Aiello, 1974; Evans & Cherulnik, 1980; Smith, 1981). Kendon and Ferber (1973) found that men shake hands when they greet other men, while women embrace when they greet other women. Ricci Bitti, Giovanni, and Dalmonari (1974) point out that women smile at others more than men do within mixed-sex dyads. Given the gender differences in verbal and nonverbal communication, it is expected that men and women will engage in coping behavior differently.

There are also differences in coping behavior and social support between men and women. Kessler, Price, and Wartman (1985) examined the relationship between gender and health and found that gender differences in health are caused primarily by differences in the appraisal of stress and in the choice of coping strategies. Vingerhoets and Van Heck (1990) studied gender differences in coping behavior and suggested that men are more likely to use problem-focused coping strategies, planned and rational actions, positive thinking, personal growth and humor, and daydreaming and fantasies; women, on the other hand, tend to use emotion-focused coping strategies, such as self-blame, emotional expression, social support, and wishful thinking/emotionality.

When providing support, women appear to give more emotionally supportive messages than men (Mickelson, Helgeson, & Weiner, 1995). One reason for this may be as basic as the different ways that men and women (boys and girls) are socialized.

Women are generally socialized into expressive roles that emphasize emotional maintenance, while men tend to be socialized into roles that emphasize achievement and accomplishment (Parsons & Bales, 1955; Zelditch, 1955). Consequently, women usually identify emotions more accurately than men (Rosenthal, Archer, DiMatteo, Kowumaki, & Rogers, 1974), while men's inability to identify emotions may discourage them from providing emotional support.

Henderson, Ducan-Jones, Byrne, Adcock, and Scott (1979) examined social support from the point of view of gender and found that men are perceived to have more social integration than women, whereas women reported a higher quality of social integration than men. Women also scored higher on the availability of attachment than men, although no gender difference in the quality of the attachment was observed. Henderson et al. also found that, for women, social integration had a stronger connection to good mental health than did attachment. For men, the connection between good mental health, social integration, and attachment was the same. Because perceived available support directly influences psychological well-being (Komproe et al., 1997), women's relative lack of opportunity for social integration may create stress.

Brugha et al. (1990) found gender differences in the relationship between a person's recovery from depression and his or her social support (including personal relationships and perceived support). A woman's recovery from depression was found to be influenced by the number of primary people (i.e., family members and close friends) who she perceived to provide support and her satisfaction with that support; a man's recovery was affected by the presence of a wife and the number of non-primary people (e.g., acquaintances or friends) who he perceived to provide support. These results,

reported by Brugha et al., may indicate that the personal relationships required to maintain psychological well-being are different for each gender.

Research Questions and Hypotheses

Culture influences the ways in which individuals communicate, and the cultural influence on communication is mediated at the individual level by self-construals, personality orientation, and individual values (Gudykunst et al., 1996). The purpose of the present study is to examine both cultural and individual influences on stress, coping behavior, and social support in Japan and the United States. In order to clarify the position of this study, two figures are constructed: Figure 1 presents an etic model of communication in terms of the cultural and individual influences adapted from Gudykunst and Lee (2003). According to Gudykunst and Lee, cultural factors (e.g., individualism/collectivism and uncertainty avoidance) influence communication in a culture through the cultural norms and rules related to the major cultural tendency. In addition to cultural norms and rules, cultural factors also influence individual factors (e.g., self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem, and gender); therefore, cultural factors indirectly influence communication through individual factors (Gudykunst & Lee, 2003). Figure 2 presents the process of coping with stress. Individuals experience stress through communication. Individuals under stress manage the stress through communication by engaging in coping behavior and/or obtaining social support that can facilitate coping behavior. Although stress, coping behavior, and social support have not been widely studied cross-culturally, some hypotheses for this study are generated along with broad research questions.

Two broad research questions are asked in order to examine cultural and

individual influences on the process of coping with stress:

RQ1: *How are Japanese and American processes of coping with stress similar and different?*

RQ2: *How do individual factors (i.e., self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem, and gender) influence perceptions of the process of coping with stress?*

Based on the review of previous cross-cultural research on communication (e.g., Gudykunst, 1995, 2003, 2004; Gudykunst & Kim, 2003; Hofstede, 1979, 1980, 1991), it can be assumed that the Japanese are generally more collectivistic and less individualistic than Americans. It is also assumed that the Japanese show a higher tendency toward uncertainty avoidance than do Americans. Given the differences in cultural individualism/collectivism and uncertainty avoidance between the Japanese and Americans, two hypotheses are formed:

H1: *Japanese receive more social support from members of ingroups than do Americans.*

H2: *Japanese use more avoidance-related coping strategies than do Americans.*

The influence of cultural factors (e.g., individualism/collectivism, uncertainty avoidance) on communicative behavior is mediated by the individual factors. Previous research on culture and communication (e.g., Gudykunst, 1995, 2003, 2004; Gudykunst et al., 1996; Gudykunst & Kim, 2003; Markus & Kitayama, 1991; Ogawa & Gudykunst, 1999) suggests that self-construals are the mediators of cultural individualism/collectivism. Additionally, certainty/uncertainty orientations and tolerance for ambiguity are the mediators of cultural uncertainty avoidance. The following two

hypotheses are formed regarding the individual-level factors of cultural individualism/collectivism and uncertainty avoidance:

H3: *Social support from members of ingroups is influenced positively by interdependent self-construal.*

H4: *Avoidance-related coping behavior is influenced positively by a tendency toward uncertainty avoidance.*

Individual self-esteem has been proven to be a factor that influences the process of coping with stress (e.g., Beck, 1967; Cohen et al., 1987; Hoffman et al., 1988; Houston, 1977; Mantzicopoulos, 1990; Rector & Roger, 1998; Rosenberg, 1965). Mantzicopoulos (1990) reports positive associations between high individual self-esteem and active-positive coping styles. Luhtanen and Crocker (1992) suggest a different type of self-esteem (i.e., collective self-esteem). Ogawa et al. (2004) argue that both types of self-esteem need to be considered when understanding communicative behavior associated with self-esteem across cultures. A hypothesis is formed regarding this:

H5: *Active-positive coping behavior is influenced positively by higher individual and collective self-esteem.*

Previous studies on gender and communication, including stress, coping behavior, and social support, found many differences between men and women. For example, women generally perceive a higher degree of stress than do men (e.g., Hudd et al., 2000; Megel et al., 1994; Radloff & Rae, 1979). Women tend to give more emotionally supportive messages than do men when providing support (Mickelson et al., 1995). Gender differences in health are caused primarily by differences in the appraisal of stress and in the choice of coping strategies (Kessler et al., 1985).

In the present study, gender is considered to be an individual factor that influences the process of coping with stress. Vingerhoets and Van Heck (1990) suggest that men are more likely to use problem-focused coping strategies, while women tend to use emotion-focused coping strategies when they experience clinical stress. The present study focuses on daily stress for college students. A hypothesis is formed regarding this:

H6: *Men use more problem-focused coping strategies and less emotion-focused coping strategies than do women.*

Finally, a research question is formed based on the research findings that have been reported regarding the association between many of the research variables used in this study (i.e., stress, coping behavior, social support, self-construals, self-esteem): (1) the association between stress and coping behavior (Aldwin, 1994; Lazarus & Folkman, 1984), (2) the association between stress and social support (Blanchard et al., 1995; Thoits, 1986; Uchino et al., 1996), (3) the association between self-construals and self-esteem (Ogawa et al., 2004), (4) the negative association between stress and self-esteem (Cohen et al., 1987; Hoffman et al., 1988; Rector & Roger, 1998), and (5) the positive association between social support and self-esteem (Goodwin & Plaza, 2000; Harter, 1998). Since most of these studies were conducted in a single cultural context, the present study further examines the association between the variables—stress, coping behavior, social support, self-construals, certainty/uncertainty orientations, tolerance for ambiguity, and self-esteem—comparatively between Japanese and Americans.

RQ3: *How do the variables (i.e., stress, coping behavior, social support, self-construals, certainty/uncertainty orientation, tolerance for ambiguity, self-esteem) correlate with one another in the two cultures?*

CHAPTER IV

METHODS

The present study examines cultural and individual influences on the process of coping with stress by comparing members of two cultures within the theoretical framework of individualism-collectivism and uncertainty avoidance. Kim (2001b) points out that "researchers undertaking etic studies have adopted the perspectives of objective outsiders in comparing two or more cultural groups and have sought to design their studies based on culture-general theoretical concepts" (p. 148). An "etic" approach is utilized in this study, as it allows for an accurate examination of differences and similarities in communication, including the process of coping with stress across cultures.

It is important to understand communicative differences in order to avoid misunderstandings when interacting with people from different cultures. It is equally important to understand the similarities for effective interaction with people from different cultures. According to the theory of uncertainty reduction (e.g., Berger & Calabrese, 1975), similarities between two individuals can reduce uncertainty and facilitate effective communication. Therefore, understanding cultural differences and similarities in stress, coping behavior, and social support in Japan and the United States is crucial for people in the two cultures to interact effectively with each other.

Whereas no research has been conducted to examine cultural and individual influences on stress, coping behavior, and social support across cultures, there are many studies that focus on their individual influence within cultures. These concepts and assessment measures were originally developed in the United States, and later modified

for use in other cultures including Japan. For example, Tanaka (2003) developed a measurement for Japanese college students' stress based upon Lazarus and Folkman's (1984) concept of stress. Some of the daily stress identified by Tanaka (2003) represents aspects of college life specific to Japan (e.g., crowded buses, crowded trains); these cannot be used in the United States. Consequently, for this study, it is important to use measurements that focus on culture-general aspects of etic research.

The Survey

A pilot study was conducted to test the design of the present research for its clarity and relevance, and for the general effectiveness of the questionnaire. Data were collected from 70 respondents. Thirty-eight (18 males, 20 females) were Japanese respondents from a moderate sized university in Japan, and 32 (18 males, 14 females) were American respondents from a moderate sized university in the central United States. The average age of the Japanese sample was 20.37, and the average age of the U.S. sample was 21.94. For the purpose of the pilot study, respondents were asked to underline or circle items that were confusing. In addition, two open-ended questions were attached at the end of the questionnaire: (1) Did you have any trouble completing this survey? If so, please describe; (2) Do you have any suggestions to improve the survey? If so, please describe. It took respondents 20-30 minutes to complete the questionnaire.

First, reliabilities (alpha) of all measurements were tested in two cultures to verify them. Second, items that were underlined or circled by the respondents were analyzed. Third, the respondents' answers to the open-ended questions were analyzed. Generally, the reliabilities (alpha) of the measurements for cross-cultural research were satisfactory (i.e., .70 or higher reliabilities were obtained for most of the measurements), with the

exception of one (i.e., the measurement for certainty-uncertainty orientation: .37 in the Japanese sample, .35 in the U.S. sample). When the data were analyzed, some modifications were made to improve design quality. These modifications included corrections of grammatical errors and unclear items. Details of the modifications were explained in the corresponding measurement section of the main study.

The main study was conducted after the research design was verified by the pilot study. In this section, the sampling procedure, the questionnaire, measurements for each variable, and manipulation checks for individualism-collectivism and uncertainty avoidance are discussed.

Sampling

The target population of college students was chosen for two primary reasons. First, the college student sample has been used in many studies on this topic; many measures, including those used in this study, were consequently developed based on the college lifestyle. Second, the two cross-cultural college student samples provide sample equivalence for cross-cultural comparison in terms of age, social class, and intelligence.

Study respondents included 525 undergraduate students (269 Japanese and 256 Americans) taking communication courses, such as public speaking, intercultural communication, and English communication, at two universities—a moderate sized university in Japan and a moderate sized university in the central United States. Students taking communication courses were chosen for the equivalence of the samples in both cultures. The two universities were chosen based on equivalent locations, e.g., neither university is located in a big city. The minimum sample size necessary to attain stable factor coefficients is five times the number of items used to measure dependent variables

in the study (Stevens, 1986), and therefore, final sample size needed to be over 460 (e.g., 92 items X 5 = 460 respondents).

The respondents were asked to participate in the study while they attended a class at their respective universities. All participation was voluntary; however, some students received course-credit or extra credit. All questionnaires were completed during the class.

The 269 Japanese respondents consisted of 99 males and 170 females, and the 256 U.S. respondents were comprised of 95 males and 161 females. The U.S. sample consisted of 184 European Americans, 19 Latino Americans, nine African Americans, nine Asian Americans, six Native Americans, three Middle Eastern Americans, 13 others (e.g., mix between European American and Native American, mix between European American and Asian American), and 13 who did not indicate their ethnicity. The average age of the Japanese sample was 18.68, and the average age of the U.S. sample was 20.43. All American respondents were U.S. citizens. The Japanese sample included only Japanese nationals.

The samples include students from different years (i.e., 170 freshmen, 90 sophomores, 6 juniors, and 3 seniors in the Japanese sample; 81 freshmen, 74 sophomores, 52 juniors, and 49 seniors in the U.S. sample). Given the difference in the two groups' academic standing, possible influences of this difference on the process of coping with stress are tested using a 2 x 2 between-groups multivariate analysis of variance (MANOVA). Culture (Japan vs. the United States) is included as an additional independent variable to examine an interaction effect. The dependent variables are stress, coping behavior (avoidance-related, active-positive, problem-focused, emotion-focused), and social support (family, friends of the same-sex, friends of the opposite-sex). Bartlett's

test of sphericity indicates that a multivariate analysis is warranted (6071.91, 35 *df*, $p < .0001$). The multivariate interaction effect between culture and the respondents' academic standing is found to be not significant (Wilks' Lambda = .95, $F[24, 1462.36] = 1.13$, $p = .30$). Also, the main effect of the respondents' academic standing does not indicate a significant influence on the dependent variables (Wilks' Lambda = .96, $F[24, 1462.36] = .88$, $p = .64$).

The Questionnaire and Measurements

The questionnaire assessed the process of coping with stress in Japan and the United States. Nine measurements were evaluated in the present research: stress, coping behavior, social support, independent self-construal, interdependent self-construal, certainty/uncertainty orientation, tolerance for ambiguity, individual self-esteem, and collective self-esteem. Rosenberg's (1979) scale of individual self-esteem, Luhtanen and Crocker's (1992) scale of collective self-esteem, Gudykunst et al.'s (1996) scale of self-construals, and Gudykunst's (2004) certainty-uncertainty orientation and tolerance for ambiguity were developed in English. Other measures, such as Sima's (1999) scale of daily stress for college students, Kamimura et al.'s (1995) scale of coping behavior, and Sima's (1992) scale of social support for college students, were developed in Japanese.

Although originally developed in English, most of these measurements have been used and shown to be applicable cross-culturally in Japan and the United States (e.g., Ogawa & Gudykunst, 1999; Toyota & Matsumoto, 2004; Watanabe, 1994). In Ogawa et al.'s (2004) study, for example, reliability of individual self-esteem scale was .83 in Japan and .89 in the United States. The reliabilities of four components of collective self-esteem scale (i.e., membership esteem, private collective self-esteem, public collective

self-esteem, importance of ingroup) ranged from .58 to .71 in Japan and from .62 to .69 in the United States. Since these reliabilities were found to be unsatisfactory in both cultures, the four components are combined and used as a collective self-esteem scale in this study. The reliability of independent self-construal scale was .76 in Japan and .72 in the United States, and reliability of interdependent self-construal scale was .74 in both Japan and the United States. Measurements for certainty-uncertainty orientation and tolerance for ambiguity, on the other hand, had not been used in cross-cultural research. Consequently, these two measurements were translated into Japanese for the present study. The translation was first conducted by the author and verified by two bilingual speakers.

Measurements for stress (Sima, 1999), coping behavior (Kamimura et al., 1995), and social support (Sima, 1992) were developed in Japan, based on Western (American) views of the concepts and research findings. Reliability of the stress scale was .89 (Sima, 1999), reliability of eight sub-categories of the coping scale (i.e., information collection, planning, catharsis, positive interpretation, responsibility shift, renunciation/resignation, pastime, avoidance thought) ranged from .74 to .84 (Kamimura et al., 1995), and reliability of the social support scale was .92 in family relationships, .92 in same-sex friend relationships, and .96 in opposite-sex friend relationships (Sima, 1992). Modifications were made by the researchers (e.g., specific aspects of American culture were eliminated) for the Western concepts to be measured in Japan.

Some modifications were required to establish uniformity among measures and to avoid confusion in the present research. The modifications were associated with the direction of each measure and contents of a measure (i.e., scale for coping behavior).

Details of significant modifications are presented below when describing each measurement.

All the measurements were translated into English by the author. Three bilingual speakers, including a doctoral student in counseling psychology and two native English speakers, verified the translation. It took respondents 15-25 minutes to complete the questionnaire.

Stress

Homes and Rahe (1967) developed the Social Readjustment Rating Scale (SRRS) to measure the social readjustment required or degree of stress related to 43 stressful life events. These stressful life events include: death of a spouse, divorce, marital separation, or a jail term. SRRS is one of the most widely used and cited instruments in the research on stress and coping (Hobson et al., 1998).

The life events presented by Homes and Rahe (1967) do cause stress, but can affect people differently. Lazarus and Folkman (1984) argue that daily stress has a greater impact on people than stress related to life events. Based upon Lazarus and Folkman's (1984) argument, Tanaka (2003) investigated the daily stress of college students in Japan. To determine the daily stress experienced by students, he first conducted a qualitative study (i.e., an open-ended questionnaire) and identified 144 stressors. He then examined these stressors by type and, based on a factor analysis, found six factors with 54 stressors in the college students' daily lives.

Some of the daily stresses identified by Tanaka (2003) represent specific aspects of college life in Japan (e.g., crowded buses, crowded trains). Although understanding these culturally specific aspects of life is crucial for understanding the culture, they are

often not identified in the quantitative cross-cultural research of communication (e.g., etic approach). This is because this approach can be problematic when applied to cross-cultural research. Specifically, items that are derived at the emic level are often problematic at the etic level because culture-specific aspects of life are not consistent with an assumption of the quantitative cross-cultural research that statistical comparisons between two or more cultures need to be based on the normal distribution of dependent variables in each culture.

The present measurement, therefore, focuses on common aspects of the process of coping with stress in Japan and the United States. Sima's (1999) 32-item scale, which was developed to measure college students' daily stress, was adopted (see Table 1). This scale is applicable in this study because it is concerned with common/general aspects of stress for college students in both cultures. Four factors of the scale were reported by Sima: existential (self) stressors; interpersonal stressors; college/scholastic stressors; and physical stressors. In Sima's original measure, respondents answered each item using a scale of 0 to 4; however, in order to maintain uniformity in the questionnaire in this study, possible answers were changed to a scale of 1 through 5. Consequently, respondents answered each item using a five-point scale (1=*Neither experienced nor been affected*, 2=*I have experienced it, but it did not affect me*, 3= *I have experienced it, and it affected me slightly*, 4=*I have experienced it, and it affected me considerably*, 5=*I have experienced it, and it devastated me*).

One item in the English version of the questionnaire was modified based on results of the pilot study. Five students identified a problem in understanding an item (i.e., Weak constitution [Item 7]) that was originally developed in Japanese. Consequently, this

item was modified as “Weak constitution (Feeling physically weak).”

Table 1 summarizes the modified (final) version of this scale. Although the scale had been developed to include four factors, they were not considered for the purposes of this study. The reliability (alpha) of the stress scale was .89 in the Japanese sample and .88 in the U.S. sample.

Coping Behavior

Kamimura et al.’s (1995) tri-axial coping scale 24 (TAC-24) was developed based on Sterope’s (1991) typology of coping. Kamimura et al. reported that factors of the items were based on three axes (i.e., problem-focused vs. emotion-focused, participation vs. avoidance, cognitive vs. behavioral). Each of the three axes have eight sub-categories: (1) information collection (participation, problem-focused, behavioral), (2) planning (participation, problem-focused, cognitive), (3) catharsis (participation, emotion-focused, behavioral), (4) positive interpretation (participation, emotion-focused, cognitive), (5) responsibility shift (avoidance, problem-focused, behavioral), (6) renunciation/resignation (avoidance, problem-focused, cognitive), (7) pastime (avoidance, emotion-focused, behavioral), and (8) avoidance thought (avoidance, emotion-focused, cognitive).

Modifications were necessary to apply the measurement to college students in the United States. The content of two items in the seventh sub-category, pastime, were problematic: “I spend my time shopping, gambling, or chatting” (Item 12), and “I drink with my friends or go out to eat with them” (Item 20). Since respondents included minors, it was not appropriate to ask questions related to gambling and drinking, in the United States. In Japan, however, even though minors are prohibited from engaging in gambling

and drinking by law, society often finds these activities acceptable. As a result, the two items were modified as follows: "I spend my time shopping or chatting," and "I talk with my friends or go out to eat with them." Respondents answered the items using a five point scale (1="*I have never behaved and/or thought in this way. I will never do this*," 2="*I have rarely behaved and/or thought in this way. I will rarely do this*," 3="*I have sometimes behaved and/or thought in this way. I will sometimes do this*," 4="*I have often behaved and/or thought in this way. I will often do this*," 5="*I have always behaved and/or thought in this way. I will always do this*.").

Six items on the English version of the questionnaire were modified based on results from the pilot study. First, a student pointed out that the item, "I try not to think about it" (Item 3 & 11), was listed twice. This was due to the similarity in meaning between the two items in Japanese. As a result, one of them (Item 11) was modified as "I avoid thinking about it." Second, two students suggested that an item, "I play sports or travel" (Item 4) was confusing as he/she had played sports, but not traveled. Therefore, this item was modified to "I engage in activities, such as playing sports or travel." Third, a student pointed out a grammatical mistake in an item, "I try to solve the problem by getting an advice from an expert" (Item 6). This item was modified by removing the "an." Fourth, two students pointed out a grammatical mistake in an item, "I put off the problem because nothing can be [done] about it" ('done' was missing, Item 7). Consequently, adding "done" modified this item. Fifth, four students pointed out a problem in understanding an item, i.e., "I try to find a silver lining" (Item 17). As a result, this item was modified to "I try to find a silver lining (a gleam of hope)." Sixth, a student pointed out a problem in understanding an item, i.e., "I run away from the problem by

making irresponsible remarks" (Item 24). Consequently, this item was modified to "I avoid the problem by making immature or silly remarks." Table 2 summarizes the final modified version of the 24 items.

For the purpose of this study, four scales of coping behavior were developed based on item factors. The first scale included 12 items that were associated with "avoidance-related" coping behavior (i.e., responsibility shift [8, 16, 24], renunciation/resignation [7, 15, 23], pastime [4, 12, 20], and avoidance thought [3, 11, 19]). The reliability (alpha) of the "avoidance-related" scale was .77 in the Japanese sample and .78 in the U.S. sample. The second scale included 12 items related to "active-positive" coping behavior (i.e., information collection [6, 14, 22], planning [5, 13, 21], catharsis [2, 10, 18], and positive interpretation [1, 9, 17]). The reliability (alpha) of the "active-positive" scale was .78 in the Japanese sample and .80 in the U.S. sample. The third scale included 12 items related to "problem-focused" coping behavior (i.e., information collection [6, 14, 22], planning [5, 13, 21], responsibility shift [8, 16, 24], and renunciation/resignation [7, 15, 23]). The reliability (alpha) of the "problem-focused" scale was .67 in the Japanese sample and .59 in the U.S. sample. The fourth scale included 12 items related to "emotion-focused" coping behavior (i.e., catharsis [2, 10, 18], positive interpretation [1, 9, 17], pastime [4, 12, 20], and avoidance thought [3, 11, 19]). The reliability (alpha) of the "emotion-focused" scale was .75 in the Japanese sample and .63 in the U.S. sample.

Because each scale consisted of combinations of four of the eight factors based on their conceptualizations, every item was repeatedly used to form the scales. For instance, the eighth factor, "avoidance thought," contained characteristics of "avoidance" and

"emotion-focused." As a result, three items of the factor were included in both "avoidance-related" and "emotion-focused" coping behavior.

Social Support

Sima's (1992) measure of social support for college students was used. The 36-item measure was developed to examine college students' social support from families and friends. Three kinds of relationships are considered in this measure—family, friends of the same-sex, and friends of the opposite-sex. There are twelve consistent items about each of these relationships. Respondents answered each item using a five-point scale (1=*never*, 2=*rarely*, 3=*sometimes*, 4=*often*, 5=*quite often*).

Two items in the English version of the questionnaire were modified based on results from the pilot study. First, two students pointed out that an item, "I can talk about personal matters with family/friends of the same-sex/friends of the opposite-sex" (Item 4) showed to have the same meaning as an item, "I can talk about personal problems with family/friends of the same-sex/friends of the opposite-sex" (Item 6). As a result, the latter one was modified to "I can talk about my worries with family/friends of the same-sex/friends of the opposite-sex." Second, a student pointed out a grammatical mistake in an item, "My friends of the same-sex/opposite-sex helps me when I am overwhelmed" (Item 10). Removing the "s" from "helps" modified this item.

Table 3 summarizes the modified (final) version of this scale. The reliability (alpha) of the scale for family relationships was .89 in the Japanese sample and .93 in the U.S. sample, the scale for same-sex friend relationships was .90 in the Japanese sample and .93 in the U.S. sample, and the scale for opposite-sex friend relationships was .94 in the Japanese sample and .92 in the U.S. sample.

Independent and Interdependent Self-Construals

Gudykunst et al.'s (1996) measures of independent and interdependent self-construals were used. Only items loading .50 or greater in Gudykunst et al.'s (1996) analyses of independent and interdependent self-construals were used (see Table 4). Respondents answered the items using a seven point Likert-type scale (1=*strongly disagree*, 7=*strongly agree*).

No modifications were necessary based on pilot study results. Table 4 summarizes the scales. The reliability (alpha) of the scale for the independent self-construal was .76 in the Japanese sample and .67 in the U.S. sample and the scale for the interdependent self-construal was .65 in the Japanese sample and .70 in the U.S. sample.

Certainty/Uncertainty Orientation

Gudykunst's (2004) 10-item scale was used to examine certainty/uncertainty orientation. Respondents answered each item using a five point scale (1=*always false*, 5=*always true*).

Table 5 summarizes this scale. The reliability (alpha) of this scale was .23 in the Japanese sample and .33 in the U.S. sample. Because this scale did not present viable degrees of reliability in both cultures, it could not be considered to measure people's tendency of uncertainty avoidance in this study. Consequently, the individual factor of certainty/uncertainty orientation, was removed from the present analyses of cultural and individual influences on stress, coping behavior, and social support.

Tolerance for Ambiguity

Gudykunst's (2004) 10-item scale was used to assess tolerance for ambiguity. An item was modified based on the results of the pilot study. A student pointed out a

problem in understanding the item that stated "I am not frustrated when my surroundings are changed without my knowledge" (Item 9), which was originally developed in English. This problem was caused by the double negative used in the statement, i.e., "not" and "without". Consequently, the item was modified as "I am frustrated when my surroundings are changed without my knowledge" by removing the "not." Respondents answered each item using a five point scale (1=*always false*, 5=*always true*).

Table 6 summarizes this scale. The scale was recoded as follows: The higher the respondent's score, the greater his/her tolerance for ambiguity (the smaller his/her tendency in uncertainty avoidance). The reliability (alpha) of this scale was .71 in the Japanese sample and .79 in the U.S. sample.

Individual Self-Esteem

Rosenberg's (1979) 10-item individual self-esteem scale, which measures general self-esteem, was used in this study. Respondents answered each item using a seven point Likert-type scale (1=*strongly disagree*, 7=*strongly agree*).

No modification was necessary based on the results of the pilot study. Table 7 summarizes this scale. The reliability (alpha) of this scale was .83 in the Japanese sample and .87 in the U.S. sample.

Collective Self-Esteem

Luhtanen and Crocker's (1992) measure of collective self-esteem was used. This measurement instrument consists of four components: membership esteem, private collective self-esteem, public collective self-esteem, and the importance of ingroups. Respondents answered each item using a seven point Likert-type scale (1=*strongly disagree*, 7=*strongly agree*).

No modification was necessary based on results of the pilot study. Table 8 summarizes this scale. The reliability (alpha) of this scale was .84 in the Japanese sample and .86 in the U.S. sample.

Manipulation Check

This study is based on two assumptions: (1) Japanese show more collectivistic and less individualistic tendencies than Americans; and (2) Japanese have a higher tendency of uncertainty avoidance than Americans. Consequently, the tendencies of the two samples needed to be tested to adequately interpret the results regarding individualism-collectivism and uncertainty avoidance. To examine individualistic and collectivistic tendencies of the samples at the cultural level, Gudykunst et al.'s (1996) measures of independent and interdependent self-construals were used. In addition, Rosenberg's (1979) individual self-esteem scale and Luhtanen and Crocker's (1992) measure of collective self-esteem were used to examine the individualistic and collectivistic tendencies of the samples in this study. Even though there were two scales to examine high and low uncertainty avoidance tendencies of the samples (i.e., certainty/uncertainty orientation, tolerance for ambiguity), only the scale of tolerance for ambiguity was used in the present study. This is because, as indicated previously, the scale for certainty/uncertainty orientation showed low reliability in both samples (i.e., .23 in the Japanese sample and .33 in the U.S. sample).

To test whether the U.S. sample was more individualistic and less collectivistic than the Japanese sample and whether the Japanese sample had a higher tendency of uncertainty avoidance than the U.S. sample, a one-way between-groups multivariate analysis of variance (MANOVA) was used. In this analysis, culture (i.e., Japan vs. the

United States) was the independent variable. The dependent variables were independent and interdependent self-construals, individual and collective self-esteem, and tolerance for ambiguity. The Bartlett's test of sphericity indicated that multivariate analysis was warranted (661.04, 14 *df*, $p < .0001$). The multivariate main effect for culture was significant (Wilks' Lambda = .44, $F[5, 518] = 130.83$, $p < .0001$, 56% of variance explained).

Individualism-Collectivism. The univariate main effect for culture on the independent self-construal was significant ($F[1, 523] = 81.67$, $p < .0001$). The univariate main effect for culture on the interdependent self-construal was also significant ($F[1, 523] = 27.98$, $p < .0001$). The means of the independent and the interdependent self-construals were higher in the U.S. sample (independent = 5.92, *SD* = .69; interdependent = 5.05, *SD* = .87) than in the Japanese sample (independent = 5.25, *SD* = .97; interdependent = 4.64, *SD* = .92). Thus, the sample did not represent tendencies of cultural individualism and collectivism.

The univariate main effect for culture on individual self-esteem was significant ($F[1, 523] = 584.15$, $p < .0001$). The univariate main effect for culture on collective self-esteem was also significant ($F[1, 523] = 75.90$, $p < .0001$). The means of individual and collective self-esteem were higher in the U.S. sample (individual = 5.68, *SD* = .91; collective = 5.47, *SD* = .79) relative to the Japanese sample (individual = 3.67, *SD* = .99; collective = 4.88, *SD* = .76). However, the mean for the individual self-esteem was higher than the mean for the collective self-esteem in the United States, while the mean for the collective self-esteem was higher than the mean for the individual self-esteem in Japan. The relationship between self-esteem and cultural individualism-collectivism is discussed

in detail in the "theoretical implications of key findings" section.

Uncertainty Avoidance. The univariate main effect for culture on tolerance for ambiguity was significant ($F[1, 523] = 151.24$, $p < .0001$). The mean of tolerance for ambiguity was higher (i.e., the smaller tendency in uncertainty avoidance) in the U.S. sample (3.09, $SD = .58$) than in the Japanese sample (2.48, $SD = .57$). Therefore, the sample represented a tendency toward cultural uncertainty avoidance.

The results of the manipulation check showed that the sample used in the present study did not completely represent expected tendencies of the culture, that is, the tendency of the sample was not consistent with individualism-collectivism. One reason for this is likely to be the low reliabilities of the measurements for self-construals (.67 for the independent self-construal in the U.S. sample and .65 for the interdependent self-construal in the Japanese sample). This limitation will be taken into account when interpreting the results on cultural individualism and collectivism.

Of particularly critical importance to interpreting the results is the fact that, of the eight measurements identified as dependent variables, three did not show adequate levels of reliability. The measurement reliability of problem-focused coping was .67 in the Japanese sample and .59 in the U.S. sample, while the reliability of emotion-focused coping was .63 in the U.S. sample.

CHAPTER V

RESULTS

The present study posed three research questions and six hypotheses. The three research questions are: (1) *How are Japanese and American processes of coping with stress similar and different?* (2) *How do individual factors (i.e., self-construals, tolerance for ambiguity, self-esteem, gender) influence perceptions of the process of coping with stress?* and (3) *How do the variables (i.e., stress, coping behavior, social support, self-construals, tolerance for ambiguity, self-esteem) correlate with one another in the two cultures?* The six hypotheses are: (1) *Japanese receive more social support from members of ingroups than do Americans*, (2) *Japanese use more avoidance-related coping strategies than do American*, (3) *Social support from members of ingroups is influenced positively by interdependent self-construal*, (4) *Avoidance-related coping behavior is influenced positively by a tendency toward uncertainty avoidance*, (5) *Active-positive coping behavior is influenced positively by self-esteem*, and (6) *Men use more problem-focused coping strategies and less emotion-focused coping strategies than do women*.

The results are presented in three steps. First, cultural and individual influences on stress, coping behavior, and social support are examined. Second, gender differences in stress, coping behavior, and social support are examined. Third, interrelationships among key terms are examined. The hypotheses are tested at corresponding parts of the above three sections. Specifically, H1 and H2 are tested at the cultural-level analysis, H3, H4, and H5 are tested at the individual-level analysis, and H6 is tested at the gender-level

analysis. Finally, key findings relative to the research questions and hypotheses are summarized at the end of this chapter.

Cultural and Individual Differences

In this section, cultural and individual level differences in stress, coping behavior, and social support are examined. A one-way between-groups multivariate analysis of covariance (MANCOVA) is used to test cultural and individual level influences on the dependent variables. In this analysis, culture (i.e., Japan vs. the United States) is the independent variable. The dependent variables are: stress, coping behavior (i.e., avoidance-related, active-positive, problem-focused, emotion-focused), and social support (i.e., family, friends of the same-sex, and friends of the opposite-sex). Individual factors are treated as covariates (i.e., independent and interdependent self-construals, tolerance for ambiguity, individual and collective self-esteem). Exclusion of gender in the analysis is discussed later. The Bartlett's test of sphericity indicates that multivariate analysis is warranted (5957.13, 35 *df*, $p < .0001$).

As mentioned earlier, reliabilities of some scales included in this analysis were not satisfactory (i.e., .67 for the independent self-construal in the U.S. sample, .65 for the interdependent self-construal in the Japanese sample, .67 for problem-focused coping in the Japanese sample, .59 for problem-focused coping in the U.S. sample, .63 for emotion-focused coping in the U.S. sample); consequently, the findings associated with these variables must be interpreted with the limitation of low reliabilities. To overcome parts of this limitation, an additional analysis using MANCOVA was conducted by excluding the independent and interdependent self-construals from the original analysis to find possible negative effects of self-construals on the results. Overall, similar results were shown in

this analysis and levels of significance were only changed minimally. However, some significant changes, in comparison to the original results, were found in the analysis in terms of the cultural influence on active-positive coping, the influence of individual self-esteem on emotion-focused coping, and the influence of collective self-esteem on social support from family. Accordingly these results are included in their corresponding sections that discuss cultural and individual differences.

Cultural Differences

The multivariate main effect for culture is significant (Wilks' Lambda = .76, F[8, 504] = 19.49, $p < .0001$, 24% of variance explained). This indicates that the influence of culture on coping with stress is verified. Given that the multivariate effect is significant, the univariate tests are examined. Table 9 presents the means for stress, coping behavior (i.e., avoidance-related, active-positive, problem-focused, emotion-focused), and social support (i.e., family, friends of the same-sex, friends of the opposite-sex) by culture.

Stress is significantly different by culture ($p < .0001$, $\eta^2 = .09$); the mean is higher in the Japanese sample ($M = 2.47$, $SD = .59$) relative to the U.S. sample ($M = 2.43$, $SD = .50$). This is consistent with a characteristic of uncertainty avoidance (i.e., members of low uncertainty avoidance cultures experience lower levels of stress more than individuals in high uncertainty avoidance cultures [Gudykunst, 2004]). Because a tendency toward uncertainty avoidance is greater in Japan than in the United States (Hofstede, 1980), the Japanese participants reported a higher stress level than the American participants.

Avoidance-related coping is significantly different by culture ($p < .0001$, $\eta^2 = .05$); the mean was higher in the U.S. sample ($M = 2.55$, $SD = .54$) than in the Japanese sample

(M = 2.30, SD = .55). Hypothesis 2 (Japanese use more avoidance-related coping strategies than do Americans) is tested in the analysis. Because the U.S. sample shows greater use of the avoidance-related strategies than the Japanese sample, Hypothesis 2 is rejected.

Hypothesis 2 predicts that the Japanese participants use avoidance-related coping more than the American participants because of their tendency toward uncertainty avoidance. Interestingly, the reverse is found to be true. This may be due to the fact that most items included in the scale refer to "do something" to avoid dealing directly with the stressor, e.g., "I try not to think about it," "I make excuses," "It was not my fault," "I spend my time shopping or chatting," "I push the responsibility of solving the problem onto others," or "I avoid the problem by making immature or silly remarks." As mentioned earlier, the Japanese tend to cope with stress by focusing on changing their inner state rather than dealing directly with the stressor. This Japanese method of coping may be different from the coping behavior of, "do something" to avoid dealing directly with the stressor. Moreover, the "do something," when stressful, is more valued by Americans than Japanese.

Active-positive coping is significantly different between the two samples ($p < .05$, $\eta^2 = .01$); the mean is higher in the U.S. sample (M = 3.43, SD = .54) than in the Japanese sample (M = 3.24, SD = .63). However, the results of the analysis conducted without the inclusion of independent and interdependent self-construals show that this coping is not significantly different between the two samples (p = .23); consequently, this coping is not considered to be influenced by culture.

Problem-focused coping is significantly different by culture ($p < .01$, $\eta^2 = .02$); the

mean is higher in the U.S. sample ($M = 2.74$, $SD = .41$) than in the Japanese sample ($M = 2.52$, $SD = .50$). This result is consistent with cultural uncertainty avoidance. People in low uncertainty avoidance cultures (e.g., Americans) tend to deal directly with uncertain things more than people in high uncertainty avoidance cultures (e.g., Japanese). American participants' coping pattern, in comparison to that of Japanese participants', is frequently related to problem-focused ways of dealing with uncertainty associated with stress.

Emotion-focused coping is not significantly different between the two samples ($p = .89$), with similar means in the U.S. sample ($M = 3.24$, $SD = .44$) and the Japanese sample ($M = 3.01$, $SD = .59$). Individuals in high uncertainty avoidance cultures tended to show more emotions than individuals in low uncertainty avoidance cultures (Gudykunst, 2004). The results, however, indicate that showing emotion is not necessarily associated with coping behavior. This unexpected result may be caused by the low reliability of the scale in the U.S. sample ($\alpha = .63$).

Social support from family is significantly different between the two samples ($p < .0001$, $\eta^2 = .04$); the mean is higher in the U.S. sample ($M = 4.01$, $SD = .76$) than in the Japanese sample ($M = 3.19$, $SD = .77$). This result is not expected because people with a collectivistic nature (e.g., Japanese) generally perceive more social support from family than people with an individualistic nature (e.g., Americans; Dayan et al., 2001). Fukuoka (1995) investigated social support (with stress) from family and friends in Japan and found a significant difference in the use of the social support among male/female college students and male/female adults. The male college student sample reported an extremely low degree of social support from family among the four samples, and it did not help

them to cope with stress (Fukuoka, 1995). Thus, the unique aspect of collectivism in Japan probably caused the result.

The means for social support from family between the two cultures and genders are Japanese males (M = 2.87, SD = .77), Japanese females (M = 3.37, SD = .71), U.S. males (M = 3.75, SD = .74) and U.S. females (M = 4.17, SD = .73). Because the means for both Japanese male and female samples are lower than U.S. male and female samples, family may not be an ingroup that provides much social support for Japanese college students. Another reason for the unexpected result refers to the individual differences in the samples, i.e., self-construals. The means for both the independent and the interdependent self-construals are significantly higher in the U.S. sample than in the Japanese sample; therefore, the sample used in this study may not represent the cultural characteristics of individualism and collectivism.

Social support from friends of the same-sex is not significantly different between the two cultures (p = .16), with similar means for the U.S. sample (M = 3.84, SD = .77) and the Japanese sample (M = 3.69, SD = .67). Hypothesis 1 (Japanese receive more social support from members of ingroups than do Americans) is not supported. The U.S. sample reports obtaining more social support from family and friends of the opposite-sex than the Japanese sample.

The results also show that the Japanese and American participants receive equal social support from friends of the same-sex. One reason for this may be related to the concept of "friends." Japanese see a clear distinction between members of ingroups (e.g., close friends) and outgroups (e.g., strangers) and regard ingroup relationships as more intimate than do Americans (Triandis, 1988). As a result, the term "friends" may not have

been clear enough for the Japanese participants to regard them as members of their ingroups when answering the items. Thus, it may be necessary to use the term "close friends" instead of "friends" when conducting cross-cultural research based on individualism and collectivism.

Social support from friends of the opposite-sex is significantly different between the two cultures ($p < .0001$, $\eta^2 = .08$); the mean is higher in the U.S. sample ($M = 3.34$, $SD = .75$) than in the Japanese sample ($M = 2.46$, $SD = .83$). This result is consistent with cultural masculinity-femininity. Hofstede (1991) points out that masculinity is related to "societies in which social gender roles are clearly distinct (i.e., men are supposed to be assertive, tough, and focused on material success whereas women are supposed to be more modest, tender, and concerned with the quality of life)" (p. 82). In contrast, femininity is associated with "societies in which social gender roles overlap (i.e., both men and women are supposed to be modest, tender, and concerned with the quality of life)" (Hofstede, 1991, pp. 82-83). Japanese culture is associated closely with masculinity, while American culture is related to femininity (Hofstede, 1980).

As members of a highly masculine culture, Japanese people tend to avoid much contact with members of the opposite-sex when they are growing up because they regard same-sex relationships as more important than opposite-sex relationships (Gudykunst & Nishida, 1994). This cultural norm may explain the finding that the Japanese college students receive less social support from friends of the opposite-sex than the American college students.

Individual Differences

To effectively understand cross-cultural differences and similarities in the process

of coping with stress, individual factors influencing communication are considered in the present study. Independent and interdependent self-construals mediate the influence of cultural individualism-collectivism on communicative behavior, and tolerance for ambiguity mediates the influence of cultural uncertainty avoidance on communication. In addition, individual and collective self-esteem and gender are considered to be individual factors that influence the process of coping with stress in this study. Because the samples used in this study do not fully represent characteristics of cultural individualism and collectivism, it is particularly important to interpret the results for the individual factors of independent and interdependent self-construals.

The covariates in the MANCOVA are examined to test the effects of self-construals, tolerance for ambiguity, and self-esteem on stress level, four types of coping behavior, and three types of social support. The results show statistically significant multivariate effects for independent self-construal (Wilks' Lambda = .94, F[8, 504] = 4.03, $p < .0001$, 6% of variance explained), interdependent self-construal (Wilks' Lambda = .96, F[8, 504] = 2.83, $p < .0001$, 4% of variance explained), tolerance for ambiguity (Wilks' Lambda = .93, F[8, 504] = 4.79, $p < .0001$, 7% of variance explained), individual self-esteem (Wilks' Lambda = .87, F[8, 504] =9.34, $p < .0001$, 13% of variance explained), and collective self-esteem (Wilks' Lambda = .91, F[8, 504] = 6.39, $p < .0001$, 9% of variance explained).

Table 10, 11 and 12 present the coefficients for the covariates. Stress level is influenced by independent self-construal ($p < .01$, $\eta^2 = .01$), individual self-esteem ($p < .0001$, $\eta^2 = .09$), and tolerance for ambiguity ($p < .0001$, $\eta^2 = .03$). The stress level has a positive B coefficient for the independent self-construal and has negative B coefficients

for tolerance for ambiguity and individual self-esteem. These results demonstrate that the greater the participant independence, the less individual self-esteem resulting in higher levels of perceived stress. In addition, the more he/she tolerates ambiguity, the less he/she experiences stress. This result is consistent with a characteristic of the tolerance for ambiguity suggested by Gudykunst (2004), that is, individuals with a high tolerance for ambiguity tend to experience less anxiety and deal with it more effectively than individuals with a low tolerance for ambiguity when faced with unknown (stressful) situations or people. The results also indicate that individuals experience stress regardless of their self-esteem because stress level is not influenced by self-esteem.

Avoidance-related coping is found to be influenced by independent self-construal ($p < .01$, $\eta^2 = .01$) and interdependent self-construal ($p < .05$, $\eta^2 = .01$). This coping has a positive *B* coefficient for the interdependent self-construal and a negative *B* coefficient for the independent self-construal. The results show that the more the participant's self-construal is interdependent and the less his/her self-construal is independent, then the more he/she is engaged in avoidance-related coping behavior. The results also indicate that avoidance-related coping is not affected by tolerance for ambiguity, rejecting Hypothesis 4 (Avoidance-related coping behavior is influenced positively by a tendency toward uncertainty avoidance).

Active-positive coping is influenced by independent self-construal ($p < .01$, $\eta^2 = .02$), interdependent self-construal ($p < .05$, $\eta^2 = .01$), individual self-esteem ($p < .05$, $\eta^2 = .01$), and collective self-esteem ($p < .01$, $\eta^2 = .02$). This coping has positive *B* coefficients for all of these variables indicating that active-positive coping is engaged by those with high degrees of self-construals and self-esteem regardless of their types. This

finding on stress and self-esteem is consistent with previous research (e.g., Mantzicopoulos, 1990). As mentioned earlier, the active-positive coping tends to be used more often by American participants than Japanese participants. However, it might be a common coping behavior in both groups because the self-construals do not differentially influence behavior. If the active-positive coping is a dominant behavior in the United States, it should be influenced only by independent self-construal. The active-positive coping is found to be affected positively by both individual and collective self-esteem, supporting Hypothesis 5 (Active-positive coping behavior is influenced positively by self-esteem).

Problem-focused coping is shown to be influenced only by interdependent self-construal ($p < .05$, $\eta^2 = .01$). This coping has a positive *B* coefficient for the interdependent self-construal. Emotion-focused coping is shown to be influenced by interdependent self-construal ($p < .01$, $\eta^2 = .02$), individual self-esteem ($p < .05$, $\eta^2 = .01$), and collective self-esteem ($p < .05$, $\eta^2 = .01$). This coping method has positive *B* coefficients for all of them. However, these results cannot be considered seriously because of the inadequate reliabilities of the four scales: the independent self-construal in the U.S. sample, the interdependent self-construal in the Japanese sample, the problem-focused coping in both samples, and the emotion-focused coping in the U.S. sample. For instance, the results of the analysis conducted without including the self-construals show that emotion-focused coping is not influenced by individual self-esteem ($p = .20$). The original result of emotion-focused coping and individual self-esteem (i.e., emotion-focused coping is influenced by individual self-esteem) is replaced with this result to cope with this limitation.

Social support from family is found to be influenced by interdependent self-construal ($p < .01$, $\eta^2 = .02$), individual self-esteem ($p < .0001$, $\eta^2 = .03$), and tolerance for ambiguity ($p < .05$, $\eta^2 = .01$). This social support has positive *B* coefficients for the interdependent self-construal and the individual self-esteem, and has a negative *B* coefficient for the tolerance for ambiguity. In addition, the results of the analysis conducted without the inclusion of self-consturals show that this social support is also influenced by collective self-esteem ($p < .0001$, $\eta^2 = .04$), with a positive *B* coefficient for the self-esteem. These results show that the more the participant's self-construal is interdependent and the higher the individual's self-esteem, the more he/she has access to social support from the family. Also, the less he/she tolerates ambiguity, the more he/she has access to family social support.

Social support from friends of the same-sex is found to be influenced by independent self-construal ($p < .05$, $\eta^2 = .01$), interdependent self-construal ($p < .05$, $\eta^2 = .01$), and collective self-esteem ($p < .0001$, $\eta^2 = .05$). This social support has positive *B* coefficients for the interdependent self-construal and the collective self-esteem, and a negative *B* coefficient for the independent self-construal. These results indicate that the more the participant's self-construal is interdependent and the less his/her self-construal is independent, the more he/she has access to social support from friends of the same-sex. Also, the higher his/her collective self-esteem is, the more access he/she has to the social support.

Social support from friends of the opposite-sex is shown to be influenced by collective self-esteem ($p < .0001$, $\eta^2 = .04$) and tolerance for ambiguity ($p < .01$, $\eta^2 = .02$). This social support has positive *B* coefficients for the collective self-esteem and the

tolerance for ambiguity. As a result, the higher the participant's collective self-esteem and the more he/she tolerates ambiguity, the more he/she has access to social support from friends of the opposite-sex. Self-construal is not considered a factor related to this social support, although it is associated with the other two social supports (social supports from family and friends of the same-sex).

Hypothesis 3 (Social support from members of ingroups is influenced positively by interdependent self-construal) is examined in this analysis. The social support from family and friends of the same-sex are affected positively by the interdependent self-construal even though the interdependent self-construal does not affect the social support from friends of the opposite-sex. As discussed earlier, Japanese college students generally do not regard friends of the opposite-sex as members of their ingroups. Because this preference may have influenced the results, social support from friends of the opposite-sex is excluded from the hypothesis, supporting Hypothesis 3.

Gender Differences

Even though gender is an individual factor influencing the process of coping with stress, there are two reasons for not including it in the present analysis. First, covariates are used in interpreting the influence of the independent variable on the dependent variables. Independent/interdependent self-construals and individual/collective self-esteem are related to the cultural individualism-collectivism, and tolerance for ambiguity is associated with cultural uncertainty avoidance. Because gender is not related directly to either of the cultural factors, it may not be appropriate to include gender in the analysis. Second, only those variables with continuous and interval level can be added as covariates. Since gender (men vs. women) is a categorical variable, its influence on the

process of coping with stress must be analyzed independently of other individual factors.

Given the above considerations, a 2 x 2 between-groups multivariate analysis of variance (MANOVA) is used to test gender influence on the dependent variables. Culture (Japan vs. the United States) is included as an additional independent variable to examine a possible interaction effect. Dependent variables are stress, coping behavior (avoidance-related, active-positive, problem-focused, emotion-focused), and social support (family, friends of the same-sex, friends of the opposite-sex). The Bartlett's test of sphericity indicates that multivariate analysis is warranted (6103.64, 35 *df*, $p < .0001$). The multivariate interaction effect between culture and gender is found to be significant (Wilks' Lambda = .96, $F[8, 508] = 2.53$, $p < .05$, 4% of variance explained). The main effect of gender is also significant (Wilks' Lambda = .85, $F[8, 508] = 11.56$, $p < .0001$, 15% of variance explained), indicating the influence of gender on the process of coping with stress.

Given that the multivariate effect is significant, the univariate tests are used to examine a possible interaction effect of culture and gender on dependent variables. Only social support from friends of the same-sex is influenced significantly by both culture and gender ($p < .01$, $\eta^2 = .01$). In both cultures, the means are higher in the female sample than in the male sample (i.e., U.S. females = 4.01, U.S. males = 3.54, Japanese females = 3.73, Japanese males = 3.61). This indicates that U.S. female participants receive the most social support from friends of the same-sex, followed by Japanese female participants; Japanese male participants and U.S. male participants receive the least support. This may explain the finding of no significant difference in the social support from friends of the same-sex between the Japanese sample and the U.S. sample. Table 13

presents a comparison of means for the eight measurements of the three dependent variables, stress, coping behavior (i.e., avoidance-related, active-positive, problem-focused, emotion-focused) and social support (i.e., family, friends of the same-sex, friends of the opposite-sex) by gender.

Stress is found not to be significantly different between genders ($p = .86$) with the similar means in the male ($M = 2.45$, $SD = .61$) and female ($M = 2.45$, $SD = .51$) samples. Previous studies on stress and gender suggest that women generally experience a higher degree of stress than men (e.g., Hudd et al., 2000; Megel et al., 1994; Radloff & Rae, 1979). The present result, however, shows that the stress level is not significantly affected by gender. This inconsistency may be due to the type of stress measured in this study, i.e., college students' daily stress.

Avoidance-related coping is found to be significantly different between genders ($p < .05$, $\eta^2 = .01$) with a higher male sample mean ($M = 2.49$, $SD = .59$) relative to that of the female sample ($M = 2.38$, $SD = .54$). Active-positive coping is shown to be significantly different between two groups ($p < .0001$, $\eta^2 = .03$) with a higher mean in the female sample ($M = 3.41$, $SD = .55$) than in the male sample ($M = 3.20$, $SD = .64$). These results suggest that female college students cope with stress more actively and with less avoidance than male college students.

Problem-focused coping is not significantly different between two genders ($p = .48$) with similar means in the male ($M = 2.65$, $SD = .49$) and female ($M = 2.62$, $SD = .46$) samples. Emotion-focused coping differs significantly with gender ($p < .01$, $\eta^2 = .02$); the mean is higher in the female sample ($M = 3.17$, $SD = .50$) than in the male sample ($M = 3.04$, $SD = .58$). Hypothesis 6, that men use more problem-focused coping

strategies and less emotion-focused coping strategies than do women, is partially supported in this analysis. The female sample reports greater use of emotion-focused coping than the male sample, although there is no gender difference in the use of problem-focused coping. The unexpected result on the problem-focused coping may be caused by the low scale reliability.

Social support from the family is significantly different between the two genders ($p < .0001$, $\eta^2 = .08$); the mean is higher in the female sample ($M = 3.76$, $SD = .82$) than in the male sample ($M = 3.31$, $SD = .88$). This result is consistent with previous research findings on gender and social support conducted by Brugha et al. (1990). These results indicate that women generally have more social support from family than men.

Social support from friends of the same-sex is found to be significantly different between males and females ($p < .0001$, $\eta^2 = .04$); the mean is higher in the female sample ($M = 3.87$, $SD = .71$) than in the male sample ($M = 3.57$, $SD = .71$). However, social support from friends of the opposite-sex is not significantly different between the two groups ($p = .69$) with similar means in the male ($M = 2.88$, $SD = .97$) and female ($M = 2.91$, $SD = .87$) samples. These results generally suggest that female college students receive more ingroup social support than male college students.

Interrelationships between Key Research Variables

Pearson product-moment correlation coefficient is used to investigate interrelationships among key terms—stress, four types of coping behavior (i.e., avoidance-related coping, active-positive coping, problem-focused coping, emotion-focused coping), three types of social support (i.e., social support from family, social support from friends of the same-sex, social support from friends of the opposite-sex),

independent and interdependent self-construals, individual and collective self-esteem, and tolerance for ambiguity—in Japan and the United States. Because 78 correlations are tested in the two cultures, a Bonferroni adjustment to the alpha level is applied to protect against Type 1 errors (i.e., .05/78 = .0006; the .0001 level of significance, therefore, is used for all correlations). The correlations are presented in Table 14 by culture (i.e., Japan or the United States).

Seventeen relationships show significant correlations in both the Japanese and the U.S. samples: (a) stress level correlates negatively with individual self-esteem (Japan r = -.53, U.S. r = -.34); (b) avoidance-related coping correlates positively with problem-focused coping (Japan r = .47, U.S. r = .54) and emotion-focused coping (Japan r = .63, U.S. r = .63); (c) active-positive coping correlates positively with problem-focused coping (Japan r = .63, U.S. r = .61), emotion-focused coping (Japan r = .61, U.S. r = .56), social support from family (Japan r = .27, U.S. r = .29), social support from friends of the same-sex (Japan r = .22, U.S. r = .34), and collective self-esteem (Japan r = .28, U.S. r = .39); (d) problem-focused coping correlates positively with emotion-focused coping (Japan r = .27, U.S. r = .47); (e) emotion-focused coping correlates positively with collective self-esteem (Japan r = .27, U.S. r = .47); (f) social support from friends of the same-sex correlates positively with social support from friends of the opposite-sex (Japan r = .45, U.S. r = .36) and collective self-esteem (Japan r = .31, U.S. r = .45); (g) social support from friends of the opposite-sex correlates positively with collective self-esteem (Japan r = .26, U.S. r = .23); (h) independent self-construal correlates positively with individual self-esteem (Japan r = .27, U.S. r = .31); (i) interdependent self-construal correlates positively with collective self-esteem (Japan r = .43, U.S. r = .61); and (j)

individual self-esteem correlates positively with collective self-esteem (Japan r = .45, U.S. r = .48) and tolerance for ambiguity (Japan r = .57, U.S. r = .35).

Five relationships show significant correlations in the Japanese sample (but not in the U.S. sample): (a) stress level correlates negatively with collective self-esteem (r = -.32) and tolerance for ambiguity (r = -.47); (b) active-positive coping correlates positively with independent self-construal (r = .29); (c) independent self-construal correlates positively with collective self-esteem (r = .28); and (d) collective self-esteem correlates positively with tolerance for ambiguity (r = .21). Fourteen relationships, on the other hand, show significant correlations in the U.S. sample (but not in the Japanese sample): (a) stress level correlates positively with avoidance-related coping (r = .24); (b) active-positive coping correlates positively with interdependent self-construal (r = .41), individual self-esteem (r = .35), and tolerance for ambiguity (r = .29); (c) problem-focused coping correlates positively with interdependent self-construal (r = .24); (d) emotion-focused coping correlates positively with social support from family (r = .26), social support from friends of the same-sex (r = .37), social support from friends of the same-sex (r = .25), and interdependent self-construal (r = .31); (e) social support from family correlates positively with interdependent self-construal (r = .30), individual self-esteem (r = .26), and collective self-esteem (r = .40); and (f) social support from friends of the same-sex correlates positively with interdependent self-construal (r = .43) and individual self-esteem (r = .23).

In earlier research, significant associations were reported for stress and coping strategies (Aldwin, 1994; Lazarus & Folkman, 1984), stress and social support (Blanchard et al., 1995; Thoits, 1986; Uchino et al., 1996), and stress and self-esteem

(Cohen et al., 1987; Hoffman et al., 1988; Rector & Roger, 1998). Results of the present research do not always show the same relationships, as there were no association between stress and coping behavior in both the Japanese and the U.S. samples except for the association between stress and avoidance-related coping in the U.S. sample. Also, the results do not show any significant associations between stress and social support in both the Japanese and U.S. samples, although significant interrelationships are found between stress and self-esteem with the only exception of the association between stress and collective self-esteem in the U.S. sample. The relatively moderate type of stress measured in this study (i.e., college students' daily stress) may be responsible for the lack of associations between stress and coping behavior and between stress and social support. If more intense types of stress such as stress associated with illness were measured, different pattern effects (i.e., moderate associations) might have resulted.

Associations between self-esteem and social support (Goodwin & Plaza, 2000; Harter, 1998) and between self-esteem and coping strategies (Houston, 1977; Mantzicopoulos, 1990) are found. The results of this study show that collective self-esteem correlates with social support from friends (of the same-sex and opposite-sex) in both the Japanese and the U.S. samples and with social support from family in the U.S. sample, but not in the Japanese sample. On the other hand, individual self-esteem correlates with social support from family and friends of the same-sex in the U.S. sample, but not in the Japanese sample. No associations are found between the individual self-esteem and social support from friends of the opposite-sex in both groups. The results also show that individual self-esteem generally does not correlate with coping behavior in both groups. The only exception is the association between the individual self-esteem and

active-positive coping in the U.S. sample.

It is interesting to note that collective self-esteem correlates with active-positive coping and emotion-focused coping in both the Japanese and U.S. samples, but not with avoidance-related coping and problem-focused coping in both samples. Although the individual self-esteem and collective self-esteem correlate with each other, the ways these two self-esteem correlate with social support and coping behavior are shown to be different. For example, the collective self-esteem correlates with emotion-focused coping and social support from friends of the opposite-sex in both groups, while the individual self-esteem correlates with neither of them in both groups.

Many interrelationships among the four types of coping behavior are found in both of the two samples. The association between avoidance-related coping and active-positive coping is the only one that does not show a significant correlation, suggesting that individuals who engage in avoidance-related coping (or active-positive coping) may not engage in active-positive coping (or avoidance-related coping) in each culture.

An interrelationship among the three types of social support is found in both groups. Social support from friends of the same-sex correlates with social support from friends of the opposite-sex, while social support from family does not correlate with social support from friends (of the same-sex and the opposite-sex). Therefore, individuals who receive social support from family (or friends) may not receive social support from friends (or family) in both cultures.

The independent self-construal correlates with individual self-esteem and the interdependent self-construal correlates moderately with collective self-esteem in both groups. These results are consistent with a finding of Ogawa et al.'s (2004) research on

self-construals and self-esteem in Japan and the United States. However, individuals appear to perceive different degrees of independent/interdependent self-construals and individual/collective self-esteem across cultures. For instance, the mean for the independent self-construal is higher than that of the interdependent self-construal in both groups, although the mean for individual self-esteem is higher than that of collective self-esteem in the U.S. sample only. In the Japanese sample, the mean for collective self-esteem is higher than that of individual self-esteem. Thus, independent/interdependent self-construals and individual/collective self-esteem are perceived differently in the two cultures, despite correlations between them across cultures.

Individual self-esteem correlates with four variables (stress, independent self-construal, collective self-esteem, and tolerance for ambiguity) in both groups, and three variables (active-positive coping, social support from family, and social support from friends of the same-sex) in the U.S. sample. Collective self-esteem, on the other hand, correlates with six variables (active-positive coping, emotion-focused coping, social support from friends of the same-sex, social support from friends of the opposite-sex, interdependent self-construals, and individual self-esteem) in both groups. It also correlates with three variables (stress, independent self-construals, and tolerance for ambiguity) in the Japanese group, while it correlated with one variable (social support from family) in the U.S. group. These results indicate that individual self-esteem is associated with more variables in the U.S. sample than in the Japanese sample, whereas collective self-esteem is related to these variables to a greater extent in the Japanese sample than in the U.S. sample. This may refer to a characteristic of cultural individualism and collectivism.

Individual self-esteem and collective self-esteem correlate with tolerance for ambiguity, except for the association between collective self-esteem and tolerance for ambiguity in the U.S. sample. Suggesting that the ability to tolerate ambiguity is an important skill to conduct effective interpersonal/intercultural interactions (Gudykunst, 2004), it correlates significantly with self-esteem in both groups.

Active-positive coping correlates with social support from family and friends of the same-sex in both groups. This result suggests that the more an individual has social support from his/her family and friends of the same-sex, the greater he/she engages in active-positive coping behavior. In addition, emotion-focused coping correlates with all three types of social support in the U.S. sample, but not with any of them in the Japanese sample. Because no cultural differences in the use of emotion-focused coping are found, emotion-focused coping must have been conducted differently in Japan relative to the United States. Specifically, American college students are more likely to engage in emotion-focused coping when they receive ingroup social support, while Japanese college students may engage in emotion-focused coping, regardless of the social support.

Three research questions are answered based on the findings reported in this chapter. Regarding the first research question (*How are Japanese and American processes of coping with stress similar and different?*), the results generally indicate that American college students experience less stress than Japanese college students ($p < .0001$, $\eta^2 = .09$) and American college students, in comparison to Japanese college students, engage in greater coping behavior (avoidance-related coping [$p < .0001$, $\eta^2 = .05$] and problem-focused coping [$p < .01$, $\eta^2 = .02$]) and receive more ingroup social support (family [$p < .0001$, $\eta^2 = .04$] and friends of the opposite-sex [$p < .0001$, $\eta^2 = .08$]).

Americans tend to avoid uncertainty less than the Japanese ($p < .0001$) and they try to cope with stress that is related to uncertainty.

The results associated with the second research question (*How do individual factors [i.e., self-construals, tolerance for ambiguity, self-esteem, gender] influence perceptions of the process of coping with stress?*) suggest that the individual factors have different impacts on stress, coping behavior, and social support; for example, independent self-construal influences stress ($p < .01$, $\eta^2 = .01$), avoidance-related coping ($p < .01$, $\eta^2 = .01$), active-positive coping ($p < .01$, $\eta^2 = .02$), and social support from friends of the same-sex ($p < .05$, $\eta^2 = .01$), while individual self-esteem affects stress ($p < .0001$, $\eta^2 = .09$), active-positive coping ($p < .05$, $\eta^2 = .01$), and social support from family ($p < .0001$, $\eta^2 = .03$). Among the individual factors, the interdependent self-construal is found to be the strongest predictor for the process of coping with stress because it influences six of eight variables (avoidance-related coping [$p < .05$, $\eta^2 = .01$], active-positive coping [$p < .05$, $\eta^2 = .01$], problem-focused coping [$p < .05$, $\eta^2 = .01$], emotion-focused coping [$p < .01$, $\eta^2 = .02$], social support from family [$p < .01$, $\eta^2 = .02$], and social support from friends of the same-sex [$p < .05$, $\eta^2 = .01$]). The findings on gender suggest that females, in comparison to males, engage in greater coping behavior (active-positive coping [$p < .0001$, $\eta^2 = .03$] and emotion-focused coping [$p < .01$, $\eta^2 = .02$]) and receive more social support (family [$p < .0001$, $\eta^2 = .08$] and friends of the same-sex [$p < .0001$, $\eta^2 = .04$]). Previous research on stress and gender leads us to expect a higher stress level for females but this is not confirmed in the present study, likely due to the type of stress measured in the present study (i.e., daily stress for college students).

The results related to the third research question (*How do the variables [i.e.,*

stress, coping behavior, social support, self-construals, tolerance for ambiguity, self-esteem] correlate with one another in the two cultures?) show many significant interrelationships among the variables. Seventeen of the interrelationships are found in both the Japanese and U.S. samples. Five of the significant interrelationships are found in the Japanese sample (but not in the U.S. sample) and 14 are found in the U.S. sample (but not in the Japanese sample). These results suggest that some interrelationships among the variables are shown only in a specific culture; and therefore, those culture-specific interrelationships may reflect characteristics of the culture. For example, stress correlates positively with avoidance-related coping only in the U.S. sample (r = .24). Since the United States generally is a less uncertainty-avoidant culture, engaging in avoidance-related coping behavior may be associated significantly with a high degree of stress. This, however, is not the case for people in a highly uncertainty-avoidant culture like Japan.

As discussed previously, results of the tests of the six hypotheses show mixed findings. Results on Hypothesis 3 (*Social support from members of ingroups is influenced positively by interdependent self-construal*) and Hypothesis 5 (*Active-positive coping behavior is influenced positively by self-esteem*) are supported, consistent with previous studies. Hypothesis 6 (*Men use more problem-focused coping strategies and less emotion-focused coping strategies than do women*) is partially supported, likely due to the scale's low reliability. Hypothesis 1 (*Japanese receive more social support from members of ingroups than do Americans*), Hypothesis 2 (*Japanese use more avoidance-related coping strategies than do Americans*) and Hypothesis 4 (*Avoidance-related coping behavior is influenced positively by a tendency toward uncertainty avoidance*), however, are rejected, showing patterns that are not consistent with previous research.

These unexpected results might have been caused by misconceptualizations in relation to culture-specific and culture-general terms. Regarding Hypothesis 1, the meaning of "ingroups" for Japanese may be different from that of Americans, e.g., "friends" are included in ingroups for Americans, but not for Japanese. If the term "close friends," instead of "friends," was used to measure ingroup social support, the expected result might have been shown. In terms of Hypothesis 2 and 4, most items included in the scale for avoidance-related coping refer to "do something" to avoid dealing directly with the stressor. For Japanese, the meaning of "avoidance" in stressful situations includes changing their inner state, in addition to engaging in some activities to avoid dealing directly with the stressor. Consequently, the "do something" when stressful may be more valued by Americans than Japanese. If the scale included items associated with "changing one's inner state," different results might have been shown.

CHAPTER VI

DISCUSSION

This chapter summarizes key findings of the present study, followed by a discussion of limitations and suggestions for future research. Theoretical implications of key findings relative to the existing theories of stress, coping behavior, and social support are discussed, along with some practical implications for college students under stress in Japan and the United States.

Key Findings

Table 15 summarizes the results for cultural and individual influences on stress, coping behavior, and social support. Results from the cultural level analysis show that American college students are shown to have less stress, to engage more in avoidance-related and problem-focused coping behavior, and to receive more social support from family and friends of the opposite-sex than Japanese college students. No cultural differences are found in terms of active-positive coping, emotion-focused coping, and social support from friends of the same-sex. The results generally suggest that American college students experience less stress than Japanese college students and American college students engage in greater coping behavior and receive more social support than Japanese college students.

The reason for these findings may lie in the traditional Japanese character. In general, Japanese people are socialized to value group harmony (collectivism) and to put any personal feelings or interests aside if disclosing them would jeopardize group harmony. Self-sacrificing for others is a virtue for the Japanese. Consequently, they tend

to refrain from expressing negative feelings in interpersonal relationships (e.g., family, classmates, neighbors, and co-workers) to avoid conflicts in social settings. There is an old Japanese saying: "Maintaining harmony with others is a noble thing individuals can do." Maintaining group harmony is still valued in today's Japanese society, and may be reflected in the present finding that Japanese college students' self-esteem is higher in collective aspects than in individual aspects. Thus, Japanese college students, in comparison to American college students, are likely to experience more stress as they tend to internalize daily stress without expressing their emotions so as not to disrupt group harmony.

At the individual level analysis, the results show that: (1) stress is influenced by independent self-construal, individual self-esteem, and tolerance for ambiguity, (2) avoidance-related coping is influenced by independent and interdependent self-construals, (3) active-positive coping is influenced by both self-construals and individual and collective self-esteem, (4) problem-focused coping is influenced by interdependent self-construal, (5) emotion-focused coping is influenced by interdependent self-construal and collective self-esteem, (6) social support from family is influenced by interdependent self-construal, tolerance for ambiguity, and both self-esteem, (7) social support from friends of the same-sex is influenced by both self-construals and collective self-esteem, and (8) social support from friends of the opposite-sex is influenced by tolerance for ambiguity and collective self-esteem. The results generally indicate that the individual factors used in this study have different impacts on stress, coping behavior, and social support. Among the individual factors, the interdependent self-construal is found to be the strongest predictor of coping with stress.

The results for the influence of gender on stress, coping behavior, and social support demonstrate that female college students engage less in avoidance-related coping, to engage more in active-positive coping and emotion-focused coping, and to receive more social support from family and friends of the same-sex than male college students. No gender differences are found regarding stress level, problem-focused coping, and social support from friends of the opposite-sex. The results generally suggest that female college students are more engaged in coping behavior and receive more social support than male college students. Although females are expected to report a higher stress level than males, based on previous stress and gender research, this was not the case in this study.

Regarding the interrelationships between key research variables, 17 relationships show significant correlations in both Japan and the United States. These relationships are potentially universal phenomena of human communication. Five relationships show significant correlations in Japan (but not in the United States) and 14 relationships show significant correlations in the United States (but not in Japan). These results indicate that some of the interrelationships are culture-general, while others are culture-specific.

Limitations and Suggestions for Future Research

Although the present research produced a general understanding of the process of coping with stress based on cultural (i.e., Japan vs. the United States) and individual (i.e., self-construals, tolerance for ambiguity, self-esteem, and gender) differences, at least four limitations must be noted: (1) unsatisfactory reliabilities of independent and interdependent self-construal scales, (2) unsatisfactory reliabilities of problem-focused and emotion-focused coping scales, (3) the samples are not representative of cultural

individualism and collectivism, (4) a limited context is used to measure stress (i.e., daily stress in college life), and (5) only the perception of behavior is examined.

First, reliabilities for independent and interdependent self-construals are not satisfactory (i.e., reliability for the independent self-construal is .67 in the United States; reliability for the interdependent self-construal is .65 in Japan) in this study. Sufficient levels of reliabilities, though, are reported in previous studies (e.g., reliability of the independent self-construal scale was .76 in Japan and .72 in the United States, and reliability of the interdependent self-construal scale was .74 in both Japan and the United States in Ogawa et al.'s [2004] study). Consequently, results associated with self-construals must be interpreted with this limitation. One reason for the insufficient reliabilities may be associated with the nature of cross-cultural research. Cross-cultural research is different from ordinal research conducted in a culture because there are greater threats to internal validity in cross-cultural research than in ordinal research. This is mainly due to the use of multiple languages and difficulties in obtaining contextual equivalence in the target cultures. As a result, reliabilities of scales in cross-cultural studies are easily influenced by the context of the study (e.g., samples) and tend to be lower than those used in ordinal studies.

This is a significant limitation for current cross-cultural studies. One way to overcome this limitation would be to develop scales that are not easily influenced by the context of the study. Many scales currently used in cross-cultural studies, including independent and interdependent self-construal scales, were developed by testing in a limited context (e.g., samples from one university in the western United States and one in central Japan); consequently, they may not be as reliable in different contexts (e.g.,

samples from one university in the central United States and one in southern Japan) as in their original context. Regional differences in communication in a culture have been reported (e.g., Andersen, 1987; Thatcher, 2002). Future researchers, therefore, need to develop scales that will be reliable regardless of regional differences. To develop these region-general scales, it will be necessary for researchers to use samples from a variety of regions in the target cultures. For example, when developing a new scale to examine similarities and differences in a communicative behavior between American and Japanese students, it will be crucial to test the scale using American samples from universities in various states such as New York, California, Oklahoma, and Ohio and Japanese samples from universities in different cities such as Sapporo, Tokyo, Osaka, and Fukuoka. Once developed and used with sufficient reliability, this region-general scale should limit threats to internal validity in cross-cultural studies.

Since self-construals are treated as covariates, which have influences on overall analysis, additional analysis using MANCOVA without the inclusion of self-construals was conducted. The results of this additional analysis show similar multivariate effects to those of the original analysis, except for the cultural influence on active-positive coping, the influence of individual self-esteem on emotion-focused coping, and the influence of collective self-esteem on social support from family. Thus, these results replace the original results related to the variables (i.e., active-positive coping is not significantly different by culture, emotion-focused coping is not influenced by individual self-esteem, social support from family is influenced by collective self-esteem) to cope with this limitation.

Second, reliabilities for two of the eight dependent variables in the cultural and

individual level analysis are not satisfactory (i.e., reliabilities for the problem-focused coping scale are .67 in Japan and .59 in the United States; reliability for the emotion-focused coping scale is .63 in the United States). Because these low reliabilities may have influenced the results, it is impossible to make any definitive interpretation consequent to those scales. One reason for showing the insufficient reliabilities may be related to the complex nature of the measurements. Kamimura et al.'s (1995) 24-item coping scale is based on three axes (problem-focused vs. emotion-focused, participation vs. avoidance, and cognitive vs. behavioral), and each of the three axes has eight sub-categories (information collection, planning, catharsis, positive interpretation, responsibility shift, renunciation/resignation, pastime, and avoidance thought). Since four coping scales used in the present study (avoidance-related, active-positive, problem-focused, and emotion-focused) consist of combinations of four of the eight-sub-categories based on their conceptualizations, every item is repeatedly used to form the scales. As a result, four coping scales are formed interdependent of each other.

This interdependence between the scales, however, appears to have caused a problem in forming problem-focused and emotion-focused coping scales. For example, the category, renunciation/resignation, is included in both avoidance-related and problem-focused coping scales. Although an item from the renunciation/resignation category ("I put off the problem because nothing can be done about it") shows moderate correlation with other items of the avoidance-related coping scale in the Japanese sample (r = .39) and the U.S. sample (r = .55), it shows the weakest correlation with other items on the problem-focused coping scale in both the Japanese sample (r = .20) and the U.S. sample (r = .14). Thus, future research needs to use (or develop) scales for problem-

focused coping and emotion-focused coping that are formed exclusively from other aspects of coping behavior. Conducting a solid pilot study will be crucial to ensure that the scales used in the study are valid.

Third, the results of the present study indicate that the means of both the independent and interdependent self-construals are higher in the U.S. sample than in the Japanese sample. The results are not consistent with theoretical assumptions regarding self-construals (i.e., Japanese emphasize the interdependent self-construal more than Americans do). All participants in this study are college students. In Japan the college years are generally perceived as a stage in life when individuals can enjoy freedom from societal (collectivistic) pressure. Since Japanese college students usually value individualistic behavior (Gudykunst & Nishida, 1999), the results of this study might have been influenced by the individualistic tendency of Japanese college students. For example, if the research used respondents who were employed in industry, the results may have been different. This is because Japanese, who work in industry, generally value group-oriented behavior (Nakane, 1970); and consequently, Japanese employed in industry should demonstrate collectivistic tendencies more than college students. The results of this study for the Japanese sample may not represent the use of coping and social support, in particular, and collectivistic cultures, in general. This refers to a limitation of generalizability in the present study. Thus, a variety of samples representing a broader spectrum of each society (e.g., office workers, housewives, and retired people) need to be examined in the future research to fully understand the process of coping with stress in individualistic and collectivistic cultures.

Fourth, although females are expected to show a higher degree of stress than

males based on previous findings on stress and gender (e.g., Hudd et al., 2000; Megel et al., 1994; Radloff & Rae, 1979), the present study does not find any differences in the stress level between them. This unexpected result might have been caused by the type of stress measured in this study (i.e., college students' daily stress). Because individuals experience different types of stress (e.g., stress associated with a part-time job, stress related to family), their responses to stress may have differed based on the type of stress they experience. For instance, if the stress related to work is measured, the expected gender difference on stress level may have been shown because gender inequality exists in the work environment. Consequently, the type of stress focused in this study may have affected the results. Future research dealing with gender and the process of coping with stress, therefore, needs to consider different types of stress as dependent variables.

Fifth, the present study uses a survey method to measure perceptions of stress, coping behavior, and social support. Perceptions of similarities and differences in communication, including the process of coping with stress, are important across cultures because the world is based on each individual's subjectivity (e.g., how he/she looks at the world). Given this, this study examines perceptions of how individuals cope with stress comparatively in the two different cultures. However, common sense suggests that there are probably differences in actual and perceived behavior. For instance, what individuals think they do when stressful may be different from what they actually do. As a result, perceived ways of coping with stress could be different from actual ways of coping with stress. This is a limitation for the findings of research focusing on perceptions of behavior. As a result, the present findings may not reflect actual/observable similarities and differences in coping behavior and social support in the two cultures. To overcome this

limitation, actual behavior needs to be measured by observation. Thus, integration of a perception-focused method based on etic (culture-general) perspective (e.g., survey) and an observation-focused method based on emic (culture-specific) perspective (e.g., participant observation) is required in future research.

Theoretical Implications of Key Findings

The present research finds that the process of coping with stress is influenced by cultural, as well as individual differences. The results of the cultural-level analysis show that Americans experience less stress, engage more in avoidance-related and problem-focused coping behavior, and receive more social support from family and friends of the opposite-sex than Japanese. No differences are found in the use of active-positive coping and emotion-focused coping and access to social support from friends of the same-sex between the two groups.

The results of the individual-level analysis show that self-construals, tolerance for ambiguity, and self-esteem have different impacts on stress, coping behavior, and social support. For instance, the independent self-construal positively influences stress and active-positive coping and negatively influences avoidance-related coping and social support from friends of the same-sex, while tolerance for ambiguity negatively influences stress and social support from family and positively influences social support from friends of the opposite-sex. The results also show that females engage less in avoidance-related coping and more in active-positive coping and emotion-focused coping than males, and receive more social support from family and friends of the same-sex than males.

This research reveals an interesting feature of cultural-level and individual-level

individualism and collectivism. American respondents are shown to have greater individual and collective self-esteem than Japanese respondents. This is consistent with the result of independent and interdependent self-construals (i.e., Americans respondents are shown to have greater independent and interdependent self-construals than Japanese respondents), which are used generally as factors that measure the influence of cultural individualism and collectivism at the individual level. One the other hand, the mean for individual self-esteem is higher than the mean for collective self-esteem among American respondents, while the mean for collective self-esteem is higher than the mean for individual self-esteem among Japanese respondents. This is inconsistent with the result of self-construals (i.e., the mean for the independent self-construal is higher than the mean for the interdependent self-construal in both groups).

As discussed previously, the Japanese sample does not reflect the individual tendency of individualism and collectivism based on results of self-construals. However, the result of individual and collective self-esteem shows a difference in the two groups, and the difference may be caused by the influence of cultural individualism and collectivism. Specifically, self-esteem of the American respondents is higher from the individualistic aspect than the collectivistic aspect because of the strong influence of cultural individualism, while the Japanese respondents' self-esteem is higher in the collectivistic aspect than in the individualistic aspect due to the significant influence of cultural collectivism. Thus, individual and collective self-esteem must be considered when conducting research based on the theoretical framework of cultural individualism and collectivism. Also, the influence of cultural individualism and collectivism on self-esteem should be interpreted within each culture, not just across cultures.

In this study, the interdependent self-construal is found to influence positively the four types of coping behavior (engaging avoidance-related, active-positive, problem-focused, and emotion-focused) and two types of social support (family and friends of the same-sex). If these results are simply applied to the cultural level analysis, Japanese (members of a collectivistic culture where the interdependent self-construal dominates) should engage in the four types of coping behavior to a greater extent and receive more ingroup social support than Americans (members of an individualistic culture where the independent self-construal dominates). The results, however, show that Americans engage more in avoidance-related, active-positive, and problem-focused coping behavior, and receive more social support from family and friends of the opposite-sex than Japanese.

The relationships between the cultural factors and the individual factors, as well as their influence on the process of coping with stress, are complex. Gudykunst et al. (1996) suggest that the influence of cultural individualism and collectivism on communicative behavior is mediated by self-construals, personality orientation, and individual values at the individual level. Consequently, it is not necessary to show direct influences of cultural individualism and collectivism on individual behavior, including engaging in coping behavior and receiving social support. Since Japanese college students generally value independence more than interdependence (Gudykunst & Nishida, 1999), their coping strategies may be influenced more by independence.

Avoidance-related coping behavior is found more often in the U.S. sample than in the Japanese sample. This is inconsistent with a characteristic of cultural uncertainty avoidance, that is, Japanese avoid dealing directly with uncertainty, which often is a

source of stress, more frequently than Americans. This unexpected finding might be due to the fact that most items included in the measurement scale refer to "do something" to avoid dealing directly with the stressor (e.g., "I try not to think about it," "I make excuses: 'It was not my fault,'" "I spend my time shopping or chatting," "I push the responsibility of solving the problem onto others," "I avoid the problem by making immature or silly remarks"). Reynolds (1976) states that Japanese tend to cope with a difficulty by changing their inner attitudes toward the difficulty, rather than dealing with it directly. This refers to a unique aspect of coping behavior related to avoidance in Japan. Because the present study focuses on culture-general aspects of behavior in Japan and the United States, culture-specific aspects of behavior, including the unique Japanese way of coping, are not included in all measurements. As a result, coping behavior based on the "do something" may have been more valued by American respondents than Japanese respondents because the measurement does not include all aspects of avoidance-related coping behavior in Japan. Thus, avoidance in coping with stress used in this study may not be a well-balanced culture-general concept, which is perceived similarly by people in different cultures.

To determine whether avoidance in coping is a valid concept that can be examined comparatively between Japanese and Americans, it needs to be tested empirically. The first step in examining the generality of the concept is to develop a measurement based on the Japanese method of coping (e.g., "I try to change my view toward the problem") and test them in both cultures. If the measurement is valid in both cultures, the avoidance in coping must be reconceptualized by adding the aspect of "changing one's inner attitudes." If not, the avoidance in coping needs to be examined

within each culture, in addition to its cross-cultural examination, for a better understanding of coping behavior associated with avoidance in the two cultures.

Social support from family is affected positively by individual and collective self-esteem. Social support from friends (of the same-sex and opposite-sex) is influenced positively by collective self-esteem. Significant correlation is shown between the two types of self-esteem in both the Japanese and U.S. samples. These results indicate that: (1) an individual with a greater sense of pride and who consider themselves an independent person, the more he/she receives social support from his/her family; (2) an individual who considers themselves a collective (e.g., keeping good relationships with others of his/her ingroups) person receives social support from both family and friends; and (3) an individual with a strong sense of pride as an independent (or collective) person tend to also have a high sense of pride as a collective (or independent) person. As a result, an individual who receives social support from family may also receive it from friends.

Social support is crucial when dealing with stress because significant others can suggest how to cope with the stress and even participate directly in the coping process. The present findings of the two types of self-esteem and three types of social support are limited in the context of college students' life. Thus, the relationship between self-esteem and social support needs to be further examined using samples from different contexts such as high school students, company employees, and senior citizens, to fully understand the communicative behavior of an individual under stress.

Gender is an issue when examining social support from friends, especially in a masculine culture such as Japan. In the present study, social support from friends of the opposite-sex is excluded. This was done to examine the influence of the interdependent

self-construal on social support from ingroups and to speak to the fact that Japanese college students usually do not seek and receive social support from friends of the opposite-sex. Gender, however, is not an issue when examining social support from friends in a feminine culture, such as the United States where gender equality is valued. Therefore, it is necessary to account for how gender is valued in each of the target cultures when examining social support from friends. If the gender role is highly valued in one of the target cultures chosen in the research, only same-sex relationships need to be considered to examine social support from friends in the cultures.

All four coping behaviors (i.e., avoidance-related, active-positive, problem-focused, emotion-focused) and two of the three social support behaviors (i.e., social support from family and friends of the same-sex) are affected positively by the interdependent self-construal, while only active-positive coping behavior is affected positively by the independent self-construal. Stress level is influenced positively by independent self-construal. These results indicate that an individual, who is independent of others, experiences a high degree of stress, likely because an individual with independent self-construal does not have access to ingroup social supports that promote coping behavior. Therefore, it is important to consider the influence of self-construals on coping behavior and social support when examining the process of coping with stress.

Results on interrelationships between key research variables show that some interrelationships are culture-general, while others are culture-specific. Specifically, 17 relationships are found in both Japanese and U.S. samples, five relationships are found only in the Japanese sample, and 14 relationships are shown only in the U.S. sample. This indicates that the 17 relationships refer to the universal aspects of the process of coping

with stress in the two groups, while the five and 14 relationships are associated with group differences. Distinctions between the culture-general and culture-specific aspects of coping with stress have not been considered in previous studies. Lonner (1980) argues that it is important to isolate both cultural differences (culture-specific aspects) and cultural universals (culture-general aspects). Future research, therefore, needs to continue to isolate both interrelationships that differ across cultures and interrelationships that are "universal," to fully understand the process of coping with stress.

The concept of stress was originally defined in Western society and exported to Eastern cultures, as mentioned earlier. An awareness of stress and stressors, though, has existed in both cultures since ancient times. Since the Western concept of stress has filtered into the daily life of Japanese, it is now comparable to that of the Americans. Cross-cultural research is conducted to find similarities as well as differences in perceptions of the concept (e.g., stress) and/or behavior based on the concept (e.g. coping behavior, social support) in the target cultures. Consequently, it requires focusing on concepts that exist in each target culture. If the concept exists only in a specific culture, the concept and/or behavior based on the concept cannot be analyzed comparatively across cultures. Concepts used in the present study (stress, coping behavior, social support, self-construals, tolerance of ambiguity, self-esteem, gender) generally exist in both the Japanese and U.S. cultures; therefore, they are analyzed comparatively, and many similarities and differences are found at both the cultural and individual levels. Defining comparable concepts in target cultures is the most important procedure when conducting cross-cultural research.

Practical Implications for College Students under Stress

Results of the present study suggest that American college students experience less stress than Japanese college students, and American college students engage in coping behavior in a greater extent and receive more social support than Japanese college students. This indicates that Japanese students may not be as adept at taking care of their mental health as American students. One reason for this difference may be associated with the way that mental health is viewed in both cultures. Generally speaking, mental health is valued as much as physical health in the United States, but not in Japan (e.g., having a psychologist/counselor in daily life is not socially common in Japan). As a result, the Japanese tend not to address their need to cope with stress, even when they are experiencing stress. Therefore, it is important for the Japanese to develop appropriate coping strategies when faced with stress.

Of the several individual factors that influence the process of coping with stress (i.e., independent and interdependent self-construal, tolerance for ambiguity, individual and collective self-esteem), the interdependent self-construal is found to be the strongest factor in explaining the process of coping with stress for Japanese and American college students. Students who are highly interdependent with significant others experience a higher engagement in coping behavior and greater access to social support than those who are highly independent. Thus, students who experience a high degree of stress could reduce the stress by learning to develop interdependence.

To develop interdependence with significant others, it is important to understand what it is and how it is done. The measurement for interdependent self-construal is based on the following items: (1) I maintain harmony in the groups of which I am a member, (2)

I will sacrifice my self interests for the benefit of my group, (3) I stick with my group even through difficulties, (4) I respect decisions made by my group, (5) I respect the majority's wishes in groups of which I am a member, and (6) It is important to consult close friends and get their ideas before making a decision. This indicates that an individual with interdependent self-construal keeps good relationships with significant others (e.g., close friends) by maintaining harmony with them, sacrificing self interests for their benefits, sticking with them even through difficulty, respecting their decisions and wishes, and consulting them to get their ideas before making a decision. Therefore, these behaviors are required to develop and maintain interdependence with significant others.

The results suggest that female college students generally engage in more coping behavior and receive more social support than male college students in both Japan and the United States. Although females generally experience more stress than males, no difference is found in the degree of stress male and female students reported. As a result, there may be no difference in the degree of stress male and female students tolerate. The average score on the stress scale for both male and female students is 2.45 (ranging from 1 to 5) in this study. Although male and female students in Japan experience a statistically higher degree of stress than male and female students in the United States, no interaction effect of culture and gender on stress was determined. This suggests that the 2.45 can be considered to determine whether or not a student is over-stressed in the two cultures. Specifically, students who score more than 2.45 with the stress scale may be over-stressed, while those who score less than 2.45 are not. Therefore, students who score over 2.45 with the scale are recommended to engage in greater coping behavior to reduce

their stress.

The present study has examined cultural and individual influences on stress, coping behavior, and social support in Japanese and American college students. Previous studies of stress, coping behavior, and social support have been based only on the individual-level similarities and differences (e.g., self-esteem, gender). However, the present results clearly suggest that stress, coping behavior, and social support can be examined from the perspective of cultural-level similarities and differences (e.g., individualism and collectivism, uncertainty avoidance), in addition to the individual-level analyses.

REFERENCES

Aiello, J. R., & Aiello, T. C. (1974). The development of personal space: Proxemic behavior of children 6 through 16. *Human Ecology, 2*, 177-189.

Albrecht, T. L., & Adelman, M. B. (1987). *Communicating social support*. Newbury Park, CA: Sage.

Albrecht, T. L., Burleson, B. R., & Goldsmith, D. (1994). Supportive communication. In M. L. Knapp & G. R. Miller (Eds.), *Handbook of interpersonal communication* (2nd ed.) (pp. 419-449). Newbury Park, CA: Sage.

Albrecht, T. L., & Goldsmith, D. J. (2003). Social support, social networks, and health. In T. T. Thompson, A. M. Dorsey, K. I. Miller, & R. Parrott (Eds.), *Handbook of health communication* (pp. 263-284). Mahwah, NJ: Lawrence Erlbaum Associates.

Aldwin, C. M. (1994). *Stress, coping, and development: An integrative perspective*. New York: The Guilford Press.

Aldwin, C. M., & Revenson, T. A. (1987). Does coping help?: A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology, 53*, 337-348.

Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The coping strategy indicator. *Journal of Personality and Social Psychology, 59*, 1066-1074.

Andersen, P. A. (1987). Regional patterns of communication in the United States: A theoretical perspective. *Communication Monographs, 54*, 128-144.

Andrews, G., Tennant, C., Hewson, D., & Vaillant, G. E. (1978). Life event stress, social support, coping style and risk of psychological impairment. *Journal of Nervous*

and Mental Disorders, 166, 307.

Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects*. New York: Hoeber.

Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research, 1,* 99-112

Berkman, L. F., & Syme, S. L. (1979). Social networks, host resistance, and mortality: A nine-year follow-up study of Alameda County residents. *American Journal of Epidemiology, 109*, 186-204.

Billings, A. G., & Moos, R. H. (1981). The role of coping responses and social resources in attenuating the impact of stressful life events. *Journal of Behavioral Medicine, 4*, 139-157.

Billingsley, K. D., Waehler, C. A., & Hardin, S. I. (1993). Stability of optimism and choice of coping strategy. *Perceptual and Motor Skills, 76*, 91-97.

Blanchard, C. G., Albrecht, T. L., Ruckdeschel, J. C., Grant, C. H., & Hemmick, R. M. (1995). The role of social support in adaptation to cancer and to survive. *Journal of Psychosocial Oncology, 13*, 75-95.

Brooks, V. R. (1982). Sex differences in student dominance behavior in female and male professors' classrooms. *Sex Roles, 8*, 683-690.

Brugha, T. S., Bebbington, P. E., MacCarthy, B., Sturt, E., Wykes, T., & Potter, J. (1990). Gender, social support and recovery from depressive disorders: A prospective clinical study. *Psychological Medicine, 20*, 147-156.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of*

Personality, 30, 29-50.

Cannon, W. B. (1932). *The wisdom of the body*. New York: W. W. Norton & Comp.

Caplan, G. (1974). *Support systems and community mental health: Lectures on concept development*. New York: Behavioral Publications.

Caplan, G. (1976). The family as a support system. In G. Caplan & M. Killilea (Eds.), *Support systems and mutual help: Multidisciplinary explorations* (pp. 19-36). New York: Grune & Statton.

Caplan, R. D. (1979). Social support, person-environment fit, and coping. In L. A. Ferman & J. P. Gordus (Eds.), *Mental health and the economy* (pp. 89-138). Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.

Case, R. B., Moss, A. J., Case, N., McDermott, M., & Eberly, S. (1992). Living alnoe after myocardial infarction: Impact on prognosis. *Journal of the American Medical Association, 267*, 515-519.

Chang, E. M., Daly, J., Hancock, K. M., Bidewell, J. W., Johnson, A., Lambert, V. A., & Lambert, C. E. (2006). The relationships among workplace stressors, coping methods, demographic characteristics, and health in Australian nurses. *Journal of Professional Nursing, 22*(1), 30-38.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38*, 300-314.

Cohen, L. H., Burt, C. E., & Bjorck, J. P, (1987). Life stress and adjustment: Effect of life events experienced by young adolescents and their parents. *Developmental Psychology, 23*, 583-592.

Cohen, S. (1991). Social supports and physical health: Symptoms, health behaviors, and

infectious disease. In E. M. Cummings, A. L. Greene, & K. H. Karraker (Eds.), *Life-span developmental psychology: Perspectives on stress and coping* (pp. 213-233). Hillsdale, NJ: Lawrence Erlbaum Associates.

Connel, C. M., & D'Augelli, A. R. (1990). The contribution of personality characteristics to the relationship between social support and perceived physical health. *Health Psychology, 9*, 192-207.

Coyne, J. C., Aldwin, C. M., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. *Journal of Abnormal Psychology, 90*, 439-447.

Cristobal-Azkarate, J., Chavira, R., Boeck, L., Rodriguez-Luna, E., & Vea, J. J. (2007). Glucocorticoid levels in free ranging resident mantled howlers: A study of coping strategies. *American Journal of Primatology, 69*(8), 866-876.

Cutrona, C. E., & Russell, D. W. (1990). Types of social support and specific stress: Toward a theory of optimal matching. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 319-366). New York: Wiley.

Cutrona, C. E., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse support behaviors. *Communication Research, 19*, 154-174.

Dayan, J., Doyle, A. B. & Markiewicz, D. (2001). Social support networks and self-esteem of idiocentric and allocentric children and adolescents. *Journal of Social and Personal Relationships, 18*, 767-784.

Deck, T., & Jamieson, J. (1998). The influence of situational constructs on coping: The effectiveness of using scenarios. *Personality and Individual Differences, 25*, 179-185.

Dekker, D. J., & Webb, J. T. (1974). Relationships of the social readjustment rating scale to psychiatric patient status, anxiety and social desirability. *Journal of Psychosomatic Research, 18*, 1225-1230.

Dolan, C. A., & White, J. W. (1988). Issues of consistency and effectiveness in coping with daily stressors. *Journal of Research in Personality, 22*, 395-407.

Dumont, M., & Provost, M. A. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *Journal of Youth and Adolescence, 28*, 343-362.

Duncan, S. D. Jr. (1983). Speaking turns: Studies of structure and individual differences. In J. M. Wiemann & R. P. Harrison (Eds.), *Nonverbal interaction* (pp. 149-178). Beverly Hills, CA: Sage.

Eagle, G. L. (1971). Sudden and rapid death during psychological stress. *Annals of Internal Medicine, 74*, 771-782.

Ekman, P., & Friesen, W. V. (1972). Hand movements. *Journal of Communication, 22*, 353-374.

Evans, R. M., & Cherulnik, P. D. (1980). Sex composition and intimacy in dyads: A field study. *The Journal of Social Psychology, 110*, 139-140.

Everson, S. A., Goldberg, D. E., Kaplan, G. A., Cohen, R. D., Pukkala, E., Tuomilehto, J., & Salonen, J. T. (1996). Hopelessness and risk of mortality and incidence of myocardial infarction and cancer. *Psychosomatic Medicine, 58*, 113-121.

Fishman, P. M. (1978). Interaction: The work women do. *Social Problems, 25*, 397-406.

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219-239.

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48*, 150-170.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). The dynamics of a stressful encounter. *Journal of Personality and Social Psychology, 50*, 992-1003.

Ford, L. A., Babrow, A. S., & Stohl, C. (1996). Social support messages and the management of uncertainty in the experience of breast cancer: An approach of problematic integration theory. *Communication Monographs, 63*, 189-207.

Fukuoka, K. (1995). Stress-buffering effects of the perceived social support from family and from friends in a college student sample and in a middle-aged sample. *Doshisha University Bunkagaku-Nempo [Annual Report of Cultural Studies], 44*, 1-13.

Goodwin, R., & Plaza, S. H. (2000). Perceived and received social support in two cultures: Collectivism and support among British and Spanish students. *Journal of Social and Personal Relationships, 17*, 282-291.

Gottlieb, B. H. (1978). The development and application of a classification scheme of informal helping behaviors. *Canadian Journal of Behavioral Science, 10*, 105-115.

Gottlieb, B. H. (Ed.). (1981). *Social networks and social support*. Beverly Hills, CA: Sage.

Gudykunst, W. B. (1995). Anxiety/uncertainty management (AUM) theory. In R. Wiseman (Ed.), *Intercultural communication theory* (pp. 8-58). Thousand Oaks, CA: Sage.

Gudykunst, W. B. (2003). Issues in cross-cultural communication research. In W. B. Gudykunst (Ed.), *Cross-cultural and intercultural communication* (pp. 149-166). Thousand Oaks, CA: Sage.

Gudykunst, W. B. (2004). *Bridging differences: Effective intergroup communication* (4th ed.). Thousand Oaks, CA: Sage.

Gudykunst, W. B., & Kim, Y. Y. (2003). *Communicating with strangers: An approach to intercultural communication* (4th ed.). New York: McGraw-Hill.

Gudykunst, W. B., & Lee, C. M. (2003). Cross-cultural communication theories. In W. B. Gudykunst (Ed.), *Cross-cultural and intercultural communication* (pp. 7-33). Thousand Oaks, CA: Sage.

Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K. S., & Heyman, S. (1996). The influence of cultural individualism-collectivism, self construals, and individual values on communication styles across cultures. *Human Communication Research, 22*, 510-543.

Gudykunst, W. B., & Nishida, T. (1994). *Bridging Japanese/North American differences*. Thousand Oaks, CA: Sage.

Gudykunst, W. B., & Nishida, T. (1999). The influence of culture and strength of cultural identity on individual values in Japan and the United States. *Intercultural Communication Studies, IX*(1), 1-18.

Harnish, J. D., Aseltine, R. H., Jr., & Gore, S. (2000). Resolution of stressful experiences as an indicator of coping effectiveness in young adults: An event history analysis. *Journal of Health and Social Behavior, 41*, 121-136.

Harter, S. (1998). The development of self-representations. In W. Damon (Series Ed.) &

N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 553-617). New York: John Wiley.

Hasegawa, T., & Gudykunst, W. B. (1998). Silence in Japan and the United States. *Journal of Cross-Cultural Psychology, 29*, 668-684.

Hayashi, S. (1999). Hans Selye: Fushigina jidaino fusigina hitoniyoru fushigina daikenkyu [Hand Selye: Marvelous research by a marvelous person in marvelous time]. In T. Kawano & T. Kubo (Eds.), *Sutoresu kenkyu to rinshou no kiseki to tenbou [Overview of the study of stress and its clinical application]* (pp. 74-82). Tokyo: Sibundo.

Henderson, S., Byrne, D. G., Duncan-Jones, P., Scott, R., & Adcock, S. (1980). Social relationships, adversity and neurosis: A study of associations in a general population sample. *British Journal of Psychiatry, 136*, 574-583.

Henderson, S., Duncan-Jones, P., Byrne, D. G., Adcock, S. & Scott, R. (1979). Neurosis and social bands in an urban population. *Australian and New Zealand Journal of Psychiatry, 13*, 121-125.

Hernandez-Cervantes, Q., & Gomez-Maqueo, E. L. (2006). Assessment of suicidal risk and associated stress in Mexican adolescent students. *Revista Mexicana De Psicologia, 23*(1), 45-52.

Hibbard, J. H. (1988). Age, social ties, and health behaviors: An exploratory study. *Health Education Research, 3*, 131-139.

Hobson, C. J., Kamen, J., Szostek, J., Nethercut, C. M., Tledmann, J. W., & Wojnarowlcz, S. (1998). Stressful life events: A revision and update of the social readjustment rating scale. *International Journal of Stress Management, 5*, 1-23.

Hoffman, M. A., Ushpiz, V., & Levy-Shiff, R. (1988). Social support and self-esteem in adolescence. *Journal of Youth and Adolescence, 17*, 307-316.

Hofstede, G. (1979). Value systems in forty countries. In L. Eckensberger, W. Lonner, & Y. Poortinga (Eds.), *Cross-cultural contributions to psychology* (pp. 389-407). Lisse, Netherlands: Swets & Zeitlinger.

Hofstede, G. (1980). *Culture's consequences*. Beverly Hills, CA: Sage.

Hofstede, G. (1991). *Cultures and organizations*. London: McGraw-Hill.

Hofstede, G. (2001). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage.

Holmes, J. (1988). Paying compliments: A sex-preferential politeness strategy. *Journal of Pragmatics, 12*, 445-265.

Holmes, J. (1989). Sex differences and apologies: One aspect of communicative competence. *Applied Linguistics, 10*, 194-213.

Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11*, 213-218.

House, J. S. (1981). *Work stress and social support*. Reading, MA: Addison-Wesley.

Houston, J. P. (1977). Cheating behavior, anticipated success-failure, confidence, and test importance. *Journal of Educational Psychology, 69*, 55-60.

Huang, C. Y., Musil, C., Zauszniewski, J. A., & Wykle, M. L. (2006). Effects of social support and coping of family caregivers of older adults with dementia in Taiwan. *International Journal of Aging & Human Development, 63*(1), 1-25.

Hudd, S. S., Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N., & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal, 34*, 217-228.

Hung, C. H. (2006). Revalidation of the postpartum stress scale. *Journal of Clinical Nursing, 15*(6), 718-725.

Iwasaki, Y., & Bartlett, J. (2006). Culturally meaningful leisure as a way of coping with stress among Aboriginal individuals with diabetes. *Journal of Leisure Research, 38*(3), 321-338.

Iwasaki, Y., & Butcher, J. G. (2004). Common stress-coping methods shared by older women and men with arthritis. *International Journal of Psychosocial Rehabilitation, 8*, 179-208.

Kahn, R. L., & Antonucci, T. (1980). Convoys over the life course: Attachment, roles, and social support. In P. B. Bales & O. G. Brim (Eds.), *Life span development and behavior* (pp. 253-286). New York: Academic Press.

Kaibara, E. (1982). *Youjoukun [Ways of healthy life]* (T. Ito, Trans.). Tokyo: Koudansya. (Original work published 1713)

Kamimura, E., Ebihara, Y., Sato, K., Togasaki, Y., & Sakano, Y. (1995). Taishohoryaku no sanjigenmoderu no kentou to atarasiisyakudo (TAC-24) no sakusei [Examining tri-axial coping model and developing a new scale, TAC-24*]*. *Kyoiku Sodan Kenkyu, 33*, 41-47.

Kendon, A., & Ferber, A. (1973). A description of some human greetings. In R. P. Michael & J. H. Crook (Eds.), *Comparative ecology and behavior of primates* (pp. 591-668). New York: Academic Press.

Kessler, R. C., Price, R. H., & Wartman, C. B. (1985). Social factors in psychopathology. *Annual Review of Psychology, 36*, 531-572.

Kikuchi, T. (1999). Chugokuigaku to sutoresu [Chinese medicine and stress]. In T.

Kawano & T. Kubo (Eds.), *Sutoresu kenkyu to rinshou no kiseki to tenbou [Overview of the study of stress and its clinical application]* (pp. 234-242). Tokyo: Sibundo.

Kim, M. S., Hunter, J. E., Miyahara, A., Horvath, A. M., Bresnahan, M., & Yoon, H. J. (1996). Individual vs. culture-level dimensions of individualism and collectivism: Effects on preferred conversational styles. *Communication Monographs, 63*, 29-49.

Kim, M. S., Klingle, R. S., Sharkey, W. F., Park, H. S., Smith, D. H., & Cai, D. (2000). A test of cultural model of patients' motivation for verbal communication in patient-doctor interactions. *Communication Monographs, 67*, 262-283.

Kim, M. S., Sharkey, W., & Singelis, T. (1994). The relationship between individuals' self construals and perceived importance of interactive constraints. *International Journal of Intercultural Relations, 18*, 117-140.

Kim, M. S., Smith, D. H., & Yueguo, G. (1999). Medical decision making and Chinese patients' self-construals. *Health Communication, 11*, 249-260.

Kim, Y. Y. (2001a). *Becoming intercultural: An integrative theory of communication and cross-cultural adaptation*. Thousand Oaks, CA: Sage.

Kim, Y. Y. (2001b). Mapping the domain of intercultural communication. In W. B. Gudykunst (Ed.), *Communication yearbook, 24* (pp. 139-157). Thousand Oaks, CA: Sage.

Knapp, M. L., & Hall, J. A. (1992). *Nonverbal communication in human interaction* (2nd ed.). New York: Holt, Rinehart & Winston.

Komproe, I. H., Rijken, M., Ros, W. J. G., Winnubst, J. A. M., & Hart, H. (1997).

Available support and received support: Different effects under stressful circumstances. *Journal of Social and Personal Relationships, 14*, 59-77.

Krahe, B. (1992). *Personality and social psychology: Toward a synthesis*. Newbury Park, CA: Sage.

Kraut, R., Lundmark, V., Patterson, M., Kiesler, S., Mukopadhyay, T., & Scherlis, W. 1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist, 53*, 1017-1031.

Lakoff, R. (1975). *Language and women's place*. New York: Harper and Row.

Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*, 234-247.

Lazarus, R. S. (1999). *Stress and emotion: A new synthesis*. New York: Springer Publishing Company.

Lazarus, R. S., Averill, J. R., & Opton, J. R., Jr. (1970). Toward a cognitive theory of emotion. In M. B. Arnold (Ed.), *Feelings and emotion: The Loyola symposium* (pp. 207-232). New York: Academic Press.

Lazarus, R. S., DeLongis, A. (1983). Psychological stress and coping in aging. *American Psychologist, 38*, 245-254.

Lazarus, R. S., Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.

Lazarus, R. S., Folkman, S. (1987). Transactional theory and research on emotion and coping. *European Journal of Personality, 1*, 141-169.

Lazarus, R. S., Launier, R. (1978). Stress-related transactions between person and

environment. In L. A. Pervin & M. Lewis (Eds.), *Perspectives in interactional psychology* (pp. 287-327). New York: Plenum Press.

Lee, C., & Gramotnev, H. (2007). Life transitions and mental health in a national cohort of young Australian women. *Developmental Psychology, 43*(4), 877-888.

Leung, K., & Bond, M. (1984). The impact of cultural collectivism on reward allocation. *Journal of Personality and Social Psychology, 47*, 793-804.

Lever, J. P., & Pinol, N. L. (2005). Poverty, psychological resources and social mobility. *Revista Mexicana De Psicologia, 37*(1), 9-45.

Lever, J. P., Pinol, N. L., & Uralde, J. H. (2005). Poverty, psychological resources and subjective well-being. *Social Indicators Research, 73*(3), 375-408.

Levy, S., Herberman, R., Lippman, M., & d'Angelo, T. (1987). Correlation of stress factors with sustained depression of natural killer cell activity and predicted prognosis in patients with breast cancer. *Journal of Clinical Oncology, 5*, 348-353.

Levy, S., Herberman, R. B., Whiteside, T., Sanzo, K., Lee, J., & Kirkwood, J. (1990). Perceived social support and tumor estrogen/progesterone status as predictors of natural killer cell activity in breast cancer patients. *Psychosomatic Medicine, 52*, 73-85.

Lin, N. (1986). Conceptualizing social support. In N. Lin, A. Dean, & W. M. Ensel (Eds.), *Social support, life events, and depression* (pp. 17-30). Orlando, FL: Academic Press.

Lonner, W. J. (1980). The search for psychological universals. In H. Triandis & W. Lambert (Eds.), *Handbook of cross-cultural psychology* (Vol. 2, pp. 143-204). Boston: Allyn Bacon.

Luhtanen, R., & Crocker, J. (1992). A collective self-esteem scale: Slef-evaluation of one's social identity. *Personality and Social Psychology Bulletin, 18*, 302-318.

Mantzicopoulos, P. (1990). Coping with school failure: Characteristics of students employing successful and unsuccessful coping strategies. *Psychology in the Schools, 27*, 138-143.

Markus, H., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.

Markus, H., & Kitayama, S. (1998). The cultural psychology of personality. *Journal of Cross-Cultural Psychology, 29*, 63-87.

Markus, H., Mullally, P., & Kitayama, S. (1997). Selfways: Diversity in modes of cultural participation. In U. Neisser & D. Jopling (Eds.), *The conceptual self in context* (pp. 13-59). Cambridge, UK: Cambridge University Press.

Markush, R. E., & Favero, R. (1974). Epidemilogic assessment of stressful life events, depressed mood, and psychophysiological symptoms. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects* (pp. 171-190). New York: Wiley.

McPherson, K. (1983). Opinion-related information seeking. *Personality and Social Psychology Bulletin, 9*, 116-124.

Megel, M. E., Hawkins, P., Sandstrom, S., Hoefler, M. A., & Willrett, K. (1994). Health promotion, self-esteem and weight among female college freshman. *Health Values, 18*, 10-19.

Mickelson, K. D., Helgeson, V. S., & Weiner, E. (1995). Gender effects on social support provision and receipt. *Personal Relationships, 2*, 211-224.

Milgrom, L., & Beatrice, G. (2003). Coping with the stress of motherhood: Cognitive and defence style of women with postnatal depression. *Stress and Health, 19*(5), 281-285.

Miller, P. M., & Ingham, J. G. (1976). Friends, confidants and symptoms. *Social Psychiatry, 11*, 51-58.

Mittleman, M. A., Maclure, M., Sherwood, J. B., Mulry, R. P., Tofler, G. H., Jacobs, S. C., Friedman, R., Benson, H., & Muller, J. E. (1995). Triggering of acute myocardial infarction onset by episodes of anger. *Circulation, 92*, 1720-1725.

Moos, R. H., & Schaefer, J. A. (1986). Life transitions and crises: A conceptual overview. In R. H. Moos (Ed.), *Coping with life crises: An integrative approach* (pp. 3-28). New York: Plenum Press.

Morgan, B. S. (1976). Intimacy of disclosure topics and sex differences in self-disclosure. *Sex Roles, 2*, 161-166.

Mu, P. F. (2005). Paternal reactions to a child with epilepsy: Uncertainty, coping strategies, and depression. *Journal of Advanced Nursing, 49*(4), 367-376.

Myers, J. K., Lindenthal, J. J., & Pepper, M. P. (1971). Life events and psychiatric impairment. *Journal of Nervous and Mental Disease, 152*, 149-157.

Nachshen, J. S., Woodford, L., & Minnes, P. (2003). The Family Stress and Coping Interview for families of individuals with developmental disabilities: A lifespan perspective on family adjustment. *Journal of Intellectual Disability Research, 47*, 285-290.

Nakagawa, T. (1999). Sutoresu kenkyu no rekisi [History of the study of stress]. In T. Kawano & T. Kubo (Eds.), *Sutoresu kenkyu to rinshou no kiseki to tenbou*

[Overview of the study of stress and its clinical application] (pp. 43-55). Tokyo: Sibundo.

Nakane, C. (1970). *Japanese society*. Berkeley: University of California Press.

Nakano, A., & Kazamatsuri, H. (1991). Seisinka no tachibayori [From the point of view of psychiatry]. In A. Sato & M. Tomonaga (Eds.), *Sutoresu no sikumito sekkyokuteki taiou [Mechanism of stress and active coping]* (pp. 391-398). Tokyo: Hujitakikaku Shuppan.

Nozoe, S. (1997). *Sutoresushakai wo ikiru [Living in the stressful society]*. Tokyo: Oujisha.

Ogawa, N., & Gudykunst, W. B. (1999). Politeness rules in Japan and the United States. *Intercultural Communication Studies, IX*(1), 47-68.

Ogawa, N., Gudykunst, W. B., & Nishida, T. (2004). Self construals and self-esteem in Japan and the United States. *Journal of Intercultural Communication Research, 33*(1), 29-47.

Otsuka, K. (1999). Hipokuratesu no igaku to sutoresu [Medicine and stress suggested by Hippocrates]. In T. Kawano & T. Kubo (Eds.), *Sutoresu kenkyu to rinshou no kiseki to tenbou [Overview of the study of stress and its clinical application]* (pp. 214-224). Tokyo: Sibundo.

Orth-Gomer, K., Rosengren, A., & Wilhelmsen, L. (1993). Lack of social support and incidence of coronary heart disease in middle-aged Swedish men. *Psychosomatic Medicine, 55*, 37-43.

Park, H. S., & Levine, T. R. (1999). The theory of reasoned action and self-construal: Evidence from three cultures. *Communication Monographs, 66*, 199-218.

Parkes, K. R. (1984). Locus of control, cognitive appraisal, and coping in stressful episodes. *Journal of Personality and Social Psychology, 46*, 655-668.

Parsons, T., & Bales, R. F. (1955). *Family socialization and interaction process*. Glencoe, IL: Free Press.

Patterson, T. L., Smith, L. W., Grant, I., Clopton, P. & Josepho, S. (1990). Internal vs. external determinants of coping responses to stressful life-events in the elderly. *British Journal of Medical Psychology, 63*, 149-160.

Paykel, E. S., & Mayer, J. M. (1969). Life events and depression. *Archives of General Psychiatry, 21*, 733-761.

Paykel, E. S., Prusoff, B. A., & Uhlenhuth, E. H. (1971). Scaling of life events. *Archives of General Psychiatry, 25*, 340-347.

Personn, G. (1980). Life events rating in relation to sex and marital status in 70 year old urban population. *Acta Psychiatrica Scandinavica, 62*, 112-118.

Pilusuk, M. (1963). Anxiety, self-acceptance, and open-mindedness. *Journal of Clinical Psychology, 19*, 386-391.

Pinneau, S. R. (1975). *Effects of social support on psychological and physiological stress*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.

Porter, N., Geis, F. L., Cooper, E., & Newman, E. (1985). Androgyny and leadership in mixed-sex groups. *Journal of Personality and Social Psychology, 49*, 808-823.

Radford, M. H. B., Mann, L., Ohta, Y., & Nakane, Y. (1993). Differences between Australian and Japanese students in decisional self-esteem, decisional stress, and coping styles. *Journal of Cross-Cultural Psychology, 24*, 284-297.

Radloff, L. S., & Rae, D. S. (1979). Susceptibility and precipitating factors in depression:

Sex differences and similarities. *Journal of Abnormal Psychology, 88*, 174-181.

Rector, N. A., & Roger, D. (1997). The stress buffering effects of self-esteem. *Personality and Individual Differences, 23*, 799-808.

Reynolds, D. K. (1976). *Morita psychotherapy*. Berkeley, CA: University of California Press.

Ricci Bitti, P., Giovanni, D., & Dalmonari, A. (1974). A study of the interviewer effect in two person interaction. *Italian Journal of Psychology, 1*, 305-315.

Rohde, P., & Lewinsohn, P. M., Tilson, M., & Seeley, J. R. (1990). Dimensionality of coping and its relation to depression. *Journal of Personality and Social Psychology, 58*, 499-511.

Rosenberg, M. (1965). *Society and adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.

Rosenthal, R., Archer, D., DiMatteo, M., Kowumaki, M., & Rogers, P. O. (1974). Body talk and tone of voice: The language without words. *Psychology Today, 8*, 64-68.

Sakabe, H. (1992). *Sutoresu kenkyu no rekisiteki gaikan [Historical overview of the study of stress]*. Tokyo: Rodouchousakai.

Sato, T., & Cameron, J. (1999). The relationship between collective self-esteem and self construal in Japan and Canada. *The Journal of Social Psychology, 139*, 426-435.

Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with stress: Divergent strategies of optimists and pessimists. *Journal of Personality and Social Psychology, 51*, 1257-1264.

Schmale, A. H. (1958). Relationship of separation and depression to disease: A report on

a hospitalized medical population. *Psychosomatic Medicine, 20*, 259-277.

Schwarzer, R., & Leppin, A. (1991). Social support and health: A theoretical and empirical overview. *Journal of Social and Personal Relationships, 8*, 99-127.

Sellers, R. M. (1995). Situational differences in the coping processes of student-athletes. *Anxiety, Stress, and Coping, 8*, 325-336.

Selye, H. (1936). A syndrome produced by diverse nocuous agents. *Nature, 138*, 32.

Selye, H. (1978). *The stress of life* (2nd ed.). New York: McGraw-Hill.

Sima, N. (1992). Daigakuseiniokeru sosyarusapoto no nichijouseikatsu sutoresunikansuru kouka [Effects of social support on college students' daily stress]. *Research in Social Psychology, 7*, 45-53.

Sima, N. (1999). Daigakuseiyou nichijouseikatsu sutoresasyakudo no kentou [Examining a scale of daily stressors for college students]. *Chuou Daigaku Syakaigakubu Kiyou, 14*, 69-83.

Singlis, T. M., & Brown, W. J. (1995). Culture, self, and collectivist communication: Linking culture to individual behavior. *Human Communication Research, 21*, 354-389.

Smith, H. W. (1981). Territorial spacing on a beach revisited: A cross-national exploration. *Social Psychology Quarterly, 2*, 132-137.

Smock, C. (1955). The influence of psychological stress on the intolerance of ambiguity. *Journal of Abnormal and Social Psychology, 50*, 177-182.

Solomon, G. F., & Benton, D. (1994). Psychoneuroimmunologic aspects of aging. In R. Glaser & J. Kiecolt-Glaser (Eds.), *Handbook of human stress and immunity* (pp. 341-363). San Diego, CA: Academic.

Song, L. Y., & Singer, M. (2006). Life stress, social support, coping and depressive symptoms: A comparison between the general population and family caregivers. *International Journal of Social Welfare, 15*(2), 172-180.

Sorrentino, R. M., & Short, J. A. (1986). Uncertainty orientation, motivation, and cognition. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (Vol. 1, pp. 379-403). New York: Guilford.

Spielberger, C. (1979). *Understanding stress and anxiety*. New York: Harper & Row.

Steptoe, A. (1991). Psychological coping, individual differences and physiological stress responses. In C. L. Cooper & R. Payne (Eds.), *Personality and stress: Individual differences in the stress process* (pp. 205-233). New York: John Wiley & Sons.

Stevens, J. (1986). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: Erlbaum.

Suzuki, S. (2002). *Sutoresu taisho no sinri/seiriteki hannou ni oyobosu eikyou ni kansuru kenkyuu [Study of how stress coping influences psychological and physiological reaction]*. Tokyo: Kazama shobou.

Swindle, R. W., Jr., Cronkite, R. C., & Moos, R. H. (1989). Life stressors, social resources, coping, and the 4-year course of unipolar depression. *Journal of Abnormal Psychology, 98*, 468-477.

Tanaka, H. (2003). A study on a stress reaction measure creation in university student's. *Bulletin of Daito Bunka University, 41*, 37-47.

Thatcher, B. (2002). Issues of validity in intercultural professional communication research. *Communication Abstracts, 25*, 431-586.

Theorell, T., Blomkvist, V., Jonsson, H., Schulman, S., Berntorp, L., & Stigendal, L.

(1995). Social support and the development if immune function in human immunodeficiency virus infection. *Psychosomatic Medicine, 57*, 32-36.

Thoits, P. A. (1986). Social support as coping assistance. *Journal of Consulting and Clinical Psychology, 54*, 416-423.

Ting-Toomey, S. (1988). Intercultural conflict styles: A face-negotiation theory. In Y. Y. Kim & W. B. Gudykunst (Eds.), *Theories in intercultural communication* (pp. 213-235). Newbury Park, CA: Sage.

Ting-Toomey, S. (1999). *Communicating across cultures*. Spring Street, CA: The Guilford Press.

Ting-Toomey, S., Trubisky, P., & Nishida, T. (1989, November). *An analysis of conflict styles in Japan and the United States*. Paper presented at the Speech Communication Association convention.

Toyota, K., & Matsumoto, T. (2004). Factors relating to self-esteem in university student. *The Bulletin of the Institute of Human Science, Toyo University, 1*, 38-54.

Triandis, H. C. (1988). Collectivism vs. individualism. In G. Verma & C. Bagley (Eds.), *Cross-cultural studies of personality, attitudes, and cognition* (pp. 60-95). London: Macmillan.

Triandis, H. C. (1995). *Individualism & collectivism*. Boulder: Westview.

Uchino, B. N., Cacioppo, J. T., & Kiecolt-Glaser, J. K. (1996). The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychological Bulletin, 119*, 488-531.

Vingerhoets, A. J. J. M., & Van Heck, G. L. (1990). Gender, coping and psychosomatic

symptoms. *Psychological Medicine, 20*, 125-135.

Walther, J. B., & Boyd, S. (2002). Attraction to computer-mediated social support. In C. A. Lin & D. J. Atkin (Eds.), *Communication technology and society: Audience adoption and uses* (pp. 153-188). Cresskill, NJ: Hampton Press.

Watanabe, S. (1994). An attempt to construct the Japanese collective self-esteem scale. *Japanese Journal of Social Psychology, 10*, 104-113.

Watts, A. (1958). *The spirit of Zen*. New York: Grove Press.

Williams, S. M., Arnold, P. K., Mills, J. N., Todd, S. A., Wilson, P. M., & Wright, C. M. (2005). Coping with stress: A survey of Murdoch University Veterinary students. *Journal of Veterinary Medical Education, 32*(2), 201-212.

Wolff, H. G. (1953). *Stress and disease*. Springfield, IL: Thomas.

Zelditch, M., Jr. (1955). Role differences in the nuclear family. In T. Parsons & R. F. Bales (Eds.), *Family socialization and interaction process* (pp. 307-351). Glencoe, IL: Free Press.

Zimmerman, D. H., & West, C. (1975). Sex roles, interruptions and silences in conversations. In B. Throne & N. Henley (Eds.), *Language and sex: Difference and dominance* (pp. 105-129). Rowley, MA: Newbury House.

Table 1

Daily Stress Scale for College Students

1.	Disappointment with anyone
2.	Losing something important
3.	Uninteresting/boring/dull class
4.	Poor health
5.	Bad grade(s)
6.	Having a hard time preparing for an exam
7.	Weak constitution (Feeling physically weak)
8.	Poor living conditions
9.	Dissatisfaction with school rules and systems
10.	Not meeting the standards I set for myself
11.	Quarrel with someone
12.	Feeling tired
13.	Struggling to keep up with the amount of work/reading required for a class
14.	Poor conditions of food, clothing, and housing
15.	Unsure about my future
16.	Severe injury or illness
17.	Having to put up with an annoying classmate/ roommate/ co-worker...
18.	Boredom
19.	Poor physical environment at college
20.	Not knowing what to do
21.	People don't seem to understand me
22.	Anxiety about moving to the next level (e.g., from freshman to sophomore)
23.	Having to put up with people who dislike me
24.	Uncertainty about my career choice
25.	Unhappy with my personality
26.	Having to get along with someone I dislike
27.	Unhappy with my appearance
28.	Having an unpleasant experience with someone
29.	Having a hard time preparing (a paper or project) for a class
30.	Significant change in my living situation
31.	Getting the cold shoulder from someone
32.	Feeling a sense of emptiness

Table 2

Tri-Axial Coping Scale 24 (TAC-24)

Factor 1: "Information Collection"
- I try to solve the problem by getting advice from an expert. (6)
- I get information I need from people who are well-informed about the matter. (14)
- I consult people who have been through a similar situation. (22)

Factor 2: "Planning"
- I try to figure out what caused the problem and come up with a plan of action. (5)
- I make a detailed plan of what to do. (13)
- I think about what to do next based on my own examination of the matter. (21)

Factor 3: "Catharsis"
- I try to stay calm by talking about it to someone. (2)
- I stay calm by telling someone about the situation. (10)
- I cheer myself up by grumbling (complaining/whining) to someone about the matter. (18)

Factor 4: "Positive Interpretation"
- I think positively (e.g., Life has not only bad things, but also good things). (1)
- I think, "Good things will happen hereafter." (9)
- I try to find a silver lining (a gleam of hope). (17)

Factor 5: "Responsibility Shift"
- I make excuses: "It was not my fault." (8)
- I push the responsibility of solving the problem onto others. (16)
- I avoid the problem by making immature or silly remarks. (24)

Factor 6: "Renunciation/Resignation"
- I put off the problem because nothing can be done about it. (7)
- I give up because it is way out of hand. (15)
- I give up because it cannot be solved. (23)

Factor 7: "Pastime"
- I engage in activities, such as playing sports or travel. (4)
- I spend my time shopping or chatting. (12)
- I talk with my friends or go out to eat with them. (20)

Factor 8: "Avoidance Thought"
- I try not to think about it. (3)
- I avoid thinking about it. (11)
- I force myself to forget about it. (19)

Table 3

Social Support Scale for College Students

1. When I'm with family I have a good time (e.g. chatting).
2. I have fun when I go out with family.
3. I have common hobbies or interests with family member(s).
4. I can talk about personal matters with family.
5. I feel my family understands me.
6. I can talk about my worries with family.
7. I am comfortable sharing all kinds of information with family.
8. I go to my family for advice when I'm in trouble.
9. I go to my family for guidance when I face things I don't know.
10. My family helps me when I am overwhelmed.
11. I can borrow money or other things from family when necessary.
12. I exchange gifts with family.

Table 4

Independent and Interdependent Self-Construals Scale

(1) Independent Self-Construal

1. Personal identity is very important to me.
2. I enjoy being unique and different from others.
3. I prefer to be self-reliant rather than depend on others.
4. I take responsibility for my own actions.
5. It is important for me to act as an independent person.
6. I should decide my future on my own.

(2) Interdependent Self-Construal

1. I maintain harmony in the groups of which I am a member.
2. I will sacrifice my self interests for the benefit of my group.
3. I stick with my group even through difficulties.
4. I respect decisions made by my group.
5. I respect the majority's wishes in groups of which I am a member.
6. It is important to consult close friends and get their ideas before making a decision.

Table 5

Certainty-Uncertainty Orientation Scale

1. I do not compare myself with others.
2. If given a choice, I prefer to go somewhere new rather than somewhere I've been before
3. I reject ideas that are different than mine.
4. I try to resolve inconsistencies in beliefs I hold.
5. I am not interested in finding out information about myself.
6. When I obtain new information, I try to integrate it with information I already have.
7. I hold traditional beliefs.
8. I evaluate people on their own merit without comparing them to others.
9. I hold inconsistent views of myself.
10. If someone suggests an opinion that it different then mine, I do not reject it before I consider it.

Table 6

Tolerance for Ambiguity Scale

1. I am not comfortable in new situations.
2. I deal with unforeseen problems successfully.
3. I experience discomfort in ambiguous situations.
4. I am comfortable working on problems when I do not have all of the necessary information.
5. I am frustrated when things do not go the way I expected.
6. It is easy for me to adjust in new environment.
7. I become anxious when I find myself in situations where I am not sure what to do.
8. I am relaxed in unfamiliar situations.
9. I am frustrated when my surroundings are changed without my knowledge.
10. I am comfortable in situations without clear norms to guide my behavior.

Table 7

Individual Self-Esteem Scale

1. On the whole, I am satisfied with myself.
2. At times, I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most people.
5. I feel I do not have much to be proud of.
6. I feel useless at times.
7. I feel that I am person of worth.
8. I wish I could have more respect for myself.
9. All in all, I'm inclined to feel that I am a failure.
10. I have a positive attitude toward myself.

Table 8

Collective Self-Esteem Scale

1. I am a worthy member of the social groups I belong to.
2. I often regret that I belong to some of the social groups I do.
3. Overall, my social groups are considered good by others.
4. Overall, my group memberships have very little to do with how I feel about myself.
5. I feel I don't have much to offer the social groups I belong to.
6. In general, I'm glad to be a member of the social groups I belong to.
7. Most people consider my social groups, on the average, to be more ineffective than other social groups.
8. The social groups I belong to are an important reflection of who I am.
9. I am a cooperative participant in the social groups I belong to.
10. Overall, I often feel that the social groups of which I am a member are not worthwhile.
11. In general, others respect the social groups that I am a member of.
12. The social groups I belong to are unimportant to the kind of person I am.
13. I often feel I'm a useless member of my social groups.
14. I feel good about the social groups I belong to.
15. In general, others think that the social groups I am a member of are unworthy.
16. In general, belonging to social groups is an important part of my self-image.

Table 9

Comparison of Means of Dependent Variables by Culture

Dependent Variables	U.S. *M*	U.S. *SD*	Japan *M*	Japan *SD*	*F**	*Sig*	η^2
Stress level	2.43	.50	2.47	.59	50.67	.0001	.09
Avoidance-related coping	2.55	.54	2.30	.55	24.24	.0001	.05
Active-positive coping	3.43	.54	3.24	.63	4.02	.045**	.01
Problem-focused coping	2.74	.41	2.52	.50	10.82	.001	.02
Emotion-focused coping	3.24	.44	3.01	.59	.19	*ns*	
Social support from family	4.01	.76	3.19	.77	20.02	.0001	.04
Social support from friends of the same-sex	3.84	.77	3.69	.67	1.99	*ns*	
Social support from friends of the opposite-sex	3.34	.75	2.46	.83	46.98	.0001	.08

* Degrees of freedom = 1, 517

** Active-positive coping is not considered to be significantly different by culture based on the result of the additional analysis ($F = 1.45$, $p = ns$).

Table 10

Coefficients for Covariates: Self-Construals

	Independent Self-Construal					Interdependent Self-Construal				
Dependent Variables	*F**	*Sig*	η^2	*B*	*SE*	*F**	*Sig*	η^2	*B*	*SE*
Stress level	6.85	.009	.01	.07	.03	.01	*ns*		-.01	.03
Avoidance-related coping	6.89	.009	.01	-.08	.03	4.32	.038	.01	.07	.03
Active-positive coping	8.53	.004	.02	.09	.03	6.72	.010	.01	.09	.03
Problem-focused coping	1.69	*ns*		.03	.03	6.00	.015	.01	.07	.03
Emotion-focused coping	.66	*ns*		-.02	.03	7.94	.005	.02	.09	.03
Social support from family	.01	*ns*		-.01	.04	10.02	.002	.02	.04	.04
Social support from friends of the same-sex	4.41	.036	.01	-.08	.04	5.65	.018	.01	.10	.04
Social support from friends of the opposite-sex	.07	*ns*		.01	.04	.26	*ns*		-.02	.05

* Degrees of freedom = 1, 517

Table 11

Coefficients for Covariates: Self-Esteem

	Individual Self-Esteem					Collective Self-Esteem				
Dependent Variables	*F**	*Sig*	η^2	*B*	*SE*	*F**	*Sig*	η^2	*B*	*SE*
Stress level	49.11	.0001	.09	-.21	.03	1.90	*ns*		-.05	.03
Avoidance-related coping	.00	*ns*		-.01	.03	1.24	*ns*		-.05	.04
Active-positive coping	4.35	.038	.01	.07	.03	9.56	.002	.02	.13	.04
Problem-focused coping	.00	*ns*		.01	.03	.11	*ns*		-.01	.04
Emotion-focused coping	4.67	.031**	.01	.07	.03	5.99	.015	.01	.10	.04
Social support from family	18.21	.0001	.03	.19	.04	3.35	*ns****		.11	.06
Social support from friends of the same-sex	1.64	*ns*		.05	.04	27.42	.0001	.05	.27	.05
Social support from friends of the opposite-sex	.73	*ns*		-.04	.05	19.15	.0001	.04	.26	.06

* Degrees of freedom = 1, 517

** Emotion focused coping is not considered to be influenced by individual self-esteem based on the result of the additional analysis ($F = 1.65$, $p = ns$, $B = .04$, $SE = .03$)

*** Social support from family is considered to be influenced by collective self-esteem based on the result of the additional analysis ($F = 19.59$, $p = .0001$, $\eta^2 = .04$, $B = .21$, $SE = .05$)

Table 12

Coefficients for Covariates: Tolerance for Ambiguity

Dependent Variables	*F**	*Sig*	η^2	*B*	*SE*
Stress level	15.22	.0001	.03	-.16	.04
Avoidance-related coping	2.08	*ns*		-.07	.05
Active-positive coping	.67	*ns*		.04	.05
Problem-focused coping	.82	*ns*		-.04	.04
Emotion-focused coping	.03	*ns*		.01	.04
Social support from family	6.28	.013	.01	-.16	.06
Social support from friends of the same-sex	.48	*ns*		.04	.06
Social support from friends of the opposite-sex	8.90	.003	.02	.20	.07

* Degrees of freedom = 1, 517

Table 13

Comparison of Means of Dependent Variables by Gender

Dependent Variables	Male		Female				
	M	*SD*	*M*	*SD*	*F**	*Sig*	η^2
Stress level	2.45	.61	2.45	.51	.03	*ns*	
Avoidance-related coping	2.49	.59	2.38	.54	4.86	.028	.01
Active-positive coping	3.20	.64	3.41	.55	17.20	.0001	.03
Problem-focused coping	2.65	.49	2.62	.46	.50	*ns*	
Emotion-focused coping	3.04	.58	3.17	.50	8.45	.004	.02
Social support from family	3.31	.88	3.76	.82	47.38	.0001	.08
Social support from friends of the same-sex	3.57	.71	3.87	.71	21.87	.0001	.04
Social support from friends of the opposite-sex	2.88	.97	2.91	.87	.16	*ns*	

* Degrees of freedom = 1, 515

Table 14

*Correlations between Key Research Variables by Culture**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) STRESS												
J												
US												
(2) AVOID												
J	.13											
US	.24**											
(3) ACTIVE												
J	-.04	.08										
US	-.04	-.07										
(4) PROBLE												
J	.15	.47**	.63**									
US	.20	.54**	.61**									
(5) EMOTIO												
J	-.04	.63**	.61**	.27**								
US	.06	.63**	.56**	.47**								
(6) SSFAMI												
J	-.12	.07	.27**	.17	.21							
US	-.05	.06	.29**	.16	.26**							
(7) SSSAME												
J	-.18	-.07	.22**	.04	.14	.16						
US	-.08	.10	.34**	.18	.37**	.33						
(8) SSOPPO												
J	-.02	.00	.18	.08	.12	.09	.45**					
US	.03	.11	.19	.12	.25**	.15	.36**					
(9) INDSC												
J	-.08	-.15	.29**	.12	.07	.08	-.03	.12				
US	.01	-.12	.08	-.04	-.00	.06	.07	.01				
(10) INTSC												
J	-.02	.09	.10	.03	.16	.14	.10	.04	.12			
US	-.08	.02	.41**	.24**	.31**	.30**	.43**	.20	.07			
(11) INDSE												
J	-.53**	-.06	.17	-.05	.17	.20	.17	.19	.27**	-.10		
US	-.34**	-.15	.35**	.04	.21	.26**	.23**	.08	.31**	.16		
(12) COLSE												
J	-.32**	-.04	.28**	-.02	.28**	.14	.31**	.26**	.28**	.43**	.45**	
US	-.18	-.07	.39**	.14	.27**	.40**	.45**	.23**	.15	.61**	.48**	
(13) TOLERA												
J	-.47**	-.08	.04	-.07	.03	-.00	.13	.15	.20	-.10	.57**	.21**
US	-.17	-.14	.29**	.00	.17	.03	.08	.19	.18	.16	.35**	.14

* STRESS = stress level, AVOID = avoidance-related coping, ACTIVE = active-positive coping, PROBLE = problem-focused coping, EMOTIO = emotion-focused coping, SSFAMI = social support from family, SSSAME = social support from friends of the same-sex, SSOPPO = social support from friends of the opposite-sex, INDSC = independent self-construal, INTSC = interdependent self-construal, INDSE = individual self-esteem, COLSE = collective self-esteem, TOLERA = tolerance for ambiguity, J = Japan sample, US = US sample.
** $p < .0001$ (Bonferroni correction for 78 correlations at alpha = .05). Numbers of cases by culture are: J = 269, US = 256.

Table 15

Summary of the Results for Cultural and Individual Influences on Eight Scales of Three Dependent Variables

	Influenced by						
Dependent Variables	Culture	Independent Self-Construal	Interdependent Self-Construal	Tolerance for Ambiguity	Individual Self-Esteem	Collective Self-Esteem	Gender
Stress Level	J > US	positive*		negative	negative		
Coping (1): Avoidance-Related	US > J	negative	positive				M > F
Coping (2): Active-Positive		positive	positive		positive	positive	F > M
Coping (3): Problem-Focused	US > J		positive				
Coping (4): Emotion-Focused			positive			positive	F > M
Social Support (1): Family	US > J		positive	negative	positive	positive	F > M
Social Support (2): Same-Sex Friends		negative	positive			positive	F > M
Social Support (3): Opposite-Sex Friends	US > J			positive		positive	

* Positive (or negative) refers to the direction of the *B* coefficients.

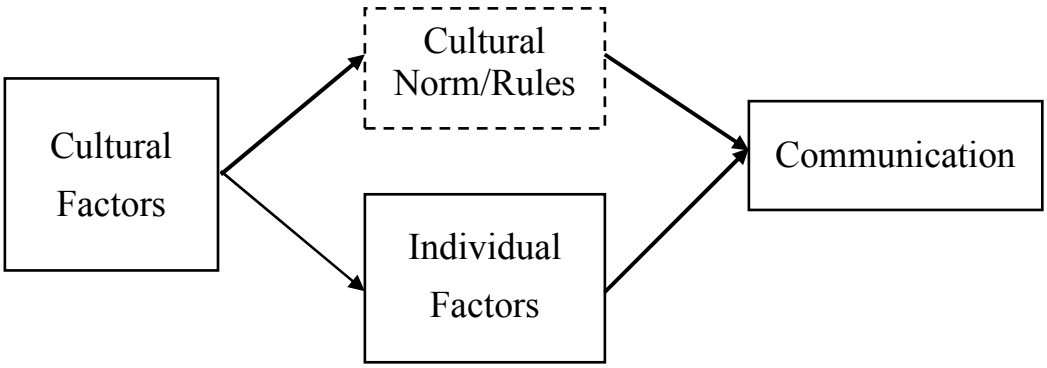

Figure 1. An etic model of communication adapted from Gudykunst and Lee (2003, p. 13).

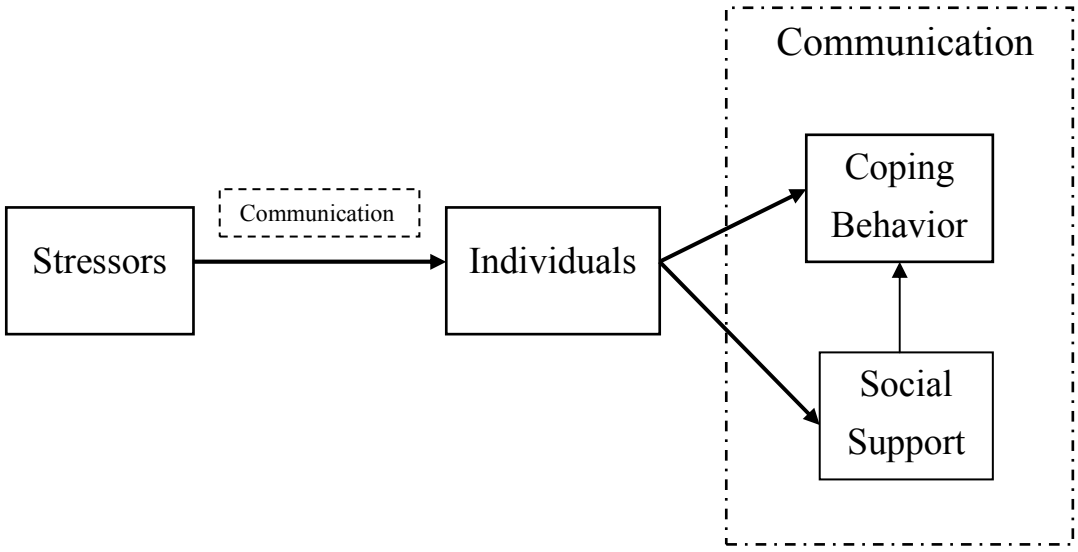

Figure 2. A model explaining the process of coping with stress.

APPENDIX: The Questionnaire

ANONYMOUS/CONFIDENTIAL SURVEY
CONSENT SCRIPT

February 1, 2006

Dear Participant:

I am a graduate student under the direction of professor, Dr. H. Dan O'Hair, in the Communication Department at The University of Oklahoma. I invite you to participate in a research study being conducted under the auspices of the University of Oklahoma-Norman Campus and entitled "Stress, Coping Behavior, and Social Support in Japan and the United States." The purpose of this study is to understand similarities and differences in the process of coping with stress in Japan and the United States.

To participate in this research, you must be at least 18 years of age. Your participation will involve answering questions in the survey and should only take about 15-25 minutes. Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time. Course credit may be given by participation of this research depending on the instructor. The results of the research study may be published, but your name will not be used. In fact, the published results will be presented in summary form only. All information you provide will remain strictly confidential.

The findings from this project will provide information on how people in different cultures cope with stress, which is important to know in the global world with no cost to you other than the time it takes for the survey.

If you have any questions about this research project, please feel free to call me at (405) 249-5504 and/or Dr. O'Hair at (405) 325-1619 or send an e-mail to nogawa@ou.edu. Questions about your rights as a research participant or concerns about the project should be directed to the Institutional Review Board at The University of Oklahoma-Norman Campus at (405) 325-8110 or irb@ou.edu.

By returning this questionnaire in the envelope provided, you will be agreeing to participate in the above described project.

Thanks for your consideration!

Sincerely,

Naoto Ogawa
Ph.D. Student
Department of Communication
The University of Oklahoma

Part I: The statements in this section focus on stressors (stressful events) in your daily life. Have you experienced and/or been affected by any of the following stressors in past three (3) months? If you have not experienced or been affected, please answer "1." If you have experienced and/or been affected by one of the following, please indicate the degree to which you have been affected using a scale of 2–5: "2" —I have experienced it, but it did not affect me—through "5" (I have experienced it, and it devastated me). Feel free to use any numbers between 1 and 5 for your answer.

1 = I have neither experienced nor been affected
2 = I have experienced it, but it did not affect me
3 = I have experienced it, and it affected me slightly
4 = I have experienced it, and it affected me considerably
5 = I have experienced it, and it devastated me

_____Disappointment with anyone

_____Losing something important

_____Uninteresting/boring/dull class

_____Poor health

_____Bad grade(s)

_____Having a hard time preparing for an exam

_____Weak constitution (Feeling physically weak)

_____Poor living conditions

_____Dissatisfaction with school rules and systems

_____Not meeting the standards I set for myself

_____Quarrel with someone

_____Feeling tired

_____Struggling to keep up with the amount of work/reading required for a class

_____Poor conditions of food, clothing, and housing

_____Unsure about my future

_____Severe injury or illness

_____Having to put up with an annoying classmate/ roommate/ co-worker...

_____Boredom

_____Poor physical environment at college

_____Not knowing what to do

_____People don't seem to understand me

1 = I have neither experienced nor been affected
2 = I have experienced it, but it did not affect me
3 = I have experienced it, and it affected me slightly
4 = I have experienced it, and it affected me considerably
5 = I have experienced it, and it devastated me

_____Anxiety about moving to the next level (e.g., from freshman to sophomore)

_____Having to put up with people who dislike me

_____Uncertainty about my career choice

_____Unhappy with my personality

_____Having to get along with someone I dislike

_____Unhappy with my appearance

_____Having an unpleasant experience with someone

_____Having a hard time preparing (a paper or project) for a class

_____Significant change in my living situation

_____Getting the cold shoulder from someone

_____Feeling a sense of emptiness

Part II-a: The statements in this section focus on your <u>family</u> relationships. The following statements are not directed toward your relationship with a specific family member, but with your family in general. If you never interact with any family member(s) in the way it is described, please answer "1." If you interact with any family member(s) quite often in the way it is described, please answer "5." Feel free to use any numbers between 1 and 5 for your answer.

Never	Rarely	Sometimes	Often	Quite Often
1	2	3	4	5

_____When I'm with family I have a good time (e.g. chatting).

_____I have fun when I go out with family.

_____I have common hobbies or interests with family member(s).

_____I can talk about personal matters with family.

_____I feel my family understands me.

_____I can talk about my worries with family.

_____I am comfortable sharing all kinds of information with family.

Never	Rarely	Sometimes	Often	Quite Often
1	2	3	4	5

_____I go to my family for advice when I'm in trouble.

_____I go to my family for guidance when I face things I don't know.

_____My family helps me when I am overwhelmed.

_____I can borrow money or other things from family when necessary.

_____I exchange gifts with family.

Part II-b: The statements in this section focus on relationship with your friends of the same-sex. The following statements are not directed toward your relationship with a specific friend of the same-sex, but with your friends of the same-sex in general. If you never interact with any friends of the same-sex in the way it is described, please answer "1." If you interact with any friends of the same-sex quite often in the way it is described, please answer "5." Feel free to use any numbers between 1 and 5 for your answer.

Never	Rarely	Sometimes	Often	Quite Often
1	2	3	4	5

_____When I'm with friends of the same-sex I have a good time (e.g. chatting).

_____I have fun when I go out with friends of the same-sex.

_____I have common hobbies or interests with friend of the same-sex.

_____I can talk about personal matters with friend of the same-sex.

_____I feel my friends of the same-sex understand me.

_____I can talk about my worries with friends of the same-sex.

_____I am comfortable sharing all kinds of information with friends of the same-sex.

_____I go to my friends of the same-sex for advice when I'm in trouble.

_____I go to my friends of the same-sex for guidance when I face things I don't know.

_____My friends of the same-sex help me when I am overwhelmed.

_____I can borrow money or other things from friends of the same-sex when necessary.

_____I exchange gifts with friends of the same-sex.

Part II-c: The statements in this section focus on relationship with your friends of the opposite-sex. The following statements are not directed toward your relationship with a specific friend of the opposite-sex, but with your friends of the opposite-sex in general. If you never interact with any friends of the opposite-sex in the way it is described, please answer "1." If you interact with any friends of the opposite-sex quite often in the way it is described, please answer "5." Feel free to use any numbers between 1 and 5 for your answer.

Never	Rarely	Sometimes	Often	Quite Often
1	2	3	4	5

_____When I'm with friends of the opposite-sex I have a good time (e.g. chatting).

_____I have fun when I go out with friends of the opposite-sex.

_____I have common hobbies or interests with friend of the opposite-sex.

_____I can talk about personal matters with friend of the opposite-sex.

_____I feel my friends of the opposite-sex understand me.

_____I can talk about my worries with friends of the opposite-sex.

_____I am comfortable sharing all kinds of information with friends of the opposite-sex.

_____I go to my friends of the opposite-sex for advice when I'm in trouble.

_____I go to my friends of the opposite-sex for guidance when I face things I don't know.

_____My friends of the opposite-sex help me when I am overwhelmed.

_____I can borrow money or other things from friends of the opposite-sex when necessary.

_____I exchange gifts with friends of the opposite-sex.

Part III: The statements in this section deal with how you handle hardships. How do you usually think and behave during a crisis? If you never behave and/or think in the way described, please answer "1." If you always behave and/or think in the way it is described, please answer "5." Feel free to use any numbers between 1 and 5 for your answer.

1 = I have never behaved and/or thought in this way. I will never do this.
2 = I have rarely behaved and/or thought in this way. I will rarely do this.
3 = I have sometimes behaved and/or thought in this way. I will sometimes do this.
4 = I have often behaved and/or thought in this way. I will often do this.
5 = I have always behaved and/or thought in this way. I will always do this.

_____I think positively (e.g., Life has not only bad things, but also good things).

_____I try to stay calm by talking about it to someone.

_____I try not to think about it.

1 = I have never behaved and/or thought in this way. I will never do this.
2 = I have rarely behaved and/or thought in this way. I will rarely do this.
3 = I have sometimes behaved and/or thought in this way. I will sometimes do this.
4 = I have often behaved and/or thought in this way. I will often do this.
5 = I have always behaved and/or thought in this way. I will always do this.

_____I engage in activities, such as playing sports or travel.

_____I try to figure out what caused the problem and come up with a plan of action.

_____I try to solve the problem by getting advice from an expert.

_____I put off the problem because nothing can be done about it.

_____I make excuses: "It was not my fault."

_____I think, "Good things will happen hereafter."

_____I stay calm by telling someone about the situation.

_____I avoid thinking about it.

_____I spend my time shopping or chatting.

_____I make a detailed plan of what to do.

_____I get information I need from people who are well-informed about the matter.

_____I give up because it is way out of hand.

_____I push the responsibility of solving the problem onto others.

_____I try to find a silver lining (a gleam of hope).

_____I forget about my troubles by grumbling (complaining/whining) to someone about the matter.

_____I force myself to forget about it.

_____I talk with my friends or go out to eat with them.

_____I think about what to do next based on my own examination of the matter.

_____I consult people who have been through a similar situation.

_____I give up because it cannot be solved.

_____I avoid the problem by making immature or silly remarks.

Part IV: We all think about ourselves as individuals and as members of social groups. Consider how you think about yourself as an individual and as a member of groups such as your gender, ethnicity, religion, culture, or social class when you answer the questions in this part. Please indicate the degree to which you agree or disagree with each statement. If you strongly disagree the statement, answer "1." If you strongly agree with the statement, answer "7." Feel free to use any number between 1 and 7.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

_____My personal identity is very important to me.

_____I am a worthy member of the social groups I belong to.

_____I prefer to be self-reliant rather than depend on others.

_____On the whole, I am satisfied with myself.

_____I often regret that I belong to some of the social groups I do.

_____I will sacrifice my self-interest for the benefit of my group.

_____Overall, my social groups are considered good by others.

_____I stick with my group, even through difficulties.

_____Overall, my group memberships have very little to do with how I feel about myself.

_____At times, I think I am no good at all.

_____I respect decisions made by my group.

_____I feel I don't have much to offer the social groups I belong to.

_____I maintain harmony in the groups of which I am a member.

_____In general, I'm glad to be a member of the social groups I belong to.

_____I feel that I have a number of good qualities.

_____I respect the majority's wishes in groups of which I am a member.

_____Most people consider my social groups, on the average, to be more ineffective than other social groups.

_____I am able to do things as well as most people.

_____I take responsibility for my own actions.

_____The social groups I belong to are an important reflection of who I am.

_____I feel I do not have much to be proud of.

_____It is important to consult close friends and get their ideas before making a decision.

_____I am a cooperative participant in the social groups I belong to.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

_____I feel useless at times.

_____It is important for me to act as an independent person.

_____Overall, I often feel that the social groups of which I am a member are not worthwhile.

_____I feel that I am person of worth.

_____I should decide my future on my own.

_____In general, others respect the social groups that I am a member of.

_____I enjoy being unique and different from others.

_____I wish I could have more respect for myself.

_____The social groups I belong to are unimportant to the kind of person I am.

_____I often feel I'm a useless member of my social groups.

_____All in all, I'm inclined to feel that I am a failure.

_____I feel good about the social groups I belong to.

_____In general, others think that the social groups I am a member of are unworthy.

_____I have a positive attitude toward myself.

_____In general, belonging to social groups is an important part of my self-image.

Part V: Statements in this section focus on your orientation toward uncertainty and ambiguity. Respond to each statement indicating the degree to which it is true regarding the way to typically respond: "Always False" (answer 1), "Usually False" (answer 2), "Sometimes False and Sometimes True" (answer 3), "Usually True" (answer 4), or "Always True" (answer 5).

Always False 1 2 3 4 5 Always True

_____I do not compare myself with others.

_____I am not comfortable in new situations.

_____If given a choice, I prefer to go somewhere new rather than somewhere I've been before.

_____I deal with unforeseen problems successfully.

_____I reject ideals that are different than mine.

_____I experience discomfort in ambiguous situations.

_____I try to resolve inconsistencies in beliefs I hold.

Always False 1 2 3 4 5 Always True

_____I am comfortable working on problems when I do not have all of the necessary information.

_____I am not interested in finding out information about myself.

_____I am frustrated when things do not go the way I expected.

_____When I obtain new information, I try to integrate it with information I already have.

_____It is easy for me to adjust in new environments.

_____I hold traditional beliefs.

_____I become anxious when I find myself in situations where I am not sure what to do.

_____I evaluate people on their own merit without comparing them to others.

_____I am relaxed in unfamiliar situations.

_____I hold inconsistent views of myself.

_____I am frustrated when my surroundings are changed without my knowledge.

_____If someone suggests an opinion that is different than mine, I do not reject it before I consider it.

_____I am comfortable in situations without clear norms to guide my behavior.

Part VI: In order to interpret your answers to the questions on this survey, we need to know a little bit about you. Please answer the following questions by circling or checking the appropriate answer or filling in the blank.

1. What is your sex? Male Female

2. What is your age? _____years

3. What is your year in school? (please check)

_____Freshman _____Sophomore _____Junior
_____Senior _____Graduate Student

4. Were you born in the United States? Yes No

5. Are you a citizen of the United States? Yes No

6. If you are a citizen, what is your ethnicity? (Please check)

_____European American _____African American
_____Latino American _____Asian American
_____Native American _____Middle Eastern American
_____Other, Please specify: _____

THANK YOU FOR YOUR COOPERATION!

ストレス対処に関する調査

この調査の目的は、日本とアメリカにおける、日常生活で生じるストレスとその対処行動を調べることにあります。社会のグローバル化が進んでいる今日、ストレス対処に関する文化的相違を理解するのは重要であり、そのためには幅広く様々な人たちからの意見を聞く必要があります。本調査にご協力して頂ければ、大変ありがたく思います。本調査の所要時間は２０分ほど見て頂ければ結構です。

本調査へのご協力はあくまでも任意のものです。匿名にて行ないますので、名前、その他素性がわかるような事などは記入しないでください。記入された本調査を返して頂くことで、ご協力頂いたことと致します。もし、本調査に参加して頂けない場合は、何も記入せずにお返し下さい。不快に思うような質問等ございましたら、どうぞご自由におとばしください。また、本調査への回答は機密扱いのため、個個人の回答が外部へもれることはございません。

この調査に関して質問等ございましたら、小川までメール（nogawa@ou.edu）でご連絡下さい。

よろしくお願い致します。

小川　直人
オクラホマ大学大学院、コミュニケーション研究科、博士課程

パート１：以下に、日常生活上のさまざまなストレスについての記述があります。最近３か月ほどの間に、以下のようなことを経験したり感じたりしたことがありますか。もしなければ、１（経験しない・感じない）とお答えください。また、経験したり感じたりしたことのあるものについては、それがどのくらい気になったかを考えて、２（ほとんど気にならなかった）～５（とても気になった）のいずれかでお答えください。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

1 = 経験しない・感じない
2 = ほとんど気にならなかった
3 = 少し気になった
4 = かなり気になった
5 = とても気になった

_____他人から失望させられたこと

_____大切なものをなくしたこと

_____おもしろくない授業

_____体の調子が良くないこと

_____成績が思わしくないこと

_____試験勉強の大変さ

_____身体が弱いこと

_____生活条件の悪さ

_____学校の規則、制度への不満

_____現実の自分の姿と理想とのギャップ

_____誰かとけんかをしたこと

_____身体的な疲れ

_____授業についていくのが大変なこと

_____衣食住が十分でないこと

_____自分の将来についての不安

_____大きなケガや病気

_____不愉快な知人の存在

_____退屈で何もすることがないこと

_____大学の環境の悪さ

_____自分が何をするべきなのかわからないこと

_____周囲の人の無理解

1 = 経験しない・感じない
2 = ほとんど気にならなかった
3 = 少し気になった
4 = かなり気になった
5 = とても気になった

_____進級についての不安

_____私のことを嫌っている人がいること

_____就職についての不安

_____自分の性格が気に入らないこと

_____嫌いな人ともつきあわなければならないこと

_____自分の容姿や外見に対する不満

_____他人から不愉快な目にあわされたこと

_____レポートやゼミの準備が大変なこと

_____生活環境の大きな変化

_____他人から冷たい態度をとられること

_____空虚感に悩まされること

パート２a：あなたの家族との関係についてお尋ねします（家族の中の特定の一人との関係ではなく、家族全員との関係を考えてください）。あなたと、あなたの家族の中の少なくとも一人との間で、下記のようなことがあるかどうかを考えて、１（全くない）～５（非常によくある）のうちのいずれかでお答えください。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

1 = 全くない　2 = あまりない　3 = 少しある　4 = かなりある　5 = 非常によくある

_____おしゃべりなどをして楽しいときを過ごす

_____一緒に遊びに出かけたりする

_____共通の趣味や関心を持っている

_____プライベートなことについて話しができる

_____気持ちや感情をわかってもらえる

_____個人的な悩み事について話しをすることができる

_____いろいろな情報のやりとりをする

1 = 全くない　2 = あまりない　3 = 少しある　4 = かなりある　5 = 非常によくある

_____困ったときに助言してもらえる

_____わからないことがあれば、いろいろ教えてもらえる

_____忙しいときには手伝ってもらえる

_____必要なときに、お金や物を貸してもらえる

_____プレゼントをもらったりすることがある

パート２b：あなたの同性の友人との関係についてお尋ねします（同性の友人の中の特定の一人との関係ではなく、同性の友人と見なせる人全員との関係を考えてください）。あなたと、あなたの同性の友人と見なせる人の中の少なくとも一人との間で、下記のようなことがあるかどうかを考えて、１（全くない）～５（非常によくある）のうちのいずれかでお答えください。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

1 = 全くない　2 = あまりない　3 = 少しある　4 = かなりある　5 = 非常によくある

_____おしゃべりなどをして楽しいときを過ごす

_____一緒に遊びに出かけたりする

_____共通の趣味や関心を持っている

_____プライベートなことについて話しができる

_____気持ちや感情をわかってもらえる

_____個人的な悩み事について話しをすることができる

_____いろいろな情報のやりとりをする

_____困ったときに助言してもらえる

_____わからないことがあれば、いろいろ教えてもらえる

_____忙しいときには手伝ってもらえる

_____必要なときに、お金や物を貸してもらえる

_____プレゼントをもらったりすることがある

パート２c：あなたの異性の友人との関係についてお尋ねします（異性の友人の中の特定の一人との関係ではなく、異性の友人と見なせる人全員との関係を考えてください）。あなたと、あなたの異性の友人と見なせる人の中の少なくとも一人との間で、下記のようなことがあるかどうかを考えて、１（全くない）～５（非常によくある）のうちのいずれかでお答えください。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

1＝全くない　2＝あまりない　3＝少しある　4＝かなりある　5＝非常によくある

_____おしゃべりなどをして楽しいときを過ごす

_____一緒に遊びに出かけたりする

_____共通の趣味や関心を持っている

_____プライベートなことについて話しができる

_____気持ちや感情をわかってもらえる

_____個人的な悩み事について話しをすることができる

_____いろいろな情報のやりとりをする

_____困ったときに助言してもらえる

_____わからないことがあれば、いろいろ教えてもらえる

_____忙しいときには手伝ってもらえる

_____必要なときに、お金や物を貸してもらえる

_____プレゼントをもらったりすることがある

パート３：精神的につらい状況に遭遇したとき、その場を乗り越え、落ち着くために、あなたは普段から、どのように考え、どのように行動するようにしていますか。各文章に対して、自分がどの程度あてはまるか、評定してください。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

1　＝　そのようにしたこと（考えたこと）はこれまでにない。今後も決してないだろう。
2　＝　ごくまれにそのようにしたこと（考えたこと）がある。今後もあまりないだろう。
3　＝　何度かそのようにしたこと（考えたこと）がある。今後も時々はするだろう。
4　＝　しばしばそのようにしたこと（考えたこと）がある。今後もたびたびそうするだろう。
5　＝　いつもそうしてきた（考えてきた）。今後もそうするだろう。

_____悪いことばかりではないと楽観的に考える

_____誰かに話を聞いてもらい気を静めようとする

_____嫌なことを頭に浮かべないようにする

1 = そのようにしたこと（考えたこと）はこれまでにない。今後も決してないだろう。
2 = ごくまれにそのようにしたこと（考えたこと）がある。今後もあまりないだろう。
3 = 何度かそのようにしたこと（考えたこと）がある。今後も時々はするだろう。
4 = しばしばそのようにしたこと（考えたこと）がある。今後もたびたびそうするだろう。
5 = いつもそうしてきた（考えてきた）。今後もそうするだろう。

_____**スポーツや旅行などを楽しむ**

_____**原因を検討しどのようにしていくべきか考える**

_____**力のある人に教えを受けて解決しようとする**

_____**どうすることもできないと解決を後延ばしにする**

_____**自分は悪くないと言い逃れをする**

_____**今後は良いこともあるだろうと考える**

_____**誰かに話を聞いてもらって冷静さを取り戻す**

_____**そのことをあまり考えないようにする**

_____**買い物やおしゃべりなどで時間をつぶす**

_____**どのような対策をとるべきか綿密に考える**

_____**詳しい人から自分に必要な情報を収集する**

_____**自分では手に負えないと考え放棄する**

_____**責任を他の人に押し付ける**

_____**悪い面ばかりでなくよい面を見つけていく**

_____**誰かに愚痴をこぼして気持ちをはらす**

_____**無理にでも忘れるようにする**

_____**友だちとおしゃべりをしたり、好物を食べたりする**

_____**過ぎたことの反省をふまえて次にすべきことを考える**

_____**既に経験した人から話を聞いて参考にする**

_____**対処できない問題だと考え、諦める**

_____**口からでまかせを言って逃げ出す**

パート４：私達は自分たちのことを個人としてのみ考えることに加えて、社会的集団の一員とも考えます。あなたがどのように個人として、また性別、宗教、文化、社会階級などの集団の一員として自分のことを見ているか考え、それぞれの質問に対して、どの程度同意するかを答えて下さい。もし全く同意しないときは”１”とお答え下さい。また、もし強く同意するときは”７”とお答え下さい。どうぞご自由に１から５までの数字を選んで、文頭に記入してください。

全く同意しない　１　２　３　４　５　６　７　強く同意する

_____私にとって、自分のアイデンティティ（主体性）は重要です。

_____私は自分が所属している様々な社会集団の価値ある一員です。

_____私は他人に頼るより、自分に頼るほうが好きです。

_____自分にだいたい満足しています。

_____私は自分が所属しているいくつかの社会集団の一員であることを、よく後悔します。

_____グループの利益のためには、自分の利益を犠牲にするでしょう。

_____全体的に見れば、自分に関わりのある様々な社会集団は、他の人々から良い集団だと思われています。

_____私は自分の属すグループにおいて何か困難な事があったとしても、そのグループに忠実でいます。

_____全体的に言えば、自分に関わりのある様々な社会集団への所属は、自分自身のあり方とあまり関係がないです。

_____私はだめな人間だと思うことがときどきあります。

_____私はグループで決めた決定を尊重します。

_____私は自分が所属している様々な社会集団に対して貢献できるものを、あまり持っていません。

_____自分がメンバーであるグループの調和を保ちます。

_____一般的に言って、私は自分が所属している様々な社会集団の一員であることに満足しています。

_____私は長所をたくさんもっています。

_____自分がメンバーであるグループの多数派の意見を尊重します。

_____平均すれば、たいていの人は、自分と関わりのある様々な社会集団は、他の社会集団に比べて役に立たないもの（または、無力）と見なしています。

_____私は物事を人並みにできます。

_____自分の行動には、責任を持ちます。

_____自分が所属している様々な社会集団は、自分の存在にとって重要です。

_____私は誇りに思っていることがあまりないです。

_____何かを決める前に、親しく、信頼できる友達に相談して意見を求めるのは大切です。

_____私は自分が所属している様々な社会集団の、協力的な一員です。

全く同意しない　１　２　３　４　５　６　７　強く同意する

_____自分は役立たずな人間だとときどき感じます。

_____私にとって、自立した人として行動することは、大切な事です。

_____全体的に言えば、私がその一員となっている様々な社会集団は価値がないと思います。

_____私は少なくとも人並みに価値のある人間だと思います。

_____自分の将来は、自分で決めるべきです。

_____一般的に言えば、私がその一員となっている様々な社会集団は、他の人々から敬意を表されています。

_____私は、他の人とは違い、個性的であることが好きです。

_____自分をもっと尊敬できたらと思います。

_____自分が所属している様々な社会集団は、自分の存在にとって重要ではないです。

_____私は、自分に関わりのある様々な社会集団にとって、役に立たない一員だとよく思います。

_____自分を失敗者だと感じることが多いです。

_____私は自分が所属している様々な社会集団に、良い感情を抱いています。

_____一般的に言って、他の人々は、私がその一員となっている様々な社会集団を、価値のない集団だと考えています。

_____私は自分を見込みのある人間だと見ています。

_____一般的に言えば、様々な社会集団に所属することは、私の自己イメージを決定する重要な要素となっています。

パート５：このセクションの質問は、あなたの不確実なことやあいまいなことに対する傾向を尋ねるものです。それぞれの質問に対して、どの程度あなたに当てはまるかを考えて答えてください。「全くあてはまらない」ときは、”１”、「あまりあてはまらない」ときは、”２”、「あてはまるときもあれば、当てはまらないときもある」ときは、”３”、「かなりあてはまる」ときは、”４”、「非常にあてはまる」ときは、”５”とお答え下さい。どうぞご自由に１から５までの数字を選んで、文頭に書き入れて下さい。

全くあてはまらない １　　２　　３　　４　　５ 非常にあてはまる

_____自分を人と比較しない

_____新しい状況は自分にとって快適ではない

_____できるのならば、今までに行ったことのある場所よりも、行ったことのない新しい場所に行きたい

_____不測の事態にうまく対応する

_____自分と異なる考えは受け入れない

_____あいまいな状況において不快を感じる

_____自分の信念・信条に関する矛盾は、解決しようと試みる

全くあてはまらない １　　２　　３　　４　　５ 非常にあてはまる

_____問題を解決するためのすべての必要な情報がないときでも、快適にその問題に取り組む

_____自分に関する情報を見つけることに興味はない

_____ものごとが予想していた通りにうまく運ばないとき、フラストレーションを感じる

_____新しい情報を得たとき、すでに持っている情報と統合（調和）しようとする

_____新しい環境に順応することは簡単である

_____伝統を重んじる

_____何をしたらいいのかわからない状況に置かれたとき、不安になる

_____人を評価するとき、他の人との比較に基づいてではなく、その人自身の功績に基づいて行う

_____よく知らない不慣れな状況においてリラックスする

_____自分に対する見方は矛盾している

_____自分の知らないうちに周りの環境が変わったとき、フラストレーションを感じる

_____誰かが自分と違う意見を述べても、それを考察してみるまでは却下しない

_____明確な行動様式の規範がない状況でも、快適である

パート６：あなたの解答を解釈するために、あなたに関する情報を少しだけお聞かせ下さい。下記の質問にお答え下さい。

1.　あなたの性別は？（どちらか〇で囲んで下さい）　男　女

2.　あなたの年齢は？ _____歳

3.　大学の何年生ですか？　（どれか一つに印をつけて下さい）

_____一年生　_____二年生　_____三年生

_____四年生　_____大学院生

日本人ですか？（〇で囲んで下さい）また”いいえ”を選んだ場合、あなたの出身国はどこですか？

はい　いいえ [出身国：_____]

御協力ありがとうございました。