

THE IMPACTS OF CULTURE ON SOCIAL SUPPORT, COMMUNICATION  
VALUES, AND COPING STRATEGIES

by

PO SEN CHU

B.A., Brigham Young University, Hawaii, 1998

A THESIS

submitted in partial fulfillment of the requirements for the degree

MASTER OF SCIENCE

Department of Psychology  
College of Arts and Sciences

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2007

Approved by:

Major Professor  
Donald A. Saucier

## **Abstract**

This study explored how people perceive and receive social support, react to stress, and value different communication skills across cultures. Three hundred and four American students and 134 Taiwanese students participated. It was predicted that Taiwanese students would utilize social support less and rely on internally targeted control strategies more than would American students. Conversely, it was predicted that both groups would equally favor comforting and ego support from friendship. The results, however, indicated that the groups did not differ on utilizing social support, and Americans favored ego support more than did Taiwanese. Since cross-cultural contacts are encouraged in many fields such as business and academia, the results have pragmatic implications for cross-cultural mutual understanding, international trading, and sojourners' adjustment training.

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## **Acknowledgements**

This thesis would not have been possible without the kind support and the remarkable patience of my thesis advisor, Dr. Donald A. Saucier. His guidance, corrections, and revisions made to the text are the most important factors that make this research possible.

I also want to express my appreciation to Dr. Laura A. Brannon and Dr. Clive Fullagar for their valuable critiques and kindly suggestions to my work. Their contributions have enriched this research.

Lastly, a million thanks to my wife and three children. They are what really matter in my life.

# **The Impact of Culture on Social Support, Communication Values, and Coping Strategies**

This research investigated how the variable of culture impacts people perceiving and seeking social support, using strategies for coping with stress, and perceiving the importance of communication skills in same-sex friendship. It is predicted that people from different cultural backgrounds will see their support around them and react to stress differently, and their preferences for communication skills will also differ. We investigated differences across two cultural groups: Taiwanese and Americans.

In modern society, interacting with people from different cultural backgrounds is inevitable. In the case of academia, the population and diversity of international students in American's higher education system have been growing in the last 40 years (Crano & Crano, 1993; Walker, 2000). Thus, cross-cultural adjustment has become an important topic in higher learning (Heggins & Jackson, 2003). However, evidence shows that cross-cultural adaptation is still a problem for international students. For example, Wehrly (1988) reported that loneliness and even depression are common among Asian students, the fastest increasing subgroup, which composes 57.7% of all international students (Walker, 2000) and more than 10% of all enrollments (Institute for International Education, 1999). Tan (1994) claimed that many Asian students described feeling not welcomed and treated like uninvited guests when trying to acculturate. Since international students have made significant contributions to higher learning in this country, their adjustment problems should not be ignored. It is believed that Asian students strongly adhere to their histories, traditions, belief, and cultural values (Kitano & Daniels, 1990), and these factors strongly influence their adaptation process (Schlossberg,



Waters, & Goodman, 1995). Research should focus on how traditions and values differ from culture to culture to help them adjust.

Cross-cultural research is also a significant focus in the area of business (Harrison, Chadwick, & Scales, 1996). Shim and Paprock (2002) stated that for many corporations and organizations, globalization has become a common approach to help them to be competitive. Zakaria (2000) recognized that cross-cultural training is becoming an important element in the world of international business. However, the interactions among people of different cultures create problems due to the lack of mutual understanding. In fact, the ignorance of cultural differences has led to undesirable consequences: for example, according to Deshpande & Viswesvaran (1992), up to 40% of expatriates assigned abroad returned home prematurely because of maladjustment in the new environment. Eschbach et al. (2001) urged that with the huge cost of international assignments and high drop out rate, the training for expatriates in understanding what to expect and how to react to the new culture is very much necessary. Black and Gregersen (1991) further reminded us that the training of understanding other cultures should not be for workers only—their spouses should also receive equal attention since their maladjustment often causes pressure on expatriates to end the assignments early.

Furthermore, not only are the people in the academia and business worlds interested in cross-cultural research. In the field of counseling service (Abe-Kim et al., 2002; Sue, 1994), and social work and health care (Braun and Browne, 1998), professionals and researchers also encourage mutual understanding among cultures. Therefore this research will explore factors that could potentially enhance mutual understanding and acceptance that may help these different fields.

There are some key variables suggested by research that are important to recognize in cross-cultural settings, including social support, coping strategies, and communication skills. We believe that through understanding the differences on these variables across cultures we will be able to better appreciate and interact with people of other cultures. On the aspect of social support, Glazer (2006) studied social support between supervisors and co-workers across cultures since research shows that social support is a main cause of maladjustment problems. The difference between coping strategies to stress in different cultural contexts is also starting to receive attention (Taylor et al., 2004; Tweed, White, & Lehman, 2004; Ward & Kennedy, 2001). On the aspect of communication style, Burlison (2003) believed that cultures did differ on the perceived importance of communication skills in terms of friendship and romantic relationship.

The purpose of this study was to investigate the cultural differences on these variables: social support, coping strategy, communication skills, along with another interpersonal interaction related variable—social skills—between students in America and Taiwan. We would like to see whether cultures do impact the patterns of social support (Beehr & Glazer, 2001), coping strategies (Tweed, White, & Lehman, 2004), communication skills (Burlison, 2003), the measure of Individualism and Collectivism (Triandis & Gelfand, 1998), and the relationship between perceived stress and seeking social support.

### **Social Support**

According to Cohen (2004), social support was defined as the social network that provides individuals with psychological and tangible resources in order to cope with stressful life events. He further divided social support into three types: instrumental, informational, and emotional. Instrumental support refers to the provision of material help such as financial aid or food provision; informational support refers to the provision of guidance or advice to individuals to cope with difficulties or problems; emotional support refers to the demonstration of caring,

loving, and empathy toward individuals. Among these types, emotional support is believed to exert buffering effects to various kinds of stressful events in life.

Social support has been heavily studied and emphasized for the role it plays in physical and psychological outcomes. It is generally believed to be negatively correlated with neuroticism, depression and hostility (Sarason, Sarason, & Shearin, 1986), loneliness (Jones, 1984), and emotional distress (Schwarzer & Leppin, 1989), and is found to be positively correlated with social skills (Sarason, Sarason, & Shearin, 1986) and adaptation (Schwarzer & Leppin, 1991). It can serve as a buffer to the effects of stress and shorten the duration of sickness (Taylor et al., 2004).

Interestingly, social support does not actually need to be activated to be beneficial. Cohen (2004) suggested that when people believe that help is available when needed, they tend to gain confidence in their coping ability to deal with stress. In fact, Wethington and Kessler (1986) compared perceived and received support and concluded that the perception of support was a better buffer to stress. In other words, it is the perception, not the actual support, that is especially advantageous.

Though cultural psychology researchers agree that social support is a valuable factor in many aspects, and evidence shows social support as an important variable for cross-cultural adjustment due to its significant role on interpersonal interaction (Glazer, 2006), studies examining social support and cultures are rare. Caligiuri and Lazarova (2002) claimed that a malfunction of social support was the main reason for poor adjustment in cross-cultural settings. Glazer (2006) believed that the information about the pattern of the impact from different cultures was still lacking.

What makes the situation more puzzling is that studies about the effects of social support across cultures show a mixed pattern of results. Taylor et al. (2004) conducted a cross-cultural study of social support among Koreans and European Americans, and concluded that Koreans and most Far East Asians who shared similar cultural values, due to their efforts to maintain group harmony, tend not to seek social support to deal with problems. They also noted that self-disclosure, which is believed to be helpful for one's coping with stress, might not help Asians whose cultural values are different from those of the Western world. Braun and Browne (1998) summarized the typical traditions of Chinese culture values: the survival and harmony of family is more important than individual; children are expected to absolutely obey parents and take care of parents when they grow up without grudge; personal mistakes bring shame to family; and the coping strategies include endurance, avoidance, and "not thinking about it too much;" individuals are not expected to share personal problems with others; and it is assumed that talking will not resolve problems (however, talking about physical symptoms is acceptable, and thus somatoform disorders are not uncommon among Chinese immigrants in the U.S.). Chao (1996) suggested that Chinese mothers were much more likely than European-American mothers to de-emphasize children's social skills and focused mainly on the value of education. The de-emphasis of social skills might hamper children's actively seeking help. Therefore, this list of traditional values provides evidence that Asians might perceive social support differently and might not benefit from the support as do Americans: they are encouraged to care and talk less about themselves and emotional needs; instead, they are supposed to focus the attention on group harmony and relationship. The methods for Americans to seek support may be perceived as "trouble making" in Asians' eyes.

However, some research offers different evidence. Triandis et al. (1988) concluded that people of collectivistic cultures had more social support and might have better health outcomes than did people of individualistic cultures. Tweed, White, and Lehman (2004) studied whether three ethnic groups (European Canadians, East Asian Canadians, and Japanese) sought social support differently, and their results indicated that there were no significant differences.

Furthermore, Liang and Bogat (1994) studied the adjustment patterns of students in the U.S. and China, and claimed that social support helped American students to cope with stress but caused maladjustment among Chinese students. They reasoned that requesting help is stressful for Chinese since traditional values tell them that receiving help and support from others implies vulnerability and incompetence. Followed Liang and Bogat's results, Zea et al. (1995) studied the relationship between social support and adaptation across four different ethnic groups (African Americans, Latinos, Whites, and Asian Americans), and predicted the relationship would be significant among all groups except Asians, who might rely on self-discipline instead of social support for adjustment. However, the results indicated the relationship was positively correlated across all groups, including Asians. One potential reason might be that the Chinese subjects in Liang and Bogat's (1994) study were in China, while Zea et al. (1995) measured the social support of Asians in America. It is possible that the Asians in America might be acculturated and thus are more likely to seek social support as do Americans.

From the studies described above, we learned that research showed an inconsistent pattern across individualistic and collectivistic cultures. In terms of seeking social support, however, we believed that due to their traditional values, Taiwanese students should be less likely to seek social support as a buffer to stress. Thus we hypothesized:

H<sub>1</sub>: Taiwanese students would be less likely to seek social support as coping strategies to stress compared to American students.

In addition, studies show that the perception of social support, rather than actual support, is more advantageous. Taylor et al. (2004) suggested that although Asians were less likely to actually seek support, they might still benefit from merely believing the support network was available. From this perspective, Asians should have the same level of perceived social support as do Americans.

H<sub>2</sub>: The level of perceived social support in both Taiwanese students and American students would not be different.

### **Coping Strategies**

Tweed, White, and Lehman (2004) suggested that the effects of culture on stress and coping strategies receive less attention than they deserve. In their study, they hypothesized that the traditional collectivistic East Asian culture drives individuals to cope with stressful life events by adapting themselves to fit the demands of the situation (which they call “internally targeted control,” different from “externally targeted control,” which is a more individualistic approach). Strategies such as “accepting the problem,” “distancing,” and “self-control” are categorized as internally targeted control; “planning” and “confrontation,” by contrast, are externally targeted control. The results generally supported the hypothesis, except the use of planning strategy did not show a significant difference across cultural groups. However, Taylor et al. (2004) studied the coping patterns of American and Asian students and found that Americans did rely more on planning and active coping strategies than did Asians. This elaborate finding is worthy of further exploration and therefore will be tested in this study.

Tweed, White, and Lehman (2004) summarized possible reasons for why collectivistic cultures were prone to internally targeted control when coping. In collectivistic cultures, group

harmony is more important than individual needs (Braun & Browne, 1998; Taylor et al., 2004). Externally targeted control, by definition, is changing the environment to fit individuals' needs, which could potentially disrupt harmony. Second, one of collectivistic culture's characteristics is high-power distance, which demands people accept the pressure from situations. Furthermore, religions and beliefs also play an important role. The philosophy of Buddhism, which is deeply rooted in East Asian countries, tells people to escape from suffering by eliminating all desires. Another widespread religion, Taoism, encourages people to adapt to nature. Thus, an individual must regulate oneself instead of attempting to control the world, since changing the world is much harder and might interrupt the harmony.

From this perspective, we reasoned that Taiwanese students would utilize internally targeted control more than would American students. Taiwanese would be prone to rely on strategies such as self-distraction, positive reframing, and acceptance. American students would be more likely to resort to active coping, use of instrumental support, and planning.

H<sub>3</sub>: Taiwanese students would be more likely to utilize internally targeted control strategies, while American students would be more likely to rely on externally targeted control strategies to cope with stress.

### **Communication Values**

Burleson (2003) noted that although emotional support was strongly suggested by literature to be beneficial in interpersonal relationships, almost all of the research has been conducted in Western cultures. He claimed that researchers have gradually realized over the years that different cultures do affect communication and emotional patterns differently; people of different cultural backgrounds will express and manage emotions and friendships in many different ways. Without examining and understanding these differences, interacting with people from diverse cultures may be ineffective and difficult.

For the purpose of understanding cultural differences on the aspect of various communication skills evaluations, Burleson and Samter (1990) developed an instrument, the Communication Functions Questionnaire (CFQ), to measure people's preferences for certain communication skills in friendships. There are eight total skills measured. Four skills in the scale are related to affectively oriented communication skills: comforting (the ability to make people feel better when depressed), conflict management (the ability to help people resolve disagreements), ego support (the ability to make people feel good about themselves), and behavioral regulation (the ability to help people fix their mistakes). The other four skills are related to interactional/instrumental skills: conversing (the ability to start and maintain casual conversations), informing (the ability to convey information clearly to people), persuading (the ability to change people's thoughts and behaviors), and narrative skills (the ability to amuse people by telling jokes or stories). Burleson (2003) summarized the research that used the instrument across individualistic and collectivistic cultures. These results showed, first, that both cultures equally valued the skills of emotional support such as comforting, ego-support, and conflict management as important; in fact, he concluded that emotional support was appreciated as the most desirable skill across cultures. Second, individuals from individualistic cultures preferred interaction skills such as conversational and narrative skills more than did individuals from collectivistic cultures, while individuals from collectivistic cultures preferred instrumental skills such as regulating and persuading skills more than did individuals from individualistic cultures. He noted that people across cultures see the importance of communication skills in close relationships in very similar ways. People tend to prefer person-centered interaction skills to other forms of skills (e.g., escape, dismiss, solve, solace).



We were interested in exploring the cultural differences between Taiwanese and Americans in terms of comforting and ego support skills, the two skills that are related to social support. Burleson et al. (2006) studied local Chinese students on their perceptions of the importance of comforting and ego support skills, and then compared the data with American archival data they collected in previous research. They concluded that both cultural groups valued the importance of these two skills similarly. However, one of the limitations of Burleson et al.'s (2006) study was the ambiguous translations of items, which they reasoned to be the cause of the measures' minimally acceptable reliabilities. In the current study, the translation of English items into Mandarin Chinese had been carefully examined and further modified.

One important limitation across most of the studies was that the collectivistic culture samples were mostly sojourners in America. They were likely to be more independent than were resident natives because of the influence from the education they received here in America (Burleson, 2003; Burleson & Mortenson, 2003). Therefore, the Taiwanese subjects in this study would be recruited from Taiwan.

We reasoned that based on Burleson et al.'s (2006) study, Taiwanese and American students would equally perceive comforting and ego support skills as important and desirable in close friendships:

H<sub>4</sub>: Both Taiwanese and American students would equally favor comforting and ego support skills in close friendships.

### **Cultural Patterns**

Individualism and collectivism are important cultural constructs heavily studied by cross-cultural researchers. Studies have found these two constructs to be related to different areas such as morality (Miller, Bersoff, & Harwood, 1990), politics (Singelis, Triandis, Bhawuk, & Gelfand, 1995), cognitive development (Witkin & Berry, 1975), and the self (Triandis, 1989). One study

has been successfully predicted behaviors (such as frequency and duration of interactions with others) from these two cultural constructs (Wheeler, Reis, & Bond, 1989). Therefore, the research suggests that individualism and collectivism do have impacts on people's ways of thinking and behaviors.

Hofstede (2001) argued that many cross-cultural studies have committed a mistake in assuming that individuals' nationalities reflect their personal cultural values. He asserted this assumption was not appropriate since cultural values in fact vary from person to person. In other words, an individual from Taiwan might not necessarily be more collectivistic than an individual from America. Further, Dion and Dion (1993) reported that China has become a more individualistic country over the years. Therefore, a measure of individualism and collectivism will help us determine whether these different cultural constructs do or do not impact the variables and the relationships of the variables in which we are interested.

However, these two constructs are often treated as distinctive concepts, and each construct is perceived as homogeneous. Some researchers do not agree with this dichotomous distinction. Triandis (1998) argued that culture was multidimensional, and suggested two other dimensions: horizontal and vertical dimensions. From these two dimensions, we can further divide individualism and collectivism into four different cultural patterns: horizontal individualism (HI), vertical individualism (VI), horizontal collectivism (HC), and vertical collectivism (VC). Triandis and Gelfand (1998) further explained that the horizontal and vertical dimensions were important attributes to distinguish different types of individualism and collectivism. They asserted that the individualism in America is different from other European countries, and Korea's collectivism is not the same with other Far East Asian countries. The key element of the differences is social relationships. According to their study, people relate to

others either horizontally or vertically. Horizontal relationships imply individuals see themselves as no different from others, while vertical relationships imply hierarchical social relationships, that one is different from others.

Triandis and Gelfand (1998) described each of four cultural patterns. People of HI are likely to “do their own thing” and want to be unique, but they are not particularly interested in gaining high status. People of VI are competitors; they want to be the best, and they do so by defeating others. People of HC emphasize equality and interdependence; they are more likely to see a common goal shared with others. Finally, VC people will sacrifice themselves for their in-groups and are more likely to submit themselves to the betterment of the groups to which they belong.

According to cross-cultural research (e.g., Chen & Li, 2005; Chiou, 2001; Triandis & Gelfand, 1998), Asians were more vertically collectivistic than Americans, and Americans were more horizontally individualistic than Asians. Therefore, this study also adopted these assumptions. We employed the measure from Triandis and Gelfand (1998), the Horizontal and Vertical Individualism and Collectivism Scale. This measure would help us to see whether Taiwanese and Americans were different from each other as we expected.

H<sub>5</sub>: Taiwanese students would be more vertically collectivistic than American students.

H<sub>6</sub>: American students would be more horizontally individualistic than Taiwanese students.

### **Perceived Stress**

As hypothesis 1 states, we predicted that Taiwanese would be less likely to actually seek social support. However, the results could be confounded by the different perceptions of stress levels across the groups. Furthermore, we hypothesized that cultural differences would moderate the relationship between perceived stress and actually seeking social support to cope with it.

According to Taylor et al. (2004), an individual from Taiwan would be less likely to seek emotional and instrumental support when she or he goes through highly stressful events in life than would an individual from America due to the traditional collectivist cultural value. Therefore, we employed the Perceived Stress Scale from Cohen et al. (1983) to help us prevent this possible confound and to test the moderation relationship. They defined perceived stress as one's perceptions of how much stress they have experienced. We predicted:

H<sub>7</sub>: Taiwanese students would demonstrate a significantly lower correlation between perceived stress and actually seeking social support behavior than would American students.

## **Method**

### *Participants*

There were 438 respondents participating in this survey, including 134 undergraduate students in Taiwan and 304 American undergraduate students in KSU. Taiwanese students were recruited voluntarily from colleges in Taiwan. American students were recruited from General Psychology classes, and those who participated in this research received credit to partially fulfill their course research participation requirement.

The demographic information was summarized on Table 1. For Taiwanese participants, there were 49 males (36.6%) and 84 females (62.7%), one (.07%) did not identify gender. Ages ranged from 18 to 40 years old, mean age was 21.86 ( $SD = 4.23$ ), and 82% were between 18 and 24 years old. All of the participants were local Taiwanese. One hundred and twenty-seven (96.9%) were single, 4 (3.1%) were married, and 3 (2.3%) did not identify marital status. For those who were asked about their religions ( $N = 50$ ), 4 (8%) identified themselves as Christians, 4 (8%) Taoists, 7 (14%) Buddhists, 31 (62%) did not have a religion, 2 (4%) reported "other" but did not specify, and 2 (4%) did not report their religion at all. For American participants, there were 104 males (34.2%) and 200 females (65.8%), ages ranged from 17 to 64, mean age was

19.58 ( $SD = 4.03$ ), and 96.5% were between 18 and 24 years old. There were 271 Caucasians (89%), 9 Blacks/African Americans (3%), 9 Asians (3%), 9 Hispanic/Latinos (3%), and 6 American Indians/Alaska Natives (2%). 82.2% were from the state of Kansas. Two hundred and ninety-three (96.4%) were single, 10 (3.3%) were married, and 1 (.3%) was widow. Of all the participants who were asked to report about their religions ( $N = 114$ ), 100 (87.7%) reported themselves as Christians, 1 (.9%) believed in Islam, 3 (2.6%) did not have a religion, and 10 (8.8%) reported “other,” including Atheist and Agnostic.

### *Measures*

The first measure collected demographic information, including participants’ genders, where they were from, marital status, and ethnicity. In addition to demographic information, the measures assessed perceived social support, coping strategies, individualism and collectivism, communication values, perceived stress, and positive and negative affect.

#### *Perceived Social Support*

Perceived social support was assessed using Sarason et al.’s (1983) Social Support Questionnaire (SSQ). According to Wills and Shinar (2000), the SSQ specifically measures emotional support from one’s social network. Cohen (2004) defined emotional support as one’s loving and caring toward others. An individual who provides emotional support to another individual will be expressing his or her empathy, caring, reassurance, and trust toward the receiver. The SSQ is a 27-item scale measuring the size of one’s support network and the level of satisfaction with one’s social support. There were two scores reported: the size of the social network, and the perceived satisfaction of support. For the measure of social network size, respondents were first asked to identify a list of people (they were asked to list no more than nine persons) that respondents believed would be willing to offer help or support in 27 circumstances (e.g., *Whom do you feel would help you if you were married and had just separated from your*

*spouse?*). The range of the scores was between 0 and 9. For the measure of the satisfaction of support, the respondents answered how satisfied they felt with the support using a Likert-type scale from 1 = *very dissatisfied* to 6 = *very satisfied*. The range of the scores was between 1 and 6. Sarason et al. (1983) reported the test-retest reliability for the social network size scale to be .90, and for the satisfaction scale to be .83.

### *Coping Strategies*

The measure of coping strategies was adapted from Taylor et al.'s (2004) second study. Respondents were first asked to read the following statement:

Most people encounter social stressors on a fairly regular basis. You might have had roommate problems, difficulties with a boyfriend or girlfriend, conflicts with your parents, a falling out with a friend, or just plain be lonely. Think back over the last three months and identify the greatest social stressor you faced. Describe it briefly in the space below.

After respondents briefly responded to the above statement in writing narrative in the space provided, they were asked to complete the short version of the COPE inventory (Carver, 1997). It is a measure of the respondents' frequency with which they use different coping strategies to deal with stressful events in life. It contains 28 Likert-type items from 1 = *I haven't been doing this at all* to 4 = *I've been doing this a lot*. There are fourteen types of strategies in response to stress: Self-Distraction (SD) (e.g., *I've been turning to work or other activities to take my mind off things*), Active Coping (AC) (e.g., *I've been taking action to try to make the situation better*), Denial (D) (e.g., *I've been refusing to believe that it has happened*), Substance Use (SU) (e.g., *I've been using alcohol or other drugs to make myself feel better*), Emotional Support (ES) (e.g., *I've been getting emotional support from others*), Instrumental Support (IS)

(e.g., *I've been getting help and advice from other people*), Behavioral Disengagement (BD) (e.g., *I've been giving up trying to deal with it*), Venting (V) (e.g., *I've been expressing my negative feelings*), Positive Reframing (PR) (e.g., *I've been looking for something good in what is happening*), Planning (P) (e.g., *I've been thinking hard about what steps to take*), Humor (H) (e.g., *I've been making jokes about it*), Acceptance (A) (e.g., *I've been learning to live with it*), Religion (e.g., *I've been praying or meditating*), and Self-Blame (SB) (e.g., *I've been blaming myself for things that happened*). Each type of strategy was measured by two items in the study, and the average of each strategy was reported. Therefore, there were fourteen strategy scores, and the range of each strategy's score was between 1 and 4. For the purpose of comparing the cultural differences of using social support as a buffer to stress, the Emotional Support and Instrumental Support were used as measures of social support and were analyzed to test hypothesis 1. Furthermore, in order to test hypothesis 3, Self-Distraction, Positive Reframing, and Acceptance were used as measures of internally target control strategies; Active Coping and Planning were used as measures of externally target control strategies. Troy, Lewis-Smith, and Laurenceau (2006) reported the alpha for the complete scale to be between .81 and .82. Carver (1997) reported the alpha for the following strategies: Emotional Support, .71; Instrumental Support, .64; Positive Reframing, .64; Acceptance, .57; Active Coping, .68; and Planning, .73.

#### *Individualism and Collectivism*

Individualism and Collectivism were measured using Triandis and Gelfand's (1998) Horizontal and Vertical Individualism and Collectivism Scale. Triandis and Gelfand (1998) argued that there were two dimensions within Individualism and Collectivism: horizontal (emphasizes the equality of social relationships) and vertical (emphasizes the hierarchy of social relationships). There are four dimensions in the scale, each dimension contains four Likert-type

items from 1 = *Never* to 5 = *Very often*: Horizontal Individualism (HI) (e.g., *I'd rather depend on myself than others*), Vertical Individualism (VI) (e.g., *It is important that I do my job better than others*), Horizontal Collectivism (HC) (e.g., *If a coworker gets a prize, I would feel proud*), and Vertical Collectivism (VC) (e.g., *Parents and children must stay together as much as possible*). The range of the scores for each dimension was between 1 and 5 in the study. Cukur, de Guzman, and Carlo (2004) studied three cultures (the Turkey, the Philippines, and the United States) and reported the Cronbach's alpha for the Horizontal Individualism, Horizontal Collectivism, Vertical Collectivism, and Vertical Individualism to be as following: .55, .63, .84, and .67 for the Turkey, respectively; .70, .78, .89, and .77 for the Philippines, respectively; and .63, .64, .81, and .76 for the United States, respectively.

#### *Communication Values*

Communication values were measured using the Communication Functional Questionnaire (CFQ) by Burleson and Samter (1990). The CFQ contains 40 Likert-type items from 1 = *Not at all important* to 7 = *Very Important*. It assesses the perception of the importance of eight communication skills: comforting (e.g., *Can really help me work through me emotions when I am feeling upset or depressed about something*), conflict management (e.g., *Makes me believe it is possible to resolve our conflicts in a way that will not hurt or embarrass each other*), ego support (e.g., *Makes me strive to be the very best person I can be*), behavioral regulation (e.g., *Makes me want to correct the mistakes I make, to make good on the rules I break*), conversing (e.g., *Can shoot the breeze for hours on end*), informing (e.g., *Explains things very well*), persuading (e.g., *Can get people to do just about anything*), and narrative skill (e.g., *Always telling an entertaining joke or an interesting story*). The scores ranged from 1 to 7. The reliability of the eight scales from Burleson and Samter (1990) ranged from .69 to .84. In this



study, only comforting and ego support were included since these were the two skills that were related to social support.

### *Perceived Stress*

Perceived stress was measured using the Perceived Stress Scale (PSS) by Cohen et al. (1983). This is a 14-item Likert-type scale from 0 = *never* to 4 = *very often*. The total score ranges from 0 to 56. It gauges the frequency with which the respondents have come across stressful events in their lives in the last month (e.g., *In the last month, how often have you felt nervous and 'stressed?'*). Cohen et al. (1983) reported internal consistency reliability ranged from .84 to .86; test-retest reliability was better for a short period (.85 for a two-day period) than for a longer period (.55 for a six-week period).

### *Positive and Negative Affect*

After collecting some data from a certain number of participants, a second version of survey with all the questionnaires in opposite order was distributed. In the second version of survey, The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF) was added in the end so to pinpoint possible emotions stimulated by the questionnaires. The I-PANAS-SF was employed to estimate participants' affects. It was developed by Thompson (2007), and contains ten words that describe different emotions, five positive and five negative. The five positive words are *alert, inspired, determined, attentive, and active*; the five negative words are *upset, hostile, ashamed, nervous, and afraid*. Participants are supposed to think about how they feel and indicate how much the words describe these feelings accurately by a Likert-type scale from 1 = *never* to 5 = *always*. Thompson (2007) reported the test-retest reliability for Positive Affect (PA) and Negative Affect (NA) Cronbach's alphas to be .78 and .76, respectively.

### *Procedure*

Questionnaires for Taiwanese students were translated from English to Mandarin Chinese (the official language in Taiwan) by two Taiwanese students, and then translated back again from Mandarin to English by another two Taiwanese students to ensure accuracy. Questionnaires were then saved as word documents and attached to an email sent to college professors in Taiwan. In the email we requested the professors' help by informing their students about this research opportunity. The professors who were willing to help would either post this survey opportunity on college online bulletins or forward the email to their students. In order to motivate students to participate, students who completed the questionnaires would be automatically registered in a lottery for \$50. Students filled out the questionnaires any time at their convenience, and then emailed the questionnaires back to the researcher when finished. Two winners were randomly chosen and one money order with a value of \$50 was mailed to each winner. The questionnaires took approximately 50 minutes to complete. The first page of the word document contained an informed consent form, instructions for filling out the questionnaires, and examples of how to correctly answer the questions. The participants indicated their agreement to participate by checking a box on the first page. After the participants finished the questionnaires, they were debriefed and thanked by the information on the last page.

For American students, the questionnaires were posted on the KSU online survey system. The online survey information with the website address was posted on the waiting area in the hallway of KSU Psychology Department. Those who were willing to complete the questionnaires took the online survey address and completed the questionnaires any time at their convenience. The questionnaires took approximately 50 minutes to complete. The first page of the online questionnaires was the informed consent form, instructions for completing the

questionnaires, and examples of how to correctly answer the questions. The participants indicated their agreement to participate by checking a box on the first page. After the participants finished the questionnaires, they were debriefed and thanked by the information on the last page.

After collecting some data from a number of participants, in order to eliminate possible order-effect, a second version of the surveys with all of the measures in opposite orders was posted online for American students and distributed through emails for Taiwanese students. In this second version of survey, the I-PANAS-SF was added in the end, along with two extra questions asking “*What is your religion?*” and “*How religious are you?*” in the demographic information. These two religion questions were added in order to see if religion acted as a factor that could influence coping strategies, as Tweed, White, and Lehman (2004) claimed.

## **Results**

### *Examining the Data*

Prior to analysis, all variables were examined for accuracy of data entry and missing values. The analysis showed that the missing values were less than 5% and were random, therefore would be unlikely to create problems for data analysis.

The reliabilities of all variables across the two cultural groups were also examined, and the Cronbach’s alphas were reported on Table 2. As the results indicated, almost all alpha values were between .70 and .90, but self distraction, positive reframing, and acceptance were below .70, but above .60, which was minimally acceptable. The data were also screened to see whether there were violations of the assumptions of the general linear model. The data did not violate the assumptions of normality, homogeneity of variance, linearity, and multicollinearity to any great degree.

### *The Impacts of Culture on Seeking Social Support*

In hypothesis 1 we predicted that Taiwanese students would be less likely to seek social support as a coping strategy for stress than would American students. We performed independent samples *t*-tests to evaluate the hypothesis. The results, however, did not support the hypothesis. For seeking emotional support, Taiwanese ( $M = 2.64, SD = 0.82$ ) were no less likely than Americans ( $M = 2.59, SD = 0.91$ ) to utilize this strategy,  $t(436) = -0.54, ns$ . For seeking instrumental support, Taiwanese ( $M = 2.70, SD = 0.80$ ) again were no less likely than Americans ( $M = 2.62, SD = 0.96$ ) to utilize this strategy,  $t(436) = -0.87, ns$ . Therefore, Taiwanese and Americans participants in this study equally sought social support as a coping strategy for stress.

### *The Impacts of Culture on Perceived Social Support*

Hypothesis 2 stated that the levels of perceived social support in both groups would not be significantly different. In order to compare the sizes of the social networks of the two groups, means were calculated and independent samples *t*-tests were performed. The results, however, did not support the hypothesis. For social network size, Americans ( $M = 4.58, SD = 2.26$ ) had significantly larger social networks than did Taiwanese ( $M = 3.15, SD = 1.76$ ),  $t(436) = 6.51, p < .001$  (effect size  $d = .62$ ). For social support satisfaction, Americans ( $M = 5.13, SD = 0.95$ ) also had a higher level of satisfaction than did Taiwanese ( $M = 4.74, SD = 0.96$ ),  $t(436) = 3.88, p < .001$  (effect size  $d = .37$ ). The results indicated that the American participants in this study had larger social networks and higher levels of social support satisfaction.

### *The Impacts of Culture on Targeted Control Strategies*

In hypothesis 3, we expected that Taiwanese students would be relatively more likely than Americans to utilize internally targeted control strategies, while American students would be relatively more likely than Taiwanese to rely on externally targeted control strategies to cope

with stress. Self-distraction, positive reframing, and acceptance were analyzed as internally targeted control strategies, while active coping and planning were analyzed as externally targeted control strategies. A one-way MANOVA was performed on each set of targeted control strategies across the two cultural groups. Therefore, the first one-way MANOVA was performed with cultural group as an independent variable predictor (Taiwanese vs. Americans), and the measures of self-distraction, positive reframing, and acceptance as the set of dependent variables. The second one-way MANOVA was performed with cultural group as an independent variable, and active coping and planning as the set of dependent variables.

The one-way MANOVA on the three internally targeted control strategies showed a significant main effect of cultural group:  $F(3, 434) = 8.70, p < .001$ , Wilk's Lambda = .94, Eta-squared = .057, indicating that the strategies used to cope with stress were influenced by culture. Descriptive data showed that Taiwanese participants had higher means across these three strategies: Self-distraction ( $M = 2.92, SD = 0.76$ ), positive reframing ( $M = 2.90, SD = 0.75$ ), and acceptance ( $M = 3.25, SD = 0.70$ ) than did American participants ( $M = 2.70, SD = 0.85$ ;  $M = 2.59, SD = 0.89$ ; and  $M = 2.89, SD = 0.78$ , respectively). The univariate ANOVA performed on each strategy further revealed that these differences were significant: Self-distraction,  $F(1, 436) = 6.55, p < .05$ , Eta-squared = .015; positive reframing,  $F(1, 436) = 12.65, p < .001$ , Eta-squared = .027; and acceptance,  $F(1, 436) = 21.41, p < .001$ , Eta-squared = .045.

In order to avoid the potential Type I error, a Bonferroni correction was employed on each univariate ANOVA test, and the results were still significant at the Bonferroni corrected significant levels of .016. These results support the hypothesis, which indicated that Taiwanese participants were more likely to utilize internally targeted control strategies than were American participants.

Another one-way MANOVA was performed on the two externally targeted control strategies across two groups. The result again showed a significant main effect of cultural group:  $F(2, 435) = 13.31, p < .001$ , Wilk's Lambda = .94, Eta-squared = .057, indicating that the strategies used to cope with stress were influenced by culture. However, the univariate ANOVAs revealed that the hypothesis was not supported by the pattern of differences found. Taiwanese ( $M = 2.88, SD = 0.76$ ) and Americans ( $M = 2.81, SD = 0.82$ ) had no significant difference on using the active coping strategy,  $F(1, 436) = .77, ns$ . Furthermore, there was a significant difference on using planning as a coping strategy, with Taiwanese participants ( $M = 3.08, SD = 0.74$ ) reporting using this approach more often than did American participants ( $M = 2.68, SD = 0.85$ ),  $F(1, 436) = 22.46, p < .001$ , Eta-squared = .048. In order to avoid the potential Type I error, a Bonferroni correction was employed, and the results were still significant at the Bonferroni corrected significant levels of .025. These results indicated that both Taiwanese and American participants used active coping equally, and Taiwanese participants used planning more than did Americans.

#### *Roy-Bargmann Stepdown Analyses for Internally and Externally Targeted Control Strategies*

Though the two sets of one-way MANOVAs revealed that the internal and external targeted control strategies were significantly different across the two cultural groups, and the univariate ANOVAs pinpointed the strategies that contributed to the differences, there was a concern of correlated univariate  $F$  tests with correlated dependent variables in multivariate analysis. This problem could be solved by stepdown analysis (Bock, 1966; Bock & Haggard, 1968). Therefore the analysis was performed on both internal and external targeted control strategies.

For internal targeted control strategies, since the literature did not specify which strategy would be more important than the others, we decided the priorities of the three variables to be self distraction, positive reframing, and acceptance, based mainly on Braun & Browne's (1998) report about the Chinese cultural values. According to their study, Chinese tend to cope with stress by avoidance and not worrying about the problem too much. These strategies are more related to distraction and positive reframing. Therefore, along with the previous test of self distraction in univariate ANOVA, which showed a significant difference across Taiwanese and Americans, we tested positive reframing in ANCOVA with self distraction as a covariate, and then acceptance in ANCOVA with self distraction and positive reframing as covariates.

The testing of positive reframing in ANCOVA with self distraction as a covariate revealed a significant difference across Taiwanese and Americans,  $F(1, 435) = 9.10, p < .01$  (see Table 3a). The testing of acceptance in ANCOVA with self distraction and positive reframing as covariates again revealed a significant difference across Taiwanese and Americans,  $F(1, 435) = 9.98, p < .01$  (see Table 3b). Therefore, these results indicated that each of these three strategies was significantly contributing to the differences across the two cultural groups.

For external targeted control strategies, we decided the priorities to be active coping and then planning mainly based on Carver, Scheier, and Weintraub (1989), who stated that when facing a stressor, especially when it is controllable, active coping predominates. Therefore, along with the previous test of active coping in univariate ANOVA, which did not show significant difference across Taiwanese and Americans, we performed an ANCOVA with planning as the dependent variable and active coping as the covariate. The results revealed a significant difference across Taiwanese and Americans,  $F(1,435) = 25.72, p < .001$  (see Table 3c). The results indicated that the cultural groups did not differ on active coping, and after

controlling for active coping as a covariate, planning was still significantly different across two cultural groups.

#### *The Impacts of Culture on Communication Values*

Hypothesis 4 suggested that both Taiwanese and American students would value comforting and ego support equally in same-sex friendship relationships. A one-way MANOVA was performed to see if these two variables were significantly different across the two groups. The results showed a significant main effect of cultural group:  $F(2, 435) = 9.62, p < .001$ , Wilk's Lambda = .96, Eta-squared = .042, which indicated that how much the participants favored the friendship skills depended on participants' culture. The univariate ANOVA revealed that Taiwanese ( $M = 5.42, SD = 0.96$ ) were not significantly different from Americans ( $M = 5.44, SD = 1.16$ ) on the value of comforting,  $F(1, 436) = .01, ns$ . For the skill of Ego Support, however, the analysis indicated that Americans ( $M = 5.77, SD = 1.09$ ) favored this skill significantly more than did Taiwanese ( $M = 5.44, SD = 1.01$ ),  $F(1, 436) = 9.09, p < .01$ , Eta-squared = .02. In order to avoid the potential Type I error, a Bonferroni correction was employed, and the results were still significant at the Bonferroni corrected significant levels of .025. Therefore, the hypothesis was only partially supported: both Taiwanese and American participants favored comforting in same-sex friendship relationship equally, but American participants favored ego support more than did Taiwanese.

#### *The Analyses of Cultural Patterns*

Hypothesis 5 stated that Taiwanese students would be more vertically collectivistic (VC) than American students, and hypothesis 6 stated that American students would be more horizontally individualistic (HI) than Taiwanese students. A 2 (cultural groups: Taiwanese vs. Americans) X 4 (cultural pattern: VC, VI, HC, HI) mixed factorial ANOVA with cultural pattern



as a repeated measures factor was performed. We did not expect a main effect of cultural groups to be significant, nor did we expect a main effect of cultural pattern. We did expect there would be a significant interaction (cultural groups X cultural patterns), which specifically indicated the American and Taiwanese respondents would answer differently across the different cultural patterns.

The results showed that there was a significant main effect for cultural patterns,  $F(3, 1308) = 103.30, p < .001, \eta^2 = .192$ , indicating there were differences among these patterns. A significant main effect for groups was also found,  $F(1, 436) = 14.13, p < .001, \eta^2 = .031$ , indicating there was significant difference across two cultural groups. A cultural groups X cultural pattern interaction was also found to be significant:  $F(3, 1308) = 4.97, p < .05, \eta^2 = .011$ , indicating there were significant interactions among cultural patterns and groups qualifying the main effects (see Figure 1). Simple effect analyses were used to probe the significant interaction to test hypothesis 5 and hypothesis 6. It was expected that Taiwanese would be significantly higher on VC than were Americans, and Americans would be significantly higher on HI than were Taiwanese. However, neither hypothesis was supported. Taiwanese ( $M = 3.48, SD = 0.76$ ) were significantly lower on VC than were Americans ( $M = 3.86, SD = 0.72$ ),  $F(1, 436) = 17.55, p < .001$ , and there was no significant difference between Taiwanese ( $M = 3.71, SD = 0.63$ ) and Americans ( $M = 3.84, SD = 0.73$ ) on HI,  $F(1, 436) = 1.95, ns$ . The other two dimensions, VI and HC, were also compared. The groups were not significantly different on VI (Taiwanese  $M = 3.00, SD = 0.84$ ; Americans  $M = 3.01, SD = 0.81$ ),  $F(1, 436) = .005, ns$ , or HC (Taiwanese  $M = 3.61, SD = .69$ ; Americans  $M = 3.78, SD = .67$ ),  $F(1, 436) = 3.44, ns$ . Therefore, American participants were higher on VC than were Taiwanese, and there were no significant difference on HI, VI, and HC across these two cultural groups.

### *The Analyses of Individualism/Collectivism and Horizontal/Vertical Dimensions*

We also compared the constructs of individualism and collectivism, and also horizontal and vertical dimensions across the two cultural groups in order to test the following predictions: Taiwanese would be more collectivistic than Americans, Americans would be more individualistic than Taiwanese, Taiwanese would be more vertical than Americans, and Americans would be more horizontal than Taiwanese. Scores of HI and VI were combined as individualism, HC and VC as collectivism, HI and HC as a horizontal dimension, and VI and VC as a vertical dimension. The 2 (Taiwanese vs. Americans) X 2 (Individualism vs. Collectivism) mixed factorial ANOVA with cultural constructs as a repeated measures factor revealed that the main effect for cultural constructs was significant,  $F(1, 436) = 49.41, p < .001$ , Eta-squared = .102, indicating that the means of individualism and collectivism were significantly different. A significant main effect for group was also obtained,  $F(1, 436) = 14.13, p < .001$ , Eta-squared = .031, indicating that the means of Americans and Taiwanese were significantly different. Furthermore, a significant group X cultural construct was obtained,  $F(1, 436) = 6.16, p < .05$ , indicated that there was an interaction between cultural constructs and cultural groups that qualifying the main effects (see Figure 2). Simple effect analyses were conducted to probe the hypotheses that Taiwanese would be more collectivistic than Americans and Americans would be more individualistic than Taiwanese. However, neither hypothesis was supported. Taiwanese ( $M = 7.09, SD = 1.24$ ) were significantly lower on collectivism than were Americans ( $M = 7.64, SD = 1.20$ ),  $F(1, 436) = 18.28, p < .001$ , and there was no significant difference between Taiwanese ( $M = 6.71, SD = 1.15$ ) and Americans ( $M = 6.84, SD = 1.19$ ) on individualism,  $F(1, 436) = 1.08, ns$ . The results showed that both Taiwanese and American participants were equally

individualistic, and American participants in this study were higher on collectivism than were Taiwanese.

Also, the 2 (Taiwanese vs. Americans) X 2 (Horizontal vs. Vertical) mixed factorial ANOVA with cultural dimension as a repeated measures factor revealed that the main effect for cultural dimensions was significant,  $F(1, 436) = 151.55, p < .001$ , Eta-squared = .258, indicating that the means of horizontal and vertical dimensions were significantly different. A significant main effect for group was also obtained,  $F(1, 436) = 14.13, p < .001$ , Eta-squared = .031, indicating that the means of Americans and Taiwanese were significantly different. For horizontal dimension, Americans ( $M = 7.61, SD = .99$ ) were indeed significantly higher than were Taiwanese ( $M = 7.32, SD = .97$ ). For vertical dimension, Americans ( $M = 6.86, SD = 1.18$ ) were also significantly higher than were Taiwanese ( $M = 6.48, SD = 1.11$ ). Therefore, Americans participants in this study were higher in horizontal and vertical dimensions than were Taiwanese. The group X cultural dimensions interaction was not significant,  $F(1, 436) = .51, ns$ , indicating that there was no interaction between cultural dimensions and cultural groups (see Figure 3).

#### *Relationships Between Perceived Stress and Seeking Social Support Across Cultural Groups*

Finally, hypothesis 7 stated that Taiwanese students would have a significantly lower correlation between perceived stress and seeking social support than would American students. In terms of seeking social support, we tested both the use of emotional support and instrumental support. First, we performed a hierarchical multiple regression to examine the association between perceived stress, seeking emotional support, and the two cultural groups. In the first step, we entered group and perceived stress as predictors of the criterion variable seeking emotional support. The result of the first step was not significant,  $F(2, 435) = .15, ns, R^2 = .001$ ,

which indicated that these two variables did not contribute significantly to the seeking of emotional support. In the second step, we entered the product term carrying the interaction between the cultural group X perceived stress. The result, again, was not significant,  $F(3, 434) = .92, ns$ ; the  $R^2$  value was not significantly improved by the second step,  $R^2$  change = .006,  $ns$ . These results indicated that neither Taiwanese nor Americans showed a significant relationship between perceived stress and seeking emotional support, and the strength of the relationships across these two cultural groups were not significant different.

Another hierarchical multiple regression was also performed to examine the association between perceived stress, seeking instrumental support, and two cultural groups. The first step was again not significant,  $F(2, 435) = .38, ns, R^2 = .002$ , which indicated that the variables of cultural groups and perceived stress did not contribute significantly to the seeking of instrumental support. The second step was not significant either,  $F(3, 434) = .34, ns$ ; the  $R^2$  value was not significantly improved by the second step,  $R^2$  change = .001,  $ns$ . These results indicated that neither Taiwanese nor Americans showed a significant relationship between perceived stress and seeking instrumental support, and the strength of the relationships across these two cultural groups were not significant different.

#### *The Impacts of the Four Cultural Patterns on Social Support, Coping Strategies, and Communication Values*

Triandis et al. (1988) suggested that people of collectivistic culture would have more social support than would people of individualistic cultures. However, Tweed, White, and Lehman (2004) did not find significant differences among European Canadians, East Asian Canadians, and Japanese in terms of seeking social support. Further, Taylor et al. (2004) claimed that people of collectivistic cultures would be less likely to seek social support than

would people of individualistic cultures. Since we have measured participants' cultural patterns and their social support variables, along with their coping strategies and communication values, it would provide some insight to test the relationships among these cultural patterns and the other variables.

Therefore, we also explored the relationships between the four cultural patterns (HI, VI, HC, and VC) and each of the dependent variables in which we were interested: social support network size and satisfaction, seeking emotional and instrumental support, internally and externally targeted control strategies, and the importance of comforting and ego support skills. In other words, we investigated whether cultural patterns were related to the levels reported for these dependent variables, and if so, how well. A series of multiple regressions were performed on each of the dependent variables, with scores on the four cultural patterns as predictors.

First, a multiple regression was performed with scores on the four cultural patterns as predictors and social network size as the dependent variable. A significant model was obtained,  $F(4, 433) = 12.78, p < .001, R^2 = .10$ ; significant unique predictor variables were HI ( $\beta = -.11, p < .05$ ), HC ( $\beta = .22, p < .001$ ), and VC ( $\beta = .13, p < .05$ ). The results indicated that HI, HC, and VC were significant unique predictors of individual's social network size: people who were lower on HI and higher on HC and VC had larger social networks.

Another multiple regression was performed with social support satisfaction as the dependent variable. A significant model was again obtained,  $F(4, 433) = 6.96, p < .001, R^2 = .06$ ; significant unique predictor variables were HC ( $\beta = .15, p < .01$ ) and VC ( $\beta = .13, p < .05$ ). This indicated that HC and VC were significant unique predictors of the satisfaction of social support: people who were higher on HC and VC were more satisfied with their levels of social support.

The multiple regression with use of emotional support as the dependent variable revealed that the model was significant,  $F(4, 433) = 14.35, p < .001, R^2 = .12$ ; the only significant unique predictor variable was HC ( $\beta = .35, p < .001$ ). People who were higher on HC were more likely to use emotional support to cope with stress.

The multiple regression with use of instrumental support as the dependent variable revealed that the model was significant,  $F(4, 433) = 14.14, p < .001, R^2 = .12$ ; the only significant unique predictor variable was HC ( $\beta = .32, p < .001$ ). People who were higher on HC were more likely to use instrumental support to cope with stress.

The multiple regression with self distraction as the dependent variable revealed that the model was significant,  $F(4, 433) = 4.15, p < .01, R^2 = .037$ ; significant unique predictor variables were HI ( $\beta = .15, p < .01$ ) and HC ( $\beta = .12, p < .05$ ). People who were higher on HI and HC were more likely to use self distraction to cope with stress.

The multiple regression with positive reframing as the dependent variable revealed that the model was significant,  $F(4, 433) = 9.11, p < .001, R^2 = .08$ ; the only significant unique predictor variable was HC ( $\beta = .28, p < .001$ ). People who were higher on HC were more likely to use positive reframing to cope with stress.

The multiple regression with acceptance as the dependent variable revealed that the model was significant,  $F(4, 433) = 5.39, p < .001, R^2 = .047$ ; the only significant unique predictor variable was HC ( $\beta = .22, p < .001$ ). People who were higher on HC were more likely to use acceptance to cope with stress.

The multiple regression with active coping as the dependent variable revealed that the model was significant,  $F(4, 433) = 4.02, p < .01, R^2 = .036$ ; the only significant unique predictor

variable was HC ( $\beta = .16, p < .01$ ). People who were higher on HC were more likely to use active coping to cope with stress.

The multiple regression with planning as the dependent variable revealed that the model was significant,  $F(4, 433) = 4.80, p = .001, R^2 = .04$ ; significant unique predictor variables were HI ( $\beta = .12, p < .05$ ) and HC ( $\beta = .19, p < .001$ ). People who were higher on HI and HC were more likely to use planning to cope with stress.

The multiple regression with the skill of comforting as the dependent variable revealed that the model was significant,  $F(4, 433) = 18.34, p < .001, R^2 = .145$ ; the only significant unique predictor variable was HC ( $\beta = .34, p < .001$ ). People who were higher on HC were more likely to favor comforting skill in same-sex friendships.

Finally, the multiple regression with the skill of ego support as the dependent variable revealed that the model was significant,  $F(4, 433) = 31.70, p < .001, R^2 = .23$ ; significant unique predictor variables were VC ( $\beta = .15, p < .01$ ) and HC ( $\beta = .37, p < .001$ ). People who were higher on VC and HC were more likely to favor ego support skill in the same-sex friendship.

The  $\beta$ s of all significant unique predictors across all the multiple regressions performed were summarized on Table 3. The pattern of results clearly shows that HC is the strongest predictor of almost every variable.

#### *The Relationships Between Affects and Other Measures*

There was a concern that the participants' mood could be related to how they responded to the other measures. Based on the data from the participants (Taiwanese  $N = 50$ , American  $N = 114$ ) who were asked to report their affects, we performed zero-order correlations among the dependent variables with the positive and negative affect measures in order to investigate how these affects were related to other dependent variables. The results indicated that positive affect

was positively correlated with social network size ( $r = .30, p < .001$ ), social support satisfaction ( $r = .30, p < .001$ ), and ego support ( $r = .16, p < .05$ ). The negative affect was negatively correlated with social network size ( $r = -.39, p < .001$ ) and social support satisfaction ( $r = -.43, p < .001$ ). The  $r$  value between these two affects was  $-.24, p < .01$ . These results indicated that the positive and negative moods could be potentially related to the other variables. However, after analyzing the differences of the dependent variables across cultural groups using positive and negative affects as covariates, the results previously reported remained virtually unchanged. Therefore, participants' affects did not appear to interfere the relationships between cultural differences and other measures.

### *The Impacts of Religions*

Tweed, White, and Lehman (2004) suggested that religion is one of the significant factors that influence peoples' coping strategies. In order to test this assumption, we conducted analyses across different religious groups based on the data from the participants (Taiwanese  $N = 50$ , American  $N = 114$ ) who were asked to report their religions. Since Christians were the majority ( $N = 104, 63.4\%$ ), and the rest of religions (including Islam, Taoism, Buddhism, No-religion, and Other) were no comparison to Christianity in terms of number, we simply grouped this variable into two categories: Christian and Non-Christian ( $N = 58$ ). A one-way MANOVA was performed on the five targeted control strategies across the two religious groups. The result showed a significant main effect of religion,  $F(5, 156) = 9.93, p < .001$ , Wilk's Lambda = .76, Eta-squared = .241, which indicated that there was a significant difference across Christian and non-Christian groups on these strategies. Descriptive data showed that non-Christian participants had higher means across these five strategies than did Christian participants: self-distraction (non-Christian  $M = 3.04, SD = 0.83$ ; Christian  $M = 2.86, SD = 0.83$ ), positive



reframing (non-Christian  $M = 3.12$ ,  $SD = 0.83$ ; Christian  $M = 2.57$ ,  $SD = 0.91$ ), acceptance (non-Christian  $M = 3.48$ ,  $SD = 0.59$ ; Christian  $M = 2.88$ ,  $SD = 0.73$ ), active coping (non-Christian  $M = 3.05$ ,  $SD = 0.85$ ; Christian  $M = 2.86$ ,  $SD = 0.78$ ), and planning (non-Christian  $M = 3.29$ ,  $SD = 0.74$ ; Christian  $M = 2.63$ ,  $SD = 0.89$ ). The univariate ANOVA performed on each strategy further revealed that three strategies were significantly different across the two groups of non-Christian and Christian: positive reframing,  $F(1, 160) = 14.36$ ,  $p < .001$ , Eta-squared = .082; acceptance,  $F(1, 160) = 28.20$ ,  $p < .001$ , Eta-squared = .15; and planning,  $F(1, 160) = 23.04$ ,  $p < .001$ , Eta-squared = .126. However, one should interpret these results with caution. Among these 104 Christians, 100 of them (96%) were Americans, therefore the results could be redundant. From this study it would not be possible to determine whether the differences are from the religious teachings, location difference, or cultural differences. In the future a more thorough exploration on the effects of religions is needed.

### *Gender Differences*

We also tested gender differences across all dependent variables we were interested in, namely: the social network size, social support satisfaction, the use of emotional support, the use of instrumental support, three internal targeted control coping strategies, two external targeted control coping strategies, the comforting skill, the ego support skill, the four cultural patterns, perceived stress, and PANAS. A  $t$ -test was performed on each variable to see the mean differences across male and female participants, and the results indicated the following variables had significant sex differences: the social network size, males ( $M = 3.67$ ,  $SD = 2.10$ ) had significantly smaller network than females ( $M = 4.40$ ,  $SD = 2.24$ ),  $t(435) = -3.32$ ,  $p < .001$ ; the social support satisfaction, males ( $M = 4.83$ ,  $SD = 1.04$ ) were significantly lower than females ( $M = 5.10$ ,  $SD = 0.91$ ),  $t(435) = -2.79$ ,  $p < .01$ ; the use of emotional support, males ( $M = 2.18$ ,  $SD$

= 0.81) were significantly lower than females ( $M = 2.83, SD = 0.83$ ),  $t(435) = -7.87, p < .001$ ; the use of instrumental support, males ( $M = 2.26, SD = 0.90$ ) were significantly lower than females ( $M = 2.84, SD = 0.85$ ),  $t(435) = -6.69, p < .001$ ; comforting skill, males ( $M = 4.85, SD = 1.17$ ) were significantly lower than females ( $M = 5.74, SD = 0.92$ ),  $t(435) = -8.77, p < .001$ ; ego support skill, males ( $M = 5.27, SD = 1.12$ ) were significantly lower than females ( $M = 5.88, SD = 0.99$ ),  $t(435) = -5.94, p < .001$ ; the VI cultural pattern, males ( $M = 3.20, SD = 0.84$ ) were significantly higher than females ( $M = 2.90, SD = 0.78$ ),  $t(435) = 3.64, p < .001$ ; and the HC cultural pattern, males ( $M = 3.56, SD = 0.69$ ) were significantly lower than females ( $M = 3.81, SD = 0.66$ ),  $t(435) = -3.81, p < .001$ .

For those variables with significant gender differences, including gender as an independent variable in the analyses examining cultural group differences did not change the results in any theoretically meaningful ways. Since gender differences were not in the original hypotheses, we did not do further analyses with gender included as a variable.

## **Discussion**

The main purpose of this study was to explore the cultural differences in terms of several interpersonal interaction and stress-related variables. We hypothesized that Taiwanese students were less likely to seek social support as coping strategies to stress compared to American students. However, the level of perceived social support was expected to be similar across the two groups. We also predicted that their coping strategies to stress would show a very different pattern: Taiwanese students would be more likely to utilize internally targeted control strategies (changing self in order to adjust to environment), while American students would be more likely to rely on externally targeted control strategies (changing the environment in order to fit the demands of self) to cope with stress. In terms of communication skills, there would be no

significant differences across Taiwanese and American students on the evaluation of comforting and ego support; as Burleson (2003) states, emotional support is favored over other skills across cultures. Finally, research suggests that Asians do not actually seek social support to cope with stress as do Americans. Instead, they rely more on the perception of the availability of support to serve as stress buffer. Therefore we predicted that Taiwanese students would have significantly lower correlation between perceived stress and seeking social support than would American students.

Most of the results, however, showed a very different pattern. Both American and Taiwanese participants were similar in seeking social support, but American participants had larger social networks and higher levels of support satisfaction. Taiwanese participants were more likely to utilize internally targeted control strategies. However, for the two externally targeted control strategies, Taiwanese and Americans were equally likely to use active coping as a coping strategy, and they were more likely to employ planning as a coping strategy than Americans. Both Taiwanese and Americans indeed equally favored the skill of comforting in same-sex friendships, but Americans significantly favored ego support more than did Taiwanese. The even more interesting findings were that American participants in this study were significantly more collectivistic, horizontal, and vertical than were Taiwanese.

These results were different from most previous research. First of all, cross-cultural research very rarely finds that Americans are more collectivistic than Far East Asians. In fact, Hofstede (1980) ranked European Americans as among the most individualistic and least collectivistic peoples in the world. What, then, could be the reasons contributing to this discovery?

There are at least three potential reasons. First, in Chiou's (2001) study, there was no significant difference between Taiwanese and American participants on HC. He suggested that people in America may be becoming "other-directed," which implied a higher sensibility to others' expectations, and therefore led to a higher HC than anticipated. This might help to explain our finding as well: as Triandis (1998) suggested, people with higher HC are more likely to see a common goal shared with others. It is possible that Americans have become more interdependent, which leads to more sensitivity to others' expectations, and therefore higher HC since horizontal collectivistic pattern emphasizes social and interpersonal relationships. Future research should explore potential reasons of the other-directed tendency.

Second, Chen and Li (2005) found out that their Chinese participants were less cooperative than Australian participants. They reasoned that under the Western influence, Chinese have become more and more individualistic, and less collectivistic. It is very likely that people in Taiwan are under the same influence. This should potentially explain why we found no significant difference between Taiwanese and Americans in terms of HI and VI, the two individualistic dimensions. Taiwanese might have moved from collectivistic to individualistic throughout the years, and therefore the gap between Taiwanese and Americans in terms of individualism may have narrowed.

The third potential reason was related to the within-country regional variation and the political situation in America. In his book, "*What's the Matter with Kansas?*," American journalist and historian Thomas Frank (2004) claimed that the United States has swung to a more conservative climate and the defense of traditional values in the recent years, and the center of this movement is the state of Kansas, the location where we collected our American data. Triandis and Gelfand (1998) stated that the cultural pattern of VC is related to authoritarianism

and family integrity, and Kimmelmeier et al. (2003) indicated that people of collectivistic culture were more likely to defend traditional and conservative values. In other words, conservative values and collectivism are strongly correlated. From this perspective, it was not a surprise that we found American participants from Kansas, one of the most conservative states in the nation, to be more collectivistic. Our finding suggested that one's cultural value might be interacting with political issues and regional differences. This assumption could be supported by Green, Deschamps, and Paez (2005): they studied and analyzed individualism and collectivism across twenty countries, and concluded that "even in markedly homogeneous student samples, within-country variation exists" (p. 335). In other words, even in one nation there are different levels of individualism or collectivism, and it could vary from individual to individual. Therefore, even in a commonly perceived as individualistic country such as the United States, it could have regions with different degrees of individualism and collectivism, and sometimes these regions could have an impact on the whole nation. Future research could explore these regional differences and the impacts on cultures.

Furthermore, from the results shown on Table 4, we have learned that HC is the strongest predictor of almost every dependent variable. This result seems to support Triandis and Gelfand (1998), who claimed that individuals with higher levels of HC are more likely to enjoy social support and sociability. More specifically, our study indicated that high HC individuals have larger social networks and moderately higher levels of social support satisfaction. They utilize coping strategies (emotional support, instrumental support, and all internal/external target control strategies) more often to deal with stress in daily life, and they favor comforting and ego support skills more in same-sex friendships. The reason why high HC people are utilizing all coping

skills might be because of their emphasis on sociability: they might have better resources potentially due to their social ability.

There is another possible explanation for the difference between Taiwanese and Americans on the coping strategy of planning. According to the study by Tweed, White, and Lehman (2004), there was no significant difference between European Canadian and Asian participants in utilizing the “planful problem solving” strategy. They reasoned that it might be because the Asian participants (Japanese in their study) misinterpreted internally targeted control as a planful strategy. The two items that measured planning strategy in this study: “*I’ve been trying to come up with a strategy about what to do*” and “*I’ve been thinking hard about what steps to take,*” could have possibly been misinterpreted as “any approach” that could help the situation. Strategies such as “think in a positive way,” “try not to be bothered too much,” or even “talk to someone so to feel better,” though do not really change the situation (therefore should be categorized into internally target control strategies), might be interpreted as a planful step. There is a possibility that our Taiwanese participants had similar misinterpretations. We employed these two items because of their established validity and reliability from the past studies, but research in the future should try to avoid this potential confound by devising more specific and clearer measures.

The results also suggested that people with higher level of HI tended to have smaller social networks. Triandis and Gelfand (1998) suggested that social isolation might be the cost of this cultural pattern. They also seemed to rely moderately more on self-distraction and planning as coping strategies. It is not clear why people with higher levels of HI were more likely to use self-distraction as coping strategy. But for the planning strategy, it could be explained by their tendency to do their own thing, and therefore are more likely to plan what they should do to cope

with their problems. Finally, we also found that people with higher levels of VC tended to enjoy moderately higher levels of social support satisfaction and favored the skill of ego support more. From some of the items of the VC measure: *“Parents and children must stay together as much as possible,”* *“It is my duty to take care of my family, even when I have to sacrifice what I want,”* and *“Family members should stick together, no matter what sacrifices are required,”* one could see that participants who would agree with these statements could potentially more likely to have strong family bonding. Therefore it is possible that people with higher levels of VC were enjoying the support bonding from their family members, and these family members also provided ego support to each other. Future research could explore these possibilities.

These conclusions are potentially different from Taylor et al.’s (2004), which stated that Americans are more likely than Far East Asians to utilize emotional and instrumental support. However, in their study the cultural patterns were not measured; it was only assumed that their Far East Asian participants were more collectivistic than American participants. Furthermore, in the study by Tweed, White, and Lehman (2004), Asian participants were more likely to utilize several internally targeted control strategies. Our study, however, raises another question: do Asians utilize internally targeted control strategies because of collectivism, or are there other factors? Furthermore, why does HC predict the practice of most different type of coping strategies, including both internally and externally targeted control strategies? Why do both HC and HI predict self distraction and planning? Future research should further explore these questions.

There are some potential limitations to this study. First, the respondents were college students, therefore the results may not be generalized to general population. Future research should collect samples from different age groups, social economic status, or different cultures in

order to generalize the findings. Second, all the constructs in this study relied solely on self-reports. Future research should focus on assessing these constructs in a richer content (e.g., observation of interactions) in order to evaluate the cultural differences more precisely. Third, Oyserman et al. (2002) conducted a meta-analysis on the instruments measuring individualism and collectivism and concluded that the validity of these instruments, including Triandis and Gelfand's (1998) Horizontal and Vertical Individualism and Collectivism Scale, was challenged. However, Schimmack, Oishi, and Diener, (2005) argued that though they needed improvement, the measures of Vertical Individualism were still valid. The scale of measuring cultural patterns has still been used (for example, see Halloran & Kashima, 2004; Kagitcibasi, 2005; Varela, Steele, & Benson, 2007). Therefore, we believe the use of this measure is proper. Fourth, the importance of comforting and ego support skills in communication values were assessed in only one domain, the same-sex friendship. There are many other domains should be explored, such as support from supervisors and coworkers in work relationships, or romantic partners and spouses in private relationships. Finally, theoretically, the nature of this correlational study has limited us from drawing any cause-effect conclusions.

Another potential limitation was the different methods of recruiting participants. For Taiwanese participants, we recruited them with the chance of winning a lottery; for American participants, we offered them with the fulfillment of research credit requirement. This difference on recruiting methods could potentially confound the outcomes, thus when one interprets the results one should keep this in mind. However, we believe the results were still valid since both recruiting methods were offering participants incentives. They all participated because of extrinsic rewards. Therefore, the participants were very similar on this aspect.



Though there are some limitations, the findings of this study still have important pragmatic implications for many aspects. First, the findings of this study could provide insights for the formation of counseling and therapy strategies for Asians. Western culture has many assumptions about what approaches in counseling should work; for example, verbally expressing personal problems and seeking support from social network are believed to be beneficial for individuals under stress (Silver, Boon, & Stones, 1983). Most of the therapy approaches are based on these assumptions. However, some suggest that Asians might have different patterns. Our study implied that Taiwanese did favor comforting from friends as much as Americans, but did not favor ego support as much. They also were more likely than Americans to cope with stress by changing their own thoughts as well as planning. Therefore, new approaches that are in accord with these values should be developed. Second, testing the hypotheses in this current study also provides understanding of cultural differences on provision and receipt of social support, and the importance of providing comfort and support. A better understanding of these cultural differences would enable better communication among different cultures and better interaction. Third, we believe that in the business world, the understanding of communication skills and coping strategies can enhance potential expatriates' training and selection. As Glazer (2006) stated, the emotional support from supervisors, managers, or coworkers mean differently to people from individualistic culture and collectivistic culture. It is important for supervisors, managers, and coworkers of different cultures to be aware of these differences and therefore understand when and how to provide support and help. Fourth, nationality difference does not necessarily imply cultural tendency or pattern difference. It is important to strive to directly measure these tendencies. Fifth, it is possible that political climate or dramatic incidence (such as 911) would more or less influence citizens' cultural tendencies. In other words, "culture" is

dynamic and constantly changing, sensitive to temporary issues. And finally, the results of our study seem to suggest that no matter where an individual is from, being higher in HC might indicate a better social network and satisfaction of support.

Many domains in our lives and in society are in need of more knowledge about how to properly interact with people of different cultures. In the business world, we have to understand the coworker or manager from different culture in order to learn how they act a certain way, and how to react appropriately. In the academic setting, we can help students from different cultures to adjust well by providing support using proper approach so to help them achieve better adjustment and academic successes. In the fields of counseling and clinic psychology, we have to learn more about clients or patients of different cultural backgrounds in order to understand how to help them. Only through mutual acceptance and respect can people of different cultures interact with each other efficiently and beneficially.

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Table 1

### Demographic Information

	Taiwanese ( <i>N</i> = 134)	Americans ( <i>N</i> = 304)
Gender		
Male	49 (36.6%)	104 (34.2%)
Female	84 (62.7%)	200 (65.8%)
Missing	1 (.07%)	
Mean Age	21.86 ( <i>SD</i> = 4.23)	19.58 ( <i>SD</i> = 4.03)
Marital Status		
Single	127 (96.9%)	293 (96.4%)
Married	4 (3.1%)	10 (3.3%)
Widow		1 (.3%)
Missing	3 (2.3%)	
Ethnicity		
Taiwanese	134 (100%)	
Caucasian		271 (89%)
African American		9 (3%)
Asian		9 (3%)
Hispanic/Latino		9 (3%)
Indian/Alaska Native		6 (2%)
Religion*		
Christianity	4 (8%)	100 (87.7%)
Islam		1 (.9%)

Taoism	4 (8%)	
Buddhism	7 (14%)	
No religion	31 (62%)	3 (2.6%)
Other	2 (4%)	10 (8.8%)
Missing	2 (4%)	

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\* Taiwanese  $N = 50$ ; Americans  $N = 114$

Table 2

**The Reliabilities (alphas) of Dependent Variables Across the Two Cultural Groups**

Dependent variables	Taiwanese	Americans
Social network size	.97	.98
Social support satisfaction	.97	.98
Use of emotional support	.73	.76
Use of instrumental support	.80	.83
Self-distraction	.58	.60
Positive reframing	.71	.61
Acceptance	.79	.69
Active coping	.70	.70
Planning	.71	.72
Comforting	.75	.86
Ego support	.77	.88
Individualism/Collectivism	.71	.75
Perceived stress	.77	.80
Positive affects*	.72	.73
Negative affects*	.77	.77

\* Taiwanese  $N = 50$ ; Americans  $N = 114$

Table 3a

**Analysis of Covariance of Positive Reframing, with Self Distraction as the  
Covariate**

Source	SS	df	MS	<i>F</i>
Self Distraction	12.50	1	12.50	17.78***
Cultural Groups	6.40	1	6.40	9.10**
Error	305.82	435	.70	

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

Table 3b

**Analysis of Covariance of Acceptance, with Self Distraction and Positive Reframing as the Covariates**

Source	SS	df	MS	<i>F</i>
Self Distraction	6.56	1	6.56	13.61***
Positive Reframing	27.90	1	27.90	57.91***
Cultural Groups	4.81	1	4.81	9.98**
Error	209.12	434	.48	

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



Table 3c

**Analysis of Covariance of Planning, with Active Coping as the Covariate**

Source	SS	df	MS	<i>F</i>
Active Coping	85.30	1	85.30	181.78***
Cultural Groups	12.07	1	12.07	25.72***
Error	204.12	435	.47	

\*\*\*  $p < .001$

Table 4

**The Standardized Regression Coefficients ( $\beta$ s) of All Significant Cultural  
Pattern Predictors**

Cultural Patterns	HI	VI	HC	VC
Dependent Variables				
Social network size	-.11*	-.04	.22***	.13*
Social support satisfaction	.04	-.07	.15**	.13*
Use of emotional support	-.08	.05	.35***	-.02
Use of instrumental support	-.06	-.03	.32***	.03
Self distraction	.15**	.05	.12*	-.02
Positive reframing	.06	-.07	.28***	-.04
Acceptance	.06	.05	.22***	-.03
Active coping	.04	-.01	.16**	.05
Planning	.12*	-.003	.19***	-.08
Comforting	.02	-.04	.34***	.07
Ego support	.02	.08	.37***	.15**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Figure 1

### Interaction between cultural patterns and cultural groups

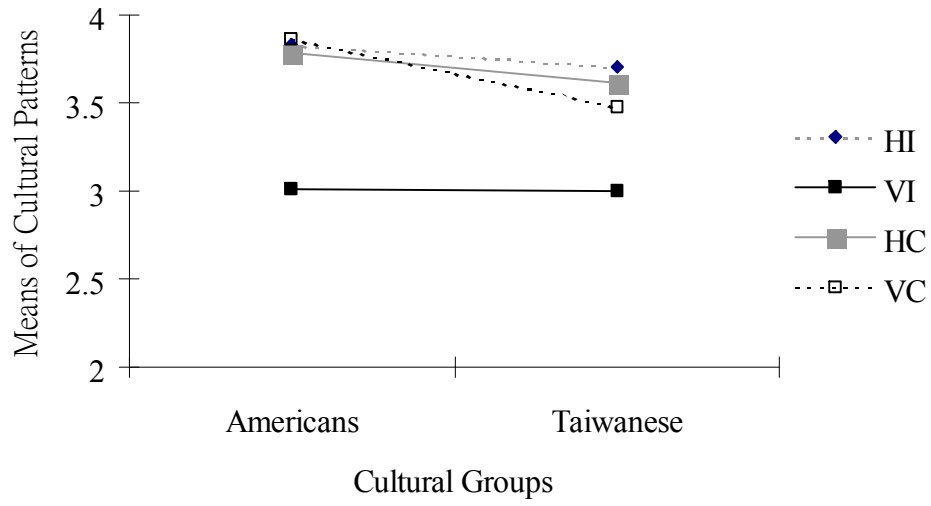


Figure 2

### Interaction between cultural constructs and cultural groups

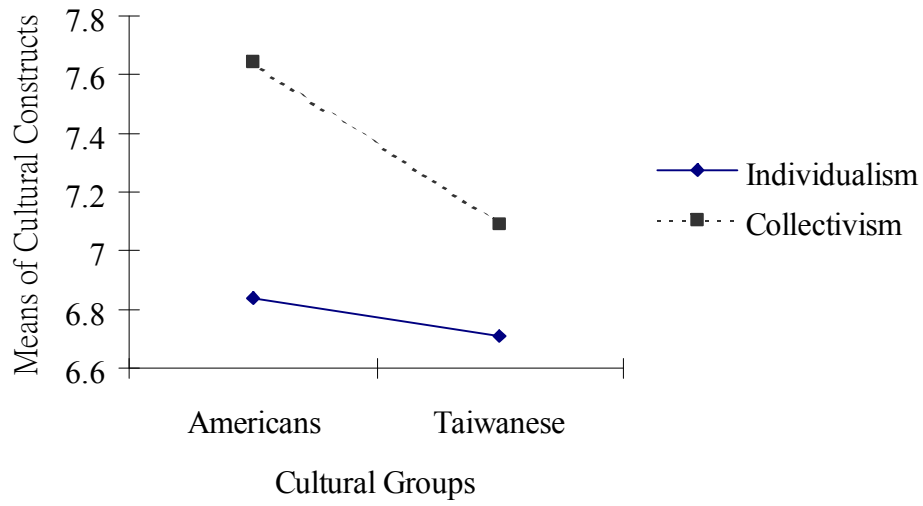
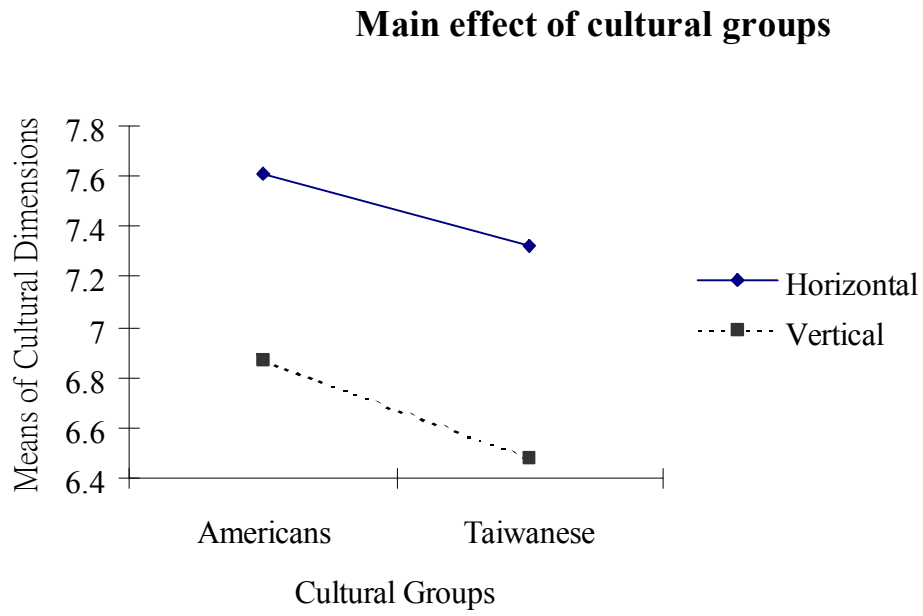


Figure 3



## **Appendix A - Social Support Questionnaire (SSQ)**

1. Whom can you really count on to listen to you when you need to talk?
2. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?
3. Whose lives do you feel that you are an important part of?
4. Whom do you feel would help you if you were married and had just separated from your spouse?
5. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?
6. Whom can you talk with frankly, without having to watch what you say?
7. Who helps you feel that you truly have something positive to contribute to others?
8. Whom can you really count on to distract you from your worries when you feel under stress?
9. Whom can you really count on to be dependable when you need help?
10. Whom could you really count on to help you out if you had just been fired from your job or expelled from school?
11. With whom can you totally be yourself?
12. Whom do you feel really appreciates you as a person?
13. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?
14. Whom can you count on to listen openly and uncritically to your innermost feelings?
15. Who will comfort you when you need it by holding you in their arms?

16. Whom do you feel would help if a good friend of yours had been in a car accident and was hospitalized in serious condition?
17. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?
18. Whom do you feel would help if a family member very close to you died?
19. Who accepts you totally, including both your worst and your best points?
20. Whom can you really count on to care about you, regardless of what is happening to you?
21. Whom can you really count on to listen to you when you are very angry at someone else?
22. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?
23. Whom can you really count on to help you feel better when you are feeling generally down-in-the-dumps?
24. Whom do you feel truly loves you deeply?
25. Whom can you count on to console you when you are very upset?
26. Whom can you really count on to support you in major decisions you make?
27. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?

## **Appendix B - Brief COPE Inventory**

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I've been getting help and advice from other people.
11. I've been using alcohol or other drugs to help me get through it.
12. I've been trying to see it in a different light, to make it seem more positive.
13. I've been criticizing myself.
14. I've been trying to come up with a strategy about what to do.
15. I've been getting comfort and understanding from someone.
16. I've been giving up the attempt to cope.
17. I've been looking for something good in what is happening.
18. I've been making jokes about it.
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.



20. I've been accepting the reality of the fact that it has happened.
21. I've been expressing my negative feelings.
22. I've been trying to find comfort in my religion or spiritual beliefs.
23. I've been trying to get advice or help from other people about what to do.
24. I've been learning to live with it.
25. I've been thinking hard about what steps to take.
26. I've been blaming myself for things that happened.
27. I've been praying or meditating.
28. I've been making fun of the situation.

## **Appendix C - Horizontal and Vertical Individualism and Collectivism Scale**

### Horizontal Individualism

1. I'd rather depend on myself than others.
2. I rely on myself most of the time; I rarely rely on others.
3. I often do "my own things."
4. My personal identity, independent of others, is very important to me.

### Vertical Individualism

1. It is important that I do my job better than others.
2. Wining is everything.
3. Competition is the law of nature.
4. When another person does better than I do, I get tense and aroused.

### Horizontal collectivism

1. If a coworker gets a prize, I would feel proud.
2. The well-being of my coworkers is important to me.
3. To me, pleasure is spending time with others.
4. I feel good when I cooperate with others.

### Vertical collectivism

1. Parents and children must stay together as much as possible.
2. It is my duty to take care of my family, even when I have to sacrifice what I want.
3. Family members should stick together, no matter what sacrifices are required.
4. It is important to me that I respect the decisions made by my groups.

## **Appendix D - Communication Functional Questionnaire (CFQ)**

1. Makes me believe that our relationship is strong enough to withstand any conflicts or disagreements we might have.
2. Making me feel like I can be myself when we talk to one another.
3. Makes me feel like I am a good person.
4. Can really help me work through me emotions when I am feeling upset or depressed about something.
5. Makes me feel like I have made my own decision even though I mostly do what he/she wants.
6. Makes me believe it is possible to resolve our conflicts in a way that will not hurt or embarrass each other.
7. The capacity to express ideas in a clear concise way.
8. Makes me see that it is sometimes okay to get down or hurt or depressed about things.
9. Makes me feel like I can be really honest about the things in our relationship that produce conflict.
10. Can always get a bunch of people laughing just because he/she is so good at telling a joke or a story.
11. Makes me see that even the best of relationships have their conflicts or disagreements that need to be worked through.
12. Makes me strive to be the very best person I can be.
13. Makes me see how my mistakes hurt myself as well as other people.
14. Helps me understand why some things hurt or depress me so much.

15. Can make life seem a little less serious by telling me a joke or a story in his/her intriguing way.
16. Makes me believe in myself.
17. Talks to people on their own level.
18. Makes me feel like I can achieve my personal goals.
19. Can make conversation seem effortless.
20. Can really cheer me up when I am feeling down or upset.
21. The ability to tell a story in a way that makes me hang on to every word.
22. Always telling an entertaining joke or an interesting story.
23. Starting up a conversation with almost anyone in any kind of situation.
24. Makes me realize that it is better to deal with conflicts we have than to keep things bottled up inside
25. Makes me feel like I can learn something from my mistakes by taking the time to listen and work through things with me.
26. Explains things very well.
27. The ability to convince people to do things they would not normally do.
28. Makes me feel like my ideas about things are interesting and worthwhile.
29. Makes you understand exactly what she/he is referring to.
30. Makes you think you are doing something because you want to do it, rather than because she/he has persuaded you to do it.
31. Explains things like directions so that they are really easy to follow.
32. Makes me want to correct the mistakes I make, to make good on the rules I break.
33. Can get people to do just about anything.

34. Always puts me in an up mood by the way he/she tells a joke or story.
35. Almost always makes me feel better when I'm hurt or depressed about something.
36. Coming up with really good reasons for getting people to do what he/she wants.
37. Makes me feel like I am still an okay person even when I make a mistake or break a rule.
38. Makes conversation really easy and fun.
39. Can shoot the breeze for hours on end.
40. Makes me feel like I have the ability to fix my own mistakes.

## **Appendix E - Perceived Stress Scale**

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and “stressed”?
4. In the last month, how often have you dealt successfully with irritating life hassles?
5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things that you had to do?
9. In the last month, how often have you been able to control irritations in your life?
10. In the last month, how often have you felt that you were on top of things?
11. In the last month, how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself thinking about things that you have to accomplish?
13. In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling up so high that you could

not overcome them?

## **Appendix F - The International Positive and Negative Affect Schedule Short Form (I-PANAS-SF)**

never 1 2 3 4 5 always

Base on the scale, thinking about yourself and how you normally feel, to what extent do you generally feel:

Upset

Hostile

Alert

Ashamed

Inspired

Nervous

Determined

Attentive

Afraid

Active