A Cross-Country Exploration of Factors Contributing to Problem-Solving and Avoidance

Ming-hui Li

St. John's University

Queens, NY, USA

lim@stjohns.edu

While globalization has been widely recognized, little attention has been drawn to mental health issues across countries. Mental health issues can influence any industries involving people. For example, a manager of a store is expected to have good mental health in order to manage the store effectively. Researchers proposed that problem-solving can be considered a specific type of stress-coping strategy that is positively related to individuals' mental health (Law & Guo, 2012). This study explored factors that influence individuals to apply problem-solving strategies and factors that influence individuals to apply avoidance strategies to cope with stress in U.S. and Chinese university students. A path model was tested. Considering the effect of globalization, the results of testing the model was hypothesized to be similar across the U.S. and Chinese samples.

Theoretical Framework

Globalization has been discussed for many years. Globalization is closely associated with international trades, which in turn, can activate the process of cultural exchanges. However, many countries welcome international trades yet may not like to trade their own culture and identity for globalization (The Economist, 2013).Thus, although the process of globalization may increase the speed of cultural exchanges across countries, it may not foster a unified global culture. Local cultures may still play an important role in shaping individuals' perspective about self and the world around them.

Compared to issues of international trades, mental health issues, such as stress coping, receive little attention from researchers studying globalization. Since international trades are operated and managed by people, individual mental health

status is likely to influence the trades to a certain degree. Stress coping is key as stress is a part of life and successful stress coping can enhance individuals' mental health (Hou et al., 2014). Problem-solving has been considered one category of coping strategies (Amirknan & Greaves, 2003) that leads to positive mental health (Law & Guo, 2012). By contrast, using avoidance as a coping strategy can lead to depression and unsatisfaction with life (Chang, 2001; Evans & Katona, 1993), deteriorating individuals' mental health. Mental health issues can be rooted in the culture in which individuals were raised. Thus, factors affecting stress and stress coping strategies may vary across countries. Relatively few cross-cultural studies explored factors affecting individuals' problem-solving and avoidance coping strategies. This study addresses this issue. The study may provide insight for international companies to develop effective training programs for enhancing the mental health of employees working in different countries.

Cross-cultural Comparisons

This current study was developed based on two assumptions: (1) there are cultural differences between the U.S. and China and (2) the direction of cultural influences is more from the West (especially the US) to other parts of the world, such as China, than the other way around (Giddens, 1991). I created a path model guided by Western theories and empirical studies; and evaluated this model with a U.S. sample. If the model fit the U.S. data well, I would consider this model to reflect U.S. culture. This U.S. model would then serve as a baseline model against which the Chinese sample will be compared.

Based on the assumption that the direction of cultural influence is from the U.S. to China, if the U.S. model fits the Chinese data well and a further test combining both samples (i.e., comparing a fully constrained model against a fully unconstrained model) shows no differences, the results may indicate there are no significant differences in this model across the U.S. and Chinese samples. On the other hand, if the U.S. model fits the Chinese data poorly or if it fits the data well, but the fully constrained model is significantly different from the fully unconstrained model, either result may be interpreted as differences across the two samples. Consequently, follow-up procedures would be conducted to locate the part of the model that causes the cross country

differences. This identified part of the model may be considered to reflect the part of Chinese culture not significantly influenced by the U.S. culture.

The Hypothesized Path Model

Based on a review of the literature, I developed a path model that connects stress to avoidance, problem-solving, social support-seeking, and trait resilience (see Figure 1).

Figure 1. The Hypothesized Model
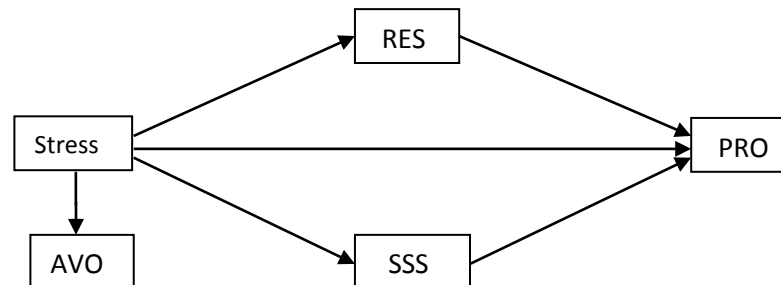
Stress = Stress, AVO = Avoidance, RES = Resilience, SSS = Social Support-SeeKing, PRO = Problem-Solving

This path model was evaluated in the present study, using a sample from the U.S. and a sample from China. The relationships among these variables are summarized in the following paragraphs.

Stress and Resilience

The effect of stress varies in different individuals. Some people become victims of stress, as evidenced by symptoms of anxiety and depression; while others bounce back from stress, as demonstrated by the ability to cope and recover from problematic and challenging situations. Those who bounce back from stressful situations are considered resilient individuals. When stressed, these individuals' trait resilience would be activated to buffer the effect of stress (Waugh, 2007).Thus, in this study, stress was hypothesized to negatively predict trait resilience.

Responses to Stress: Avoidance, Problem-Solving, and Social Support-Seeking

People feel a menace to their ego as they encounter a stressful situation (Wiebe, 2008). For the purpose of sustaining the ego, they would utilize available resources to cope with stress. Siegel (1999) proposed that people's coping responses are associated with their past coping experiences. When stressed, people's stress-related experiences, which are stored in memories, are activated to influence their coping with current stressful situations. While there are a variety of responses to stress, Amirkhan and

Greaves (2003) proposed a coping model that contains three basic responses to stress: avoidance, problem-solving, and social support-seeking.

Stress and avoidance: Avoidance is one basic response to cope with stress. Cannon (1939) proposed a fight-or-flight response model of stress coping. When individuals perceive a threat in the surroundings, their nervous system suddenly releases adrenaline and noradrenaline, leading to an increase in heart rate and blood pressure. These physical reactions prepare individuals to either fight the situation or run away from it.   More recent studies supported Cannon's suggestion about the relationship between stress and avoidance. Felsten (1998) found that stress is strongly and positively related to avoidance. Additionally, Briere, Hodges, and Godbout (2010) demonstrated that severe stress directly influences individuals to avoid contacting the environment around them. Stress was expected to predict avoidance in this study.

Stress and problem-solving: Engaging in problem-solving can be a "fight" response to stress. The process of solving a problem involves a cognitive process. When stressed, people's cognitive appraisal guides them to appraise the problem situation (Dickinson-Delaporte & Holmes, 2011). The results of the appraisal determine coping strategies individuals apply to cope with the situation. When the result of appraisal convinces individuals that abundant resources and adequate ability are available, these individuals are more likely to attempt to find solutions than to avoid the situation. On the other hand, when the results persuade them that they possess inadequate resources and ability, they are more likely to avoid the situation than find solutions. Stress and problem-solving have been reported as negatively correlated (Martin, Dovey, Coulthard & Southall, 2013). The higher the stress level experienced, the less likely it is for them to engage in problem-solving. Hence, stress was expected to predict problem-solving in the present study.

Stress and social support-seeking: Seeking social support is another basic response to stress. When natural disasters happen, people gather to discuss how to restore their homeland. Gladding (2012) believed that it is natural for individuals to gather to resolve matters difficult for an individual to handle. Similarly, Mortenson (2006) reported that when college students face academic difficulties, they are likely to seek social support to cope with the stressful situations. Additionally, research suggests that

getting emotional support from trusted people is an effective approach to coping with stress (Burleson & Goldsmith, 1998). Stress and social support-seeking was found to be positively correlated (Felsten, 1998). In general, those who have higher stress levels are more likely than their low stress counterparts to seek social support. In the present study, stress was expected to predict social support-seeking.

Trait Resilience and Problem-Solving

Trait resilience reflects an individual's ability to adapt well to stressful situations (Ahern, Kiehl, Sole & Byers, 2006). Individuals having higher levels of trait resilience possess a positive perspective of stressful situations (Li & Nishikawa, 2012). In addition, trait resilience was reported to predict problem-solving (Li, Eschenaure & Yang, 2013). In this study, I expected trait resilience can positively predict problem-solving and negatively predict avoidance.

Social Support-Seeking and Problem-Solving

When under stressful situations, individuals may seek social support (Mortenson, 2006). They may seek advice, share feelings and thoughts, or ask resources from others. Social support-seeking was significantly correlated with problem-solving (Felsten, 1998; Li & Yang, 2009). In addition, social support-seeking was reported to enable individuals to solve problems successfully (Daniels, Beesley, Wimalasiri & Cheyne, 2013). Thus, in this study I expected that social support-seeking can positively predict problem-solving and negatively predict avoidance.

Purpose and Hypotheses

The path model presented in Figure 1 was created based on previous research. The path model illustrates relationships among stress, problem-solving, avoidance, social support-seeking, and trait resilience. There is inadequate research to hypothesize cross-country differences in the above-mentioned relationships. Thus, I evaluated the hypothesized model for cross-cultural differences on the individual paths. Specifically, this model hypothesized: (1) stress directly influences individuals' problem-solving tendency, (2) stress directly influences individuals' avoidance tendency, (3) stress directly influences individuals' social support-seeking tendency, (4) stress indirectly influences problem-solving through social support-seeking, and (5) stress indirectly influences problem-solving through trait resilience.

Methods

Participants

A total of 343 college students participated in this study. Among them, 177 students were recruited from a business school in a metropolitan area off the East Coast of the U.S. and 166 students enrolled in a business school in a metropolitan area off the South Coast of China. The U.S. sample was composed of 82 (46 %) males and 95 (54%) females. The Chinese sample was made up of 80 (48 %) males and 86 (52 %) females. Their mean age was 19.7 (range from 18 to 22, *SD* = 1.21). The participants ranged in age from 18 to 24 years (*M* = 19.5, *SD* = 1.64)

Instruments

Stress*.* The 51-item Student-Life Stress Inventory (SSI: Gadzella, 1991) was used to measure day-to-day stress in college life. This scale is based on a 5-point scale ranging from 1 (I have never experienced this specific stressor) to 5 (I have experienced this specific stressor most of the time). Gadzella, Masten, and Stacks (1998) demonstrated convergent validity of the SSI. Previous studies revealed a coefficient alpha of .92 with a U.S. sample (Gadzella & Baloglu, 2001) and .90 with a Chinese-speaking sample (Li, 2008). In the current study, for the U.S. sample α = .85 and for the Chinese α = .87.

Trait resilience*.* The 25-item Resilience Scale (RS: Wagnild & Young, 1993) was used to measure participants' levels of trait resilience. This scale is based on a 7-point scale ranging from 1 (I disagree) to 7 (I agree). Wignild and Young (1993) demonstrated concurrent validity of the RS and reported that the internal consistency of the RS ranged from .76 to .91 in different studies. For the present study alphas for U.S. and Chinese samples are .79 and .83, respectively.

Problem-solving. The 11-item problem-solving subscale of the Coping Strategies Indicator (CSI: Amirkhan, 1990) was applied to measure participants' tendency to use problem-solving strategies to cope with stress. The CSI is based on a 3-point rating scale ranging from 1 (I have not used this particular coping strategy at all) to (I have used this particular coping strategy a lot). Concurrent validity of the CSI has been supported (Amirkhan, 1990). Additionally, the problem-solving subscale was reliable

with Cronbach's alpha of .89 (Amirkhan, 1990). In the current study, for the U.S. sample α = .80 and for the Chinese sample α = .84.

Avoidance. The 11-item avoidance subscale of the Coping Strategies Indicator (CSI: Amirkhan, 1990) was applied to measure participants' tendency to use avoidance to cope with stress. The value for Cronbach's alpha for the avoidance subscale was reported to be .84 (Amirkhan, 1990). In the current study, Cronbach's alpha for the U.S. and Chinese samples are .85 and .80, respectively.

Social support-seeking. The 11-item social support-seeking subscale of the Coping Strategies Indicator (CSI: Amirkhan, 1990) was applied to measure participants' tendency to seek social support in the process of coping with stress. The value for Cronbach's alpha for the social support-seeking subscale was reported to be .84 (Amirkhan, 1990). In the current study, Cronbach's alpha for the U.S. and Chinese samples are .82 and .81, respectively.

Procedure

After the approval of the study, a research assistant went to classrooms to recruit voluntary participants. The research assistant read a script of recruitment to invite students, and distributed an informed consent form to those who were interested in participating in the study. The faculty members of the classes and the research assistant emphasized the voluntary nature of the study. The participants completed a questionnaire during class time, and then returned it to the research assistant. Those who decided not to participate were instructed to remain in their seats quiet. The questionnaire takes about 10-15 minutes to complete. The same procedure was used in recruiting both Chinese and U.S. participants.

Data Analysis Plan

The hypothesized path model presented in Figure 1 was evaluated by AMOS 17.0. Previous literature on evaluation of path models has suggested the following model fit criteria (Kline, 2005; Loehlin, 1998; Hu & Bentler, 1999; Weston & Gore, 2006): a chi-squared (χ^2) that is not statistically significant at the p< .05 level; a comparative fit index (CFI) ≥ .90; a standardized root mean square residual (SRMR) < .08; and a root mean squared error of approximation (RMSEA) < .06. Thus, the hypothesized path model was evaluated based on these criteria.

Results

The model was first tested with the U.S. sample. As expected, the model fit the data well (NFI = .96, CFI = 1.0, RMSEA = .00, χ^2 (4)= 3.02, SRMR = .03). Next, in order to determine if group differences (i.e., cultural differences) were present in the model, a multi-group analysis was conducted. The fully constrained model [χ^2 (18) = 47.04, p = .00; CFI = .82; RMSEA = .07; and SRMR = .08] was compared to the fully unconstrained model [χ^2 (8) = 9.83, p = .28; CFI = .99; RMSEA = .30; and SRMR = .05]. The chi-square test of difference showed that these two models were significantly differ [$\Delta\chi^2$(10) = 37.21, p = .00], indicating that there were some differences in the paths or variances between the U.S. and Chinese samples. In order to identify the path difference, z-test for each pair of coefficients were conducted. Results showed a difference in the path from stress to problem-solving across these two samples (C.R. = 2.28), suggesting that the process by which stress relates to problem-solving was not the same for the U.S. and Chinese individuals. Then the model was tested in the Chinese sample, the model fit the data well (NFI = .93, CFI = .97, RMSEA = .065, χ^2 (4) = 6.8, SRMR = .05). However, one path was not significant when the model was applied to the Chinese sample. It was the path from stress to problem-solving. These results supported all five hypotheses in the U.S. sample. In the Chinese sample, however, one of the five hypotheses (i.e., hypothesis 1) was not supported.

Discussion

This study evaluated a path model connecting stress with problem-solving, avoiding, social support-seeking, and trait resilience. Results of a multigroup analysis showed a group difference between the U.S. and Chinese samples. The difference was caused by a significant difference in one of the six paths in the path model—the path from stress to problem-solving.

These findings reveal that the relationships amongst stress, problem-solving, avoidance, social support-seeking, and trait resilience in the U.S. and Chinese samples are more similar than different. In both samples, stress could influence avoidance. In addition, stress, social support-seeking, and trait resilience could influence problem-solving. However, stress influenced problem-solving differently across the two samples. In the U.S. sample, stress could directly influence problem-solving and indirectly

influence problem-solving through two mediators: social support-seeking and trait resilience. In the Chinese sample, stress could not directly influence problem-solving. It could only indirectly influence problem-solving through these two mediators.

As mentioned, the direction of cross country influence is more from the West to the East (Gidden, 1991). Thus, the findings of more similarities than differences between the two samples may be interpreted by China having been greatly influenced by the U.S., in the process of globalization. However, although globalization may have shrunk the cultural gap between the U.S. and China, cultural differences (localization) still exist. In this study, Chinese students were less likely than their American counterparts to directly engage in problem-solving. The Chinese culture values collectivism (Brammer, 2012) and thus, when stressed, Chinese students can be more accustomed to rely on group decisions than their own solutions. On the contrary, American culture values individualism (Brammer, 2012) and encourages individuals to find their own solutions. This cross-country difference in the tendency to problem-solving may reflect a part of the Chinese culture (i.e., collectivism) that lives through Westernization.

Practical Implications

Based on the findings across the two samples, mental health practitioners may develop culturally sensitive interventions for American and Chinese individuals traveling to or residing in each other's country. Stress directly influences American individuals (but not their Chinese counterparts) to engage in problem-solving. Thus, culturally competent mental health practitioners in the U.S. may educate their stress-burdened Chinese clients about the importance of finding their own solutions and may direct them to access resources that can help them find the solutions. When necessary, workshops about problem-solving may be conducted for Chinese clients. Culturally competent practitioners in China, on the other hand, may spend less energy on encouraging American clients to engage in direct problem-solving. They may focus more on guiding American clients to explore the nature of the problems/stressful situations, in order for the clients to incorporate social/cultural factors into their solutions.

Because social support-seeking and trait resilience are mediators between stress and problem-solving in both the U.S. and Chinese sample, mental health practitioners

may enhance these two mediators for the purpose of promoting clients' tendency to solve problems. Helping the clients to build social connections with local organizations and individuals can enhance the clients' social support-seeking. Another approach to boosting the clients' social support-seeking is encouraging them to participate in a counseling group formed by people experiencing similar problems/stressful situations.

In addition, enhancing the clients' trait resilience can promote their tendency to find solutions to problems/stressful situations, regardless of their cultural backgrounds. Family, school, and community provide supports for youth to successfully adapt to difficulties in life (Alvord & Grados, 2005; Jain & Cohen, 2013). As an individual grows, their experiences of successful adaptation contribute to the development of trait resilience. In adults, trait resilience can be enhanced by exploring and collecting memories of successful adaptation. Mental health practitioners may encourage their clients to tell life stories, and help the clients to identify successful adaptations, regardless of the adaptations' levels of obviousness. The clients can be encouraged to categorize the adaptations, organize them, and make sense out of them. Once the clients can make sense out of many of their adaptation experiences, their trait resilience can be enhanced.

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