UNDERSTANDING UTILIZATION OF MENTAL HEALTH SERVICES
AMONG CHINESE INTERNATIONAL STUDENTS

by

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Abstract

Background: Depressive and anxiety disorders are common mental health disorders that threaten the well-being of ethnic minorities. Asian international students are suggested experience higher level of depression and anxiety, but less likely to use mental health services than students in general. This study examines factors that motivate and impede Chinese international students from seeking college counseling services from the perspective of health communication.

Method: An online, self-administered questionnaire was conducted among a randomized sample of 150 Chinese international students from a Mid-Western university. The questionnaire was structured with key variables derived from the Health Belief Model (HBM) and the Social Cognitive Theory (SCT), such as perceived severity, perceived susceptibility, and self-efficacy of using counseling services. Key variables are measured by 5-point Likert scale. Data analysis was conducted with Pearson's correlation and multiple linear regression.

Results: Chinese international students' counseling seeking behavior is influenced by their perceived self-efficacy and external impediments of using counseling services. Perceived knowledge of mental health disorders and counseling contribute significantly to Chinese international perceived self-efficacy of using counseling services; however, perceived knowledge of the two items are generally low. The adherence of Asian cultural values, especially to collectivism and emotional self-control, contribute significantly to Chinese international students' negative perceptions of counseling.

Conclusion: College counseling services should conduct health communication campaigns that aim at improving Asian international students' knowledge of depression/anxiety and psychological counseling, in order to encourage them to engage in college counseling system. College counseling services should also enhance the cultural sensitivity of counselors, and provide culture-matched counseling services to Asian international students.

Table of Contents

List of Tables

Acknowledgements

Chapter 1 - Introduction

Background

Depressive and anxiety disorders are common mental health problems that present major national health care challenges (Young et al, 2008). Depression is a prevalent and disabling condition affecting more than 26% of the U.S. adult population (Kessler et al, 2005) and a growing public health problem in the United States (McLaughlin, 2011). This condition has been identified by numerous organizations as one of the largest healthcare priorities in the United States (Healthy People 2020; U.S. Department of Health and Human Services, 1999; McLaughlin, 2011). According to the National Institute of Mental Health (NIMH), roughly 19 million adults in the U.S. experience anxiety disorders each year. These include obsessive-compulsive disorder (OCD), panic disorder (PD), post-traumatic stress disorder (PTSD), generalized anxiety disorder (GAD), social anxiety disorder and social phobia, and specific phobias such as fear of the outdoors (agoraphobia) or confined spaces (claustrophobia), among many others (NIMH, 2011).

Depression and anxiety symptoms coexist. Nearly half of those diagnosed with depression are diagnosed with an anxiety disorder (Anxiety and Depression Association of America, n.d.). Both depression and anxiety have a significant impact on physical health and living status. Chapman, Perry and Strine (2005) note that mental disorders are strongly related to the occurrence and successful treatment of many chronic diseases (e.g., cancer, cardiovascular disease and obesity) and risk behaviors (e.g., physical inactivity, smoking, excessive drinking). In addition, the economic burden of depression and anxiety in the U.S. is huge and increasing consistently. Greenberg et al (2003) estimated this burden to be 43.7 billion dollars in 1990. By 2000, it had increased to about 83.1 billion.

Ethnic minorities in the U.S. are at greater risk of depression and anxiety but less likely to seek professional care and treatment. According to the American Psychological Association (2014), ethnic minorities are faced with more serious mental and behavioral disorders than Caucasians in the U.S. but receive inferior mental health treatment. Studies have identified risk factors that make ethnic minorities more vulnerable to depression/anxiety

symptoms, which include social identity, perceived discrimination, and cultural shock (Bhugra & Ayonrinde, 2004; Gary, 2005).

Studies suggest that international students, one of the largest and most significant immigrant groups in U.S. colleges, experience higher levels of depression and anxiety than students in general. This may be due to language barriers, immigration difficulties, social adjustment, homesickness and cultural adjustment (Li, Wong & Toth, 2013; Liu, 2009). Such factors also may prevent international students from seeking mental health information and services. Asian students, in particular, are vulnerable to depression and anxiety symptoms but less likely to engage in psychological counseling (Kim & Omizo, 2003; Wei et al., 2007). Acculturative stress and adherence to traditional Asian norms negatively influence Asian international students' mental health (Liu, 2009; Wei et al, 2007; Wang, Slaney, & Rice, 2007; Wong, Wang & Maffini, 2013).

This study examines factors that influence Chinese international students' utilization of counseling services in order to address depression and anxiety and other mental health disorders experienced by Asian international students. The prevalence of such conditions suggests that culture-specific health communication strategies may be needed to address underutilization of college counseling services among Asian international students. It is important to understand influential factors rooted in the social and cultural context.

Problem Statement

Health communication, which is now an integral part of most public health interventions, aims to improve public health outcomes by encouraging behavior modification (Schiavo, 2013). The goal is to increase knowledge, understanding and perceptions of risk (Bernhardt, 2004) through sharing of health-related information (Freimuth & Quinn, 2004; Schiavo, 2013). Health communication plays a vital role in improving knowledge and risk perceptions of mental health disorders and in promoting use of mental health services by vulnerable groups.

Previous studies suggested that lack of knowledge and perceived threat of mental health prevents Asians from using mental health services (Lee et al, 2009; Yeung et al, 2004). Compared to American students, Asian students may not perceive mental disorders as a

"problem" or be aware of the seriousness of the mental problems they experience, and fail to seek timely and appropriate treatment (Lee et al, 2009; Li, Wong & Toth, 2013). Because counseling services are uncommon in Asian society, Asian international students may not seek psychological counseling because of a lack of awareness and unfamiliarity with such services. A health communication campaign that focuses on the mental health of Asian students will not only provide a comprehensive understanding of their knowledge and perceptions of mental health disorders and psychological counseling services, but examine factors that influence perceptions and behaviors.

Unfamiliarity with mental health services can lead to misinformation about psychological counseling and distrust of counselors that makes Asians feel insecure about sharing information with a ''stranger'' (Chen & Lewis, 2011). Although mental health services including counseling are widely available in the U.S. and on college campuses, Asian students may underutilize such services due to lack experience and awareness of potential benefits (Chen & Lewis, 2011). Health communication strategies that inform Asian students about the benefits of mental health services may increase awareness, understanding and positive perceptions of such services.

Addressing negative perceptions of counseling rooted in adherence to Asian cultural values is also necessary to promote counseling-seeking behavior among Asian students. Asian culture overlooks mental health while reinforcing emotional self-control and expressive suppression, which lead to reluctance of Asian international students to seek counseling (Kim & Omizo, 2003; Shea & Yeh, 2008). In addition, the stigmatization of mental illness may impose external barriers, such as family disapproval and social discrimination that prevent Asian international students from seeking proper care for mental health issues. Understanding how Asian students perceive psychological counseling and how Asian cultural values contribute to such perceptions is important.

Asian students may not feel confidence in using counseling services because of a cultural mismatch between themselves and mental service providers. Efforts to treat depression of ethnic minorities and immigrants may be hampered by a number of factors. Language is the biggest barrier to Asian international students' perceived self-efficacy in using counseling services (Poyrazli & Grahame, 2007; Tsai & Wong, 2012). Asian students' confidence in

their ability to seek counseling can be improved by providing linguistically matched services. A lack of cultural sensitivity among mental healthcare providers renders patient-therapist communication ineffective. This is a key factor in preventing ethnic minorities from seeking counseling (Lee et al, 2014; Tsai & Wong, 2012).

Theoretical Framework

The study is informed by the Health Belief Model (HBM) and the Social Cognitive Theory (SCT). Developed in the 1950s, the HBM is commonly applied in health communication and health promotion studies and interventions. The model suggests six elements that influence people's decisions on whether to take actions to prevent, screen for, and control illness. These six constructs can be summarized as an individual's perceptions of the threat posed by a health problem (susceptibility, severity), the benefits of taking the action, and factors influencing the decision to act (barriers, cues to action, and self-efficacy) (Rimer & Glanz, 2005).

Developed by Bandura in 1986, the SCT has been applied in examining the determinants and mechanisms of media effects on human thoughts and actions (Bandura, 2001). In explaining the behavior change process, SCT focuses on the triadic reciprocal causation that learning and behavior are influenced by the interaction of cognitive, behavioral and environmental factors (Bandura, 1986; 2001). Applied in the health promotion and disease prevention area, the SCT posits a multifaceted causal structure in which self-efficacy beliefs operate together with knowledge, goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of human motivation, behavior, and well-being (Bandura, 2004).

Based on the HBM and SCT, the current study examines factors that motivate and impede Chinese international students to seek college counseling services to address mental health disorders. This includes an examination of students' perceived knowledge of depression/anxiety disorders and psychological counseling and their perceptions of these subjects. The study also examines the students' perceived benefits and self-efficacy toward using mental health services. Environmental factors have been examined including students'

4

adherence to Asian cultural values, external impediments of engaging in mental health services, and behavior in using such services.

Significance of the Study

The present study focuses on depression and anxiety, as well as utilization of college counseling services among Chinese international students, which is a subject with significant research values. China has become the top source of international students sending 235,597 students to the U.S. during the 2012-2013 school year. Chinese students comprise more than a quarter (28.7%) of the total foreign student enrollment, and more than half of Asian students (Open Doors Report, 2013). Studying Chinese international students' perceptions of using mental health services is not only important to better understand Asian international students' counseling seeking behaviors, but is of great value to college counseling services seeking to provide targeted and effective care to ethnic minority students. Additionally, the study of mental health needs of Chinese international students is of psychological significance in the Asian immigrant community because those born in China represent the second-largest immigrant group in the country and are likely to have a bachelor's degree or higher level of education (Migration Policy Institute).

Even though underutilization of college counseling services among Asian students is an important issue, it has received little attention from a health communication perspective. This study aims to fill this gap. In addition, by targeting specific ethnic minority populations and studying cultural factors that influence health-related behavior, this study contributes knowledge in the area of culture-specific health communication and raises the cultural sensitivity of mental health services.

Organization of the Thesis

This thesis is organized into five chapters. This first chapter provided a brief overview of the background and rationale of the study, problem statement, the goal and objectives as well as the significance of the research. Chapter two provided a review of literature on depression and anxiety, Asian international students' mental health status and their utilization of college counseling services, perceived knowledge of mental health problems and

counseling, perceived threat of mental health problems, therapist-client communication problem, negative attitudes and Asian norms that related to mental health. This chapter also included the theoretical framework, hypothesis and research questions of the study. Chapter three outlined the methodology used to obtain and analyze the data. Chapter four presents the results from the data analysis, including a descriptive of the sample's characteristics, inter-correlations of study variables, and testing hypothesis and research questions. Chapter five elaborated on the findings presented in the previous chapter and discussed the major themes that emerged from the analysis, this chapter also illustrate the limitations of this study and implications for future research.

Chapter 2 - Literature Review

This chapter reviews existing literature on cultural, cognitive, internal and external factors that influence Asian students' mental health status and their use of mental health services. First, it introduces literature on depression and anxiety, which pose a great threat to U.S. population and especially to ethnic minorities. Second, literature on Asian international students' mental health status is reviewed to reveal factors that contributing to mental health distress. Third, it explores factors that result in the less exposure to counseling services among Asian international students according to previous studies. Health communication is emphasized in changing behaviors and improving health outcomes. Finally, this chapter provides detailed literature on the Health Belief Model (HBM) and the Social Cognitive Theory (SCT), and explains how the theories are applied in this study.

Depression, Anxiety and Psychotherapy

Mental health is significant to an individual's well-being. The World Health Organization (WHO) defines mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (WHO, n.d.). Mental health is an important part of people's health condition, which is reflected in the definition of health as a state of complete physical, mental and social well-being (WHO, n.d.).

Mental health problems, which range from the worries that we all experienced in everyday life to serious long-term conditions, are serious health concerns globally. However, mental health has not been given the same importance as physical health in many parts of the world. This is reflected in low risk perceptions, low participation in mental health services, stigmatization of mental illness, and concerns of discrimination. For example, there are 450 million people suffer from a mental or behavioral disorder, yet only a small minority of them receive even the most basic treatment (WHO, n.d.).

Depression and anxiety are common mental health problems that affect ordinary people frequently. Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest (NIMH, 2015). Depression may be the result of genetic predisposition, physical illness, stressful events, losses, or beliefs, and is not a moral failure, but an illness that can be treated (Romanis, 1987). Depression can be characterized by less severe but long-term symptoms that prevent an individual from functioning normally or feeling well (NIMH, 2015). It is a serious medical illness that should be distinguished from normal temporary feelings of sadness (JAMA, 2010).

Anxiety is a normal human emotion that anyone may experience at times, but anxiety disorder can cause distress that interferes with a person's ability to lead a normal life. Anxiety often precedes depression in response to stress but is poorly recognized by clinicians (Stern & West, 2014). The term "anxiety disorder" includes generalized anxiety disorder (GAD), panic disorder and panic attacks, agoraphobia, social anxiety disorder, separation anxiety, and specific phobias, etc. (NIMH, 2016). GAD is a component of other anxiety disorders, which are characterized by the chronic worrying that affects daily living negatively and causes significant mental distress (Brown, O'leary & Barlow, 2001).

Depression and anxiety are significant national health risks as they affect a large segment of the U.S. population. The WHO estimates that mental health disorders are the leading cause of disability in the United States and Canada, accounting for 25 percent of all years of life lost to disability and premature mortality (WHO, 2004). In addition, anxiety disorders affect about 40 million American adults (about 18%) in a given year (Kessler, Chiu, Demler & Walters, 2005). Women are 60% more likely than men to experience anxiety disorders over their lifetime, and 8% percent of teens have experienced an anxiety disorder (NIMH, 2015).

Ethnic minorities in the U.S. face a high risk of depression and anxiety. Mental and behavioral disorders experienced by ethnic minorities are more serious than those of Caucasians (U.S. Department of Health and Human Services, 2001). For example, Asian Americans exhibit a higher number of depressive symptoms, especially when compounded by factors such as war, abuse and stress (University of Hawaii, n.d.). Asian-Americans college students were more likely than White American students to have had suicidal thoughts and to attempt suicide (Kisch, Leino & Silverman, 2005). Among women aged 15-

24, Asian American females have the highest suicide rates across all racial/ethnic groups (National Alliance on Mental Illness, 2011).

Psychological counseling (also called therapy or psychotherapy) is one of the most common treatments for depression/anxiety. It is also suggested to be the best treatment option for mild to moderate depression. Interpersonal counseling helps people understand and work through troubled personal relationships that may cause their depression or make it worse (NIMH, 2008). For example, after a meta-analysis of 38 studies involving 4,356 patients, the authors concluded that interpersonal therapy efficaciously treats depression. The author suggests that interpersonal counseling deserves a place in treatment guidelines as one of the most empirically validated treatments for depression (Cuijpers et al, 2011).

Despite the mental health distress and the need of proper care, ethnic minorities are less exposed to psychological counseling or mental health services. A study finds that for individuals who diagnosed with a depressive disorder within the past year, 63.7% of Latinos, 68.7% of Asians, and 58.8% of African Americans, did not access mental health treatment, as compared to 40.2% of non-Latino whites. Gary (2005) suggests that ethnic minorities' concern about prejudice, discrimination and stigmatized mental illness may impede treatment-seeking behavior.

Asian International Students' Mental Health Status

Previous studies suggest that international students are at greater risk for depression/ anxiety than U.S. students since they have additional stressors such as language difficulties, experiences of discrimination, homesickness and isolation (Chalungsooth & Schneller, 2011; Jung et al, 2007; Spencer-Oatety & Xiong, 2006). Nilsson et al (2004) found that depression, anxiety, assertiveness and academic major selection are major concerns when international students are engaging in college counseling center. Depression is listed as a chief presenting complaint among Asian international students (Nilsson et al. 2004; Yi et al. 2003; Lee et al, 2014). Asian international students are particularly vulnerable to depression/anxiety symptoms because they need to cope with cultural stress, which results from differences between their culture and the dominant European American culture (Yi et al, 2003; Yeh and Inose, 2003; Liu, 2009).

9

A number of factors contribute to Asian international students' mental health distress. Negative experiences such as language barriers, immigration difficulties, culture shock, social adjustment, and homesickness experienced by international students may be manifested as depression (Mori, 2000). Research also suggests social support is a significant factor in predicting depression and anxiety and that Asian students with lower levels of social support reported higher levels of depression and anxiety (Sumer et al, 2008). Students with lower levels of English proficiency also reported higher levels of depression and anxiety because English proficiency is related to acculturation, adaptation, and adjustment of international students (Poyrazli & Grahame, 2007; Sumer et al, 2008; Yeh & Inose, 2003). Demographic factors such as age, gender, and the length of stay in the host culture, also predict international students' depression and anxiety levels (Sumer et al, 2008). Some of these statements relate more to the general Asian international population.

In addition to stressors experienced by other international students, Asian international students in the U.S. experience more acculturative stress than their European counterparts (Yeh & Inose, 2003) and are more vulnerable to acculturative stress (Wei et al, 2007). As Liu (2009) points out, Chinese students face severe cultural shocks upon landing in the U.S. because of the large cultural differences between long-isolated China and the Western world. Acculturative stress, which refers to stress induced by the adaptive process to the host culture (Lee et al, 2004), that was positively associated with depression is also found among Taiwanese international students (Ying & Han, 2006) and over the years has been reported among other Asian international students (Constantine et al., 2005; Lee et al., 2004).

The adherence to Asian cultural values such as emotional self-control, humility, the desire for perfection and losing face, are special factors that drive Asian international students' mental health distress (Liu, 2009; Wang, Slaney, & Rice, 2007; Wong, Wang & Maffini, 2013). For instance, Asian international students who endorse the values of humility and emotional self-control might yield to the expectations of American society instead of asserting their own needs, in order to develop a non-confrontational relationships with host society members (Hsieh, 2006; Liu, 2009; Oldstone-Moore, 2002; Wong, Wang & Maffini, 2013). Wong et al. (2014) finds that humility is positively associated with depressive symptoms of Asian international students when they interact with peers because humility

may restrain their needs of being recognized. Maladaptive perfectionism, which refers to one's perceived failure to meet his or her standards of performance (Slaney, Rice, Mobley, Trippi, & Ashby, 2001), contributes to symptoms of depression and anxiety among Taiwanese students (Wang, Slaney, & Rice, 2007).

Asian International Students' Underutilization of College Counseling Services

College counseling services are professional mental health services that provide therapy for college students. It has been more than 100 years since the first student counseling service was established in the U.S. at the University of Princeton in 1910 (Kraft, 2011). Universities establish counseling centers to provide services to students whose social and emotional problems interfere with their ability to function in college (Sharkin, 2004). Most colleges and universities have developed mental health and counseling programs that commensurate with the size of their student bodies (Kraft, 2011). College counseling services, which pay particular attention to college students' mental health well-being, play a pivotal role in relieving college students' academic stress, solving emotional problems and preventing alcohol and drug abuse. Studies show that college counseling services have been effective in easing students' emotional distress such as depression, anxiety, and eating disorders (Draper, Jennings, Baron, Erdur, & Shankar, 2002; Vonk & Thyer, 1999).

Even though mental health and psychological counseling services are common in U.S. colleges and universities (Kraft, 2011), previous studies suggest that international students tend to underuse such services despite experiencing a numbers of cultural stressors that affect them academically and socially. For example, Nilsson et al (2004) found that international students represented only 2.6% of the clients seen at the college counseling center. Furthermore, about one third (38%) of international students who sought counseling dropped the treatment after the initial session. Similarly, Hyun, Quinn, Madon, and Lustig (2007) found that foreign graduate students are less likely to access college counseling services than American graduate students (17% vs. 36%, respectively) or to consider doing so in the future (33% vs. 56%, respectively). Yakushko, Davidson, and Sanford-Martens (2008) found that

only 1.8% of international students sought services at the local counseling center over a 5-year period, and 36% of foreign students who sought college counseling terminated therapy after the first appointment. Moreover, the results indicated that international students tended to have few (e.g., fewer than five) individual counseling sessions.

Asian international students may be less likely to use mental health services compared to their western counterparts (Mitchell, Greenwood & Guglielmi, 2007) and other ethnic minority groups such as Asian Americans, African Americans, or Hispanic Americans (Nilsson, et al., 2004; Tsai & Wong, 2012). Research indicates that Asian international students delay seeking counseling (Lee et al, 2014). Many Asian students seek mental health services only as a last resort when their distress level becomes intolerable (Mitchell et al., 2007; Yi et al., 2003). For example, Constantine and colleagues (2005) found that Asian international college women considered counseling as their last option in dealing with the adjustment difficulties of studying abroad. Hyun and colleagues (2008) revealed a gap between international students who consider seeking counseling services and those who actually do. Findings reveal that less than half of the students who considered seeking mental health care for stress-related or emotional issues actually engaged in counseling services.

Studies also suggest that Asian international students may be more likely to terminate therapy prematurely than students from other regions (Lee et al, 2014). For example, Yakushko and colleagues (2008) found that Asian international students who sought college counseling attended significantly fewer sessions than students coming from Central and South America. Similarly, Mitchell et al. (2007) observed that Asian international clients attended significantly fewer therapy sessions than did international students from Europe or North America. In addition, many studies indicate that Asian international students hold more negative attitudes toward counseling than U.S. students (Yoon & Jepsen, 2008) as expressed in less emotional openness, greater shame, and less self-perceived need for counseling (Yoon& Jepsen, 2008).

Knowledge of Mental Health Problems and Counseling Services

The significance of knowledge and understanding of a specific health problem has been emphasized in health communication. One of key characteristics of health communication is

increasing knowledge and understanding of health-related issues (Schiavo, 2013). Muturi (2005) suggested that health communication empowers people by providing them with knowledge and understanding about specific health problems. Health status of the intended audiences is improved by sharing health-related information (Muturi, 2005).

Knowledge of a health problem is positively associated with risk perception and behavioral choices related to the health problem. For example, a study indicates that women who are unable to identify their health condition as a risk factor for stroke hold low risk perceptions of stroke. These high-risk women perceived their risk of stroke to be the same as their peers and did not undertake primary prevention behaviors (Dearborn & McCullough, 2009).

Knowledge of health problem and related interventions is also critical in enhancing behavior change (Bandura, 2004). Health communication is a process of developing and diffusing messages to specific audiences to influence their knowledge, attitudes and beliefs in terms of healthy behavioral choices (Schiavo, 2013). Previous studies suggest that educational interventions, which aim to impact patients' knowledge through education, were significantly and positively related to physical activity, dietary habits, and smoking cessation (de melo Ghisi, Abdallah, Grace, Thomas & Oh, 2014).

In the current era, although the knowledge of many physical diseases is widely distributed and accepted, knowledge of mental health disorders has been relatively neglected by the public. Knowledge and beliefs about mental health, which can be referred to as mental health literacy, helps people in recognizing, managing and preventing mental illness (Jorm et al., 1997). According to scholars, mental health literacy includes the ability to recognize specific disorders, knowing how to seek mental health information, knowledge of risk factors, self-treatments and the professional help that is available, and attitudes that promote recognition and appropriate help-seeking. Scholars claim that it is important to introduce the concept of mental health literacy to wider audiences (Jorm, 2000).

Several previous studies focus on Chinese' knowledge about mental disorders and mental illness but provide divergent results (Klimidis et al, 2007; Lam et al, 1996; Yeung et al, 2004; Ying, 1990). A study of Chinese-USA primary care patients with depression reported that more than half of participants (55%) did not know the label for their condition and only 17%

attributed it to medical illness. Another 17% of participants did not believe it constituted an illness, and less than 4% of these patients sought mental health care (Yeung et al., 2004). Also in Hong Kong (Lam et al., 1996), half of a community sample asserted that a vignette depicting schizophrenia represented a normal reaction to stress and only 32% ascribed it to mental illness. While 56% thought that rest alone could alleviate it, in contradiction 52% felt that psychiatric support would be required. However, in a sample of Chinese women in the U, Ying (1990) reported that 58% interpreted a vignette depicting major depression as reflecting psychological disorder and only 13% did not know the label of the condition. In addition, Klimidis (2007) finds that accuracy in labeling major forms of mental disorders does not appear low in Chinese-Australians and seems higher than in the Australian community. He suggests that less healthcare utilization in Chinese-Australians is not underpinned by lower knowledge of mental disorders.

Researchers suggest that the lack of knowledge and understanding about mental health services and psychological counseling is another factor of the underutilization of mental health services among Asians (Chen & Lewis, 2011; Lee et al., 2010). Because therapy resources have been nonexistent or limited in Asian communities (Chen & Lewis, 2011), people have less knowledge of counseling and less experience with mental health services. Scholars find that the lack of knowledge about service availability is the most common structural barrier to mental health treatment in metropolitan China (Lee et al., 2010). Additionally, Georg Hsu et al (2008) suggested that the lack of familiarity with counseling, combined with the social stigma of psychological illness, impedes Chinese students from seeking professional help.

The lack of knowledge and understanding of mental health services also results in the perceived low credibility of counselor among Asian students. Counselor credibility is the degree to which a counselor and the interventions used are seen as effective and valid. Credibility should be established early on in treatment, especially for ethnic minorities who may not view therapy as a valid means of treating one's emotional problems (Sue & Zane, 1987; Mayer, 2011). Research shows that Asian students express less confidence in mental health professionals and a greater preference for dealing with psychological problems on their own, as compared to students from other geographic areas (Yakunina & Weigold, 2011).

Chen & Lewis (2011) conducted an in-depth interview toward Asians about their perceived source credibility of counselors. Participants report feeling insecure about sharing information with a ''stranger'' because of questions regarding confidentiality and the possibility that conversation in therapy could be disclosed in various ways. They also reinforced the issue of establishing long-term trust. The author explained that as a generally relation-focused culture (Lee & Mock, 2005), for Asians, personal relationships play an important role in trusting someone, especially a person from a profession that may not be well-understood (Chen & Lewis, 2011). The low confidence in counselors leads to less direct exposure to counseling services. Akutsu et al. (1990) examined the relationship between counselor style, credibility, and utilization intent among Chinese National students in Taiwan and White American students in the United States and found that among Chinese individuals, counselor credibility was significantly associated with willingness to initiate and continue treatment beyond the initial session. Effective health communication can increase Chinese international students' understanding and beliefs about counseling and therapy by informing them of functions and benefits of such services.

Perceived Threat of Mental Health Problems

Studies suggest that Asians students tend to perceive mental health problems such as depression and anxiety as low threat. As a result, they tend to be unconscious of their mental health needs and underuse mental health services (Hyun, 2007; Lee et al, 2009; Mau & Jepsen, 1988). For example, Lee (2009) claims that many young Asian Americans are not aware of the importance of mental well-being and may not be aware of the seriousness of the mental problems they experience or recognize that appropriate and timely counseling or treatment can help them significantly. In addition, Chinese graduate students were less likely to perceive a situation as a "problem" or seek assistance as compared to American graduate students (Mau & Jepsen, 1988; Li, Wong & Toth, 2013).

Some scholars have suggested that health-related beliefs common in Asian society may be at the root of this problem. Scholars point that cultural groups have specific ways of explaining abnormal human behavior and particular conceptualizations of mental illnesses (Sue & Sue, 2008; Hwang, Myers, Abe-Kim, & Ting, 2008; Wong, 2010). Specifically, the

notion of mental health is defined distinctly by Asians, who perceive mental health as being under an individual's control and the occurrence of mental health problems as the individual's fault (Lee et al, 2009). In addition, Asian culture, which advocates the oneness of body and mind, propose that the psychological disorder should manifest as physical illness (Kim, Atkinson & Umemoto, 2001). For example, in a research exploring Eastern Asian international students' perceptions of therapy and help-seeking behavior, a participant claims that sickness refers to an abnormally functioning body that an individual can see or feel, rather than one's talk or behaviors.

Asian international students' low risk perception of depression and anxiety may be influenced by the notions described above. Scholars suggest that an individual's risk perceptions are largely determined by social aspects and cultural adherence (Douglas, 1966, 1978; Oltedal, Moen, Klempe & Rundmo, 2004). Their views of risk are referred as the "cultural theory", which can "predict and explain what kind of people will perceive which potential hazards to be how dangerous" (Wildavsky and Dake, 1990: 42). As a result, adherence to Asian mental health beliefs affects Asian international students' risk perceptions of depression/ anxiety. Also, such concepts prevent Asian international students from seeking the help of mental health professionals (Chen & Lewis, 2011), and is behind their reluctance to admit having a problem that needs professional help (Mau & Jepsen 1988; Yoon & Jepsen, 2008).

The goal of health communication is to change behaviors in a large-scale target audience in regard to a specific problem within a defined period of time (Clift & Freimuth, 1995), with the ultimate aim being to improve health outcomes. In designing a health communication intervention, it is important to understand the extent to which they believe they are at risk as well as how they perceive the problem. The present study examines to what extent Asian international students are aware of and understand the danger of mental health problems such as depression and anxiety.

Therapist-Client Communication Problems

Language barriers, a lack of cultural sensitivity among therapists and other communication problems also impede Asian International students' use of counseling

services. (Poyrazli & Grahame, 2007; Lee et al, 2009; Tsai & Wong, 2012; Meyer, Zane & Cho, 2011; Chen & Lewis, 2011). Poyrazli and Grahame (2007) have suggested English language competency as an ongoing concern from the time students leave their own countries to the time they finish college. Asian international students encounter language barriers in counseling (Tsai & Wong, 2012) that impede communication with mental health providers. This reduces the effectiveness of counseling directly and results in a reluctance to seek counseling. Although interpreters can help address language barriers, one study revealed that more than half of Asian international students were reluctant to involve interpreters in counseling (Yoon and Jepsen, 2008).

Cultural sensitivity is an important component of health communication and health promotion. It means awareness that cultural differences and similarities exist and have an effect on values, learning and behavior (Stafford et al, 1997). Brislin (1993) suggested that health care providers can effectively communicate with clients from other cultures if they are "culturally sensitive." Other health care research confirms that cultural sensitivity is significant in creating effective intercultural communication with patients (Bronner, 1994; Majumdar, 1995; Moore, 1992; Ulrey & Amason, 2001) and of great importance as it affects patients' physical and mental well-being (Voelker, 1995). Ulrey and Amason (2001) found a positive relationship between cultural sensitivity and effective patient-provider intercultural communication. In contrast, a lack of cultural sensitivity among health care providers may result in unsuccessful communication because professionals are expected to use their training and competence to develop positive relationships to effectively diagnose and treat patients (King, Novak, & Citrenbaum, 1983; Lee et al., 1992; Ulray & Amason, 2001)

The lack of cultural sensitivity among therapists results in the lack of understanding between therapists and ethnic minority clients, which deter Asian international students from seeking counseling (Leong & Chou 2002; Mori, 2000; Pedersen 1991; Yoon & Jepsen, 2008). Previous studies reveal that counselors may lack cultural sensitivity or expertise in providing counseling services to Asian international students (Pedersen, 1991; Tsai & Wong, 2012). It is important for a client to believe that his or her therapist possesses similar attitudes and values in the process of counseling. For example, Asian Americans who felt similar to the therapist in attitudes, values, or personality felt the therapist was more supportive. This

appeared to lead to a stronger working alliance and greater therapist credibility (Meyer, Zane & Cho, 2011). In contrast, many Asian Americans do not feel comfortable speaking to a mental health care professional who does not understand their culture or language (Lee et al, 2009).

Researchers provided reasons for the lack of mental health professionals who can offer linguistically and culturally appropriate care. It seems that counseling training programs rarely prepare students to counsel international students. Furthermore, most multicultural counseling textbooks do not specifically discuss issues related to international students (Tsai & Wong, 2012; Yoon & Portman, 2004). Therefore, Chalungsooth and Schneller (2011) suggests that when international students do present at the campus medical or mental health clinic it is essential for the clinician and care providers to maintain a high level of cultural sensitivity. This includes taking responsibility for reducing communication barriers as much as possible.

Culture is an increasingly important factor in public health and health communication. Health promotion programs are expected to target subgroup populations defined by a mixture of demographic, behavioral, psychosocial, geographic, and risk-factor characteristics and to provide services tailored to particular audience segments (Slater, 1996; Kreuter & McClure, 2004). In a 2002 report on health communication strategies for diverse populations, the Institute of Medicine (IOM) suggests that ideally, diversity and culture should be taken into account at each decision point when developing campaigns that target culturally diverse population subgroups (Inst. Med, 2002; Kreuter & McClure, 2004). Enhancing cultural sensitivity of counselors and therapists to provide culturally specific healthcare is an effective strategy for the elimination of health disparities.

Negative Attitudes and Asian Norms Associated with Mental Health

Adherence of traditional Asian norms and values is a factor associated with lack of use of counseling services. Previous studies have suggested that some Asian norms, such as social stigma of mental illness, collectivism, the emphasis of emotional self-control and humility contribute to negative attitudes toward seeking counseling and are negatively associated with Asian international students' utilization of college counseling services (Georg Hsu et al,

2008; Lee et al, 2014; Wong, Wang & Maffini, 2013). Research suggests that Asian American undergraduates who endorse the values of collectivism, emotional self-control, and personal humility express significantly less positive attitudes toward counseling (Kim, 2007; Gloria, Castellanos, Park & Kim, 2008).

Collectivism, as one of the most important values throughout the Asian culture, results in the stigmatization of mental health problems and behavioral resistance to counseling. Many Asian cultures, such as the Chinese, Korean, and Japanese cultures, attach considerable significance to the collective representation of the family. Consequently, a family member with a mental illness may be considered a source of shame, reflecting the inferior origin of the family, failure of the parents, or the result of a sin committed by ancestors (Georg Hsu et al, 2008; Lee et al., 2014). Concerns such as bringing disgrace to the family and ''loss of face'' heighten the social stigma associated with mental health problems (Lee et al., 2014).

Social stigma of mental illness is prevalent in all cultures but much worse in Asian Culture. Georg Hsu (2008) suggests that in cases of depression scores on stigma factors were higher among Chinese than Caucasians, suggesting that greater stigma among Chinese Americans was related to greater fear, shame, and cognitive distortion. In many Asian cultures, psychological problems are highly stigmatized and disclosure of such problems is viewed as disgraceful (Mori, 2000; Yoon & Jepsen, 2008). This is a salient consideration for many Asian international students and, thus, may serve as a barrier to professional mental health treatment in this population (Dadfar & Friedlander, 1982; Yakunina & Weigold, 2011). It is often considered taboo to openly discuss mental health in many Asian cultures, and thus, people may hide, neglect, or deny symptoms rather than seek help (Lee et al., 2009).

Other norms in Asian society, such as emotional self-control and humility, are significantly and negatively related to Asian international students' professional psychological help-seeking attitudes. Asian international students who strongly believe in the importance of emotional self-restraint may view the expression of intense emotions in psychotherapy as evidence of personal weakness, attaching a high level of stigma to seeking psychological help (Jackson & Heggins, 2003; Leong & Lau, 2001; Kim & Omizo, 2003; Wong, Wang & Maffini, 2013). Emotional expression in psychotherapy has been considered

a shame in Asian culture; thus, help-seeking for individual emotional distress is less acceptable for Asian international students than for outside problems, for instance, relationship issues (Chen & Lewis, 2011). The embracing of humility is also salient to negative help-seeking attitudes and poorer mental health of Asian international students. Those who strongly embrace humility might be uncomfortable asserting their needs and show more negative attitudes toward seeking psychological help because of a perception that psychotherapy encourages a focus on the self (Yakunina & Weigold, 2011; Yamashiro & Matsuoka, 1997; Wong, Wang & Maffini, 2013). Wong et al (2013) suggest that humility was negatively related to psychological help-seeking during participants' interactions with nonfamily members.

Asian Americans' negative attitudes toward counseling in keeping with Asian norms, prevents individuals from seeking counseling (Gloria, Castellanos, Park & Kim, 2008; Shea & Yeh, 2008; Liao, Rounds & Klein, 2005; Zayco, 2009; Chou, 2000). Asian international students, it is suggested, are less acculturated and struggle with cultural adaptation more than their U.S.-born Asian American counterparts (Sodowsky & Plake, 1992), which leads them to express greater shame and stigma concerns in the context of seeking psychological services than U.S.-born Asian students (Yoon & Jepsen, 2008). Understanding Chinese students' adherence to Asian norms is important in developing strategic health interventions to change attitudes to encourage utilization of college counseling services and to ultimately improve mental health of this group.

The literature indicates cognitive, cultural, and communicational predictors of Asian international students' mental health status and inclination to seek professional help, but research gaps were revealed in this review. Although there is adequate literature focusing on Asian students' negative attitudes towards counseling, very few studies focus on this group's perceived knowledge of mental health and the ability to identify symptoms of depression and anxiety. Furthermore, Chinese international students' perceptions of depression and anxiety have not been studied quantitatively. Despite the considerable number of cultural and cognitive predictors examined in previous studies, risk perception of depression and anxiety was rarely mentioned. Previous studies suggest a gap between international students who have considered seeking counseling and those who actually do (Hyun et al. 2007), but no

known study explains the reason this gap exists. With two exceptions (Yakunina & Weigold, 2011; Wong, Wang & Maffini, 2013), none of these studies used a comprehensive theoretical model that could integrate a wide range of cultural and cognitive predictors of help-seeking. Given these limitations, the present research will reveal factors that motivate or impede Chinese international students to seek professional health from college mental health services with guidance from Health Belief Model and Social Cognitive Theory.

The Health Belief Model

Developed in the 1950s by U.S. Public Health Service researchers, HBM attempts to explain and predict individuals' readiness to pursue an action and perception of the benefits of such an action (Finfgeld, Wongvatunyu, Conn, Grando, & Russell, 2003; Rosenstock, 1966). The original HBM provides four main variables including perceived severity, susceptibility, benefits and barriers. Scholars later suggest that self-efficacy, which refers to people's confidence in their ability to perform the behavior, can predict engagement (or lack of engagement) in adoption of the health promotion behavior (Bandura, 1977).

Perceived severity and susceptibility, which have been combined and referred as the perceived threat, influence how people process health information and how motivated they are to engage in a particular health-related behavior (Sturges & Rogers, 1996; Witte, 1992). Perceived severity refers to an individual's perception of the seriousness of a given illness or of an illness in general (Bolte, 2013). Perceived susceptibility refers to an individual's estimate of the chance of acquiring an illness or of suffering the ill-effects (Weissfield, Brock, Kirscht, & Hawthorne, 1987). Rosenstock et al (1988) suggest that together, perceived susceptibility and severity constitute an individual's perception of the overall threat of an illness, and that an individual's beliefs about susceptibility and severity to a health problem predict the level of preventive action one takes (Strecher & Rosenstock, 1997). In the context of the present research, if students do not perceive depression/anxiety as a serious problem that might interfere with normal life and do not perceive themselves to be vulnerable to depression/anxiety, they will not consider using college counseling services. Consequently, it is necessary to understand Chinese international students' risk perceptions of depression/anxiety and how they influence counseling-seeking behavior.

Perceived benefit refers to one's belief in the efficacy of the advocated action to reduce risk or seriousness of the impact. An individual's assessment of the value or weight of the benefits of alternative behaviors is how they see the benefit of the health action and guides the decisions the individual will make (Rosenstock, Strecher, & Becker, 1988; Weissfield et al., 1987). Engagement in the health-related behavior is affected by individuals' subjective evaluation of the function and efficiency of the specific behavior. If an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then he or she is likely to engage in that behavior regardless of objective facts regarding the effectiveness of the action. For example, in a survey of age differences and perceived benefits of mental health services, the author suggests that older adults who are generally more satisfied and perceive greater benefit from the services are more likely have positive experiences (Ford, Bryant1 & Kim, 2010). To increase utilization of counseling services among Chinese international students, it is important to highlight perceived benefits.

Perceived barriers refer to an individual's assessment of obstacles that prevent them from implementing a certain health behavior, or adopting a change in habits. Perceived barriers are negatively related to engagement in health-promoting behavior. HBM suggests that individuals tend to not engage in behaviors or change behaviors if they perceived a high level of difficulty. Researchers indicate that perceived barriers are the most significant construct because they determine behavior change (Janz & Becker, 1984). The literature suggests that a key to reducing the underutilization of treatment of mental disorders is to understand why affected individuals do not seek treatment. (Lee et al, 2010). It is important to figure out Chinese international students' perceived barriers to using counseling services.

Self-efficacy was added to HBM by Bandura (1977), who defined it as a person's beliefs about their capabilities to produce designated levels of performance to exercise influence over events affecting their lives. Self-efficacy in his view is "people's beliefs in their capabilities to produce desired effects by their own actions" (Bandura, 1997, p. vii). Self-efficacy beliefs are not outcome expectancies (Bandura, 1997), or behavior-outcome expectancies (Maddux, 1999a), or perceived skill (Maddux, 2002), but "what I believe I can do with my skills under certain conditions" (Maddux, 2002:278). Self-efficacy is an important determinant of the behaviors people choose to engage in and how much they

persevere in their efforts in the face of obstacles and challenges (Maddux, 2002). Though limited, several studies suggested that Asian international students are not confident in their ability to access counseling services and communicate with therapists because of unfamiliarity and language barriers (Poyrazli & Grahame, 2007; Tsai & Wong, 2012). It is important to examine Chinese international students' self-efficacy in regard to accessing counseling services and performance during counseling process.

The Social Cognitive Theory

In addition to HBM, the present study is also guided by the Social Cognitive Theory (SCT) developed by Bandura in 1986. An extension of Social Learning Theory (Bandura, 1977), SCT suggests that learning occurs in an external social context with a dynamic and reciprocal interaction between the person, environment, and behavior (Bandura, 1986). The central concept of SCT is Triadic Reciprocal Determinism, which posits that the learning process results from an interaction of cognitive, behavioral and environmental factors (Bandura, 1986; 2001).

SCT has been applied in analyzing human development (Bandura, 1989), examining the determinants and mechanisms of media effects on human thoughts and actions (Bandura, 2001), and in public health with a focus on the critical role of self-efficacy in health promotion and disease prevention (Bandura, 2004). Compared to other theories that explain human behavior in terms of one-sided determinism (Bandura, 1989), SCT emphasizes social influence and internal and external social reinforcement in explaining human behavior. Behavior, cognition and other personal factors, and environmental influences interact as determinants that influence each other bi-directionally (Bandura, 1989). Personal factors (expectations, beliefs, self-efficacy) and environmental factors (society, culture) shape and direct behavior (Bandura, 1986; 1989).

In examining health promotion and disease prevention from the perspective of Social Cognitive Theory, Bandura (2004) posits a multifaceted causal structure in which self-efficacy beliefs operate together with knowledge of health risks, goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of human motivation, behavior, and well-being. As a psychosocial model of health behavior, SCT

overlaps many factors with the HBM: perceived severity and susceptibility to disease in the HBM can be seen as expected negative physical outcomes, while perceived benefits are viewed as positive outcomes (Bandura, 2004). Self-efficacy, which has been added in the HBM by Bandura (1977), is the focal determinant in SCT. In addition, Chinese students' negative perceptions about counseling, which have been addressed in previous literature, have been examined as negative outcome expectations.

In addition to the overlapping variables, SCT emphasizes other two main determinants of health promotion: knowledge and environmental impediments. Bandura suggests that knowledge of health risks and benefits of a specific health-related behavior creates the precondition for individual behavioral change. Bandura also suggests that the regulation of behavior is not solely a personal matter. Environmental impediments, which are rooted in the external social context, is another significant determinant of health habits. The present study absorbs these two variables from SCT. It explores how Chinese students' perceived knowledge of mental health problems and counseling are related to perceptions and behaviors in regard to using counseling services. Chinese students' adherence to Asian cultural values during the years spent in the U.S. and other external impediments to accessing counseling services are examined as environmental factors.

Hypothesis and Research Questions

Based on a review of the literature, the hypothesis and research questions addressed in this study are as follows:

H1: Chinese international students' perceived knowledge of counseling is positively correlated with likelihood of using counseling services.

RQ1: How do personal variables influence Chinese international students' likelihood of using counseling services?

RQ2: How do environmental variables influence Chinese international students' likelihood of using counseling services?

RQ3: How do knowledge and environment variables influence Chinese international students' perceived self-efficacy in using counseling services?

RQ4: How do knowledge and environment variables influence Chinese international students' negative perceptions of counseling?

Chapter 3 - Method

This study examined Chinese international students' self-reported knowledge and perceptions of depression/anxiety, perceptions of counseling and mental health services, and cognitive and social factors that impede or motivate use. Information was gathered from participants via an online survey, which asked about perceived severity and susceptibility to depression/anxiety, perceptions of counseling, perceived benefits, barriers, and self-efficacy for using college counseling services, as well as the likelihood of using such services. This chapter introduces the research methods used in this study, including variables and measurements, sample selection, data collection, and data analysis procedures.

Scope of Study

This is a health communication study focusing on a Chinese international student population's perception of depression, anxiety and counseling, and factors that motivate or prevent them from using college counseling services to address depression and anxiety. The study was conducted among Chinese students from a large Midwestern university. Following approval by Institutional Review Board (IRB) for human subjects and the registrar's office, a research panel was obtained from the University's Information Technology Assistance Center (iTAC) and an individualized link was sent to each student through the Qualtrics survey system. Participation was voluntary and only those who consented could proceed with the survey. The survey remained open for two months. Reminders were sent at three weeks and again at six weeks to those who had not completed the survey. Due to the university's policies and regulations related to research involving human subjects, individuals younger than age 18 were not included in the study.

Sample Selection

The target population for this study was Chinese students enrolled in undergraduate and graduate courses during the 2015 spring semester at Kansas State University. The population consisted of 946 Chinese international students, according to Kansas State University International Student and Scholar Services (ISSS). The response rate is about 16% (N=150).

Instrument Development

Taking a quantitative research approach, participants were asked to report their knowledge and perceptions of depression/anxiety and counseling. Meanwhile, this study also measured predictor variables affecting respondents' engagement with college counseling services in accordance with the Health Belief Model (HBM). These included perceived severity, susceptibility, barriers, benefits and self-efficacy. In addition, respondents' adherence to Asian cultural norms were examined as a predictor of engagement in psychotherapy. Respondents were asked about the likelihood of using counseling services in the future; however, behavior was not observed and recorded directly. The Qualitrics online survey system was used to gather data. Key variables included perceived knowledge of depression/anxiety and counseling, communication channels for learning about relevant information, perceived severity, susceptibility of depression/anxiety, negative perceptions of counseling, perceived barriers, benefits, and self-efficacy of using counseling services, adherence to Asian norms, and likelihood of using college counseling services. Data analysis was performed using Statistical Package for the Social Sciences (SPSS).

Self-Reported Knowledge and Channels of Information

Chinese international students were asked to self-report their perceived knowledge of depression/anxiety and counseling by responding to the question, "How knowledgeable are you about depression/anxiety (counseling)?" Participants were instructed to choose one of four options that ranged from "not at all knowledgeable" to "very knowledgeable". Then, participants were asked to choose the top three channels they used to learn about depression/anxiety and counseling from communication channels listed such as "television" or "internet". An "other" option gave students an opportunity to identify other channels they considered a match for this question.

Negative Perceptions of Counseling and Therapy

To test Chinese international students' negative perceptions of counseling/therapy, participants were asked about agreement with six statements mainly adopted from Li (2013).

27

Li conducted a mix-methods study asking Asian international students about their willingness to seek counseling with an open-ended question, "What comes into your mind when you think about 'counseling' or 'mental health counseling'?" Six themes emerged from participants' responses including (a) counseling is for those with serious mental problems; (b) counseling is for solving problems; (c) counseling process mainly involves sharing personal information with a stranger; (d) counseling is for 'when no one else can help'; and (e) counselor will not understand me if I seek help from counseling services. In the present study, participants were asked to rate agreement with six statements on a 5-point Likert scale from "1=not at all agree" to "5=strongly agree".

Perceived severity, susceptibility, barriers, and benefits

This section explored participants' beliefs and perceptions pertaining to the Health Belief Model (HBM). Participants will be asked questions adopted from subscales of the Health Belief about Mental Illness Instrument. This instrument developed by Saleeby (2000) aims to measure beliefs about mental illness based on Health Belief Model. As a validated measurement tool for belief of mental illness, the adapted 49-item instrument uses a 5-point Likert scale from "1=not at all agree" to "5=strongly agree". The present study adopted Emotional/Nervous Severity (Susceptibility, Benefits and Barriers) scales.

Perceived severity was measured with a 5-item scale that included statements like "depression/anxiety will threaten one's relationship with family and friends" and "thinking about depression/anxiety makes me nervous." Perceived susceptibility is measured with a 4-item scale that measured respondents' perceived risk of personally developing depression/anxiety. Participants were asked about their agreement with statements like "There is a good possibility that I will develop depression/anxiety problems in the next 10 years." Perceived benefits were measured with a 4-item scale asking respondents about perceived positive components of seeking counseling for depression/anxiety problems (e.g., a burden will be lifted from me if I were to use counseling services for depression/anxiety). Perceived barriers, which also refers to external factors that impede students from using counseling, were measured with a 4-item scale that included statements like "my family will not allow me to seek counseling" and "seeking counseling for depression/anxiety would cost

too much money." Statements include stigma concerns of mental health care adopted from Unger and Knaak (2013).

Self-efficacy

Self-efficacy was measured with 7 items focusing on participants' ability to identify symptoms, obtain counseling information, and communicate with mental health professionals, (e.g., I can communicate with counselor/therapist in English) Responses were rated on a 5-point scale ranging from "1=not at all agree" to "5=strongly agree".

Adherence to Asian culture

Participants' adherence to original Asian culture was measured with selected questions from Asian American Values Scale-Multidimensional (AAVS-M) (Kim et al., 2005). AAVS-M is a 42-item instrument with 5 subscales (collectivism, conformity to norms, emotional self-control, family recognition through achievement and humility) used to measure adherence to Asian cultural values common to many Asian ethnic cultures. Wong et al (2013) adopted Humility and Emotional Self-Control subscales and found that Asian international students' adherence to humility was significantly and positively associated with depressive symptoms during their interactions with peers, and their adherence to emotional self-control was significantly and negatively related to help-seeking attitudes during interactions with members of their country of origin.

The present study adopted 4 subscales of AAVS-M including collectivism (e.g., "The welfare of group should be put before that of an individual"), conformity of norms (e.g., "One should recognize and adhere to the social expectations, norms and practices"), humility (e.g., "One should be able to boast about one's achievements"), and emotional self-control (e.g., "One should not express strong emotions."). Items were rated on a 5-point scale ranging from "1=not at all agree" to "5=strongly agree". Other statements were adapted from Kim (2001) to measure participants' agreements of Asian health-related beliefs (e.g., "mental health is something that one can control").

Likelihood of seeking help

Participants' likelihood to seek help from college counseling services for depression/anxiety were assessed with four items adopted from Unger and Knaak (2013). Statements were used to ask participants about the likelihood of using college counseling services in four hypothetical situations (e.g., ''I would talk to a doctor or mental health professional if I was feeling depressed or anxious''). Participants were asked to indicate their willingness in each situation on a 5-point scale from "1=not at all agree" to "5=strongly agree".

Chapter 4 - Results

This chapter presents findings of research questions and results of hypotheses testing for the study. Demographic information is described first, followed by measurements of each variable and inter-correlations of the main study variables. Testing of the hypothesis and research questions are provided last with data analysis results and conclusions based on research questions and hypotheses.

Descriptive Statistics

The link to the online survey was sent to all college students who identified themselves as Chinese International students. In all, 150 individuals responded, 52% were male (N=78), more than half of the participants were graduate students (52%) evenly distributed among age groups: 30.2% were 18 to 22 years old, and 38.9% were 23 to 26 years old (Mean=24.91). About 28% of participants reported spending more than 4 years in the U.S., and 26.7% spent 2 to 4 years. Table 4.1 displays demographic characteristics of the participants.

Table 4.1 Participant Demographic Characteristics

Characteristics		N (%)
Gender	Male	78 (52.0%)
	Female	72 (48.0%)
Age	18-22	45 (30.2%)
(M=24.91; SD=3.847)	23-26	58 (38.9%)
	27-30	34 (22.8%)
	More than 30	12 (8.1%)
Year in College	Preparatory course/ELP	11 (7.3%)
(M=4.76; SD=1.617)	Freshman	8 (5.3%)
	Sophomore	13 (8.7%)
	Junior	20 (13.3%)
	Senior	20 (13.3%)
	Graduate Student	78 (52.0%)
Year of U.S.	Less than 1 year	36 (24.0%)
(M=2.59; SD=1.136)	1 to 2 years	32 (21.3%)
	2 to 4 years	40 (26.7%)
	More than 4 years	42 (28.0%)

Individual perceptions on mental health problems and counseling

Perceived severity and susceptibility to depression/anxiety, perceived benefits and external barriers and self-efficacy toward using counseling services, Chinese students' negative perceptions on counseling were tested in the study. Each variable was measured with four or more items based on a 5-point scale, from "1=not at all agree" to "5=strongly agree". Items in each scale yielded a Cronbach's alpha of more than 0.65, indicating acceptable or high internal consistency within these items (Table 4.2).

Table 4.2 Variables, Items and Scales of Individual Perceptions

Variable	Item	Mean	SD
Severity	Depression/anxiety would threaten one's relationship with family or friends	4.27	.81
	Depression/anxiety would threaten one's academic/work performance	4.41	.80
	Thinking about depression/anxiety problems makes me nervous	3.39	1.21
	The thought of having depression/anxiety scares me	3.28	1.16
Susceptibility	It is extremely likely that I will have depression/anxiety problems in the future	2.45	1.16
	I am more likely than the average person to have depression/anxiety problems	2.35	1.16
	There is a good possibility that I will develop depression/anxiety problems in the next 10 years	2.37	1.05
	I feel I will develop depression/anxiety in the future	2.45	1.11
Benefits	Counseling/therapy for depression/anxiety would prevent major problems with family and friends	3.78	.95
	Counseling/therapy for depression/anxiety would prevent major problems with family and friends	3.77	.90
	Counseling/therapy for depression/anxiety would make one feel better about himself/herself	3.77	.92
	A burden would be lifted off if one to get help from counseling/therapy for depression/anxiety	3.86	.89
Barriers/ Impediments	My family members will not approve if I want to receive treatment for depression/anxiety	2.31	.97
	Seeking counseling for depression/anxiety problems would cost too much time	2.81	1.01

	Seeking counseling for depression/anxiety problems would cost too much money	3.35	1.01
	People would think differently about me if I were to seek counseling for depression/anxiety	2.75	1.05
Negative Perceptions	Counseling is only for those with serious mental problems	2.45	1.33
	Counseling process mainly involves sharing personal information with a stranger	2.13	1.16
	Counseling is for "when no one else can help"	2.62	1.12
	College counseling service is mainly for U.S. students rather than international students	2.31	1.13
	Counselors would not understand someone like me if I went to them for depression/anxiety problems	2.27	1.05
	Counseling is embarrassing	2.97	1.08
Self-efficacy	I can identify symptoms of depression/anxiety	3.07	1.02
	I can obtain information on U.S. college counseling services	3.19	1.07
	I can get in touch with U.S. college counseling services	3.28	1.11
	I can engage in U.S. college counseling services	3.03	1.05
	I can communicate with counselors/therapists in English	3.54	0.99
	I can talk about personal matters to counselor/therapists in English	3.55	0.99
	I can understand counselors' suggestions and advice in terms of depression/anxiety in English	3.58	0.89

As Table 4.2 shows, participants perceived high level of severity (M=3.84, SD=.70) but a low level of susceptibility (M=2.41, SD=1.05) in terms of mental health problems such as depression and anxiety. Participants perceived high level of benefits of using counseling services (M=3.79, SD=.77) but a little below moderate level of external barriers of seeking counseling. The biggest perceived impediment was "Seeking counseling for depression/anxiety problems would cost too much money" (M=3.35, SD=1.01). Participants reported moderate below level of agreement on negative statements about counseling, but moderate agreement on "counseling is embarrassing" (M=2.97, SD=1.08). The mean of self-efficacy is 3.23 (SD=.76), which indicates perceived moderate level of self-efficacy for using counseling services. Compared to beliefs on communicating with counselors in English,

beliefs on "identify symptoms of depression/anxiety" (M=3.07, SD=1.02) and "engage in U.S. college counseling services" (M=3.03, SD=1.05) are lower.

Knowledge and channels of acquiring knowledge

Participants were asked how knowledgeable they were about depression/anxiety and through what communication channels they received such information. About 76% (n=114) participants reported not at all or little knowledge of depression and anxiety, 19.3% (n=29) reported they were somewhat knowledgeable, and only 4.7% (n=7) reported being very knowledgeable. In terms of how knowledgeable they were about counseling, about 69% (n=103) participants reported they were not at all knowledgeable or a little knowledgeable about counseling, 26.7% (n=40) reported they were somewhat knowledgeable, and only 4.7% (n=7) reported they were very knowledgeable about counseling. Participants were asked if they had acquired any information about mental health or counseling since they arrived in the U.S. Only 23% (n=36) of participants reported that they had acquired such information. In regard to channels through which they learn about counseling after arriving U.S., most reported having acquired such information from College Counseling Services, internet and friends (Table 4.3).

Table 4.3 Channels for Acquiring Information about Counseling in the U.S. by Rank

Best channel to acquire counseling information	N	%
College Counseling Services	24	16
Internet	15	10
Friend	11	7.3
Faculty/Stuff	8	5.3
Poster	7	4.7
Seminar/Orientation	7	4.7
Television	4	2.7
Others	4	2.7

Other variables included the channels through which participants learn about depression/anxiety, preferred media (electronic, print, social) and interpersonal channels (friends, family, school). Students were asked to choose channels they used most to learn about depression/anxiety. Table 4.4 provides an overview of the rankings, where 84%

(n=126) ranked the "internet" highest, followed by TV (60.7%, n=270), and Friends (36%, n=54). Movies/films were mentioned by two students (1.3%) as "other channel" which ranked the lowest.

Table 4.4 Channels for Acquiring Information about Depression/Anxiety

Best channel to learn about depression/anxiety	N	%
Internet	126	84
TV	91	60.7
Friends	54	36
School	25	16.7
Magazine	22	14.7
Family/Relatives	22	14.7
Newspaper	21	14
Literature	13	8.7
Others	2	1.3

Adherence to Asian Cultural Values

Participants' adherence to Asian cultural values was measured with 13 items and on 5-point scale ranging from "1=not at all agree" to "5=strongly agree". The 13 items yielded a Cronbach's alpha of 0.84, indicating a high internal consistency among the items. The variable includes five subscales: conformity of norms, emotional self-control, humility, collectivism and Asian health-related beliefs. All the subscales had acceptable or high internal consistency.

As seen in Table 4.5, the entire scale had a combined mean of 3.84 (SD=0.70), which indicates that participants have high level of adherence to Asian cultural values in general. Similarly, participants reported a high level of adherence to each of the Asian cultural values, including collectivism (M=3.19, SD=.92), conformity of norms (M=3.66, SD=.77), humility (M=3.41, SD=.85), emotional self-control (M=3.45, SD=.81) and Asian health-related beliefs (M=3.81, SD=.68). Students tended to report a strong belief on the oneness of body and mind (M=4.11, SD=.82), and reported slightly above agreement to that "one should not openly talk about one's accomplishments."

Table 4.5 Subscales and Items of Chinese International Students' Adherence to Asian Cultural Values (M=3.84, SD=.70, α =.65)

Subscale	Item	Mean	SD
Conformity of norms	One should recognize and adhere to the social expectations, norms, and practices	3.81	.87
	One should adhere to the values, beliefs and behaviors that one's society considers normal and acceptable	3.72	.88
	One should not do something that is outside the norms	3.54	1.03
Emotional Self-control	It is better to hold one's emotions inside than to burden others by expressing them	3.21	1.10
	It is more important to behave appropriately than to act on what one is feeling	3.71	.92
	One's emotional needs are less important than fulfilling one's responsibilities	3.45	.97
Humility	One should not sing one's own praises	3.79	.96
	One should not openly talk about one's accomplishments	3.05	1.02
Collectivism	The welfare of group should be put before that of an individual	3.15	1.03
	One need not to sacrifice oneself for the benefit of the group	3.24	1.07
Health Related Beliefs	One's body and mind are oneness that psychological disorder should manifest as physical illness	4.11	.82
	Mental health is something that one can control over	3.71	1.01
	Each individual should be able to resolve psychological problems on his or her own	3.61	.97

Coping Strategy

Participants were also asked about their coping approach when they feel depressed or anxious. Several options were provided including coping by oneself, asking for help from family, asking for help from friends, and talking with professionals. After comparing means of the four coping strategies, we found that Chinese students' most common approach is coping by themselves (M=3.91), followed by asking for help from friends (M=3.73), and asking for help from family (M=3.49). Talking with professionals (M=3.18) was ranked as the last coping strategy for Chinese international students.

Table 4.6 reports the inter-correlations, means, and standard deviations for all the studied variables including perceived severity, susceptibility, benefits (positive outcome

expectations), barriers (external impediments), self-efficacy, knowledge of mental health problems, knowledge of counseling, negative perceptions of counseling, adherence to Asian cultural values, and likelihood of using counseling services. Significant findings are shown in Table 6. For example, Chinese international students' knowledge of mental health problems was significantly correlated to perceived self-efficacy (r=.383, p<.01). Knowledge of counseling was significantly and negatively correlated to perceived barriers (r=-.280, p<.01) and negative perceptions (r=-.298, p<.01) of using counseling services, but positively correlated to self-efficacy (r=.365, p<.01). Adherence to Asian cultural values was significantly correlated to perceived severity (r=.254, p<.01) and susceptibility to depression/anxiety (r=.170, p<.05), benefits (r=.318, p<.01) of using counseling services, and negative perceptions (r=.353, p<.01) of counseling. In addition, knowledge of mental health problems and knowledge of counseling were significantly correlated (r=.501, p<.001). Similarly, students' perceived severity and susceptibility of mental health problems were significantly correlated with each other (r=.329, p<.01). Chinese international students' negative perceptions of counseling were significantly positively correlated to perceived susceptibility (r=.401, p<.001) and perceived barriers (r=.599, p<.001), but negatively correlated to perceived self-efficacy of using counseling services (r=-.338, p<.01).

Table 4.6 Descriptive and Inter-Correlations of Study Variables (N= 150)

Variable	1	2	3	4	5	6	7	8	9	10	M	SD	α
1.Severity	1.00	.329**	.305**	.071	.052	.046	-.099	.135	.254**	.106	3.83	.70	.65
2.Susceptibility		1.00	-.016	.338**	-.029	.039	.032	.401***	.170*	-.044	2.40	1.05	.85
3.Benefits(POE)			1.00	-.066	-.010	-.001	-.058	.080	.318**	.045	3.79	.77	.86
4.Barriers (EI)				1.00	-.305**	-.098	-.280**	.599***	.141	-.207*	2.80	.73	.77
5.Self-efficacy					1.00	.323**	.365**	-.338**	-.101	.472***	3.32	.76	.86
6.Knowledge$_1$						1.00	.510***	-.149	-.027	.073	2.23	.62	
7.Knowledge$_2$							1.00	-.298**	-.024	.168*	2.25	.70	
8.NP								1.00	.353**	-.192*	2.48	.78	.72
9.Culture									1.00	.045	3.54	.57	.84
10.Behavior										1.00	3.2	1.04	

Note 1) *p<.05; **p<.01, ***p<.001 (two-tailed)

2) POE=Positive outcome expectations; EI=External impediments; NP=Negative perceptions of counseling; Knowledge1=Knowledge of depression/anxiety; Knowledge2=Knowledge of counseling.

Testing of Hypothesis and Research Questions

The hypothesis predicted a positive correlation between Chinese international students' perceived knowledge of counseling and likelihood of using counseling services. A Pearson's correlation was computed, and results show a slight but significant positive correlation between the two variables (r=.168, p<.05). Chinese students who reported a higher level of perceived knowledge of counseling were more likely to use counseling services. The hypothesis was supported.

Further analysis examined does acquiring information or not affect students' perceived knowledge of counseling. An independent samples t-test was conducted, and results showed a significant difference in the scores of those who had acquired information (M=2.69, SD=0.75) and those who had not acquired information about depression/anxiety (M=2.09, SD=0.49), t (148) =5.65, p<.000. Results suggest that whether or not they had acquired information on counseling affects Chinese students' knowledge about depression/anxiety. Specifically, results suggest that students who acquired information about counseling after arriving in the U.S. are more knowledgeable about depression/anxiety than students who have not acquired such information. In addition, Chinese students' self-reported knowledge of depression/anxiety is affected by whether or not they had acquired counseling information since arriving the U.S. [t (148) =5.61, p<.000)]. Students who acquired information about counseling after arriving in the U.S. are more knowledgeable about counseling than students who haven't acquired such information.

The first research question (RQ1) sought to examine to what extent that personal factors influence Chinese students' likelihood of using college counseling services. To test the influence, a hierarchical multiple regression was performed with the likelihood of using counseling services as the dependent variable. Gender, age and years in college were entered Block 1 of the regression to control for demographics. Knowledge, perceived severity and susceptibility to mental health disorders, perceptions of counseling, perceived benefits and self-efficacy toward using counseling services were entered in Block 2 (Table 4.7). After controlling for demographics, personal factors changed the explanatory power of the model significantly to 26% (R^2=.261) and produced a significant model equation [F (10,138) =4.863, p< .000]. Among

variables associated with personal factors only perceived self-efficacy showed significant effects (β=.484, t=5.543, p<.000).

Table 4.7 Regression Analysis on Personal Factors on Counseling Use

Predictor Variables	Likelihood of Using Counseling Services	
	Model 1	Model 2
Gender	-.059(-.712)	-.085(-1.146)
Age	-.021 (-.199)	.065 (.683)
Year in College	-.154 (1.480)	-.051 (-.509)
Severity		.101(1.186)
Susceptibility		-.058(-.663)
Knowledge$_1$		-.115(-1.310)
Knowledge$_2$		.065(.704)
NP		-.044(-.497)
Benefits		.032(.409)
Self-efficacy		.484(5.543) ***
R^2	.024	.261

Note: 1) NP=Negative perceptions of counseling; Knowledge1=Knowledge of depression/anxiety; Knowledge2=Knowledge of counseling.
  2) β values are standardized coefficients with t values in parentheses.
  3) *p< .05, **p< .01, ***p<.001

The second research question (RQ2) sought to examine to what extent environmental factors influence Chinese students' likelihood of using college counseling services. A hierarchical multiple regression was performed with likelihood of using counseling services as the dependent variable. Demographic factors including gender, age and years in college were entered Block 1. Years in the U.S. and external impediments to using counseling services and adherence to Asian cultural values were entered in Block 2 (Table 4.8). After controlling demographics, however, environmental factors did not change the explanatory power of the model significantly. Among the variables associated with environmental factors only, impediments to using counseling showed significant effects (β=-.221, *t*=-2.629, p<.05).

Table 4.8 Predictors for Environmental Factors on Counseling Use

Predictor Variables	Likelihood of Using Counseling Services	
	Model 1	Model 2
Gender	-.059(-.712)	-.085(-1.019)
Age	-.021 (-.199)	.018 (.166)
Year in College	-.154 (1.480)	.125 (1.194)
Years in U.S.		-.029(.316)
Barriers/External Impediments		-.221(-2.629) *
Adherence to Asian Cultural Values		-.009 (-.110)
R^2	.024	.071

Note: 1) β values are standardized coefficients with t values in parentheses.
2) *p< .05, **p< .01, ***p<.001

The third research question (RQ3) sought to examine the extent to which knowledge and environmental factors influence Chinese students' self-efficacy of using counseling services. A hierarchical multiple regression was performed with self-efficacy as the dependent variable. Gender, age, years in college and years in U.S. were entered Block 1 to control for demographics. Knowledge variables were entered in Block 2. Environmental factors, including five sub-factors of adherence to Asian cultural values (conformity to norms, collectivism, emotional self-control, humility and Asian health-related beliefs) and external impediments were entered in Block 3 (Table 4.9).

Results show that demographic factors explained 11% of the model variance (R^2=.110) and produced a significant model equation [F (4,144) = 4.433, p<.01]. Adding knowledge variables in Block 2 of the model increased the model explanatory power to about 25% (R^2=.250) and retained the model significance [F (6,142) = 7.904, p< .001]. Introducing the environmental factors in Block 3 increased the model explanatory power to about 33% (R^2=.329) and produced a significant model equation [F (12,136) = 5.565, p<.001]. Among all the variables, years in college (β=.281, t=3.041, p<.01), knowledge of mental disorders (β=.204, t=2.447, p<.05), knowledge of counseling (β=.193, t=2.208, p<.05) and external impediment (β=-.245, *t*=-3.087, *p*<.01) were significant predictors of self-efficacy.

Table 4.9 Predictors for Chinese International Students' Self-Efficacy

Predictor Variables	Perceived Self-efficacy		
	Model 1	Model 2	Model 3
Gender	.050(.627)	.021(.283)	-.026(-.356)
Age	-.187 (-1.821)	-.100(-1.043)	-.057(-.590)
Year in College	.340 (3.344)	.299 (3.175)	.281(3.041) **
Year in U.S.	.141(1.583)	.111(1.352)	.114(1.385)
Knowledge$_1$		.183(2.160)	.204(2.447) *
Knowledge$_2$		.255(2.980)	.193(2.208) *
Conformity			-.144(-1.622)
Emotional Self-control			-.005(-.054)
Humility			-.047(-.519)
Collectivism			.103(1.288)
Health-related Beliefs			.085(.962)
Impediments			-.245(-3.087) **
R^2	.110	.250	.329

Note: 1) Knowledge1=Knowledge of depression/anxiety; Knowledge2=Knowledge of counseling.
2) β values are standardized coefficients with t values in parentheses.
3) *$p< .05$, **$p< .01$, ***$p<.001$

The fourth research question (RQ4) sought to examine extent to which knowledge and external factors influence Chinese students' negative perceptions of counseling. A hierarchical multiple regression was performed with the negative perceptions of counseling as the dependent variable. Demographics and knowledge variables were entered in Block 1. Five sub-factors of adherence to Asian cultural values, including conformity with norms, collectivism, emotional self-control, humility and Asian health-related beliefs were entered in Block 2, and external impediments was entered in Block 3 (Table 4.10).

Table 4.10 Predictors for Negative Perceptions of Counseling

Predictor Variables	Perceived Self-Efficacy		
	Model 1	Model 2	Model 3
Gender	-.114(-1.432)	-.090(-1.198)	-.050(-.757)
Age	-.016(-.154)	.019(.195)	-.040(-.451)
Year in College	-.050 (-.494)	-.026(-.271)	.003(.034)
Year in U.S.	.093(1.056)	.046(.551)	.034(.455)
Knowledge$_1$	.015(.168)	.050(.596)	.004(.055)
Knowledge$_2$	-.343(-3.742)	-.357(-4.186)	-.212(-2.691) **
Conformity		-.002(-.019)	-.016(-.196)
Emotional Self-control		.217(2.337)	.168(2.033) *
Humility		.089(.982)	.035(.438)
Collectivism		.222(2.763)	.135(1.868) *
Health-related Beliefs		-.020(-.229)	.090(1.132)
Impediments			.448(6.247) ***
R^2	.141	.297	.453

Note: 1) Knowledge1=Knowledge on depression/anxiety; Knowledge2=Knowledge on counseling.
2) β values are standardized coefficients with t values in parentheses.
3) *$p< .05$, **$p< .01$, ***$p<.001$

After controlling demographics, knowledge variables in Block 1 of the model explained about 14% (R^2=.141) of the explanatory power and provided the model significance [F (6,142) = 3.877, p<.01]. Introducing variables associated with Asian cultural values changed the explanatory power of the model significantly to about 30% (R^2=.297) and produced a significant model equation [F (11,137) = 5.253, p< .001]. Adding impediments in Block 3 of the model increased the model explanatory power to about 45% (R^2=.453) and produced a significant model equation [F (12,136) = 9.404, p<.001]. Among all the variables, knowledge of counseling (β=-.212, *t*=-2.691, p<.01), emotional self-control (β=.168, *t*=2.033, *p*<.05), collectivism (β=.135, *t*=1.868, *p*<.05) and external impediments (β=.448, *t*=-6.247, *p*<.001) were significant predictors of Chinese students' negative perceptions of counseling.

Chapter 5 - Discussion, Limitations, and Implication

This chapter outlines the inter-correlations of the study variables and results of research questions and hypotheses summarizing findings and how they are related to the theoretical framework and previous studies. Limitations of the study, theoretical implications and practical recommendations are also discussed.

Discussion

Utilization of Psychological Counseling Services

Many scholars have studied Asian Americans and Asian international students' utilization of mental health services from different perspectives (Huyn et al., 2007; Mitchell, Greenwood & Guglielmi, 2007; Nilsson et al., 2004; Tsai & Wong, 2012). This study explored factors that influence the utilization of psychological counseling services among Chinese international students.

The first research question examined the extent to which personal factors influence Chinese students' likelihood of using counseling services. Results suggests that use of counseling is largely influenced by perceived self-efficacy, which means that the more confident a student is in using counseling service, the more likely he or she is to engage in such services. This finding supports assertions of HBM and SCT that people who believe they are capable of performing health-promoting behaviors that "produce desired effects" (Bandura, 1997, p. vii) are more likely to engage in such behaviors (Bandura, 1994; Maddux, 2002). Contrary to the HBM, perceived severity and susceptibility of depression/anxiety did not contribute significantly to the behavior. In addition, although previous studies suggest that an individual's assessment of the benefits of the health action will guide decisions (Ford, Bryant1 & Kim, 2013; Rosenstock, Strecher, & Becker, 1988; Weissfield et al., 1987), perceived benefits did not contribute significantly to the behavior in this study.

In addition to self-efficacy, results of the hypothesis test suggest that perceived knowledge of counseling is significantly and positively correlated to the likelihood of using counseling services. In other words, students who perceived themselves as more knowledgeable about counseling were more likely to use counseling services. This finding is consistent with previous

studies that suggest that lack of knowledge and understanding about mental health services and psychological counseling is an important factor in underutilization of mental health services among Asians (Chen & Lewis, 2011; Chang, 2008; Lee et al., 2010). The findings are also in accord with Bandura's application of SCT to health promotion (Bandura, 2004), which suggests that knowledge of health risks and benefits of a specific health-related behavior creates the precondition for individual's behavioral change.

In addition, analysis of the inter-correlation of study variables, suggests a significant negative correlation between the likelihood of using counseling services and the negative perceptions of counseling. In other words, if an individual perceives counseling more negatively, he or she is less likely to seek psychological counseling. This finding is in line with previous findings that Asian international students held more negative attitudes as expressed in less emotional openness, greater shame, and less self-perceived need for counseling as compared to U.S. or European students (Tedeschi & Willis, 1993; Yoon & Jepsen, 2008). The negative attitudes result in Asian students delaying in seeking counseling (Lee et al., 2014) or attending significantly fewer therapy sessions (Mitchell et al. 2007; Yakushko et al, 2008).

The second research question addressed the extent to which external factors influence Chinese students' likelihood of using counseling services. Our findings suggests that Chinese students are less likely to use psychological counseling services when they perceive more external impediments, including family members' disapproval, social discrimination, as well as the time and financial concerns. This is consistent with previous studies that ethnic minorities' concerns about prejudice, discrimination and stigmatized mental illness can impede treatment-seeking behavior (Gary, 2005). The stigma of mental illness in Asian society (Yoon & Jepsen, 2008; Zhang & Dixon, 2003) negatively influences Asian Americans' intentions to use mental health services (Miville and Constantine, 2007; Shea & Yeh, 2008). Previous studies also suggest that adherence to Asian cultural values such as emotional self-control and humility, negatively impact Asian international students' behavior in seeking psychological counseling services (Wei et al., 2007; Wong, Wang & Maffini, 2013; Yakunina & Weigold, 2011). In this study, adherence to these values did not significantly influence counseling-seeking behavior.

Self-Efficacy

Self-efficacy, an important component of HBM and SCT, significantly influences an individual's behavior change. The third research question explored the extent to which perceived self-efficacy was influenced by personal and environmental factors. Results show that Chinese students who spent more years in U.S. colleges tended to perceive a higher level of self-efficacy in using counseling services. This finding may be explained by language barriers, which has been suggested as a major barrier in effective therapist-client communication (Lee et al., 2009; Lee et al., 2014; Mori, 2000). Because few college counseling services offer cultural-specific services for Asian students, such language barriers deter Asian international students from seeking counseling (Lee et al, 2014; Meyer, Zane & Cho, 2011). Chinese students who spent more years in U.S. colleges may be more proficient in English, more adapted to American culture and more confident in their performance during the counseling process.

There is widespread stigma attached to mental illness related to shame, fear and cognitive distortion in the Asian society (Hsu, 2008). Most previous research examined the relevance of social stigma in relation to intentions to seek counseling but not perceived self-efficacy in using counseling services (Miville & Constantine, 2007; Shea & Yeh, 2008). Our findings indicate that those whose family's disapprove of counseling usage, or perceive people will treat them differently for using psychological services tend to lack confidence in their ability to use counseling services. In addition, financial and time concerns are significant impediments in using psychological counseling among Chinese students. Such external impediments weaken Chinese students' perceived self-efficacy in using counseling services, which may explain the large difference between the number of students who consider seeking mental health services and the number of students who actually participate (Hyun et al., 2008).

Negative Perceptions of Counseling

Many studies have suggested that Asian Americans or Asian international students tend to harbor poor attitudes or negative perceptions toward psychological counseling (Lee et al., 2014; Tedeschi & Willis, 1993; Yoon & Jepsen, 2008). Some researchers attribute it to the adherence to Asian cultural values and norms (Kim, 2007; Lee et al, 2014; Yoon & Jepsen, 2008). The fourth research question examined the extent to which knowledge, adherence to Asian cultural values, and external impediments influence Chinese students' negative perceptions of

counseling. Results suggest that adherence to Asian cultural values such as collectivism and emotional self-control, significantly contributed to Chinese international students' negative perceptions of counseling. Those who put the welfare of the group before that of an individual, or are accustomed to suppressing emotions tend to perceive counseling as ineffective, inefficient, untrustworthy, unpleasant and embarrassing. This pattern of findings aligns with previous findings that Asian international students who have strong beliefs about the importance of emotional self-restraint (Jackson & Heggins, 2003; Kim & Omizo, 2003; Leong & Lau, 2001), endorse the values of collectivism and are concerned about bringing disgrace to the family (Georg Hsu et al., 2008; Kim, 2007; Lee et al., 2014; Tseng & Newton. 2002) tend to hold less positive attitudes towards counseling. Humility, however, failed to predict negative perceptions in this study even though it was emphasized as an important predictor of negative attitudes toward counseling by previous studies (Kim, 2007; Wong, Wang & Maffini, 2013; Yakunina & Weigold, 2011; Yamashiro & Matsuoka, 1997).

Perceived Knowledge of Mental Health Problems and Counseling

Health communication involves increasing public knowledge by sharing health-related information. Thus, an individual's knowledge of health problems and relevant interventions have been emphasized by researchers (Bernhardt, 2004). No scholars have studied the relationships between knowledge, self-efficacy and behavior of using mental health services among ethnic minorities. The inter-correlation of study variables shows that perceived knowledge of counseling is significantly positive-correlated to perceived self-efficacy and likelihood of using counseling services. Perceived knowledge of depression/anxiety is positively and significantly correlated to perceived self-efficacy as well. In other words, individuals who perceive themselves as more knowledgeable about mental health disorders and counseling tend to report higher self-efficacy. Our findings explained previous statements that Asian students expressed less confidence and insecurity in communicating with mental health professionals (Chen & Lewis, 2011; Yakunina, 2011). They are also consistent with a number of studies in other health areas that suggest knowledge is significantly correlated with self-efficacy and health behaviors (Scherer & Bruce, 2001; Stanley & Pollard, 2013).

In addition, Chinese students' perceived knowledge of counseling, influences their perceptions of it significantly. The more knowledgeable the individual reported themselves to be,

the less likely he or she was to hold negative perceptions of counseling. This finding is consistent with previous statements that unfamiliarity with counseling, combined with the adherence to Asian cultural values, predicts Asian students' unawareness, misperceptions and negative attitudes toward counseling services (Mori, 2000; Yoon & Jepsen, 2008).

Our results suggest that knowledge plays a significant role in Chinese international students' perceptions and behavior of using counseling services. The level of perceived knowledge of depression/anxiety and psychological counseling reported by participants in this study is generally low, with means of 2.23 and 2.25 (on a scale ranging from 1 to 5). The situation of having acquired counseling information or not affect Chinese students' perceived knowledge of mental health problems and counseling. Findings suggest that students who acquired information about counseling perceived themselves as more knowledgeable about depression/anxiety and counseling. However, only around 15% of participants reported acquiring such information after arriving in the U.S. This finding supports previous studies that report Asian Americans and Asian international students as being unfamiliar with counseling (Lee et al., 2009; Mori, 2000). International students may not be aware of college resources for mental health, lack knowledge about how to use them or misperceive that such services are offered for U.S. students only (Mori, 2000).

Adherence to Asian Cultural Values

Culture has been emphasized as an essential factor in previous studies on Asian Americans and Asian international students' mental health and counseling-seeking behaviors. In many studies poor awareness and low risk perceptions of mental illness among Asians (Lee et al, 2009; Li, Wong & Toth, 2013; Mau & Jepsen, 1988) has been attributed to adherence to Asian health-related beliefs and other Asian cultural values (Sue & Sue, 2008; Hwang, Myers, Abe-Kim, & Ting, 2008; Wong, 2010). The present study revealed different findings. Chinese international students tend to perceive high severity of depression/anxiety (M=3.84), which is inconsistent with previous claims that Asian students are not aware of the importance of mental well-being (Lee et al, 2009). In addition, perceived severity of mental health disorders and perceived benefits of using counseling services are both positively correlated to adherence to Asian cultural values. That is, the more firmly a student endorses Asian cultural values, the more likely he or she is to perceive depression/anxiety as serious and counseling services to be beneficial. These

findings can be explained by endorsement of Asian health-related beliefs, which emphasis oneness of an individual's physical and psychological conditions. Those who believe in the oneness of body and mind perceive mental health as significant and consider counseling to be beneficial to participants. On the contrary, participants tended to perceive a low level of susceptibility to depression/anxiety (M=2.41), which was also significantly and positively correlated to adherence to cultural values. Such findings align well with previous claims that the adherence to emotional self-control, the desire for perfection and the fear of losing face contribute to Asian international students' mental health distress (Liu, 2009; Wang, Slaney, & Rice, 2007; Wong, Wang & Maffini, 2013).

Our findings also indicate that students who spent a longer time in the U.S. tended to perceive counseling more positively. This may be the result of the prevalence of counseling services at U.S. colleges, and the effectiveness of such services in easing students' personal difficulties (Draper, et al., 2002). Chinese students who spend more time in the U.S. are more likely to recognize the benefits of using counseling services. Acculturation may be another reason. Research indicates that Chinese international students acknowledge American culture as more accepting of therapy compared to their own culture (Chen & Lewis, 2011).

Limitations of the Study

The study sample was limited to Chinese international students in one Midwestern university. Because of this regional restriction, it may not indicate knowledge and perceptions of psychological counseling of all Chinese international students. The number of Chinese undergraduate students who acquired information about counseling is too low, which may warrant further tests and conclusions based on unconvincing numbers. A solution would be to expand the study to the Chinese population in other U.S. colleges and universities to collect more data.

In addition, the study did not include "cues to action," which is an important component of the HBM. Only theory constructs relevant to this study were adopted. The measurements for perceived severity, susceptibility, barriers and benefits of using counseling services questions were adopted from a validated instrument originally designed to examine Americans' perceptions of mental illness (Saleeby, 2000). Thus, it may not have been the best instrument for immigrants because of the study sample's demographic features, special cultural background and

health literacy. Therefore, future studies should develop a questionnaire better suited to gathering perceptions of mental health and psychological counseling of immigrants and ethnic minorities.

Another limitation of the study is that the Chinese students' likelihood of using counseling services question was measured by a single-item scale. Thus, it may not reflect participants' actual behavior in using college counseling services. Future studies should conduct research to test this potential error. In addition, the study only asked Chinese students' about perceived knowledge instead of measuring their real knowledge of counseling or assessing mental health literacy. Future studies should develop a questionnaire to assess international students and ethnic minorities' knowledge of such subjects as there could be a disparity between an individual's perceived knowledge and their real knowledge.

Theoretical Implications

From the theoretical perspective, our study revealed a significant association between perceived self-efficacy and likelihood of adopting a health-related behavior, which aligns well with the HBM and the SCT that emphasizes self-efficacy is a significant predictor of an individual's engagement (or lack of engagement) in health-promoting behavior (Bandura, 1977; Connor & Norman, 2005). The finding that Chinese students with low self-efficacy are less likely to use counseling services is consistent with research findings that people may avoid challenging tasks when they believe that difficult tasks and situations are beyond their capabilities and focus on personal failings and negative outcomes, and the lack of confidence in personal abilities (Bolte, 2013).

Unfortunately, this study does not reveal any significant effects of Chinese students' perceived severity (or susceptibility, benefits, and barriers) on their likelihood to use college counseling services. Our findings suggest that these components are significantly correlated to each other. It is partly consistent with HBM, which suggests that perceived severity, susceptibility, barriers and benefits are interrelated and work together in predicting the likelihood of behavior change (Rimer & Glanz, 2005). Thus, future study is needed to examine the predicting power of the four variables in the behavior of counseling seeking and improving public mental health. In addition, future study should examine how cues of action influence an individual's behavior change in regard to mental health as the current study does not include this component.

Our results also show that adherence to Asian cultural values contributes to Chinese international students' perceptions of mental health disorders and counseling. Environmental factors, especially the concerns of prejudice, discrimination and stigma of mental illness impede counseling-seeking behavior among Chinese international students. The findings support the SCT, which suggests that environmental factors such as culture, norms and external impediments rooted in the social context are significant determinants of disease prevention and health promotion behaviors (Bandura, 2004). This finding also provides clues that connect HBM to the Theory of Planned Behavior (TPB), a theory which suggests that subjective norms and attitudes contribute to an individual's intentions to change behavior (Ajzen, 1991). This insight points to the necessity for researchers to study ethnic minorities' counseling-seeking behavior based on the TPB.

Finally, results suggest that Chinese students' knowledge of mental health problems and counseling, as well as whether or not they have acquired relevant information, significantly influence perceptions and behavior of using psychological counseling. This finding is consistent with the SCT, which suggests that knowledge of health risks and benefits of a specific health-related behavior creates the precondition for an individual's behavioral change (Bandura, 2004). Future studies should explore how to improve ethnic minorities' knowledge of mental health problems and related interventions. This would support the goal of health communication, which is to increase knowledge and understanding of health-related issues and to improve the health status of intended audiences by sharing health-related information (Muturi, 2005).

Practical Implications and Recommendations

Chinese students' self-reported knowledge of mental health disorders is relatively low, with three quarters of participants reporting they were not at all knowledgeable or had little knowledge of depression/anxiety. In light of the findings that Chinese students perceived an above average level of severity but a low level of susceptibility to depression/anxiety, it can be suggested that Chinese students are not knowledgeable about such mental health problems, not able to recognize specific mental disorders, and may not consider problems they have experienced to be symptoms of depression/anxiety. They may view depression/anxiety as a serious clinical disease that is not common in real life. Thus, future study should implement additional measurements to assess Chinese students' mental health literacy and measure

51

knowledge of mental health disorders. In addition, the Chinese government, media, society and schools should conduct health campaigns to enhance public's awareness, knowledge and understanding of depression/anxiety.

An individual's knowledge of counseling and counseling services has been shown to have significant effects on counseling-seeking behaviors. Chinese students reported knowing little about counseling, which can be attributed to the lack of counseling resources in Asian society (Chen & Lewis, 2011). Lack of awareness of the availability of services is the most common structural barrier to mental health treatment (Lee et al, 2010). For Chinese students studying in the U.S., whether they have acquired counseling information or not is the most influential factor in their knowledge of counseling. The fact that fewer numbers of Chinese students had acquired counseling information suggests that college counseling services need to pay particular attention to the needs of international students and to disseminate targeted information. College counseling services should expand outreach efforts and build effective communication to enhance knowledge and understanding of psychological counseling among international student groups.

Self-efficacy is the most significant determinant of Chinese students' counseling-seeking behavior. Chinese students with low confidence in enrolling in college counseling services and communicating with counselors in English are significantly less likely to use these services. Students who spent more years in college perceived higher self-efficacy than those who spent less years. This may explain why the former are more familiar with college counseling system, with more language proficiency and communication skills than the latter. Therefore, other than providing information, college counseling services should simplify enrollment procedures and provide assistance to help international freshman enroll in the counseling system. In addition, providing language-matched counseling services are needed to remove language barriers and improve communication between counselors and clients.

Adherence to Asian cultural values does not directly influence Chinese students' likelihood of using counseling services, but it does influence perceptions of psychological counseling. Chinese students who firmly endorse Asian cultural values such as emotional self-control and collectivism may perceive counseling as insecure, embarrassing and ineffective. To evaluate the needs of international students for targeted outreach services, college counseling services should to pay attention to the service patterns. Seminars or lectures that are more acceptable to

international students should be considered. Raising cultural sensitivity of mental healthcare providers is critical to effective intercultural communication during counseling.

Few previous studies have explored Asian international students' positive perceptions of counseling. Our study fills this gap and indicates that Chinese international students' perceived benefits of counseling is significantly correlated to endorsement on Asian cultural values. This, along with previous findings, suggests that health-related beliefs in the Asian culture may contribute to positive and negative perceptions of counseling. On one hand, students who believe in "the oneness of body and mind" may believe that psychological disorder manifests as abnormal function in the body rather than as behaviors and thus, neglect mental health needs (Chen & Lewis, 2011; Kim, Atkinson & Umemoto, 2001). On the other hand, this oneness belief may prompt Chinese international students to pay attention to mental health and identify counseling as a way to solve psychological problems and to avoid physical illness. Further studies should explore how and to what extent Asian cultural values and health-related beliefs contribute to positive perceptions of psychological counseling.

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Appendix A - Survey Questionnaire

The purpose of this survey is to gather opinions about depression/anxiety and counseling services. This is an academic research study conducted by faculty members and graduate students in the School of Journalism and Mass Communications at Kansas State University. Your anonymous responses will be kept strictly confidential. ***You will only be asked for your opinions rather than your own situation***. Your honest responses are very important for this study so ***please respond to all questions as honestly as possible***. The study does not have any foreseeable risk to you but if you feel some kind of discomfort you may discontinue your participation from the study at any time.

TERMS OF PARTICIPATION: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify by clicking "I Accept" below, I indicate that I have read and understand this consent form, and willingly agree to participate in this study under the terms described.

This section is about your knowledge and perceptions about depression/anxiety.

1. How knowledgeable are you about depression and anxiety? Please circle only ONE choice that applies best to you.
    a. Not at all knowledgeable
    b. Little Knowledgeable
    c. Somewhat Knowledgeable
    d. Very knowledgeable

2. From what <u>communications channels</u> for you to learn about the depression/anxiety? Choose the top-three that apply.

    ☐Television

    ☐Internet

☐Newspaper

☐Magazine

☐School

☐Literature

☐Friends

☐Family/relatives

☐Other_____

3. Perceptions of depression/anxiety: on a scale of 1 to 5, how much do you agree with these statements? (1 being not at all agree and 5 being strongly agree.)

a.	Depression/anxiety would threaten one's relationship with family or friends	1	2	3	4	5
b.	Depression/anxiety would threaten one's academic/work performance	1	2	3	4	5
c.	Thinking about depression/anxiety problems makes me nervous	1	2	3	4	5
d.	The thought of having depression/anxiety scares me	1	2	3	4	5
e.	It is extremely likely that I will have depression/anxiety problems in the future	1	2	3	4	5
f.	I am more likely than the average person to have depression/anxiety problems	1	2	3	4	5
g.	There is a good possibility that I will develop depression/anxiety problems in the next 10 years	1	2	3	4	5
h.	I feel I will develop depression/anxiety in the future	1	2	3	4	5

This section is about your perceptions of Counseling/Therapy

4. How knowledgeable are you about counseling? Please circle only ONE choice that applies best to you.
   a. Not at all knowledgeable
   b. Little knowledgeable
   c. Somewhat knowledgeable
   d. Very knowledgeable

5. Have you acquired any information about counseling services since you come to U.S.?
   a. Yes, I have
   b. No, I haven't

6. If the answer is yes, what are <u>channels</u> for you to learn about such information? Choose the top three that apply.

       ☐ Television

       ☐ Internet

       ☐ Poster

       ☐ Seminar/Orientation

       ☐ Directly from campus counseling services

       ☐ Friends

       ☐ Faculty/Stuff

       ☐ Other_____

7. Perceptions of counseling. On a scale of 1 to 5, how much do you agree with these statements? (1 being not at all agree and 5 being strongly agree)

   a. Counseling is for those with serious mental problems   1   2   3   4   5

   b. Counseling process mainly involves sharing personal information with a stranger   1   2   3   4   5

   c. Counseling is for 'when no one else can help'   1   2   3   4   5

   d. Campus counseling service is mainly for U.S. students rather than international students   1   2   3   4   5

   e. Counselors/therapists would not understand someone like me if I went to them for depression/anxiety problems   1   2   3   4   5

8. Benefits of using counseling services. On a scale of 1 to 5, how much do you agree with these statements? (1 being not at all agree and 5 being strongly agree)

   a. Counseling/therapy for depression/anxiety would prevent major problems with family and friends   1   2   3   4   5

   b. Counseling/therapy for depression/anxiety would increase one's ability to function at home and work   1   2   3   4   5

   c. Counseling/therapy for depression/anxiety would make one feel better about himself/herself   1   2   3   4   5

   d. A burden would be lifted off if one to get help from counseling/therapy for depression/anxiety   1   2   3   4   5

9. Barriers of using counseling services. On a scale of 1 to 5, how much do you agree with these

statements? (1 being strongly disagree and 5 being strongly agree.)

    a. It is embarrassing to talk about personal matters with   1   2   3   4   5
        others during counseling

    b. My family members will not approve if I want to receive   1   2   3   4   5
        treatment for depression/anxiety

    c. Seeking counseling for depression/anxiety problems   1   2   3   4   5
        would cost too much time

    d. Seeking counseling for depression/anxiety problems   1   2   3   4   5
        would cost too much money

    e. People would think differently about me if I were to seek   1   2   3   4   5
        counseling for depression/anxiety

10. How much do you agree with following statements? (1 being not at all agree and 5 being

    very agree)

    a. I can identify symptoms of depression/anxiety   1   2   3   4   5

    b. I can obtain information of U.S. college counseling   1   2   3   4   5
        services

    c. I can get in touch with U.S. college counseling services   1   2   3   4   5

    d. I can engage in U.S. college counseling services   1   2   3   4   5

    e. I can communicate with counselors/therapists in English   1   2   3   4   5

    f. I can talk about personal matters to counselor/therapists   1   2   3   4   5
        in English

    g. I can understand counselor/therapist's suggestions and   1   2   3   4   5
        advices in terms of depression/anxiety in English

This section is about your likelihood to use counseling services

11. How much do you agree with these statements? (1 being not at all agree and 5 being very

agree.)

    a. I would cope with emotions by myself if I was feeling   1   2   3   4   5
        depressed or anxious

    b. I would ask for help from family members if I was   1   2   3   4   5
        feeling depressed or anxious

    c. I would ask for help from a friend if I was feeling   1   2   3   4   5
        depressed or anxious

d. I would talk to a doctor or mental health professional if I was feeling depressed or anxious   1   2   3   4   5

This section is about Asian cultural values.

12. How much do you agree with these statements? (1 being strongly disagree and 5 being strongly agree.)

a. One should recognize and adhere to the social expectations, norms, and practices	1	2	3	4	5
b. One should adhere to the values, beliefs and behaviors that one's society considers normal and acceptable	1	2	3	4	5
c. One should not do something that is outside the norms	1	2	3	4	5
d. It is better to hold one's emotions inside than to burden others by expressing them	1	2	3	4	5
e. It is more important to behave appropriately than to act on what one is feeling	1	2	3	4	5
f. One's emotional needs are less important than fulfilling one's responsibilities	1	2	3	4	5
g. One should not sing one's own praises	1	2	3	4	5
h. One should not openly talk about one's accomplishments	1	2	3	4	5
i. The welfare of group should be put before that of an individual	1	2	3	4	5
j. One need not to sacrifice oneself for the benefit of the group	1	2	3	4	5
k. One's body and mind are oneness that psychological disorder should manifest as physical illness	1	2	3	4	5
l. Mental health is something that one can control over	1	2	3	4	5
m. Each individual should be able to resolve psychological problems on his or her own	1	2	3	4	5

Now tell us about yourself

13. Gender
  1. Male
  2. Female
  3. Other (Specify) _____

14. Age – actual number of years _____

15. Year in college
    1. Freshman
    2. Sophomore
    3. Junior
    4. Senior
    5. Graduate

16. Year in U.S.
    1. Less than 1 year
    2. 1 to 2 years
    3. 2 to 4 years
    4. More than 4 years

Appendix B - IRB Approval Letter

KANSAS STATE
U N I V E R S I T Y | University Research Compliance Office

TO: Nancy Muturi   Proposal Number: 7661
        Journalism & Mass Comm
        105 Kedzie

FROM: Rick Scheidt, Chair
        Committee on Research Involving Human Subjects

DATE: 04/01/2015

RE: Proposal Entitled, "Understanding Utilization of College Counseling Services among Chinese International Students"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

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72