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MEASURING HEALTH AND WELLNESS OF INTERNATIONAL STUDENTS

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MEASURING HEALTH AND WELLNESS OF INTERNATIONAL STUDENTS

by

Jennifer Cosby

A Dissertation
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Department of Educational Studies, Leadership, and Counseling
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Dissertation Committee Chair: Dr. Samir Patel
Dedications

I wish to dedicate the work on this dissertation to my three children: Jensen, Jada, and JT. They inspire me to work towards being a better person. I just hope that they always choose to go for everything they want in life. I also want to dedicate this work to a late friend of mine, Barbara Vick. She was my mentor and encouraged me not to give into the “man’s world.” For that I will always be grateful.

I also wish to dedicate this work to the people in my life who always encouraged me to reach my goals. First, my sister has always supported and encouraged me. She has always been the rock for me when things get tough. And finally, I would like to dedicate this work to my friend Michelle Davis who is also achieving her doctorate. Together, we always made a good team.
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Abstract

Years of research focused on the physical and mental well-being of college students to promote retention. In 2013, international students numbered 819,644 and contributed $27 billion to the United States economy (Le, LaCost, & Wismer, 2016). International students are a valuable resource to the United States because they enhance the cultural diversity of the nation, bring creativity and innovation to institutions, and contribute greatly to the economy (Leong, 2015). Many studies have shown that international students report lower quality of life than domestic students (Chai, Shepherd, & Billington, 2010); however, there is no existing assessment to assess the health and wellness needs of this specific population. The purpose of this study was to administer and create a robust psychometric measure to identify factors to address the needs of international students in the areas of health and well-being.

The hypothesis of this study predicted the factor analysis of responses to the Health and Wellness Assessment of International Students (HWAIS) will yield two factors: stress and quality of life. The hypothesis was partially supported. Three actual factors were extracted but two factors could be termed into two groups of stressors. In conclusion, the results support that the HWAIS will yield three factors: Quality of Life, Campus Stressors, and Personal Stressors. Using this survey, international students can be screened to see which factors need campus intervention to improve quality of life and decrease stressors.

Keywords: acculturation, cultural identity, quality of life
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CHAPTER ONE: INTRODUCTION

Years of research focused on the physical and mental well-being of college students to promote retention. In 2013, international students numbered 819,644 and contributed $27 billion to the United States economy (Le, LaCost, & Wismer, 2016). International students are a valuable resource to the United States because they enhance the cultural diversity of the nation, bring creativity and innovation to institutions, and contribute greatly to the economy (Leong, 2015). As the number of international students in the United States has increased, the research has also branched out to specifically target these students’ needs when relocating for academia. United States research strives to protect these valuable human resources; hence, the purpose of this study was to provide a psychometric measure to identify gaps in international students’ needs. In addition, this study will provide institutions a valuable resource to identify specific needs which may lead to interventions to increase the health and well-being of international students.

Overview

International students encounter varied challenges concerning health and well-being (Gautam, Lowery, & Durant, 2016). Some of these challenges include psychological wellness and sociocultural adjustment (Hyun, Quinn, Madon, & Lustig, 2007). The feeling of belongingness is vital for all students, whether domestic or international, to increase retention. Physical health issues also create obstacles for international students. Students report high cost of health care, lack of accessibility to healthcare, and language barriers as challenges to gain quality health care (Msengi, Msengi, Harris, & Hopson, 2011).
Many international students choose to stay permanently in the United States. It has been reported that 56% of international doctoral students chose to make the United States their permanent home. Furthermore, 92% of the Chinese and 85% of the Indian international students chose to remain in the United States (Msengi et al., 2011). In fact, about one-half of United States Nobel Prize winners were foreign-born students (Gautam et al., 2016). Investing in research of international needs will help continue the increase in numbers of international students who remain and contribute resources to the United States. Hence, the *Health and Wellness Assessment of International Students* (HWAIS) will be a vital investment to protect international students from obstacles that may interfere in their health and well-being in the United States.

**Purpose of the Study**

The purpose of this study was to administer and create a robust psychometric measure to identify factors to address the needs of international students in the areas of health and well-being. International students are a valuable resource to American universities and health and well-being must be addressed. This assessment will provide institutions a means to measure the needs of international students in order to identify them. Interventions may be provided to meet specific needs that create obstacles for international student success. This study will explain the importance of international students in the United States, provide a measure that will measure health and well-being of students, increase validity and reliability of such measure, and share strategies for universities to utilize to meet all needs of international students.

**Statement of the Problem**

Many studies have shown that international students report lower quality of life than domestic students (Chai, Shepherd, & Billington, 2010); however, there is no existing
assessment to assess the health and wellness needs of this specific population. This study will focus on the identification of factors that affect the quality of life of university international students. Furthermore, through the use of factor analysis, the factors that contribute to these needs will be identified using a robust psychometric instrument. Validity and reliability will be sought for the measure using statistical analyses. Most importantly, implications as a result of this study will benefit all universities as they seek interventions to meet needs of international students.

Definitions of Key Terms

*Acculturation:* “the process of cultural and psychological change that involves learning to live in new social and cultural contexts after one has become socialized into an earlier one” (Berry, 2008, p. 17).

*Belonging:* “empathetic faculty, perceived peer support, perceived isolation, perceived faculty support and comfort, and perceived classroom comfort” (Hoffman, Hoffman, Richmond, Morrow, & Salomone, 2003, p. 355)

*Identity:* “the individual’s cognitive, behavioral, and affective repertoire regarding who she or he is” (Vignoles, Schwartz, & Luyckx, 2011, p. 3).

*Cultural Identity:* “the ethnically or culturally based practices, values, and identifications that one maintains” (Schwartz et al., 2013).

*Quality of Life:* “individuals’ perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns” (Bowling, 2005).
Assumptions and Limitations to the Study

Participation to complete the HWAIS was completely voluntary. All results remained anonymous and no risk was assumed for the participants. However, the voluntary nature of a survey, limited the results. Another limitation was that the survey was a self-report measure in which the scorer must assume that the participant was completely honest in responses. Also, the participants of this study were recruited from one four-year university in the mid-South. Responses did not include participants from other regions of the United States or 2-year institutions. Furthermore, this assessment administration occurred in the spring semester which may differ from responses from the fall semester. Due to the voluntary administration, demographics may not be equally represented such as ethnicity, years of residence, grade point average, or gender. Future implications of research in Chapter five will address these limitations as found when demographics were analyzed in order to increase validity, reliability, and generalizability of the assessment.

Significance of the Study

Due to the urgent need to quickly diagnose gaps of needs of international students, a psychometric measure will provide for a quick identification of possible needs that may require intervention. As said above, international students are a great economic and human resource and their challenges and obstacles are increased due to several factors. This measure will help identify factors that may contribute to the well-being and quality of life of international students. Using this study, universities may quickly identify students who may need support with health and well-being. Increasing international students’ well-being may increase the likelihood of these students continuing their education and finding a career in the United States.
Conceptual Framework

The conceptual framework for this study was drawn from the factor analysis procedure. The use of factor analysis was vital to ensure the sound measure of the HWAIS. Initial checks including sample size and analyzing correlations between variables were the first step of this procedure. The second step of the factor analysis procedure was to extract and rotate factors to identify meaningful factors and designate variables that correlate to those factors. Lastly, reliability was assessed during the post-analysis to ensure the survey to be a sound psychometric measure. These statistical analyses increased robustness of the assessment and lead to future implications of research for the assessment.

Research Question

Can a factor analysis of responses to the Health and Wellness Assessment of International Students (HWAIS) yield identifiable factors?

Research Hypothesis

Hypothesis one: Factor analysis of responses to the Health and Wellness Assessment of International Students (HWAIS) will yield two factors: stressors and quality of life.

Ethical Considerations

The study was conducted after procuring approval from the Institutional Review Board (IRB) at Murray State University. All participants were provided the informed consent assuring their rights as participants. Participants were able to withdraw from participation at any time without any consequence from the university. There were no anticipated risks from participating in this study. To protect participants’ privacy, all responses were recorded and analyzed anonymously. Data reported in later sections did not identify participants in anyway and participants’ anonymity and voluntary participation was respected in all stages.
CHAPTER TWO: LITERATURE REVIEW

A thorough literature search yielded no current measurement to assess the perceptions of wellness among international students. Such an instrument could assist in clarifying literature gaps related to health and wellbeing of international students studying in the United States. However, research consistently demonstrate specific factors that relate to quality of life and to overall stressors. This section will highlight the factors within each one of these areas and provide the theoretical framework to ensure the Health and Wellness Assessment of International Students (HWAIS) is research-based and statistically sound.

The international exchange of college students increases yearly due to globalization, university partnerships, cultural networking, and so forth (Kramer, Prufer-Kramer, Stock, & Tshiananga, 2004). One could construe that relocating to a foreign country is a major life event. As such, studies have shown that international students experience distress to such a degree that their health, wellness, and academic functioning are greatly affected (Amar, Manoj, Ashutosh, 2009).

History of International Education in the United States

International education has not always been a national focus for the United States. Only after World War I did the United States establish the Institute for International Education (Dolby & Rahman, 2014). The focus primarily originated with political roots and promoting foreign relations (OECD, 1999; Tubbeh, & Williams, 2010). With the end of the war, the United States strived to focus on peaceful collaboration with other countries. International collaboration through education was an effort that not only increased collaboration, but brought other benefits as well.
In 1941, the United States would enter World War II, and tension again grew between the US and other nations. With the passing of the war, the focus of international education morphed into a different mindset. In 1948, the National Association of Foreign Student Advisors (NAFSA) was founded to train and develop staff in supporting international students (Dolby & Rahman, 2014). Collaborative initiatives included study abroad and exchange programs, joint research projects, distance education, business partnership agreements, and international degrees (Tubbeh & Williams, 2010). Each initiative proved value for the partnered-nations and expounded about the achievements to benefit all.

Soon after World War II, the Cold War manifested its grips into the United States, and as a result, the US used international education to spread its political influence in its quest to compete with Russia (Dolby & Rahman, 2014). International education was a means to increase economic benefit, resources, and fuel competition between the two nations (Tubbeh & Williams, 2010).

The next phase of US history of international education focused on passing federal policy. The National Defense Education Act was passed in 1958, which created Title VI study centers. In 1966, the International Education Act was passed but no funding was provided (Tubbeh & Williams, 2010). The focus was to promote foreign relations and communication as before, but the motivation was based on national defense and not on global collaboration (OECD, 1999).

As the 1960’s ended, the research interest on foreign policy decreased, and with shifts in economy and technology, the focus began to emerge to global competition (Dolby & Williams, 2014). The nation began to focus on the educational, cultural, and scientific benefits of increasing international education (OECD, 1999). Universities began to utilize student
satisfaction surveys to help recruit students and create programs to attract international students (Tubbeh & Williams, 2010). The focus on global competition, global citizenship, and economic benefits increased through the end of the century.

With the coming of the new millennium and terrorist attacks, international education focus has shifted to value-based and peace-seeking based studies (Tubbeh & Williams, 2010). The purpose of research in international education primarily is respecting cultural diversity and increasing communication and trust among nations (OECD, 1999; Tubbeh & Williams, 2010). Tubbeh and Williams (2010) encouraged international education research to focus on beliefs, visions, and values and place less emphasis on economics and competition (2010). Their research showed that most international students come to the United States for community interactions, personal growth and social skills. Second to personal, professional and economic goals were reported next for motivation for students to choose United States universities. (Tubbeh & Williams, 2010). With this research knowledge, the HWAIS can be used to ensure that international students are provided the interactions, personal growth, and social skills that they have trusted the United States with providing.

**Scholarly Models of Acculturation on Health and Wellness**

Many theoretical models and categories have been conceptualized to help identify stages that international students experience as they develop an identity in the United States. Kim’s (2012) International Student Identity model posited that international students progress through identity development in the new culture of the United States via six phases. The first phase occurs before the student travels overseas for study. Students in this phase prepare themselves for the prospect of experiencing a different culture and thus calling the phase the Pre-Exposure Phase (Inheriting Self). The second phase (Exposure—Opening Self) is the actual experiences of
a new environment. During the Enclosure Phase (Securing Self), students withdraw from the new experiences and may not socialize with those from other backgrounds. After this transition of withdrawal, students begin to seek and integrate different cultures in the Emergence Phase, also known as the Disclosing Self phase. They build upon these integrative experiences and begin to reconstruct their personal identity in the fifth phase: Integration (Internalizing Self). And lastly, students who internalize their own personal identity and learn to accept all different identities of others of different backgrounds are considered to have matured to the Internalization Phase--Globalizing Self (Kim, 2012). Kim’s phases are helpful to utilize when identifying the needs of international students as related to their conceptual development.

Mesidor and Sly (2016) identified four stages of cultural adjustment and offer suggestions for institutions to help decrease the psychological effects of acculturation. The first state is called the honeymoon stage in which students are excited to be entering a new and exciting part of their life. However, soon they may enter the second stage which is characterized by frustration. This stage is called the hostility stage and students begin to encounter obstacles and acculturation stress. The third state is called the humor stage where international students find relaxing activities and hobbies to help decrease the stress of cultural adjustment. And lastly, the final stage of successful adjustment is the home stage where students feel settled and satisfied in their acculturation experience (Mesidor & Sly, 2016). The four stages of cultural adjustment will be beneficial when universities identify interventions based on which stage exhibited by the international student.

Students also bring different opinions of acculturation when relocating to the United States. According to Marcia (1966), students identify with one of the four different personal identity statuses. Schawartz and colleagues (2013) converged Marcia’s identity statuses with the
acculturation experience of the international college students. Those students who are settled in
their previous culture and open to intercultural connections are considered in the achievement
status. Those students who are still seeking cultural connections are considered in the
moratorium status. Interestingly, some students come to the United States with no desire to
connect with other cultures because they are internalized into their previous culture. These
students are considered to be in the foreclosure status. And finally, some students are not
interested in identity status and they are identified to be in the carefree diffusion category. So,
by synthesizing this information, it can be concluded that some international students are not
interested in acculturation and institutions will need to identify that personal identity status and
respect that intercultural activities are not beneficial for these students. Contrarily, those in the
moratorium or achievement status would need to be provided intercultural activities to help
explore their personal identity (Schwartz et al., 2013).

Other acculturation categories have also been identified by other researchers. Berry
(1997) suggests that students acculturate to different cultures in four different ways. One,
students may elect to connect with a new culture and pursue a variety of experiences associated
with the new culture. This category of acculturation is termed assimilation by Berry. This
category corresponds with the above-mentioned moratorium status. These students desire and
thrive on intercultural activities and experiences. Institutions should ensure that these students
are provided as many resources and experiences to keep them academically stimulated and
willing to explore other cultures. The second way a student may acculturate is separation which
parallels the foreclosure status mentioned above. These students are not interested or motivated
to acculturate and want to maintain their original culture. Institutions should identify these
students and respect that they do not want or need intercultural activities. These students will

rely mainly on family, friends, and staff for support. Social connections will not be part of their adjustment plan. Students may also coexist with all cultures and acculturate through integration. This acculturation style is similar to the achievement status above. These students are open to other cultures and may want to experience and may even want to integrate other cultures into their own culture. And lastly, some students chose to marginalize which is the same as the carefree diffusion status. They are not interested in cultural activities and will also be reliant on family, friends, and faculty for support (Boafo-Arthur, 2013). Striving to be abreast of acculturation theory and research provides a basic framework to help this study create the assessment, identify acculturation stages, and to discuss implications of the study to help meet the acculturative needs of international students.

**Effects of Acculturation on Health and Wellness**

Success in academic life is positively related to acculturation. In fact, lack of acculturation tends to result in less academic success, greater communication issues, and lower medical/physical health (Kilinc & Granello, 2003). In other studies, it was found that students who are less acculturated are more likely to contract diseases and engage in unhealthy behaviors (Msengi, Msengi, Harris, & Hopson, 2011). With these findings, it seems that individuals who work with international students could not only gain from theories that conceptualize development, but that they could benefit from using this instrument to assess factors of health and wellness. These effects will be discussed further in below sections synthesizing quality of life research and research of stressors for international students. Using compiled research, this study could ensure survey questions addressed what contributes to quality of life and what stressors have been found that decrease feelings of well-being.
Quality of Life for International Students

Quality of life can be defined in several ways. The World Health Organization (WHO; 1997) defined the quality of life as “individuals’ perception of their position in life in the context of the culture and value systems in which they lived and in relation to their goals, expectations, standards and concerns (pp. 30-31). Positive motivation leading to quality of life can consist of adaptive thoughts such as valuing, having a learning focus, and self-belief (Krageloh, Henning, & Wong,-Toi, 2014). Likewise, positive engagement practices that contribute to quality of life are adaptive behaviors such as persistence, planning, and task-management. Haron, Osman, Madinsah, Saro, and Zaki (2015) reported that environment and quality of education at an institution also contributes to quality of life. They further define determinants of quality of university life as positive feelings, having the appropriate skills, interesting studies, friendly people, and satisfaction. Sam (2001) stated that the number of friends, training before relocating, finances, and perceived discrimination are the factors that significantly affect international students’ quality of life.

The measurement of quality of life in adolescence names social belonging, well-being, satisfaction, and empowerment/control as the four factors of quality of life for adolescents (Keith & Schalock, 1994). It is important to measure quality of life of international students because much research shows that international students report a lower quality of life than domestic students (Keith, Yamamoto, Okita, & Schalock, 1995). For this study, the factor of quality of life was measured via the following areas: belonging, self-concept, leisure, nutrition, and cultural identity. Questions that address each of these areas were included in the HWAIS in order to ensure that these areas were factors of quality of life (See Appendix A).
**Belonging.** The feeling of belonging is vital for all students, whether domestic or international, to create the needed relationships to stay in college (Hyun et al., 2007). Asian, Middle Eastern, and African students report less social contact and more psychological stress due to lack of acculturation and support (Glass, Kociolek, Wongtrirat, Lynch, & Cong, 2015). International students report higher satisfaction in life quality in the United States institutions with the support of friends. The close relationships that result in a sense of belonging result in a positive quality of life (Bramston, Chipuer, & Pretty, 2005; Connell, Brazier, O’Cathain, Lloyd-Jones, & Paisley, 2012; Krageloh et al., 2014). In fact, this social support providing the sense of belonging is the strongest indicator for positive quality of life (Bramston et al., 2005).

**Self-concept.** Self-concept can be multifaceted. In fact, Shavelson, Hubner, and Stanton’s (1976) seminal work on self-concept found that this construct was not only a perceptive quality of self-evaluation, but it also was a psychological phenomenon that could be affected by social networks. Curtin, Stewart, and Ostrove (2013) found that there was a significant relationship between advisor support and academic self-concept and a sense of belonging for all students. This reiterates the vital role advisors play in the lives of all students. One supporting study outlines the importance of faculty on the success of their students (Glass et al., 2015). Interactions between international students and faculty outranked other acculturative experiences including social and curricular. This is an important finding since it has been found that social inclusion is associated with positive emotions such as trust, anticipation, and calmness. Identifying struggles with self-concept using the survey will help provide essential interventions needed to improve the quality of life of international students.

**Leisure.** Leisure activities help build lifetime happiness and healthy growth in adolescents (Cheng, Yang, Chen, & Huang, 2011). Leisure activities are those activities that
please one with positive emotional experiences (Yang, Chen, Hseih, Tan, & Chang, 2012). These activities also reduce stress and unpleasant thoughts. Leisure activities lead to quality of life and when an imbalance exists between leisure and working activities, stress will escalate. Leisure activities do not always have to be physical activities. Many students enjoy playing online games, downloading and listening to music, and playing software games (Casale & Fioravanti, 2011). Other activities can include spending time with friends and extracurricular activities (Jian, Sandnes, Huang, & Hagen, 2010). If international students are unable to engage in leisure activities, they may experience stress and unpleasant thoughts. Using the HWAIS can identify students in need of increasing leisure activities in order to improve positive quality of life.

**Nutrition.** Eating a nutritious diet has been found to improve mental quality of life (Caccialanza et al., 2015) and decrease the likelihood of experiencing cancer (American Cancer Society, 2006). Highly acculturated international students, or students who have mostly assimilated local customs and cultures, exhibit several unhealthy diet practices (Edwards, Hartwell, & Brown, 2010). First, there is an increase in adding butter and margarine to items such as potatoes and bread. Acculturated students assume unhealthy dietary practices such as increasing fat and oil intake and increasing consumption of sweet and salty snacks. These students also show patterns of skipping breakfast which is not a practice of their native country. International students are also unfamiliar with American food and have to work to acquire the taste for it. In addition, some international students are not knowledgeable of how to prepare or store American food. After moving to an American university, international students report that fresh fruits and vegetables are costly. The common produce available in America may also be different than the produce offered in their native country. And finally, language difficulties
cause an obstacle at grocery stores and international students may need social support to help bridge this communication gap (Msengi et al., 2011). This study intends to survey the nutritional needs of international students and supports needed to help improve quality of life and improve health.

**Cultural identity.** International students are motivated to study abroad for many reasons (Binsahl, Chang, & Bosua, 2015). These reasons include learning English as a second language, meeting new people, and experiencing new cultures, ideas, and new ways of thinking. Although students often have cultural adjustment issues, it does not impede their graduation rate (Curtin et al., 2013). Many factors affect how international students develop cultural identity while studying abroad (Kim, 2012). These factors include previous academic experience, ethnicity, socioeconomic status, original language, country of origin, cultures, religious beliefs, and families. Social support has been found to be a significant factor of international students experiencing positive cultural experiences while studying abroad (Jackson, Ray, & Bybell, 2013). Other factors found to lead to a more positive cultural adjustment are years in the United States, English proficiency, and lower levels of perceived discrimination (Mesidor & Sly, 2016).

**Stressors for International Students**

As there are factors that positively contribute to the quality of life, there are also stressors that may negatively affect quality of life (Gautam et al., 2016). International students report sources of stress from culture shock, language barrier, financial difficulties, academic pressures, immigration requirements, homesickness, and racial discrimination (Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Xuesong, Xuemei, Quianlai, Jacobs, & Jean-Baptiste, 2013). Most stressors come from the necessities of life. International students stress about their financial stability and future. They may also stress about their health as it may deteriorate in the United States. These
two stressors are necessary for students to survive. However, there are other stressors that may cause mental stress which will decrease their quality of life. Students worry about academics and whether they can be successful in their studies. Students also struggle with mobility as lack of transportation can cause obstacles for international students. And finally, homesickness can cause students loneliness and affect their mental health which in turn affects their quality of life. For this study, stressors will be assessed via the following areas: health, homesickness, physical activity, finances, academics, and mobility.

**Health.** As mentioned above, acculturation stress causes many mental health issues. Unfortunately, acculturation also contributes to physical health issues. Research shows a positive correlation between the length of time international students reside in the United States and decline in health status (Yoh, 2009). Although studies have shown that international students are motivated to participate in physical activity to improve their health, 47% of international students reported gaining weight after staying in the United States. Not only does acculturation stress cause mental health issues, it can also lead to higher disease risk and risky health behaviors such as smoking (Msengi et al., 2011). Three factors that help contribute to this correlation are poor diet, lack of leisure and relaxation activities, and lack of sleep (Ellis-Bosold & Thornton, 2013). The WHO (2009) recommended a nutritious diet, physical activity, and avoiding harming behaviors such as smoking.

As mentioned above, most international students are confused on how, when, and where to receive medical services. In fact, in a study conducted by Ellis-Bosold and Thornton in 2013, over 75% of Chinese international students reported waiting at least one to two days to receive medical care with 31% of those waiting more than two days. Around 34% of these students considered the university their source of medical responsibility, 31% thought it was their own
self, 14% considered the international office responsible, 3% considered family responsible, and a concerning 18% were unsure (Ellis-Bosold & Thornton, 2013). Thus, it is apparent that international students rely significantly on the university for their medical needs. Other reasons attributed to these students not seeking health care were family responsibilities and financial hardships (Msengi et al., 2011). With these staggering statistics on the reliance of the university for so many needs, universities must recognize their importance in the well-being of these students. This study asserts that the use of the HWAIS can help identify these needs in order to increase the feeling of well-being of international students.

Many international students report confusion about what type of health care they will receive and how healthcare works in the United States. In the study conducted by Carmack, Bedi, and Heiss (2016), three messages were emphasized to international students regarding health care when studying abroad in the United States. The first message received is the imperative or mandate to pay for health insurance. International students in this study understood that they must purchase insurance; however, they did not understand the concept of an insurance card. In most other countries, an insurance card is not needed. Furthermore, health care in other countries is much different than the approach used in the United States. Many international students do not understand that the insurance does not cover all costs and are confused on why they must purchase insurance even if they do not use the insurance. Many also feel that the costs of health insurance did not balance the benefits of having the insurance (Carmack et al., 2016).

The second message these students received was that they are accountable for triaging their own health. One must decide when to go to the hospital or the health center or, unfortunately, not receive care at all. International students are very confused about what
situation warrants an emergency room visit and which situation warrants a health center visit. Most do not know the difference between the two and what each offer in terms of services and facilities. Many will not seek care or simply go to a local pharmacy or superstore to self-treat (Carmack et al., 2016).

In Carmack and colleagues’ (2016) study, international students learned that the third message is they must pass a “TB” test. All students must pass the tuberculosis test to be admitted. However, they do not understand how it will be paid and what are acceptable test results. First, TB test is partially paid by university insurance and students are surprised with the undisclosed costs associated with this medical test (Carmack et al., 2016). By surveying for medical needs and physical health, this study may help decrease the confusion between facilities and services and increase international students access to appropriate healthcare. Students identified with these needs via the assessment can be provided consult with university health staff.

**Homesickness.** Homesickness plays a major role in stressors for international students (Baba & Hosoda, 2014). It has been found that international students report higher levels of homesickness than domestic students (Poyrazlie & Lopez, 2007). Specifically, this study found that the farther the student lives from their family, the higher reports of homesickness. Students who are homesick have feelings of sadness and loneliness and may even become depressed. They have lower self-esteem and experience more adjustment issues. Homesick students report more physical complaints and also experience anxiety, fatigue, and absentmindedness (Baba & Hosoda, 2014; Boafo-Arthur, 2013; Poyrazli & Lopez, 2007). Most international students use social networking sites to help foster connectedness to their home of origin and increase a sense
of belonging (Binsahl et al., 2015). In 2012, 78.5% of international students used social networking sites and scored lower on loneliness scales.

In addition, high numbers of reported homesickness are reported by students due to discrimination (Poyrazli & Lopez, 2007). Students with perceived discrimination also show lower academic success (Baba & Hosoda, 2014). These students score lower on adaptation skills and report higher stress levels. Homesickness also affects students cognitively by creating memory and concentration issues thus affecting their performance. International students who report the highest levels of homesickness are younger in age, female, and have minimal social support. Using the assessment, universities can identify students who report homesickness and provide the needed interventions to increase academic success and well-being.

**Physical activity.** As mentioned above, physical activity is very important for good health. Unfortunately, international students tend to not engage in as much physical activity as domestic students (Msengi et al., 2011). Studies have shown that physical activity for all adolescents and adults drop significantly once they leave high school. Many international students report feeling insecure about using exercise equipment at the gym and feel intimidated by the operation of the equipment (Yoh, Heewon, & Gordon, 2008). And finally, international students feel that there is not time for physical activity due to the academic load of their studies (Msengi et al., 2011).

A positive correlation exists between acculturation and increase of physical activity (Yan & Cardinal, 2013a). In a case study by Yan and Cardinal (2013b), Asian females categorized physical activity motivators as a “break from work,” “a time to be alone,” and “a feeling of accomplishment” (p. 387). The participants identified some barriers for physical activity. One reason, as mentioned above, is the lack of information to utilize services or equipment and the
embarrassment of this lack of knowledge. They have a lack of self-efficacy and there is minimal social support to encourage these students to engage in physical activity. Asian females also reported that cultural barriers, as mentioned above, such as strong gender roles may become an obstacle in participating in physical activity.

Physical activity helps combat obesity, cancer, and cardiovascular diseases (Yan & Cardinal, 2013a). Physical activity has been shown to correlate to an improved quality of life (Anokye, Trueman, Green, Pavey, & Taylor, 2012; Rank et al., 2014; Stocchi, De Feo, & Hood, 2007). In fact, Brown, Carroll, Workman, and Carlson (2014) found that health-related quality of life was positively related to physical activity with all individuals, even those with limitations. Unfortunately, physical activity levels decrease significantly from ages fifteen to twenty-one. Yan and Cardinal (2013b) stated that Asian and African international students show the lowest levels of physical activity. Asian female students may have lower physical activity participation due to the perception of masculinity with such activities. Furthermore, Asian schools have sparse opportunities for physical education programs in their schools. Since the research posits the negative effects of lack of physical activity, the HWAIS can identify students who do not participate and provide the interventions and coaching needed to increase physical activity of all students.

**Finances.** Many international students report financial stress due to obstacles of finding a job on campus (Gautam et al., 2016). Language issues may become a barrier and hinder the acquisition of a job. Transportation issues are also a problem and will be discussed in depth below. International students report that they lack networks, references, and experience. Without extra income, they struggle with paying their monthly bills, for their tuition and for their
textbooks (Leong, 2015). These struggles cause undue stress for students and may decrease quality of life.

**Academics.** When interviewed, international students identified issues that created obstacles for their experience in America. Language was a stressor for international students along with social differences that come with integrating with a different culture (Leong, 2015). Students with lower English proficiency show lower academic achievement (Poyrazli & Lopez, 2007) and perceive higher levels of discrimination (Baba & Hosoda, 2014; Poyrazli & Lopez, 2007). Furthermore, students with more language barriers report higher stress levels than those who have better English skills (Baba & Hosoda, 2014).

Not only does the language proficiency affect student success, but cultural language differences also create stress for international students (Yan & Berlinger, 2009). Different cultures display different expectations for talking to adults, specifically professors. Many international students are taught to remain quiet and not draw attention to oneself in class. This is a barrier if the classroom expectation is to participate in discussion and to ask questions. These language barriers lead to frustration and become a stressor to international students. International students may also lack knowledge of contextual background and how to use the English language. This language obstacle highly affects them in their written language which in turn affects their grades.

Some international students view academic success as a means to bring honor to their family (Yan & Berlinger, 2009). When they struggle, they perceive that they are letting their family down and not meeting the high academic expectations set forth for them. They fear failure and do not know how to ask for help. In fact, self-helping behaviors are not encouraged in some of their home cultures. These clashes with cultures create stress in international
students. Using the HWAIS to measure academic stressors, universities can help increase self-helping activities by providing advisor support, support group opportunities, and other consultative supports of the university.

Rienties, Beausaert, Grohnert, Niemantsverdriet, and Kommer (2011) also found that academic success was highly related to academic integration of international students. Specifically, students who integrated academically, socially, personally, and emotionally, were more likely to perform at a higher level of achievement. This study also found that positive faculty perception affected students’ resilience in school. International students from both western and non-western backgrounds showed high levels of study-performance as compared to domestic students. However, students from western backgrounds performed better on social integration than non-western backgrounds. The true problem is, though, the higher the social integration, the lower the student study-performance for all students. Students who spent too much time on extracurricular activities showed less academic success. This shows the complicated relationship between social and academic integration strategies. Using the assessment of this study can help identify the social and academic needs of international students and help to simplify this complicated relationship of integration.

Mobility. Mobility can become a stressor for international students (Gautam, 2016). Students find the driver license process very difficult due to their immigration status. Furthermore, most international students are unable to afford a large purchase such as an automobile in America. They rely on public and campus transportation. This may become a barrier especially in small town universities that do not provide adequate public or campus transportation. In fact, many students report walking to most if not every destination. Using the measure to identify mobility needs, universities can advise individual students on how to acquire
transportation opportunities. Universities could also explore and expand transportation resources for their students and decrease the negative effect of this stressor.

**Summary**

In conclusion, synthesized research helped the researchers of this study compile factors that may contribute the health and wellness of international students. Questions were created to help measure each area of quality of life and areas that can become stressors for international students. The conceptual framework of factor analysis was utilized to create an analysis plan to help identify factors and increase the reliability and validity of the assessment. The next two chapters of this study will explain this process extensively and help conclude that the assessment is a sound measure to identify needs of international students.
CHAPTER THREE: METHODOLOGY

Chapter Three will explain the method in which this study was completed. A description of how participants were selected will be outlined first followed by description of the measure and materials. Next, the steps of the process used to complete this study will be summarized in how the data was collected and compiled. Finally, the statistical process will be described that was used to complete the analysis on the data. Chapter Three is separated into five sections: purpose, participant selection, materials and instrumentation, procedure, and statistical analysis.

Purpose

The purpose of this study was to administer a psychometric measure to extract identifiable factors in order to address the needs of international students in the areas of health and well-being. The following hypothesis was tested: Factor analysis of responses to the Health and Wellness Assessment of International Students (HWAIS) will yield two factors: stressors and quality of life. The method design was quantitative and conducted in the Spring semester of 2017. The intended participants, detailed below, consisted of international students enrolled in a mid-south university.

Participant Selection

Participant selection consisted of international students recruited through school email from their instructors. Details and purpose of the study (see Appendix B) and a Statement of Informed Consent (see Appendix C) were provided in the email. The online psychometric measure was emailed to the student for completion. Total anonymity was granted in hopes to provide a safe environment to promote honest feedback. The measure was administered via SurveyMonkey for ease and convenience of participants and researchers. Contact email of the primary researcher was provided to the participants for follow-up information or questions.
Materials and Instrumentation

All participants received an introduction email that contained two attachments:

Item 1: An explanatory letter outlining the purpose of the study, participant rights, and contact information (See Appendix B).

Item 2: A letter of informed consent which also detailed the purpose of the study, participant rights, and contact information of the research team and Institutional Review Board at Murray State University (See Appendix C).

Item 3: The Health and Wellness Assessment of International Students (HWAIS; Pleban & Patel, 2016) (See Appendix A).

Procedure

Scale Development

This study started as a client-initiated study; whereby the authors of the HWAIS contacted the author of this study to redesign and assess psychometric properties of the HWAIS. The current author collaborated with the authors of the assessment to standardize the items.

This survey originated from a 73-item survey constructed by Pleban and Patel (2016). The researchers conducted focus groups after compiling literature to identify common themes needed to address needs of international students (Patel, Pleban, Davies, & Pender, 2015). Pleban and Patel (2016) then collaborated with experts in the fields of wellness and international students to assess content/face validity. Using this 73-item survey, this study sought to create a measure that was condensed and utilized less participant time. The purpose was to increase reliability while creating a concise and user-friendly survey in order to identify needs quickly of international students.
Originally, the HWAIS consisted of 73 items that were assessed via Likert scales, ordinal scales, and checklists. During collaboration, the current author shortened the assessment to 64 items and standardized all items using the same Likert scale responses. Thirteen additional demographic questions were added to gather descriptive statistics. The 5-point Likert scale used strongly disagree, disagree, neither disagree nor agree, agree, and strongly agree.

**Distribution of Scale**

In order to create a listserv for survey distribution, the author contacted the International Student Office, and provided them with a description of the study, the informed consent, and the IRB approval form. The International Student Office provided the author with 586 potential participant emails. The emails were sent on an excel worksheet with three labeled columns: email, class, and major. After approval from the International Student Office, the author sent an initial email to all potential participants including the description of the study, informed consent form, and survey link. There were no exclusory criteria and the single inclusion criterion was international student status. The email emphasized the nature of the study, including voluntary participation and anonymity. The email contained a link to the primary researcher’s email as well to provide open communication if needed for questions or concerns. The HWAIS was administered via SurveyMonkey to receive quick and efficient data collection. SPSS software was used to conduct the factor analysis.

One week after the first email was sent, a second email was sent with a second recruitment letter (see Appendix E). This email reported current participation percentage and thanked those whom had already completed the study. Due to complete anonymity, the author did not know which participant had responded so all participants were sent the second and the third recruitment letter. Two weeks after the first email was sent, a third email was sent with the
final recruitment letter (see Appendix F). This email again reported updated participation percentage and again thanked those whom had already participated. The result was 55 completed surveys.

**Statistical Analysis**

Statistical Analysis for this study followed the general procedure for factor analysis (Field, 2013). Initial checks began with sample size testing using the Kaiser-Meyer-Olkin (KMO) test to ensure that the proper sampling adequacy was gained so that the factor analysis would result in reliable factors. The research team sought a KMO statistic of 0.5 or higher. Next, using a correlation matrix, a Bartlett’s test, and an R-matrix, correlations between variables were calculated to see if any items should be eliminated. Items were to be eliminated if r<.3 or if r>.9 because they would indicate they were either highly related or minimally related. No items met those indicators; hence, no items were eliminated.

The next stage of the data analysis involved main analysis. Within main analysis, the first step was to extract factors. To maximize reliability of the factors, a Kaiser’s criterion test and sprei plot were used to see which, if any, factors could be extracted and factor rotation using oblique rotation since correlated variables exist. And lastly, reliability testing was conducted to ensure reliability using the Cronbach’s alpha for each factor.
CHAPTER FOUR: RESULTS

The purpose of this study was to administer a psychometric measure to identify factors to address the needs of international students in the areas of health and well-being. This chapter will contain four parts. The first part will consist of descriptive statistics of the study participants. The second part will contain an explanation of the initial checks of KMO testing and using a correlation matrix. The third part will describe the statistics found in the main analysis using Kaiser’s criterion and a scree plot to extract factors and the use of oblique rotation for correlated factors. Finally, the fourth component of Chapter Four will utilize Cronbach’s alpha for reliability of the factors.

Descriptive Statistics

Surveys were sent initially to 586 international students at a mid-south university. After three recruitment letters (See Appendices B, E, & F), 10% of surveys were initiated and only one abandoned (n = 55). A diverse population of international students were reported with 21.7% of participants describing their ethnicity as Indian, 17.4% as Saudi, 13.0% as Chinese, 4.4% each of Korean, Nigerian, and Pakistani, and 2.2% each of African, Arab, Armenian, Asian, Belizean, French, German, Hispanic, Indonesian, Nepali, Nigerian, Swiss, Sudanese, Taiwanese, Uzbek, and Vietnamese. Out of the 55 surveys, 56% of participants were female and 44% were males. Seventy-six percent of respondents reported heterosexuality as the preferred sexual orientation. Most participants identified with a religion/spiritual orientation (75%), with 33.33% reported as Islam, 26.19% reported as Christian, 23.80% reported as Hindu, 4.76% each as Buddhist and Atheist, and 2.38% each of Catholicism, Jehovah’s Witness, and Roman Catholicism. Twenty-five percent reported no religious orientation or did not respond.
Most respondents were non-transfer students (79%) while 21% had transferred from another college or university. On-campus housing had a slightly higher percentage (55%) than off-campus housing (45%). Ninety-one percent of the participants were full-time students and there was a balanced mix of undergraduate (49%) and graduate (45%) participation. Respondents displayed high academic achievement with 82% holding at least a 3.0 grade point average or higher. Forty-two percent of respondents achieve a 3.8 grade point average or higher. Lastly, 62% of participants reported having at least one parent graduate from college.

Initial Checks

The first step of factor analysis is to conduct initial checks for sample size and correlations between variables. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated for multiple variables (see Table 1). A KMO score can range from 0-1. A score closer to 1 suggests that a factor analysis could produce “distinct and reliable factors” (Field, 2013). The KMO was calculated to be .789 which exceeds the acceptable value of 0.5. Furthermore, using the Bartlett’s Test of Sphericity, a significant value of \( p < .001 \) indicates that this factor analysis was significant.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</th>
<th>.789</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td>Approx. Chi Square df</td>
<td>229.191</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>
multicollinearity, these variables should be considered for elimination. Variables with correlations less than .3 would indicate lack of correlation and correlations of .9 or higher could indicate multicollinearity (Field, 2013). All variables in this study were found to have significant correlations with other variables and no correlations were greater than .9. Therefore, no variables or question data were eliminated. Furthermore, the determinant is also used to decide whether to eliminate variables. Since the determinant was .009 which is above the appropriate .00001, no problems with collinearity were suspected.
Table 2

Correlation Matrix of HWAIS Factors

<table>
<thead>
<tr>
<th></th>
<th>Belonging</th>
<th>Self-Concept</th>
<th>Leisure</th>
<th>Physical Activity</th>
<th>Nutrition</th>
<th>Cultural Identification</th>
<th>Finances</th>
<th>Academics</th>
<th>Health</th>
<th>Mobility</th>
<th>Homesickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belonging</td>
<td>1.00</td>
<td>.621</td>
<td>.595</td>
<td>.417</td>
<td>.296</td>
<td>.484</td>
<td>.386</td>
<td>.346</td>
<td>-.101</td>
<td>.414</td>
<td>-.170</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>.621</td>
<td>1.00</td>
<td>.506</td>
<td>.212</td>
<td>.421</td>
<td>.557</td>
<td>.121</td>
<td>.432</td>
<td>.215</td>
<td>.356</td>
<td>.169</td>
</tr>
<tr>
<td>Leisure</td>
<td>.595</td>
<td>.506</td>
<td>1.00</td>
<td>.609</td>
<td>.296</td>
<td>.664</td>
<td>.417</td>
<td>.426</td>
<td>-.112</td>
<td>.473</td>
<td>-.012</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>.417</td>
<td>.212</td>
<td>.609</td>
<td>1.00</td>
<td>.179</td>
<td>.408</td>
<td>.377</td>
<td>.337</td>
<td>-.339</td>
<td>.391</td>
<td>-.111</td>
</tr>
<tr>
<td>Nutrition</td>
<td>.296</td>
<td>.421</td>
<td>.296</td>
<td>.179</td>
<td>1.00</td>
<td>.381</td>
<td>.208</td>
<td>.420</td>
<td>.076</td>
<td>.266</td>
<td>.145</td>
</tr>
<tr>
<td>Cultural Identification</td>
<td>.484</td>
<td>.557</td>
<td>.664</td>
<td>.408</td>
<td>.381</td>
<td>1.00</td>
<td>.302</td>
<td>.520</td>
<td>.122</td>
<td>.417</td>
<td>.321</td>
</tr>
<tr>
<td>Finances</td>
<td>.386</td>
<td>.121</td>
<td>.417</td>
<td>.377</td>
<td>.208</td>
<td>.302</td>
<td>1.00</td>
<td>.339</td>
<td>-.028</td>
<td>.467</td>
<td>.080</td>
</tr>
<tr>
<td>Academics</td>
<td>.346</td>
<td>.432</td>
<td>.426</td>
<td>.337</td>
<td>.420</td>
<td>.520</td>
<td>.339</td>
<td>1.00</td>
<td>.093</td>
<td>.442</td>
<td>.301</td>
</tr>
<tr>
<td>Health</td>
<td>-.101</td>
<td>.215</td>
<td>-.112</td>
<td>-.339</td>
<td>-.076</td>
<td>.122</td>
<td>-.028</td>
<td>.093</td>
<td>1.00</td>
<td>-.175</td>
<td>.503</td>
</tr>
<tr>
<td>Mobility</td>
<td>.414</td>
<td>.356</td>
<td>.473</td>
<td>.391</td>
<td>.266</td>
<td>.417</td>
<td>.467</td>
<td>.442</td>
<td>-.175</td>
<td>1.000</td>
<td>.059</td>
</tr>
<tr>
<td>Homesickness</td>
<td>-.170</td>
<td>.169</td>
<td>-.012</td>
<td>-.111</td>
<td>.145</td>
<td>.321</td>
<td>.080</td>
<td>.301</td>
<td>.503</td>
<td>.059</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Determinant = .009
Main Analysis

The next step of a factor analysis is to extract and rotate factors. Kaiser’s criterion and a scree plot were both used to extract factors. First, the Kaiser’s criterion will be discussed and displayed in Table 3. Kaiser criterion values are described as eigenvalues. Eigenvalues greater than 1 are considered high enough to extract factors. Three factors were extracted with values over 1. Factor 1 eigenvalue was 4.305 and contributed to 39.141% of the data variance. The second factor displayed an eigenvalue of 1.908 which explains 17.34% of the variance of the survey data. Finally, a third component was found with an eigenvalue of 1.036 which contributed 9.419% of the data variance. The three components attributed 65.908% of the total data variance.

Table 3

Total Variance Explained for the Three Extracted NWAIS Factors

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums Of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>4.305</td>
<td>39.141</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.908</td>
<td>17.348</td>
<td>56.489</td>
</tr>
<tr>
<td>3</td>
<td>1.036</td>
<td>9.419</td>
<td>65.908</td>
</tr>
<tr>
<td>4</td>
<td>.788</td>
<td>7.161</td>
<td>73.069</td>
</tr>
<tr>
<td>5</td>
<td>.732</td>
<td>6.651</td>
<td>79.720</td>
</tr>
<tr>
<td>6</td>
<td>.596</td>
<td>5.418</td>
<td>85.139</td>
</tr>
<tr>
<td>7</td>
<td>.467</td>
<td>4.248</td>
<td>89.386</td>
</tr>
<tr>
<td>8</td>
<td>.365</td>
<td>3.320</td>
<td>92.707</td>
</tr>
<tr>
<td>9</td>
<td>.348</td>
<td>3.164</td>
<td>95.871</td>
</tr>
<tr>
<td>10</td>
<td>.250</td>
<td>2.275</td>
<td>98.145</td>
</tr>
<tr>
<td>11</td>
<td>.204</td>
<td>1.855</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Second, a scree plot was also used as a criterion to the number of factors extracted. When using a scree plot, the researcher looks for the point of inflection to determine the number of extracted factors (Field, 2013). The point of inflection is where the slope of the line of data significantly changes. After observing the eigenvalue scree plot, the point of inflection is found between the third and fourth eigenvalue. This observation confirms the Kaiser criterion score found in Table 3.

The next step in the main analysis of factor analysis is factor rotation to identify which variables load to which factor. Oblique rotation was used since factors of this survey may be related. In fact, Field (2013) encourages that the use of this type of rotation be used with any data. Using the structure matrix (see Table 4), the researcher analyzed the Kaiser value to find which variable loaded to which factor. The closer to 1 a variable loaded, the higher correlation is to that factor. A Kaiser value less than .3 is considered not significant (Field, 2013). As shown in Table 4, Belonging (.781), Self-Concept (.889), Leisure (.719), Nutrition (.591), and Cultural Identity (.753) were loaded to Factor 1 which will be termed Quality of Life. Health (.791) and Homesickness (.869) were loaded to Factor 2 which will be termed Campus Stressors. And finally, Physical Activity (.712), Finances (.783), Academics (.602), and Mobility (.741) were loaded to Factor 3 which will be termed Personal Stressors.
Table 4

Factor Analysis—Structure Matrix of Variables and Factors of the NWAIS

<table>
<thead>
<tr>
<th>Component</th>
<th>1</th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belonging</td>
<td>.781</td>
<td>-.264</td>
<td>.433</td>
</tr>
<tr>
<td>Self-Concept</td>
<td>.889</td>
<td>.179</td>
<td>.205</td>
</tr>
<tr>
<td>Leisure</td>
<td>.719</td>
<td>-.153</td>
<td>.664</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>.396</td>
<td>-.357</td>
<td>.712</td>
</tr>
<tr>
<td>Nutrition</td>
<td>.591</td>
<td>.217</td>
<td>.276</td>
</tr>
<tr>
<td>Cultural Identity</td>
<td>.753</td>
<td>.257</td>
<td>.552</td>
</tr>
<tr>
<td>Finances</td>
<td>.232</td>
<td>.028</td>
<td>.763</td>
</tr>
<tr>
<td>Academics</td>
<td>.564</td>
<td>.333</td>
<td>.602</td>
</tr>
<tr>
<td>Health</td>
<td>.143</td>
<td>.791</td>
<td>-.252</td>
</tr>
<tr>
<td>Mobility</td>
<td>.441</td>
<td>-.049</td>
<td>.741</td>
</tr>
<tr>
<td>Homesickness</td>
<td>.105</td>
<td>.869</td>
<td>.144</td>
</tr>
</tbody>
</table>

Reliability

Using Cronbach’s Alpha, survey data was analyzed for reliability (see Table 5).

Reliability of data is defined by Field (2013) as “the ability to measure to produce consistent results when the same entities are measured under different conditions” (p. 882). Field (2013) also explained that a Cronbach’s Alpha value (α) around .8 are “good” (p. 715). As shown below, the eleven subgroups of the HWAIS had high reliabilities (α = .802).

Table 5

Reliability Statistics of the NWAIS

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha Based on Standardized Items</th>
<th>N of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.802</td>
<td>.812</td>
<td>11</td>
</tr>
</tbody>
</table>

Summary of Results for Research Question

The hypothesis of this study predicted the factor analysis of responses to the *Health and Wellness Assessment of International Students* will yield two factors: stress and quality of life.
The hypothesis was partially supported. Three actual factors were extracted but two factors could be termed into two groups of stressors. In conclusion, the results support that the *Health and Wellness Assessment of International Students* will yield three factors: Quality of Life, Campus Stressors, and Personal Stressors. Using this survey, international students can be screened to see which factors need campus intervention to improve quality of life and decrease stressors.
CHAPTER FIVE: DISCUSSION

The purpose of this chapter will be to discuss the results of the study. The purpose of the study was to administer a psychometric measure to identify factors of quality of life and stressors, so universities can address the needs of international students in the areas of health and well-being. Factor analysis identified factors to help institutions provide the intervention and support needed. By measuring these factors using the Health and Wellness Assessment of International Students (HWAIS; Pleban & Patel, 2016), specific needs can be identified, and differentiated interventions can be provided. This chapter is divided into five sections. The first section will interpret the results and summarize the information gained by conducting the factor analysis on the psychometric measure. The second section will explain limitations of the study results. The implications to practice is the third section of the chapter, which will provide vital strategies to improve the well-being of international students, and the fourth section is the implications for future research. Finally, a conclusion will be given that will synthesize the information given by the previous chapters. In this conclusion, the discussion will assert that the HWAIS is a sound measure valuable to all American universities in their quest to protect international students and positively improve their quality of life.

Interpretation of Results

The research question for the study was whether a factor analysis of responses to the HWAIS would yield identifiable factors. The importance of identifying factors is crucial to positively improving the quality of life for international students. The hypothesis was that the factor analysis of responses to the HWAIS would yield two factors: stressors and quality of life. This hypothesis was partially supported and the research question was answered with three identifiable factors. Hence, the HWAIS can be used to identify factors that contribute to stress
and quality of life. This measure will be valuable to help universities provide interventions needed by internationals students to improve their well-being.

In order to utilize a sound psychometric measure to help identify the factors, the measure must show acceptable validity and reliability measures. This study utilized a factor analysis to analyze the survey for sound psychometric properties. First, the KMO measure of sampling was utilized to determine the sampling adequacy. With a KMO value of .789, the sample was found to be above the acceptable value of .5 and indicates that the analysis should identify relative factors. Second, a correlation matrix was scanned to look for multicollinearity or small correlations. All subgroups had a correlation with another subgroup of at least .421 and no greater than .664. Correlations greater than .3 are considered significant so no subgroups were eliminated for small correlations. Furthermore, as described in Chapter Three, correlations over .9 were to be eliminated if multilinearity was an issue. With a determinant of .009, and no correlation over .664, multilinearity was not predicted to be an issue with this survey. Hence, the validity of the HWAIS was found to be sound and robust.

The next step for a sound psychometric measure is to statistically identify factors utilizing Kaiser’s criterion and a scree plot. Kaiser’s criterion values (eigenvalues) over one are considered significant for factor extractions. The three factors extracted in this study yielded the following eigenvalues respectively: 4.305, 1.908, and 1.036. The original hypothesis was to yield two factors. However, the researcher believes that this hypothesis was partially supported and that the next step of the factor analysis will explain that reasoning.

After factors are statistically identified, the oblique rotation technique was utilized to see which variable loaded to which specific factor. This process identifies which variable will yield to which factor when analyzing results of the measure. In practical terms, which survey
questions that yielded to specific factors could be measured to identify gaps in international students needs. The original hypothesis predicted that two factors would be identified. Furthermore, the original prediction would be that the following variables would yield to one factor (quality of life): belonging, self-concept, leisure, physical activity, nutrition, and cultural identification. In addition, the following variables were predicted to load to the second factor (stressors): finances, academics, health, mobility, and homesickness.

After completing an oblique rotation, it was found that five of the original six variables loaded to factor one (quality of life). The second factor, Campus stressors yielded health and homesickness. Physical activity, one of the predicted quality of life variables, along with finances, academics, and mobility loaded to the third factor (Personal stressors). Finally, using Cronbach’s alpha, the survey results were analyzed for reliability and met the criteria for an optimal reliability value of .83. Thus, the measure demonstrates robust validity and reliability resulting in its sound use for universities to identify the needs of all international students.

To summarize, the results of the study support that the HWAIS is a sound psychometric measure for addressing the needs of international students in the areas of health and well-being. The hypothesis was partially supported by the fact that the measure would yield two factors: quality of life and stressors. However, the measure yields two groups of the second factor, stressors. Other studies have suggested these results could be used to distinguish subscales or dimensions of a factor (Gordon, J., Ludlum, J., & Hoey, J., 2008; LaNasa, S., Olson, E., & Alleman, N., 2007; LaNasa, S., Cabrera, A., & Trangsrud, H., 2009; Pascarella, E., Cruce, T., Umbach, P., Wolniak, G., Kuh, G., Carcini, R. et al., 1996; Umbach, P., Kinzie, J, Palmer, M. & Kuh, G., 2007). Using these suggestions of compiled studies, the researcher utilized these subscales or dimensions for the second and third factor: Campus Stressors and Personal
Stressors. In summary, the HWAIS will measure variables that contribute to quality of life factor, Campus Stressors, and Personal Stressors.

**Limitations of the Study Results**

Although the study supported the use of the HWAIS as a measure of health and wellness, several limitations exist. As these limitations are addressed, the construct validity and the generalizability will be increased. With the use of the current sample, there exists the need to diversify demographics to address the generalizability. Furthermore, the construct validity can become more robust with statistic repetition of the study.

**Country of Origin**

Although the study showed an adequate sample size, the limited participation of the study contributed to the limitations of the results. Of the 586 international students who were sought and recruited via email, only 55 completed the survey. The ethnicity of the participants was as follows: Indian were 21.7%, 17.4% as Saudis, 13.0% as Chinese, 4.4% each of Koreans, Nigerians, and Pakistanis, and 2.2% each of Africans, Arabs, Armenians, Asians, Belizeans, French, Germans, Hispanic, Indonesian, Nepali, Nigerian, Swiss, Sudanese, Taiwanese, Uzbek, and Vietnamese. Studies have shown that different struggles exist for different countries of origin (Amar et al., 2009; Binsahl et al., 2015; Boafo-Arthur, 2013; Carr & Thiagarajan, 2003; Casale & Fioravanti, 2011; Chai et al., 2012; Ellis-Bosold & Thornton, 2013; Han et al., 2013; Jian et al., 2010; Keith et al., 1995; Kilinc & Granello, 2003; Xuesong et al., 2013; Yang et al., 2012). As of date, Chinese students represent the largest population sample of United States international students (Yan & Berlinger, 2009; Yan & Cardinal, 2013a; Yan & Cardinal, 2013b). And although a larger percentage of participation of this study consisted of Chinese international
students, future scale repetition with increased numbers of Chinese participants would increase generalizability of the HWAIS.

Studies show that Asian students report more challenges with transitioning to the United States than the European students (Han et al., 2013). Saudi students contributed to 13% percent of responses and studies show that Saudi females struggle with belonging and identity in the United States (Binsahl et al., 2015). It is important for these students to remain connected to their culture and their family, and although Saudi students contributed to a larger percentage, increased participants of Saudi students would increase generalizability of the study.

There was only a small percentage of Black-African identification in this sample (2.2%). Studies show that Black-African students report high levels of feelings of discrimination, prejudice, and alienation (Boafo-Arthur, 2013). With the minimal participation, it is imperative to recruit more participants from Black-African international students, and the other international students reporting in with less than 4.4%.

**Sample Selection**

Furthermore, the original intentions were to survey international students in the mid-south universities. The IRB approval for the second university came during the summer, so that data were not available for this study. A future study that enlists participants from another mid-south university will help to increase construct validity. Results can be compared, and it can be ensured that the three-factor model of assessing health and wellness of international students is supported. Furthermore, to increase the generalizability of the results, participation from rural and urban 2 year institutions, and urban 4 year institutions should be recruited.

Timing of the recruitment may have been an issue since the survey was given during the second half of the spring semester. Studies show the first 6-12 months of transitioning to the
United States is the most challenging (Ellis-Boswold, 2013). Increasing participation in the fall semester may help increase the generalizability of the scale, in addition to capturing data on those first crucial months of transition. These data will help to provide needed interventions to these students who are at the risk of dropping out of college.

Likewise, if a student was struggling academically or linguistically, they may not have had the time or energy to expend on a voluntary survey. Most participants were high achievers with grade point averages over 3.0, and very few had low grade point averages. Struggling students may have been unable to spare the time from their academic engagements to complete the survey. Recruiting international students who have average to low academic performance would help create robustness of survey construct, and allow universities to identify academic needs and intervene quickly with resources that ensure the student’s success.

The amount of time spent living in the United States may also have a large effect on the international students. Ellis-Boswold (2013) reports that the first months to a year after moving to the United States may be the most challenging. Approximately 13% of this study’s participants were first year students at their university. Increasing participation from first year students will help increase the construct validity, while increasing participation from first year students of other institutions will increase the generalizability of the scale.

**Implications to Practice**

The purpose of this study was to create a psychometrically sound measure to help identify stressors and to improve the quality of life of the international students. This survey administration will be beneficial to universities to help identify interventions that may be needed to help improve the quality of life, and decrease negative effects of stressors. After administration, the surveys can be analyzed to identify specific needs of the international
students. Furthermore, interventions will be discussed that, when utilized, will meet the needs of all students.

Warren and Constantine (2007) have recommended guidelines to help advisors and other staff work with Black-African students. These guidelines could benefit the cultural needs of all international students. First, ensure the staff has analyzed all views, biases, and assumptions they may have that may create discriminating behavior in classrooms. Glass and colleagues (2015) discovered that there is a significant difference in how advisors interact with students. Advisors should be cognizant to not allow bias to interfere with positive advising to students with low socio-economic status and/or low academic preparedness, and the HWAIS could provide advisors with an objective tool to assess the needs of their international students. Advisors should be trained on the sensitive mental health needs of international students (Xuesong et al., 2013), and discussions regarding the beliefs of international students and their intervention strategies would help inform institutions to better meet needs (Warren & Constantine, 2007). As mentioned above, advisor support is the third ranked social support for international students, and advisor-student relationship is crucial for a sense of belonging (Curtin et al., 2013); as such, the HWAIS could prove to be beneficial in setting a stage for a strong relationship to emerge between advisor and student.

Advisors are one factor that help increase the sense of worth as a student. Other factors that relate directly to staff are a positive perception of classroom comfort, empathetic faculty, faculty support, inclusion perception, and social inclusion perception. The study conducted by Curtin and colleagues (2013) expanded more on the importance of advisors. The study was conducted on domestic and international students, and concluded that 75% of doctoral international students usually stay at least one year or more. Interestingly, acculturation did not
significantly impact their completion rates. On the contrary, good advisors were found to be an
important factor of completion rates for these doctoral students. In fact, positive advising ranked
third in the importance for support, behind family and friends. Effective advisors are
characterized by helping international students feel connected to their department and increasing
the knowledge of their field. Furthermore, they mentor their students to progress through their
academic plan and help build self-confidence and positive self-concept (Curtin et al., 2013).
After analyzing the results of the HWAIS, universities can use the research-based intervention of
effective advising to meet the student needs and increase their well-being.

Boafu-Arthur (2013), in agreement with Warren and Constantine, recommended the
utilization of support groups to help foster belongingness and cultural identity among cultures.
Carr, Koyama, and Thiagarajan (2003) utilized a support group specifically for Asian female
international groups, which greatly increased academic success and decreased social isolation.
Xuesong and colleagues (2013) facilitated support groups to help encourage international
students to pursue healthy leisure activities such as exercise. Universities can encourage support
groups to help those international students who show need based on the score of the HWAIS.

Specific recommendations for a successful support group are provided Dipeolu, Kang,
and Cooper (2007). First, collaboration among all departments that work with international
students is essential. The support group should be voluntary but not mandatory, and the goals of
the group should be clear from the beginning. Gender-specific groups are beneficial to meet
specific needs, and the meetings should occur in a welcoming room not housed in the counseling
department. Optimal memberships would include members from all levels of the institution, and
discussion should be pre-planned, and a follow-up reflection should conclude the meeting.
International offices could provide informational classes to international students on the American social customs specific to the area of the country (Warren & Constantine, 2007). In addition, these informational classes could help inform the international students on how to receive medical help (Carmack, Bedi, & Heiss, 2016), specifically the Chinese international students (Ellis-Boswold, 2013; Xuesong et al., 2013). Universities could provide workshops with detailed tours of clinics, hospitals, and pharmacies (Warren & Constantine, 2007), and wellness centers (Xuesong et al., 2013). These culturally-specific obstacles could be included in the above support group discussions as well. Advisors to international students could also discuss medical and nutritional needs with students during meetings. To help combat neophobia, informational classes on ethnic foods could be provided by food service and provide assurance that ethnic foods are prepared and readily available for international students (Edwards & Brown, 2010). Lastly, family and friends should be enlisted into the support structure of the institution (Warren & Constantine, 2007). These research-based interventions can be provided after an analysis of the HWAIS responses to meet the needs of individual students.

To synthesize the above research into practical implications, a university could utilize cut-off scores to classify the needs of international students. Student scores could place them into differing levels of the need of intervention. Students classified into Level A would demonstrate a high need of intervention. Level B would consist of a moderate need of intervention, and Level C would be categorized as a low need of intervention. Finally, a Level D classification could indicate little or no need for intervention. Universities that utilize MAPworks, or other data management systems, to help intervene and retain students, could correlate the data with the HWAIS in order to meet the needs of all international students. Both indicators could help ensure that every student is provided the interventions needed to succeed in
collegiate education. Succinctly, use of the HWAIS in higher education to meet the needs of international students is numerous.

**Implications for Future Research**

The purpose of this study is to help meet the needs of international students. When researching the needs of international students, distinguishable differences could be found among the needs of different cultures and among the stages of acculturation. When analyzing the data of the psychometric measure, staff must be cognizant of these differences when providing interventions for the subgroups of quality of life and stressors. These implications will be discussed further utilizing literature reviews of these needs based on factors of quality of life and stressors as measured by the instrument.

**Acculturation Theory**

Success in academic life is positively related to acculturation. In fact, lack of acculturation tends to result in less academic success, greater communication issues, and lower medical/physical health (Kilinc & Granello, 2003). In other studies, it was found that students who are less acculturated are more likely to contract diseases and engage in unhealthy behaviors (Msengi, Msengi, Harris, & Hopson, 2011). Many theoretical models and categories have been conceptualized to help identify stages that international students experience as they develop an identity in the United States. Kim’s (2012) International Student Identity model posited that international students progress through identity development in the new culture of the United States via six phases: Pre-Exposure, Exposure, Enclosure, Emergence, Disclosing, and Integration. Further research of acculturation theory and how it links with identity stages converges Marcia’s (2013) identity statuses into four difference acculturative experiences: achievement, moratorium, foreclosure and carefree diffusion (Schawartz, 2013). And finally,
Berry’s (1997) research on how international students acculturate has been synthesized with the convergence of Schawartz and Marcia’s research. This synthesis of acculturation theory postulates that international students acculturate in four ways in correlation with the above mentioned acculturative experiences. Berry’s assimilation is synonymous with the moratorium experience, separation process with the foreclosure experience, integration process with the achievement experience, and marginalize process with the carefree diffusion experience. Thus, interventions using these theoretical concepts of acculturation can be provided to international students who show need on the HWAIS. Knowing the state or developmental stage of acculturation an international student is demonstrating will help identify specific strategies to help increase well-being.

Chinese students are the most represented nation in the United States followed by India and South Korea (Han et al., 2013; Xuesong et al., 2013). Unfortunately, it is harder for Chinese students to acculturate due to the extreme differences with American culture. Most reported mental health issues with Chinese students include depression followed by anxiety (Han et al., 2013). More than 10% of Chinese international students report that their mental symptoms are results of academic stress, social isolation, culture shock, language difficulty, and future insecurity. Future research is recommended by Boafo-Arthur (2013) and Chai, Krageloh, Shepherd, and Billington (2012) as well. Future research could explore this synthesized process using the HWAIS. This continuing research will help college personnel working with international students, especially struggling students such as Asian students, progress successfully through the acculturation process; thus, improve quality of life and increase academic achievement.
Quality of Life

Many studies have shown that international students report lower quality of life than domestic students (Chai, Shepherd, & Billington, 2010). Social support providing the sense of belonging is the strongest indicator for quality of life (Bramston et al., 2005). The support of family and friends are the two highest ranked support sources as reported by international students (Curtin et al., 2013). There was a significant relationship between advisor support and academic self-concept and a sense of belonging for all students. Advisor support is ranked third for support sources for international students. Future research could seek for ways to increase and improve advisor support to help increase the quality of life of international students as measured on the HWAIS. As needs are identified by the HWAIS, advisors would then gather resources or provide the support needed. No gap would go unsupported by universities using the HWAIS and international student success and well-being will increase.

Physical activity helps combat obesity, cancer, and cardiovascular diseases (Yan & Cardinal, 2013a). Yet, international students report more cultural obstacles to physical activity participation than domestic students. One reason is the lack of information to utilize services or equipment and the embarrassment of this lack of knowledge. They have a lack of self-efficacy and there is minimal social support to encourage these students to engage in physical activity. Asian female and African international students report cultural barriers may become an obstacle in participating in physical activity (Yan & Cardinal, 2013b). Research to explore these cultural barriers for physical activity for all international students could empower American institutions to provide needed interventions to increase this participation when students score lower on the physical activity measure of the HWAIS.
Stressors

Black-African students report acculturation stress due to discrimination, culture confusion, and isolation from other Americans and even other international students (Boafo-Arthur, 2013). Due to this stress, Black-African students experience depression, fatigue and homesickness. They have many adjustment issues due to the separation from family and friends and the feeling of social isolation from the home culture of United States. They experience prejudice, discrimination, and stress over financial issues. Along with perceived discrimination resulting in lower academic success (Baba & Hosoda, 2014), students also report higher levels of homesickness due to this discrimination (Poyrazli & Lopez, 2007). Targeted future research on these cultural barriers of belongingness may provide effective interventions to Black-African students and other international students who score high stressor scores on the HWAIS.

International students identify issues that create obstacles in the acculturation experience in America. Language was a stressor for international students along with social differences that come with integrating with a different culture (Leong, 2015). Students with lower English proficiency show lower academic achievement (Poyrazli & Lopez, 2007) and perceive higher levels of discrimination (Baba & Hosoda, 2014; Poyrazli & Lopez, 2007). Language issues may become a barrier and hinder the acquisition of a job (Guatam el. Al, 2016). This language barrier can create financial stress. If language inhibits job acquisition then needed funds are not available for the cost of an American life. Furthermore, students with more language barriers report higher stress levels than those who have better English skills (Baba & Hosoda, 2014).

Mobility can become a stressor for international students (Gautam, 2016). Students find the driver license process very difficult due to their immigration status. Furthermore, most international students are unable to afford a large purchase such as an automobile in America.
Future research on language and employment barriers of international students could help intervene on several factors of quality of life and stressors. Effective interventions could be provided for internationals students with low quality of life scores and high stressor scores as a result of language or mobility obstacles as indicated by survey results.

Furthermore, most international students are confused on how, when, and where to receive medical services. In fact, in a study conducted by Ellis-Bosold and Thornton in 2013, over 75% of Chinese international students reported waiting at least one to two days to receive medical care with 31% of those waiting more than two days. Increased research of Chinese and other international students could help American institutions to provide the needed transitioning information to help international students meet their medical needs.

**Future Research of the Health and Wellness Assessment of International Students**

In addressing future research needs of the study, additional survey implementation with increased participants should be sought to increase the validity and the generalizability of the survey. Additional psychometric improvements may also be made by conducting analyses on different cultural groups, language proficiency, religion, socioeconomic status, country of origin and gender groups (Kim, 2012). The author proposes three stages of future research of the HWAIS in order to create robust validity and reliability and address implications of research in order to meet student needs.

Phase One studies conducted will evaluate internal consistency. By utilizing the receiver operating characteristic (ROC), the scale can create scores of level of intervention needed by international students (Jung, Nitzsche, Neumann, Wirtz, Kowaksi, Wasem, Stieler-Lorenz, & Pfaff, 2010). ROC curves are utilized to analyze specificity and sensitivity levels to identify cut scores. The cut-off scores for intervention levels of the NWAIS could be identified using this
statistic. Utilizing this statistic, studies analyze the area under the curve AUC) to specify cut-off scores that would have predictive power of correlation. Jung and others (2010) analyzed their studies’ results using AUC scores to increase efficiency of scales and test for specificity and sensitivity. AUC scores of 0.5 show a poor correlation and 1.0 show a perfect correlation.

For implication to this study, AUC statistics indicate the predictive power for the HWAIS survey to yield which factor specific students will need interventions based on the cut-off scores. The scale would be given to similar sample at various institutions in which IRB approval has been secured. Data should be collected from both universities. The statistics for ROC and AUC would be run on each university individually and then ran for the universities together. Individual university statistics and the combined universities’ statistics should yield similar statistics to ensure reliability of the HWAIS. This research would increase the reliability and validity of the HWAIS and help provide necessary interventions needed for international students.

Additionally, to test for internal survey validity, Chin (2015) suggested the use of another version of a survey (i.e. shorter version) to evaluate internal construct validity. A shortened version of the study survey could be administered to ensure that the three factor model yield is repeated. Chin also utilized the McDonald’s omega hierarchical model that could be utilized to test for internal consistency. After the similar sample administration and the similar survey administration, cut-off scores may be proposed to identify levels of need for international students.

Phase Two would address reliability improvements of the HWAIS. A test-retest in the late spring semester could be utilized to evaluate reliability of the assessment. A sample of students could be retested within two to four weeks to see if the same results are yielded. The
test-retest and McDonald’s omega hierarchical model will increase reliability of the psychometric measure (Chin, 2015) and continue the efforts of increasing robustness of the survey.

Phase Three of survey research would address generalizability issues of the scale. Using stratified sampling, sample groups of all ethnicities, ages, types of institutions, urban/rural/suburban communities, fall/spring semesters, and years in United States will be administered. The three-factor model will be analyzed statistically to ensure construct validity and the cut-off scores will be found using the ROC curve statistics as described above to ensure proper yielding of intervention needs. These recommended three phases will result in increased validity, reliability, and overall robustness of the HWAIS.

**Conclusion**

In conclusion, this study supports that the HWAIS is a sound psychometric measure to help identify the needs of international students. The purpose of the assessment is to identify the needs of international students to provide the needed interventions to improve quality of life. Stressors can be identified and the appropriate agencies can help intervene to decrease the negative effects of stress. International students are a valuable resource to the United States and must be protected. This measure will support and help universities provide the research-based interventions international students need to be successful at American colleges.
References


Appendix A: Health and Wellness Assessment of International Students

1. I participate in at least one student organizational group at my university/college.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
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2. I participate in at least one off-campus, communal group near my university/college.

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<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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3. I feel supported by the international student community on campus.

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<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
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4. I feel supported by the American student community on campus.

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<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
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5. I meet other students at some campus location (campus student center, library, etc.) for a discussion.

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<th>Neither disagree nor agree</th>
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6. My current college/university cares about my well-being.

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<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
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7. When I experience problems, I tend to find others with whom I can share my problems.

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<th>Strongly disagree</th>
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<th>Neither disagree nor agree</th>
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8. I typically do not discuss problems with others.

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<th>Strongly disagree</th>
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9. There are special people in my life whom I can talk when I am in need.

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10. I feel as though others will not be able to understand my issues.

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11. I get the emotional help and support that I need from my friends and family.

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<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
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12. I typically do not communicate my problems with friends and family.

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<th>Strongly disagree</th>
<th>Disagree</th>
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13. I meditate and/or pray more than three times per week.

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<th>Strongly disagree</th>
<th>Disagree</th>
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14. I believe that there is a larger meaning to life.

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<th>Strongly disagree</th>
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<th>Neither disagree nor agree</th>
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15. Spirituality is important to me.

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<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
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16. I feel that my current life is leading to a positive future.

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<tr>
<th>Strongly disagree</th>
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<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

17. I am satisfied with campus recreational opportunities.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

18. I have free time that does not involve work or school work.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

19. I participate in fun and enjoyable experiences in my free time either on campus or off campus.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
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</thead>
</table>

20. I attend cultural or social events in a campus location.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
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</thead>
</table>

21. My exercise routines have improved since moving to my current college/university.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
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<tr>
<td>22. I compete in sports (for example soccer/football, cricket, tennis, etc.)</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>23. I attend the university wellness/recreation center.</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>24. I exercise at least 3 times a week.</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<td></td>
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<tr>
<td>25. I am satisfied with the food provided by my current college/university dining services.</td>
<td></td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>26. I am satisfied with the available grocery options in my current community.</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>27. I eat at least 3 meals a day (i.e. breakfast, lunch, and dinner).</td>
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</tr>
<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
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<tr>
<td>28. I limit sugar and fat in my daily diet.</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>29. I am satisfied with the availability of foods from my culture.</td>
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<tr>
<td>30. I enjoy sharing my culture with others.</td>
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<tr>
<td>31. I feel that my culture is valued on campus.</td>
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<tr>
<td>32. I feel that my culture is valued in my community.</td>
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<tr>
<td>33. I enjoy learning about new cultures and American customs.</td>
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<tr>
<td>34. I am satisfied with cultural events through the International Educational Office.</td>
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<tr>
<td>35. I have a clear sense of my culture and what it means to me.</td>
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<td></td>
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</tr>
</tbody>
</table>
36. I am ashamed of my cultural group membership.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

37. I participate in cultural practices of my own group.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

38. I like to educate others about my culture.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

39. I am embarrassed to discuss my culture with others outside of my cultural group.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

40. I am informed about student employment and/or scholarship opportunities.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

41. My physical health is NOT affected by financial stress.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

42. My mental health is NOT affected by financial stress.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>
43. My social life is NOT affected by financial stress.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

44. On the whole, I am satisfied with my choice to study in the United States.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

45. At times, I doubt whether I can be successful as a student at my current university/college.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

46. Overall, I am proud of the work that I have accomplished at my university/college.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

47. My language abilities do NOT affect my comprehension in the classroom.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

48. I feel supported and valued by my academic advisors.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

49. I am confident with my time management and study skills.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
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<tbody>
<tr>
<td>Question</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
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<tr>
<td>50. I usually get at least 7 hours of sleep at night.</td>
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<td>51. I consider myself to be overweight.</td>
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<tr>
<td>52. I consider myself to be underweight.</td>
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<tr>
<td>53. I drink alcohol in moderation or not at all.</td>
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<tr>
<td>54. I overconsume alcohol.</td>
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<tr>
<td>55. I use tobacco products.</td>
<td></td>
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<tr>
<td>56. I use illicit drugs or abuse prescribed medications.</td>
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<tr>
<td>57. I am satisfied with public transportation in my community.</td>
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<td>-------------------------------------------------------------</td>
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<tr>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither disagree nor agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>58. I am satisfied with the accessibility of travel outside of my community.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>59. I feel safe walking on my current college/university campus.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>60. I feel safe walking in my community.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>61. I am able to communicate with my friends and family back home.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>62. Keeping up with friends and family back home is important to me.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>63. I think about home too much.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>
64. I get upset when I think about home.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

65. How do you usually describe your ethnicity (e.g. Japanese, Indian, Saudi, German, etc.)? 

66. What is your gender?
- Female
- Male
- Transgender
- Prefer not to answer

67. What is your sexual orientation?
- Heterosexual
- Gay/Lesbian
- Bisexual
- Unsure
- Prefer not to answer

68. With what religion/spiritual orientation do you identify (e.g. Buddhism, Hinduism, Islam, Christianity, Atheism, etc.)? 


69. What year are you in school?
- 1st year undergraduate
- 2nd year undergraduate
- 3rd year undergraduate
- 4th year undergraduate
- 5th year undergraduate or more
- Graduate/Professional
- Not seeking a degree
- ESL student
- Other

70. What is your approximate cumulative grade point average?
- 4.0-3.8
- 3.7-3.5
- 3.4-3.0
- 2.9-2.7
- 2.6-2.4
- 2.3-2.0
- Less than 2.0

71. What is your enrollment status?
- Full-time
- Part-time
- Other

72. Have you transferred to this college or university within the last 12 months?
- No
- Yes
73. What is your relationship status?
   - Not in a relationship
   - In a relationship, not living together
   - In a relationship, living together

74. What is your marital status?
   - Single
   - Married/Partnered
   - Separated/Divorced
   - Other

75. Where do you currently live?
   - Campus residence hall
   - Fraternity/Sorority house
   - Other campus housing
   - Parent/Guardian’s home
   - Other off-campus housing

76. Did either of your parents graduate from college?
   - No
   - Yes, both parents
   - Yes, mother only
   - Yes, father only
   - Unsure
77. How old are you?

- 18-20 years old
- 21-23 years old
- 24-26 years old
- 27-29 years old
- 30-32 years old
- 33-35 years old
- 36-38 years old
- 39-41 years old
- Older than 41 years of age
Appendix B: Recruitment Letter

Dear MSU or TSU International College Student:

Please accept this as a personal invitation to complete an online survey instrument, administered through Survey Monkey, which is part of a research study being conducted by Dr. Frank Pleban from the Community Health Program, Dr. Samir Patel from the Department of Educational Studies, Leadership, & Counselling, and Jennifer Cosby, Doctoral Student during the weeks of April 3-31st.

The purpose of the survey will be to identify factors contributed to health and wellness among international college students at Murray State University and Tennessee State University. Drs. Pleban and Patel and Ms. Cosby are gathering data to help them design a questionnaire that will help to identify factors in order to meet the health and wellness needs among international students both here at MSU and TSU.

Your voluntary participation would be greatly appreciated.

This study has been reviewed by the MSU Institutional Review Board. For information about the rights of people who take part in research, you may contact the MSU IRB at msu.irb@murraystate.edu or by telephone at (270) 809-2916. An informed consent page will be presented if you follow the link to the online survey. A copy of this form is attached.

Click below to take the survey.

https://www.surveymonkey.com/r/5782XFH

If you have any preliminary questions regarding the study, please feel free to either Drs. Pleban or Patel or Jennifer Cosby.

Thank you for your time and consideration. It's only with the generous help of people like you that our research can be successful.

Kind Regards,

Dr. Frank Pleban
fpleban@tnstate.edu
(270) 809-3839

Dr. Samir Patel
spatel4@murraystate.edu
(270) 809-6123

Jennifer Cosby
jcosby1@murraystate.edu
Appendix C: Statement of Informed Consent

Informed Consent for an Adult in a Non-Medical Research Study

Researchers at Murray State University study many topics. To do this we need the help of people who agree to take part in a research study. You are being invited to take part in a research study. You can ask questions about the research. You can read this form and choose not to participate in the study, choose to participate in the study, or chose to participate in the study and then decide not to participate in the study at a later time. There will be no penalty for not participating in this study. Also, it should be noted that you will be told if any new information is learned which may affect your willingness to continue taking part in this study. You have been asked to take part in this research study because you are an international student at MSU or TSU. You must be 18 years of age or older to be included in the research study.

The individuals conducting this research are Drs. Frank Pleban and Samir Patel and Jennifer Cosby from Murray State University. Dr. Pleban is an assistant professor in the School of Nursing and Health Professions. Dr. Patel is an assistant professor from the College of Education and Human Services. Primary researcher is doctoral student, Jennifer Cosby.

Study Title: Identifying Factors to Address the Needs of International Students in the Areas of Health and Well-Being

Purpose of the Research Study: The purpose of this study is to develop a psychometrically sound instrument to assess the perceptions and behaviors of health and wellness among international students at Murray State University (MSU) and Tennessee State University (TSU).

What you will be asked to do in the study: You will be asked to respond to a series of questions through Survey Monkey. If you voluntarily consent to the study, during the weeks of April 3-31, a link to Survey Monkey and the questionnaire will be emailed to you. Researchers will ask questions pertaining to your perceptions of health and wellness factors, your health and wellness needs, and how the universities are meeting your health and wellness needs. Responses to the questions will be captured using Survey Monkey, an online survey development cloud.

Voluntary Participation: You should take part in this study only because you want to. There is no penalty for not taking part, and you will not lose any benefits if you choose not to participate. You have the right to stop responding to the survey instrument at any time. If for any reason, new information is learned that could affect your willingness to take part in this study, you will be told that information.

Date, Time, & Location: The survey will be sent to your Murray State University or Tennessee State University email address during the week of April 3-31.

Time Required: The survey instrument should take approximately 20 to 30 minutes to complete.
**Risks:** We believe that there are no expected risks for taking part in this study. Survey responses will be alphanumerically coded to protect confidentiality.

**Benefits:** As a research participant you will not benefit directly from this research, besides learning more about how research is conducted. Though this project is a preliminary, yet essential step to developing an innovative instrument, it is envisioned that such an instrument will be used to clarify gaps related to the health and wellbeing of international students studying across the United States.

**Compensation or Payment:** There is no compensation or other payment to you for taking part in this study.

**Confidential Research:** Confidentiality of all participants in this study will be maintained by the researchers. Data from the survey will be coded and analyzed to ensure confidentiality. Once the information is analyzed, individual surveys will be destroyed. Jennifer Cosby will store and maintain all data in her home office for three years after the study has come to completion. At the end of the retention period, all confidential records will be destroyed.

**Study contact for questions about the study or to report a problem:**

<table>
<thead>
<tr>
<th>Dr. Frank Pleban</th>
<th>Dr. Samir Patel</th>
<th>Ms. Jennifer Cosby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee State University</td>
<td>Murray State University</td>
<td>Murray State University</td>
</tr>
<tr>
<td>College of Health Services</td>
<td>College of Education and Human Services</td>
<td>Doctoral Student</td>
</tr>
<tr>
<td>330 10th AVE North</td>
<td>3218 Alexander Hall</td>
<td><a href="mailto:jcosby1@murraystate.edu">jcosby1@murraystate.edu</a></td>
</tr>
<tr>
<td>Suite D-413</td>
<td>Murray, KY 42071</td>
<td></td>
</tr>
<tr>
<td>Nashville, TN 37203</td>
<td>(270) 809-6123</td>
<td></td>
</tr>
<tr>
<td>(615)963-7330</td>
<td><a href="mailto:spatel4@murraystate.edu">spatel4@murraystate.edu</a></td>
<td></td>
</tr>
<tr>
<td><a href="mailto:fpleban@tnstate.edu">fpleban@tnstate.edu</a></td>
<td></td>
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</tbody>
</table>

**IRB contact about your rights in the study or to report a complaint:** Research at Murray State University involving human participants is carried out under the oversight of the Institutional Review Board. For information about the rights of people who take part in research, please contact: Institutional Review Board, Murray State University, 328 Wells Hall, Murray, KY 42071, or by telephone at (270) 809-2916, or by email at msu.irb@murraystate.edu.

**Consent:**

I have read and I understand the provided information. I understand that my participation is voluntary. I may withdraw at any time without any penalty. By clicking the link, I agree to take part in this study.
Appendix D: IRB Approval

MURRAY STATE UNIVERSITY

Institutional Review Board
328 Wells Hall
Murray, KY 42071-3318
270-809-2916 irb@murraystate.edu

TO: Samir Patel
   Educational Studies Leadership and Counseling

FROM: Institutional Review Board
      Jonathan Baskin, IRB Coordinator

DATE: 2/8/2017


The IRB subcommittee has completed its review of your student’s Level I protocol entitled “Identifying Factors to Address the Needs of International Students in the Areas of Health and Well-Being.” After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.

This Level 1 approval is valid until 2/7/2018.

If data collection and analysis extends beyond this time period, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 2/7/2018. You must reapply for IRB approval by submitting a Project Update and Closure form (available at murraystate.edu/irb). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

murraystate.edu
Appendix E: Recruitment Letter 2

Dear MSU International College Student:

Please accept this as a personal invitation to complete an online survey instrument, administered through Survey Monkey, which is part of a research study being conducted by Dr. Frank Pleban from the Community Health Program, Dr. Samir Patel from the Department of Educational Studies, Leadership, & Counselling, and Jennifer Cosby, Doctoral Student.

The purpose of the survey will be to identify factors contributed to health and wellness among international college students at Murray State University and Tennessee State University. Drs. Pleban and Patel and Ms. Cosby are gathering data to help them design a questionnaire that will help to identify factors in order to meet the health and wellness needs among international students both here at MSU and TSU.

We are contacting a random selection of international students at Murray State University and Tennessee State University, and we want to inquire about your thoughts, feelings, and attitudes towards health and wellness. The questionnaire should take about 20 to 30 minutes to complete.

Your voluntary participation would be greatly appreciated. If you choose to participate, please note the confidential nature of this study. The hyperlink contained within this email is authentic and unique to you. Upon submission of the survey your contact information will be deleted.

This study has been reviewed by the MSU Institutional Review Board. For information about the rights of people who take part in research, you may contact the MSU IRB at msu.irb@murraystate.edu or by telephone at (270) 809-2916.

Click below to take the survey.

https://www.surveymonkey.com/r/5782XFH

If this study is of interest to you, click on the "Begin Survey" link below.

Thank you for your time and consideration. It’s only with the generous help of people like you that our research can be successful.

Kind Regards,

Dr. Samir Patel, spatel4@murraystate.edu, (270) 809-6123

Dr. Frank Pleban, fpleban@tnstate.edu, (615)963-7330

Jennifer Cosby, jcosby1@murraystate.edu
Appendix F: Recruitment Letter 3

Dear International College Student:

About two weeks ago, you received an email with a link to a questionnaire seeking your thoughts, feelings, and attitudes towards health and wellness. To the best of our knowledge, only 46 surveys have been submitted. This questionnaire should take about 20 to 30 minutes to complete. Submitted surveys reflect attitudes towards health and wellness among international college students at Murray State University and Tennessee State University and help to identify factors in order to meet health and wellness needs of international students.

The study is drawing to a close, and this is the last contact that will be made. It is important to note that participation is voluntary and there is no penalty for not taking part in this study. However, this study marks attempts to design a questionnaire that will identify factors in order to address the health and wellness needs among international students both here at MSU and TSU. As such, your response to the questionnaire will be a crucial step in this process.

A comment on our survey procedures: the hyperlink at the bottom of this email is unique to you. Thus, your name will be deleted from the distribution list when the survey is completed so that individual names can never be connected to the results in any way. Protecting the confidentiality of people’s responses is very important to us, as well as to Murray State University. For more information about the rights of people who take part in research, you may contact the MSU IRB at msu.irb@murraystate.edu or by telephone at (270) 809-2916.

We hope that you will complete and submit the questionnaire soon. The questionnaire should take about 20 to 30 minutes to complete. If this study is of interest to you, or if you want to review the informed consent from, click your unique URL address or copy and paste the URL address into your web browser:

http://www.surveymonkey.com/s.aspx

Thank you for your time and consideration. It’s only with the generous help of people like you that our research can be successful.

Kind Regards,

Dr. Samir Patel, spatel4@murraystate.edu, (270) 809-6123

Jennifer Cosby, jcosby1@murraystate.edu

Dr. Frank Pleban, fpleban@tnstate.edu, (615)963-7330

(A “Begin Survey” button and “Opt Out” link will be integrated automatically by Survey Monkey)
Appendix G: Original Survey Instrument

<table>
<thead>
<tr>
<th>Assessing Health Behaviors of International College Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed Consent for an Adult in a Non-Medical Research Study</td>
</tr>
</tbody>
</table>
Purpose of the Research Study: Results from this project will be used to construct a multicultural, cross-sectional instrument to assess the health needs of international students enrolled at MSU. This assessment will assist the MSU community in better understanding the needs of international students.

Voluntary Participation: You should take part in this study only because you want to. There is no penalty for not taking part, and you will not lose any benefits if you choose not to participate. You have the right to stop responding to the survey instrument at any time. If for any reason, new information is learned that could affect your willingness to take part in this study, you will be told that information. You must be 18 years of age or older to be included in the research study.

Time Required: The survey instrument should take approximately 30 to 40 minutes to complete.

Risks: We believe there are no expected risks for taking part in this study.

Benefits: As a research participant you will not benefit directly from this research, besides learning more about how research is conducted. However, results from this study will assist the MSU community in understanding the needs of international students from a comprehensive and holistic perspective; thus allowing others to create strategies which will (a) foster inclusiveness and acceptance, (b) promote retention, and (c) advance recruitment efforts.

Compensation or Payment: There is no compensation or other payment to you for taking part in this study.

Confidential Research: Confidentiality of all participants in this study will be maintained by the researchers. Data from the survey will be coded and analyzed to ensure confidentiality. Once the information is analyzed, individual surveys will be destroyed. Dr. Pleban will store and maintain all data in his office (Suite 101 South Applied Science Building) for three years after the study has come to completion. At the end of the retention period, all confidential records will be destroyed.

Study contact for questions about the study or to report a problem:

Dr. Frank Pleban
Murray State University
School of Nursing and Health Professions
Suite 101 South Applied Science Building
Murray, KY 42071
(270) 809-6123
fpleban@murraystate.edu

Dr. Samir Patel
Murray State University
College of Education and Human Services
3216 Alexander Hall
Murray, KY 42071
(270) 809-6123
spatel4@murraystate.edu

IRB contact about your rights in the study or to report a complaint: Research at Murray State University involving human participants is carried out under the oversight of the Institutional Review Board. For information about the rights of people who take part in research, please contact: Institutional Review Board, Murray State University, 328 Wells Hall, Murray, KY 42071, or by telephone at (270) 809-2916, or by email at mst.irs@murraystate.edu.

Providing Consent: Your submission of the online survey will serve as your acknowledgment of the study and consent to participate in the study.
For items 1 & 2, please mark response(s) that apply best to you.

1. Please identify any leisure activities you would like to see more of in your area or at your school (choose all that apply)

☐ Sport activities
☐ Concerts/ Plays
☐ Travel options
☐ Tours
☐ Spa/Relaxation
☐ Amusement parks
☐ Outdoor spaces (parks, beaches, forests)
☐ Outdoor events (hiking, camping)
☐ Festivals
☐ Shopping
☐ Markets
☐ Grocery stores
☐ Artistic activities
☐ Places to eat out (diners, restaurants, bars)
☐ Learning activities
☐ Religious/Spiritual centers
☐ Other
2. If you could choose one event to be on regularly in your area, what would it be?

- Sport activities
- Concerts/Plays
- Travel options
- Tours
- Spa/Relaxation
- Amusement parks
- Outdoor spaces (parks, beaches, forests)
- Outdoor events (hiking, camping)
- Festivals
- Shopping
- Markets
- Grocery stores
- Artistic activities
- Places to eat out (diners, restaurants, bars)
- Learning activities
- Religious/Spiritual centers
- Other
Assessing Health Behaviors of International College Students

The following items will ask about various activities in which you may have participated.

For items 3-22, please check the frequency in which you engaged in the activities during the past three (3) months.

3. Playing games (for example, video games, cards, chess, mahjong, etc.):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

4. Moderate exercise (for example, walking, stretching, etc.):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

5. Vigorous exercise (for example, running, weight lifting, etc.):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often
6. Reading books for pleasure:

- Never
- Rarely
- Occasionally
- Often
- Very Often

7. Competing in sports (for example, soccer/football, cricket, tennis, etc.):

- Never
- Rarely
- Occasionally
- Often
- Very Often

8. Attending the university wellness/recreation center:

- Never
- Rarely
- Occasionally
- Often
- Very Often

9. Traveling/Site Seeing:

- Never
- Rarely
- Occasionally
- Often
- Very Often
10. Going to restaurants:
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

11. Going to the movies:
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

12. Shopping/Online shopping:
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

13. Experiencing art (for example, art galleries, plays, dance):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often
14. Attending sports events (football games, basketball games, etc.):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

15. Collecting or making something (for example, hobbies):
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

16. Surfing the Web:
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often

17. Listening to music:
   - Never
   - Rarely
   - Occasionally
   - Often
   - Very Often
18. Watching television:

- Never
- Rarely
- Occasionally
- Often
- Very Often

19. Met other students at some campus location (campus student center, library, etc.) for a discussion:

- Never
- Rarely
- Occasionally
- Often
- Very Often

20. Attended a cultural or social event in a campus location:

- Never
- Rarely
- Occasionally
- Often
- Very Often

21. Attended a meeting of a campus club, organization, or student government group:

- Never
- Rarely
- Occasionally
- Often
- Very Often
22. Worked on a campus committee, student organization, or project (publications, student government, special event, etc.):

- Never
- Rarely
- Occasionally
- Often
- Very Often
Assessing Health Behaviors of International College Students

For items 23-34, please mark the best response for you.

23. How would you describe the health of your teeth?
   ○ Excellent
   ○ Very good
   ○ Good
   ○ Average
   ○ Poor
   ○ Very poor

24. During the past 12 months, how often did you have a tooth ache or feel discomfort because of your teeth?
   ○ Never
   ○ Rarely
   ○ Sometimes
   ○ Most of the time
   ○ Always

25. When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?
   ○ During the past 12 months
   ○ Between 12 and 24 months ago
   ○ More than 24 months ago
   ○ Never
   ○ I do not know
26. On an average school night, how many hours of sleep do you get?
- 4 or less hours
- 5 hours
- 6 hours
- 7 hours
- 8 hours
- 9 hours
- 10 or more hours

27. On an average weekend, how many hours of sleep do you get?
- 4 or less hours
- 5 hours
- 6 hours
- 7 hours
- 8 hours
- 9 hours
- 10 or more hours

28. In the past 7 days, how often have you awakened too early in the morning and couldn't get back to sleep?
- 0 days
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days
29. In the **past 7 days**, how often have you had an extremely hard time falling asleep?

- 0 days
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days

30. During the **past 30 days**, how often did you eat breakfast?

- Never
- Rarely
- Sometimes
- Most of the time
- Always

31. What is the main reason you do not eat breakfast?

- I always eat breakfast
- I do not have time for breakfast
- I cannot eat early in the morning
- There is not always food in my home
- Some other reason

32. How do you describe your weight?

- Very underweight
- Slightly underweight
- About the right weight
- Slightly overweight
- Very overweight
33. Which of the following are you trying to do about your weight?

- I am not trying to do anything about my weight
- Lose weight
- Gain weight
- Stay the same weight

34. How would you describe your general health?

- Excellent
- Very good
- Good
- Fair
- Poor
- Don’t know
For items 35-41, please mark the best response for you.

35. On average, how many alcoholic drinks do you have in a week?
   - N/A, I do not drink
   - None
   - 1 drink
   - 2 drinks
   - 3 drinks
   - 4 drinks
   - 5 drinks
   - 6 drinks
   - 7 drinks
   - 8 drinks
   - 9 drinks
   - 10 or more drinks

36. How many of your friends frequently drink 5 or more drinks on one occasion?
   - None
   - A few
   - Some
   - Most
   - All

37. Staggering when walking, not being able to speak right, and throwing up are some signs of being really drunk. During the past 30 days, how many times did you drink so much alcohol that you were really drunk?
   - 0 times
   - 1 or 2 times
   - 3 to 9 times
   - 10 or more times
38. During the **past 30 days**, how many times did you get into trouble with your family or friends, miss school, or get into fights as a result of drinking alcohol?

- [ ] 0 times
- [ ] 1 or 2 times
- [ ] 3 to 9 times
- [ ] 10 or more times

39. Did you regularly consume alcohol before attending this school?

- [ ] No
- [ ] Yes

40. Do you use tobacco/e-cigarette products of any kind?

- [ ] No
- [ ] Yes

41. Did you use tobacco/e-cigarette products of any kind before attending this school?

- [ ] No
- [ ] Yes
Assessing Health Behaviors of International College Students

For items 42-48, please mark the best response for you.

42. I am informed about student employment available at my college/university.
   ○ Strongly disagree
   ○ Disagree
   ○ Neither agree nor disagree
   ○ Agree
   ○ Strongly agree

43. I am informed about scholarship opportunities.
   ○ Strongly disagree
   ○ Disagree
   ○ Neither agree nor disagree
   ○ Agree
   ○ Strongly agree

44. I have financial stress that impacts my physical health.
   ○ Strongly disagree
   ○ Disagree
   ○ Neither agree nor disagree
   ○ Agree
   ○ Strongly agree

45. I have financial stress that impacts my mental health.
   ○ Strongly disagree
   ○ Disagree
   ○ Neither agree nor disagree
   ○ Agree
   ○ Strongly agree
46. I have financial stress that impacts my social life.
   - Strongly disagree
   - Disagree
   - Neither agree nor disagree
   - Agree
   - Strongly agree

47. I am satisfied with my current housing.
   - Strongly disagree
   - Disagree
   - Neither agree nor disagree
   - Agree
   - Strongly agree

48. I am satisfied with the cost of my current housing.
   - Strongly disagree
   - Disagree
   - Neither agree nor disagree
   - Agree
   - Strongly agree
### Assessing Health Behaviors of International College Students

49. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am confident with my English speaking abilities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I understand lectures taught by my professors.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel comfortable sharing my ideas with my peers in the classroom.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am able to comprehend reading assignments.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>In situations where I need help understanding the test material, I</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>feel supported by my professors and teaching assistants.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel supported and valued by my academic advisors.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel that the college/university personnel effectively</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>communicate with the international community.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I use extra help when needed (e.g., writing center, tutoring</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>services, professor office hours, etc.).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I turn in my assignments on time.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am confident with my time management and study skills.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
### Assessing Health Behaviors of International College Students

50. For the following items, please mark the best response for you.

| My exercise routines have changed since moving to my current college/university. |
|-------------------------------|----------------|-----------------|-----------------|----------------|
| Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly Agree |
| My weight has changed since moving to my current college/university. |
| I am satisfied with the food provided by my current college/university dining services. |
| I am satisfied with off-campus dining options in my current community. |
| I am satisfied with my current college/university wellness center. |
| I am satisfied with campus recreational opportunities. |
| I am satisfied with the availability of foods from my culture. |
Assessing Health Behaviors of International College Students

51. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am informed about my current community's public transportation.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am satisfied with public transportation in my community.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I am satisfied with the accessibility of travel outside of my community.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel safe walking on my current college/university campus.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I feel safe walking in my community.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Assessing Health Behaviors of International College Students

52. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am able to communicate with my friends and family back home.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Keeping up with friends and family back home is important to me.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel supported by the international student community on campus.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel supported by the American student community on campus.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I enjoy sharing my culture with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel that my culture is valued on campus.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I enjoy learning about new cultures and American customs.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am satisfied with cultural events through the International Education Office.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am satisfied with the orientation services offered by the department responsible for International Education at my current college/university.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>My current college/university cares about my well-being.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
### Assessing Health Behaviors of International College Students

53. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I participate in at least one student organization/social group at my university/college.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I participate in social media to keep in touch with students at my college/university</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I participate in social media to keep in touch with non-students in my surrounding community.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I participate in at least one off-campus, communal group near my university/college.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I participate in social media to keep in touch with my friends and family from my country of origin.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### Assessing Health Behaviors of International College Students

54. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>On the whole, I am satisfied with my choice to study in the United States.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>At times, I doubt whether I can be successful as a student at my current university/college.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Overall, I am proud of the work that I have accomplished at my university/college.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Often, I feel that I do not have much to be proud of with regards to the work that I have done at my university/college.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Assessing Health Behaviors of International College Students

55. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I experience problems, I tend to find others with whom I can share my problems.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I typically do not discuss problems with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>There are special people in my life with whom I can talk when I am in need.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel as though others will not be able to understand my issues.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I get the emotional help and support that I need from my friends and family abroad.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I typically do not communicate my problems with my friends and family abroad.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
### Assessing Health Behaviors of International College Students

56. For the following items, please mark the best response for you.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a clear sense of my culture and what it means to me.</td>
<td></td>
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<tr>
<td>I am ashamed of my cultural group membership.</td>
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<tr>
<td>I participate in cultural practices of my own group.</td>
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<tr>
<td>I like to educate others about my culture.</td>
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<tr>
<td>I am embarrassed to discuss my culture with others outside of my cultural group.</td>
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<tr>
<td>I meditate and/or pray at least once a week.</td>
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<tr>
<td>I meditate and/or pray more than three times per week.</td>
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<tr>
<td>I believe that there is a larger meaning to life.</td>
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<td></td>
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<tr>
<td>I believe in the importance of giving back to my community.</td>
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</tr>
<tr>
<td>There are times when I would have welcomed mental health counseling for a personal or emotional problem.</td>
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</tr>
<tr>
<td>A person with strong character can get over mental health issues by him/herself, and would have little need for a counseling center.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither agree nor disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>-------------------------------------------</td>
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<td>----------------</td>
</tr>
<tr>
<td>There are certain problems that should not be discussed outside one's immediate family.</td>
<td></td>
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</tr>
<tr>
<td>A person with an emotional problem would benefit from seeking help from a counselor.</td>
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</tr>
<tr>
<td>If I were experiencing a serious emotional crisis, I would consider seeking help from a counselor.</td>
<td></td>
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</tr>
</tbody>
</table>
Assessing Health Behaviors of International College Students

For items 57-59, please mark the *number of hours per week* in which you engage in the following activities.

57. How many hours do you work?
- 0 hours
- 1-9 hours
- 10-19 hours
- 20-29 hours
- 30-39 hours
- 40 hours
- More than 40 hours

58. How many hours do you volunteer?
- 0 hours
- 1-9 hours
- 10-19 hours
- 20-29 hours
- 30-39 hours
- 40 hours
- More than 40 hours

59. How many hours do you pray, reflect, or spend time in contemplative thought?
- 0 hours
- 1-9 hours
- 10-19 hours
- 20-29 hours
- 30-39 hours
- 40 hours
- More than 40 hours
For the following items, please mark the best response.

60. How do you usually describe your ethnicity (e.g., Japanese, Indian, Saudi, German, etc.)

61. What is your gender?
   - Female
   - Male
   - Transgender
   - Prefer not to answer

62. What is your sexual orientation?
   - Heterosexual
   - Gay / Lesbian
   - Bisexual
   - Unsure
   - Prefer not to answer

63. With what religion/spiritual orientation do you identify (e.g., Buddhism, Hinduism, Islam, Christianity, Atheism, etc.)?
64. What year of school are you in school?
- 1st year undergraduate
- 2nd year undergraduate
- 3rd year undergraduate
- 4th year undergraduate
- 5th year undergraduate or more
- Graduate / Professional
- Not seeking a degree
- ESL student
- Other

65. What is your approximate cumulative grade point average?
- 4.0 – 3.8
- 3.7 – 3.5
- 3.4 – 3.0
- 2.9 – 2.7
- 2.6 – 2.4
- 2.3 – 2.0
- Less than 2.0

66. What is your enrollment status?
- Full-time
- Part-time
- Other

67. Have you transferred to this college or university within the last 12 months?
- No
- Yes
68. What is your relationship status?
   ○ Not in a relationship
   ○ In a relationship, not living together
   ○ In a relationship, living together

69. What is your marital status?
   ○ Single
   ○ Married / Partnered
   ○ Separated
   ○ Other

70. Where do you currently live?
   ○ Campus residence hall
   ○ Fraternity / Sorority house
   ○ Other campus housing
   ○ Parent / Guardian’s home
   ○ Other off-campus housing

71. Did either of your parents graduate from college?
   ○ No
   ○ Yes, both parents
   ○ Yes, mother only
   ○ Yes, father only
   ○ Unsure

72. Do you expect to enroll for an advanced degree when, or if, you complete your current degree?
   ○ No
   ○ Yes
73. How old are you?
- Less than 16 years old
- 18-20 years old
- 21-23 years old
- 24-26 years old
- 27-29 years old
- 30-32 years old
- 33-35 years old
- 36-38 years old
- 39-41 years old
- Older than 41 years of age