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The Role of Integrated Health Care in Reducing Stigma Around Seeking Psychological Help Among International Students

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The intention of this study was to better understand the international student experience. The present study examined the relationships between acculturative stress, stigma, and behavioral healthcare, using Berry's Theory of Acculturation. A sample ($N = 135$) of international students completed measures of acculturative stress, perceived social support, self-stigma for seeking help, and perceived stigma by others for seeking help. Results of a hierarchical regression analysis indicated that acculturative stress is a statistically significant predictor of perceived stigma by others for seeking help, and that acculturative stress is not a statistically significant predictor of self-stigma for seeking help. Moderation analyses indicated that an introduction to behavioral health did not significantly impact the prediction of acculturative stress on perceived stigma by others. To date, this is the only study to examine the relationships between acculturative stress, stigma, and behavioral health in international students, and as such has implications for future research, academic training, and student affairs' recruitment efforts.

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THE ROLE OF INTEGRATED HEALTH CARE IN REDUCING STIGMA AROUND
SEEKING PSYCHOLOGICAL HELP AMONG INTERNATIONAL STUDENTS

A Dissertation

Presented to

the Faculty of the Morgridge College of Education

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Brinda Prabhakar-Gippert

August 2016

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Title: THE ROLE OF INTEGRATED HEALTHCARE IN REDUCING STIGMA AROUND SEEKING PSYCHOLOGICAL HELP AMONG INTERNATIONAL STUDENTS

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Chapter One

Introduction

Background of the Problem. The number of international students enrolled in U.S. higher education is continuing to expand with a total of 819,644 students, an increase of 7% from the 2011-2012 academic year. There now is 40% more international students studying in the United States than a decade ago (Institute of International Education, 2013). This steady growth in international students in the U.S. has a significant positive economic impact on the United States, contributing more than \$24 billion to the U.S. economy (Institute of International Education, 2013). They also contribute to scientific research and bring international perspectives into the US classrooms, encouraging a more global environment on campuses. Despite the benefits of hosting international students in the U.S., it is important to maintain a high retention rate by supporting their educational experiences and fostering their growth while in the United States. International students may face varied challenges when moving to a new country for their education, and it is important for Universities to understand this population's academic, social, and health care needs to create an environment in which students are supported to face these challenges and needs.

To be able to support international students' experience, it is essential to have knowledge of the challenges they may face as they transition to a new culture in the

United States. Some of the typical concerns of international students, such as adjustment to a new culture, language barriers, social isolation, loneliness, unfamiliarity with the US academic expectations, and financial concerns, have been well documented (Wilton & Constantine, 2003). In order to better understand these challenges and international students' experience of acculturating to a new country, Berry's (1997) theory of acculturative stress will provide an overarching framework for the study. This theory uses a bidirectional explanation of how individuals may experience the acculturation process and orientate toward their home culture or host culture. It considers variables that contribute to the development of acculturative stress and examines moderating and mediating variables that may affect the process. It also suggests the idea that given a multiculturally supportive environment, individuals can potentially experience fewer negative outcomes of the acculturation process. This framework emphasizes several important factors that contribute to the acculturation process, such as group variables, individual variables, and moderating factors. Berry's framework is an appropriate fit for this study, as the individual and group variables include international student issues in academic needs, social needs, and health care needs.

The framework demonstrates a process that results in long-term outcomes of the international student's acculturation experience, and suggests places of intervention to attend to these certain needs. Acculturative stress is the disorientation that may

accompany the transition into a new culture (Sandhu & Asrabadi, 1994). There are many negative outcomes of acculturative stress that have been identified, such as mental health issues, isolation, and a negative self-evaluation (Berry, 1997). Although these negative outcomes could be addressed in mental health counseling, research shows that international students underutilize counseling services (Tung, 2011). For universities to support and foster the growth of international students, it is important for them to explore this underutilization, look at the barriers to seeking psychological help, and examine how international students cope with negative outcomes of acculturative stress.

Stigma around seeking mental health services has been known to be a barrier to receiving treatment (Vogel, Wade, & Hackler, 2007). Stigma can also be associated with negative self-evaluation (Vogel et al., 2007), one of the several possible outcomes of acculturative stress. Blaine (2000) describes stigma as the perception of being flawed because of a characteristic that is regarded as socially unacceptable. Using Berry's (1997) acculturation framework, stigma can be experienced at several points within the acculturation process, including characteristics of the home country or host country, group variables, short-term effect, or long term outcome. Characteristics of the home country or host country mean how society within the country views seeking psychological help, and group variables may look at how one's family or friend group views seeking psychological help. This study will focus on short-term effect and long-

term outcomes, and consider how the acculturation process and the experience of acculturative stress contribute to stigma around seeking psychological help.

Vogel et al. (2007) explain that perceived stigma by others associated with seeking psychological help refers to the belief that a person who seeks psychological help is seen as flawed and socially undesirable by the general public. Self-stigma refers to the individual's own negative perceptions about he or she seeking psychological help. Considering perceived stigma by others in the acculturation process, one would believe that the higher level of acculturative stress experienced would result in a higher avoidance of being in a situation considered socially undesirable due to the need to feel belonging and connectedness within the new community. Likewise, considering self-stigma and the acculturation process, one may believe that if an individual were to already have a negative self-evaluation (a potential negative outcome of the acculturation process), one would also avoid additional negative perceptions about the self. Both of these considerations involve higher levels of stigma around seeking psychological help. Vogel et al. (2009) also confirms that higher self-stigma was associated with less willingness to seek psychological help. This study will take into account both self-stigma and perceived stigma from others as negative outcomes of acculturative stress.

Martin, Lang, and Olafsdottir (2008) propose the Framework Integrating Normative Influences on Stigma (FINIS) which looks at factors that correlate to stigma,

including microlevel factors (e.g., age, race) and mesolevel factors (e.g., social network characteristics) and looks at racism and discrimination as macrolevel factors that may influence the development of stigma associated with mental illness and attitude toward seeking psychological help. All three levels of factors incorporate areas of acculturation, belonging in Berry's group level and individual level variables. According to the FINIS model, the harmful effects of stigma associated with mental illness and psychological help seeking behaviors may be exacerbated by membership in other socially stigmatizing categories (e.g. racial/ethnic minorities, sexual orientation minorities). Because some traditional cultures view seeking mental health treatment as bringing shame to their ethnic groups, international students may associate seeking psychological help with a negative evaluation of themselves. Since there is a lack of findings on the relationship between acculturation and stigma, this study aims to evaluate how one's experience of acculturative stress contributes to one's experience of stigma around seeking psychological help.

Although there is a prevalence of mental health concerns among college students, there is a growing body of research suggesting that college students do not seek psychological help (Yakushko, Watson, & Thompson, 2008; Tung, 2011). In addition to the mental health problems experienced by college students, international students have a unique set of needs and outcomes of acculturative stress. For international students who

experience acculturative stress, seeking psychological help in a new country may be filled with anxiety, fear, misunderstanding, or discomfort (Tung, 2011). Many international students tend to underutilize formal mental health services due to cultural stigma associated with emotional expression. These international students may seek help for the physical manifestations of emotional problems to avoid being stigmatized. The stress experienced by international students can result in more serious mental and physical health concerns. Nilsson, Berkel, Flores, and Lucas (2004) attempted to understand the counseling center utilization rates and presenting concerns of international students; however, their results were insignificant due to a small sample size, a nonrepresentative sample, and a high dropout rate. Due to these data collection barriers, less is known about the international students who are actually using counseling services. It is important for marginalized populations to have equal access to health care services on campus to optimize their academic experience.

As mentioned before, university counseling centers have found that international students underutilize their services (Tung, 2011). In their study, Ellis and Thornton (2013) found almost double the amount of international student participants were interested in services offered at the university's health center as compared to the services offered at the counseling center. When researchers looked at barriers to the utilization of these services, some reasons included the student did not know the problem was

important and lack of information about health services (existence, location, appointment procedures, and fee structure). Other reasons were more related to cultural differences and challenges, such as feelings of discomfort, worry about being understood, and doubt that services would be helpful (Thomson, 2007). Another barrier to health care experienced by international students, particularly from Africa and Asia, is a lack of understanding of cultural practices (Lartey, Mishra, Odonwodo, Chitalu, & Chafatelli, 2009), possibly resulting in uncertainty of what counseling services in the United States entails.

According to Berry's (1997) framework of acculturative stress, during the process of acculturation it is important to examine the resources or coping strategies. Because international students may have cultural misunderstandings about counseling, an integrated approach of help may fit their cultural values in health. This study proposes using the integrated health care model in a university health system to serve as a coping resource available to reduce stigma and address the barriers of international students seeking psychological help. Integrating behavioral health into integrated health care represents a recent trend within medicine. There is a growing recognition in the literature, as well as among medical providers, of the need to integrate evidence-based behavioral health care into primary care settings (Blount, 2003; Robinson & Reiter 2007; Strosahl, 1998). Research has found that approximately half of all individuals with a mental health

disorder do not seek treatment with a mental health provider, but rather visit their primary care provider (PCP) for issues related to their mental health condition (Strosahl, 1998).

The literature has made it clear that the need for integrating behavioral health services in a medical setting is relevant in the general population, and this study aims to explore how it is especially needed in university health systems, particularly among the international student population.

Evidence is continuing to grow proposing the idea that separating “mental health” and “medical” treatments does not realistically represent how problems are formed and best resolved (Blount, 1998). Integrated health care combines medical and mental health care and moves away from the dichotomy of “physical” or “mental” when looking at the presenting concern of the patient. Rather, it promotes a new way of thinking about health and illness and produces a more comprehensive and holistic perspective within medicine, one that emphasizes the unity of body and mind (Kabat-Zinn, 1990). This approach to health care recognizes the interactions of mind, body, and behavior in efforts to understand, prevent, and treat illness, however it may manifest itself. The health care field is expanding its own working model of health and illness by acknowledging how life-style, patterns of thinking and feeling, relationships, and environmental factors all interact to influence health. This model takes into account how emotional factors and life experiences, such as, loneliness, separation, and divorce, are

sometimes associated with reduced immune functions and that the practice of relaxation techniques can have enhancing effects (Kielcot-Glaser et al., 1996). This study attempts to connect the international student population experience of acculturative stress, stigma as a barrier to receiving treatment, and the integrated health care model as a resource addressing the needs of the student and impacting stigma around seeking psychological help.

The specific purpose of this study is to examine the role of the integrated health care model within university health care systems in reducing stigma around seeking psychological help among international students; therefore, impacting the experience of acculturative stress and mental health stigma using Berry's model of acculturative stress. Using a moderation analysis, the study will explore the impact of integrated health care on weakening the impact acculturative stress may have on self-stigma and perceived stigma by others around seeking psychological help.

In sum, international students are faced with many challenges as they acculturate to a university in a new country. It is important for university's to provide a supportive environment in addressing international students' academic, social, and health care needs. Although international students have several needs and experience many challenges, research suggests they underutilize counseling services to address these issues (Tung, 2011). Instead, it seems international students utilize other coping strategies (i.e. talking

with a roommate or professor) or internalize some of these issues. Stigma around seeking psychological help has been known to be one of the largest barriers preventing individuals for seeking counseling services (Vogel et al, 2007), and is related to several of the negative outcomes of the acculturation process, including a negative self-evaluation (Vogel, 2006). In order for international students who experience acculturative stress to get the help they need, it is important to look at how the acculturation process contributes to the experience of stigma around seeking psychological help. Berry's (1997) theoretical framework of acculturative stress emphasizes that the combination of a multiculturally supportive environment, resources, and coping strategies can help alleviate acculturative stress. The integrated health care model has been growing and expanding to a variety of health care systems. This model incorporates psychological services, such as stress management techniques, at a medical appointment. This study proposes that the integrated health care approach will serve as a resource to international students that will impact their experience of stigma around seeking psychological help by addressing acculturative stress in a different way than conventional counseling services. To evaluate the above review, this study will look at the following research questions and hypotheses.

Research Question 1. How does acculturative stress among international college students in the United States contribute to the experience of self-stigma around seeking psychological help?

Hypothesis 1. To investigate research question 1, this researcher hypothesizes that acculturative stress contributes to the experience self-stigma around seeking psychological help. In other words, a higher level of acculturative stress will predict a higher level of self – stigma around seeking psychological help.

Research Question 2. How does acculturative stress among international college students in the United States contribute to the experience of perceived stigma by others around seeking psychological help?

Hypothesis 2. To investigate research question 2, this researcher hypothesizes acculturative stress contributes to the experience of perceived stigma by others around seeking psychological. In other words, a higher level of acculturative stress will predict a higher level of perceived stigma by others around seeking psychological help.

Research Question 3. Does an introduction to the integrated health care model through a case vignette moderate the relationship between acculturative stress among international college students in the United States and self-stigma around seeking psychological help?

Hypothesis 3. An introduction to the integrated health care model within a university health care system will weaken the relationship between acculturative stress among international college students and stigma around seeking psychological help.

Research Question 4. Does an introduction to the integrated health care model through a case vignette moderate the relationship between acculturative stress among international college students in the United States and perceived stigma by others around seeking psychological help?

Hypothesis 4. An introduction to the integrated health care model within a university health care system will weaken the relationship between acculturative stress among international college students and perceived stigma by others around seeking psychological help.

Summary of Research Procedure. In order to investigate the hypotheses listed above, the following design will be used. International student organizations from colleges and universities in the Midwest U.S. will be contacted to pass along information regarding the purpose and nature of the study, as well as a link to the survey. The demographics of participants are anticipated to be similar to the national international student demographic in terms of age, gender, and ethnicity or race. Over 120 participants will be randomly assigned to one of two conditions and review the informed consent form. The first condition will include a case vignette which uses the integrated health

care model to address symptoms of acculturative stress. The second condition will include a case vignette which uses typical supports of an international student to address symptoms of acculturative stress (i.e., professor, roommate). First, the participants will be presented with a brief case vignette, varying depending on the condition they have been assigned to. As mentioned, the only different information between the experimental group and the control group is the presence of a behavioral health intervention. After reading the vignette, participants will complete the following measures: Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994, 1998), Self-Stigma of Seeking Help Scale (SSOSH; Vogel et al., 2006), Perceived Stigma by others for Seeking Help Scale (PSOSH; Vogel et al., 2009), Social Provisions Scale (SPS; Cutrona & Russell, 1987; Russell & Cutrona, 1984) and a demographic questionnaire. Data will be collected using these instruments because they are in accord with previous research from international students attending universities in the United States. With the resulting data, statistical analysis of multiple regression will be applied to analyze the predictive effect and moderator effect in the hypothesized model.

Definition of Key Terms

Acculturation. The process of adopting the cultural traits or social patterns of another group, and the overall adjustment to living in a different culture (Berry, 2003).

Acculturative Stress. The disorientation that often accompanies cross-cultural transitions (Sandhu & Asrabadi, 1994). The challenges experienced by international students often trigger feelings of uneasiness, insecurity, and loss. The accumulation of practical, cultural, and social difficulties may result in acculturative stress. There are many symptoms of acculturative stress which include loneliness, sadness, fear, homesickness, cultural identity confusion, and social withdrawal (Johnson & Sandhu, 2007). It is also related to a variety of negative outcomes for international students, such as depression, anxiety, and somatic symptoms (Wei et al., 2007).

Integrated health care. A trend in health care reforms and new organizational arrangements focusing on more coordinated and integrated forms of care, and a less fragmented delivery of health and social services in health systems. It is a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. It is a means to improve services in relation to access, quality, user satisfaction and efficiency in health care. In an integrated health care model, the patient moves from receiving treatment from two separate treatments (often in different locations, times, dates) to having one treatment plan with different providers addressing different parts of the plan (Blount, 1998). A

collaborative relationship between providers involves frequent sharing of information, joint treatment planning, and a “truly biopsychosocial approach to care” (Robinson & Reiter, 2007).

Behavioral health care. A term that encompasses behavioral factors in chronic illness care, care of physical symptoms associated with stress rather than diseases, and health behaviors, as well as mental health and substance abuse conditions and diagnoses. The emphasis in behavioral health care is on population management, and to improve population health through assisting in providing comprehensive health care (Robinson & Reiter, 2007). Using Strosahl’s (1998) model of integrating behavioral health care into the medical setting, the BHP can (1) conduct further assessment of behavioral health issues, (2) provide brief interventions for mild-moderate mental health symptoms (i.e., stress management, behavioral activation), behavioral health issues (i.e., sleep hygiene), or symptoms associated with a chronic disease, (3) assess patients reporting severe mental health symptoms and refer specialized services as needed, and (4) provide crisis assessments.

Moderator. According to Baron and Kenny (1986), in general terms, a moderator is a categorical (e.g., sex, race, class) or continuous (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or outcome variable. A moderator effect is an interaction whereby the

effect of one variable depends on the level of another. Hierarchical multiple regression is strongly recommended by statisticians over the practice of comparing correlations between groups to explore moderator effects (Frazier, Tix, & Barron. 2004). Researchers proposed three types of interactions between two continuous variables: enhancing interaction, i.e. both the predictor and moderator affect the outcome variable in the same direction and together have a stronger effect; buffering interaction, i.e. the moderator variable weakens the effect of the predictor variable on the outcome variable; and antagonistic interaction, i.e. the predictor and moderator have the same effect on the outcome variable but the interaction is in the opposite direction (Cohen, Cohen, West, & Aiken, 2003). In this study, buffering interactions among variables will be explored and examined.

Berry's (1980,1997) Framework of Acculturative Stress. Berry elaborated the idea of understanding acculturation through a bidimensional approach with fourfold adaptation. This bidimensional understanding differentiates between how the individual orientate toward one's own group and toward the other's group. Therefore, change can take place in two independent dimensions. The first dimension entails the maintenance or loss of one's own culture and the second dimension entails participation in or adoption of aspects of the new society's culture. Both dimensions are conceptualized as bidirectional as individuals can move both ways in relation to their adaption to both home and host

culture (Berry, 2002). Simultaneous maintenance and participation of the two different cultures lead to four different acculturation strategies consisting of different combinations of attitudes and behavior used in the adaptation to acculturation. Assimilation defines the strategy in which the individual does not maintain his or her cultural identity and instead seeks daily interaction with other cultures. Integration occurs when the individual seeks to both maintain his or her original culture while participating as an integral part of the new society. Separation is defined as valuing one's own culture and avoiding contact with others from the new culture. Marginalization occurs when the individual holds little interest in maintaining the original culture and in relations with the new culture. In this bidirectional understanding of acculturation, there is a mutual or reciprocal influence where both individuals and societies can change as a consequence of acculturation. The society's strategy for acculturation adds a third dimension to the theory duplicating the strategies of the individual. Multiculturalism is an acculturation strategy on the part of the society in which cultural diversity is an accepted value of the society.

International Students. Students from other countries enrolled in an American college or university. In fall 2012, a record of 819,644 students attended a U.S. college or university, an increase of about 7.2% since the year before. Undergraduate students increased by 10% and graduate international students increased by 4%. In the 2012-2013 academic year, China (29%) was the top place of origin, followed by India (12%), South

Korea (9%), and Saudi Arabia (5%). In the 2012-2013 academic year, women comprised 44% of international students. 42% of international students study within STEM fields (engineering, math/computer science, physical and life sciences, health professions, and agriculture), and 22% study within business and management. 64% of international students (81% of undergraduates) rely primarily on personal and family funds to pay for their studies (Institute of International Education, 2013).

Coping Resources. Resources are defined as those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies. Examples of resources include mastery, self-esteem, learned resourcefulness, socioeconomic status, and employment. Environmental circumstances often threaten or cause a depletion of people's resources. They may threaten people's status, position, economic stability, loved ones, basic beliefs, or self-esteem. These losses are important on two levels. First, resources have instrumental value to people, and second, they have symbolic value in that they help to define for people who they are. Stress is said to result from an imbalance between appraised demands and appraised resources. Hobfoll (1989) maintains that the focus of stress models should be directed mainly to the resources side of the equation. According to his conservation of resources model, people strive constantly to retain,

protect, and build coping resources, and they experience threat when they perceive loss or potential loss of these resources.

Stigma. A combination of perceived dangerousness and social distance that may prevent an individual from seeking psychological help. This can be separated into self-stigma and perceived stigma by others, or public stigma.

Self-Stigma. The reduction of an individual's self-esteem or self-worth caused by the individual self-labeling herself/himself as someone who is socially unacceptable. In the case of seeking psychological help, the largely negative images in western culture of mental illness and psychological services could lower an individual's internalized self-concept, self-esteem, and self-efficacy if they were to seek psychological help. Help-seeking can be seen as a potential threat to one's self-esteem because seeking help from another is often internalized by the individual as meaning they are inferior or inadequate. A person may decide not to seek help when they are experiencing personal concerns because of the belief that it would be a sign of weakness or an acknowledgment of failure. Admitting one may need help may be seen as worse than the current emotional pain, so a person may decide not to seek help in order to maintain a positive self-image (Ames, 1983; Miller, 1985; Corrigan, 2004).

Public Stigma. The perception held by a group or society that an individual is socially unacceptable and often leads to negative reactions toward them. Public stigma associated

with seeking mental health services is the perception that a person who seeks psychological treatment is undesirable or socially unacceptable. These perceptions can lead to stereotyping, prejudice, and discrimination of individuals who seek psychological help. Researchers suggest that people hide psychological concerns and avoid treatment to limit the harmful consequences associated with public stigma (Corrigan, 2004; Corrigan & Matthews, 2003; Vogel, Wade, & Haake, 2006).

Chapter Two

Literature Review

Overview. The experience of acculturation has a complex history within the field of cross-cultural psychology (Johnson, 2011; Berry, 1997; 1980). The initial portion of the literature review will explore the international student experience and Berry's (1997) framework of the acculturation process. Understanding the international student experience in the context of adjustments, academic needs, social needs, and health care needs can help to build the picture of the beginning of the acculturation process.

Stigma around seeking psychological help perceived by the self and by others will then be explored. The review of stigma around seeking psychological help, as it is experienced by international students, can help to understand the utilization, or lack thereof, of counseling services by international students.

The concept of integrated health care will then be defined and explored. The model of integrated health care was pioneered in Veteran's Administrations and Primary Care Clinics, and is more recently being used within University Health Systems. Better understanding the integrated health care model will help to know how it can address the aforementioned needs of the international student population and the experience of stigma around seeking psychological help. Looking at the integrated health care model's impact on psychological health can help demonstrate whether or not it can be put in place

as a coping strategy which will impact the immediate effects and long term outcomes of the acculturation process, according to Berry's (1997) framework.

International Students

International Student Experience. There are approximately 819,644 international students in the United States, an increase of 7% since the previous academic year (Institute of International Education, 2013). There have been several articles in the literature demonstrating that this group of students faces many challenges in their adjustment to the new host country environment; research shows that these challenges could impact their academic success and psychological well-being, as well as the university's effectiveness in retaining international students (Barratt & Huba, 1994; Charles & Stewart, 1991; Pederson, 1991). One of the most relevant findings in retention research is that student persistence in higher education is related to student background characteristics such as socioeconomic status, ethnic minority, and parents' education level (Seidman, 2005; Braxton, 2002; Evans, 2001; Astin, 1982). Consequently, the more focused services and programming are on student needs, the greater likelihood that students will attain their educational objectives (Andrade, 2009). Expanding support services to accommodate students' background characteristics has significant implications on how well the institution facilitates international student success.

In regards to some of their adjustment concerns, Lin and Yi's (1997) study revealed that international students encounter language problems, accommodation

difficulties, dietary restrictions, financial stress, social isolation, cultural misunderstandings, and racial discrimination as experiences that impact their transition. Olivas & Li (2006) found that international students sometimes experience homesickness, cultural isolation, and a lack of support from their American peers. Among arriving to a new country, international students can face challenges that vary based on the student's race or ethnicity, English-language proficiency, and whether the student comes from an individualistic or collectivistic home culture (Wilton & Constantine, 2003). Some of the adjustment challenges in studying abroad include finding living accommodations or other daily needs of living, learning the academic culture and language barriers, developing a social support system and making friends (Poylrazi & Grahame, 2007). Although adjustment issues can often be categorized into academic, social, and personal, these groupings may simplify complex matters and may not address how they naturally overlap and interact with one another. For instance, English language skills have a significant impact on a student's academic performance. Language skills can also impact the student's ability to socialize in a meaningful way, which in turn impacts a student's personal life. Compared to their domestic student counterparts, international students may experience a different set of needs while adjusting to their new environment and may benefit from additional support in these areas. Their academic needs, social needs, and personal health needs are all areas of

concern and this research study will further explain as to how these needs can be addressed in an integrated health care setting.

Academic Needs. In regards to adjusting to the new academic environment, international students face challenges such as language barriers, establishing relationships with professors, and getting used to teaching styles, curriculums, and expectations in the classroom (i.e., class discussion, challenging the professor). Many international students are attempting to study in a second language and are adjusting to an entirely new educational system (Schutz & Richards, 2003). Comparatively, a student educated in the United States has some sense of how students and teachers interact in the U.S. classroom – an insight that international students typically do not have. Because of the differences among cultures in the perception of authority figures, some international students may attempt to facilitate a more formal relationship with faculty members than do domestic students. Anaya and Cole (2001) found that interaction with faculty members is related to greater academic achievement among international and minority students. Also, some international students may not be accustomed to the competitive environment of many American colleges and universities.

As mentioned previously, English language proficiency is also a factor that predicts international students' academic achievement. Language skills impact every aspect of a student's academic life, for example, the ability to write, participate in class,

study in groups, and/or read assignments. Reading assignments can often keep the international student up late at night and away from social activities that are common to the university life (Andrade, 2009). Students and faculty alike identify that language barriers are the most common academic stressor and factor influencing the students' functioning in the classroom (Trice, 2003; Lin & Yi, 1997). In Stoyhoff's (1997) study, it was found that English language proficiency was associated with increased academic performance among freshman international students.

College student experiences, such as test-taking, classroom instruction, class discussion, and study techniques, can also be areas of concern for international students (White, Brown, & Suddick, 1983). Although not all, some international students may take an excessive amount of credit hours per academic term; this may be a cause for concern, especially for those from non-English-speaking countries. Because of the unsteady financial situation that some international students could face, they may try to take advantage of the full-time flat fee tuition costs. Another motive to take extra courses per academic term may be due to a limited time frame imposed by their home government or financial sponsor in which they must complete their course of study. Although it is true that the academic performance of international students may be adversely affected if they are scheduled for an excessive number of credit hours in a

given quarter, it is important to remember that academic success remains the major concern of this student population (Pruitt, 1978).

Social Needs. Hovey (2000) found that loss and lack of social support has been related to lower academic achievement and negative psychological experiences, such as tension, confusion, and depression. In their transition to the U.S., international students must adjust to a decrease in communication with their support system from their home country and are faced with the social life of a new culture. Ying (2002) found that a student's home culture, perceived discrimination, English communication skills, and openness to forming friendships with American students are all variables that influence the student's attitude toward social life in the new culture. When international students start to build relationships with students from the host culture and engage in extracurricular activities they tend to experience less acculturative stress (Yeh & Ison, 2003). Perhaps one concerning area is how international students use their social supports in times of need. Olivas and Li (2006) found that international students typically refrain from turning to their friends or family for support in order to avoid worrying their family members back home. Because of practical barriers (e.g., travel funds, visa extensions, time zone differences), international students may have more limited access to their home country support system. Increasing social support in the host country, reducing cultural

isolation, and normalizing challenges of the study abroad experience may all be beneficial to international students.

Health Care Needs. Yen and Berliner (2009) conducted a qualitative study which looked particularly at Chinese international students, and found three categories of stressors; language, achievement, and interaction with faculty. However, the researchers reported that topics concerning health did come up during the interviews. For example, one student reported he never smoked in China, but now smokes heavily to assist with coping and academic stress. Another student reported problems with sleep secondary to stress. As mentioned earlier, these are both areas of concern that can be addressed as part of the role of a behavioral health provider.

Another study in 2009 looked further at this topic by emphasizing the prevalence of health problems of international students from Africa, Asia, Europe, and South America during the first six to twelve months of living in the United States (McLachlan & Justice). The researchers discussed one particular subject reporting "...eating one meal a day and sleeping four hours per night on a good day" (p.29). The lack of these daily wellness practices can have a significant impact on one's physical and psychological health.

In an earlier study, Poyrazil and Grahame (2007) used focus groups to research the adjustment needs of international students. Similar to the previously mentioned study,

they found that international students are more in need of help during their initial adjustment to life in the host country and that there are many barriers to successful adjustment. However, it was also found that problems with the healthcare system were reported by the participants, but seemed to be more of a concern later instead of during the initial transition. In 2011, a study was done examining the health status and physical health of international students at universities in the United States in hopes to gain “a better understanding of the ways in which life in the US had impacted international students’ health behaviors, wellness levels, and overall health” (Msengi, Msengi, Harris & Hopson, p.62). It was found that the overall health of the international student declines after coming to the U.S., and the longer amount of time the student is in the US is related to a greater decline in overall health. It is also notable that the researchers found a change in diet, quality of sleep, and lack of time for leisure activity to contribute to the decline of the student’s overall health. These studies highlight the importance of controlling for the student’s length of stay in the United States, as it may influence their behaviors.

Most recently, Ellis-Bosold & Thornton-Orr (2013) conducted a study looking at feelings about own health, utilization of services, and barriers to a healthy lifestyle among international students. The researchers asked international students who they felt was responsible for their health care needs while they were living in the United States and found that 34% stated the university, 31% stated themselves, 14% reported an

individual in the international student office on campus, 3% stated their family, and 18% were unsure. These statistics emphasize the importance of university outreach programs to increase access and utilization of health care services on campus. Pleasantly, the researchers also found that 71% of international student participants wanted more information on the types of services offered by the university's health center, 65% community services, 37% counseling services, 28% safe sex, 18% smoking cessation, and 3% help with partner abuse. Almost double the amount of international student participants were interested in services offered at the university's health center as compared to the services offered at the counseling center. When asked about health behaviors, the researchers found that 18% of participants stated they currently drink alcohol with friends, 15% currently use tobacco products, and 9% have unprotected sex. This implies that providing services including brief counseling and health behavior change at the university health center may increase access and utilization of these necessary services.

A research study also demonstrated that international students attending a University in Australia, a sample size of 6,828 students, under-utilized health and counseling services (Thomson, Rosenthal, & Russell, 2007). When the researchers looked at barriers to the utilization of health services, some reasons included the student did not know the problem was important and lack of information about health services

(existence, location, appointment procedures, and fee structure), suggesting that different forms of outreach to students is needed. Thomson et al. (2007) stated, "About 30% of students gave reasons that could relate to cultural differences and challenges: the feeling of discomfort, the concern about being understood, and doubt that the service would be able to help them" (p. 68). Another barrier to health care by international students, particularly from Africa and Asia, is a lack of understanding of cultural practices (Lartey, Mishra, Odonwodo, Chitalu, & Chafatelli, 2009). These studies help to understand the barriers to services and the further need for researchers and clinicians to address these barriers.

Berry's (1997) Acculturation Framework

Berry's framework emphasizes several important factors of the acculturation process, such as group variables, individual variables, and moderating factors. Berry's framework includes international student issues in academic needs, social needs, and health care needs. It addresses a process that results in long-term outcomes of the international student's acculturation experience, and suggests places of intervention to attend to these certain needs. Berry's (1997) framework highlights these needs in the group acculturation component of his model. The concept of acculturation has become widely used in the field of cross-cultural psychology, and can help to better understand the experience of international students. Redfield, Linton, & Herskovits (1936, p. 149)

provided the seminal definition of acculturation as “acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups”.

To better understand the concept of acculturation and how it impacts international students, we will use Berry’s (1997) conceptual framework of acculturation in which he suggests that there are two issues that are happening simultaneously: *cultural maintenance* and *contact and participation*. Cultural maintenance is defined as how important cultural identity and characteristics are considered and to what extent is their maintenance strived for. Contact and participation is the extent to which they become involved in other cultural groups versus remaining primarily among themselves. Berry (1997) proposes 4 acculturation strategies to address these issues: *assimilation*, *separation*, *integration*, and *marginalization*. When individuals seek daily interactions with other cultures and do not wish to maintain their own cultural identity they are assimilating. Whereas when individuals value holding onto their own culture and avoid interactions with other cultures they fall into the separation strategy. Integration is defined as when the individual values maintaining their own cultural identity as well as interacting with other cultures. Finally, marginalization is when the individual

demonstrates little interest in cultural maintenance and little interest in contact with other cultures.

Naturally, a mutual accommodation is necessary for integration in which there is an acceptance of all groups to live as culturally different peoples. This strategy may only be pursued in societies that are multicultural, and there are psychological pre-conditions in place that promote and support the integration of other cultures (Berry & Kalin, 1995). According to Kalin and Berry (1998), these pre-conditions include a value to a society of cultural diversity, low levels of prejudice, positive mutual attitudes among cultural groups, and a sense of attachment to the larger society by all groups. Typically, all of these conditions are often encouraged and respected in a University environment, possibly giving international students a unique integration experience.

When a serious conflict exists between the two cultures contacting, the individual may experience acculturative stress. Acculturative stress is closely linked to models of psychological stress (e.g., Lazarus & Folkman, 1984), and is viewed as a response to environmental stressors; therefore, there is some theoretical foundation. In this case, the environmental stressors leading to the response reside in the experience of acculturation. A further explanation of acculturative stress will be explained below. The following figure helps to better understand Berry's acculturation framework and what variables are involved in the adaptation to a new society.

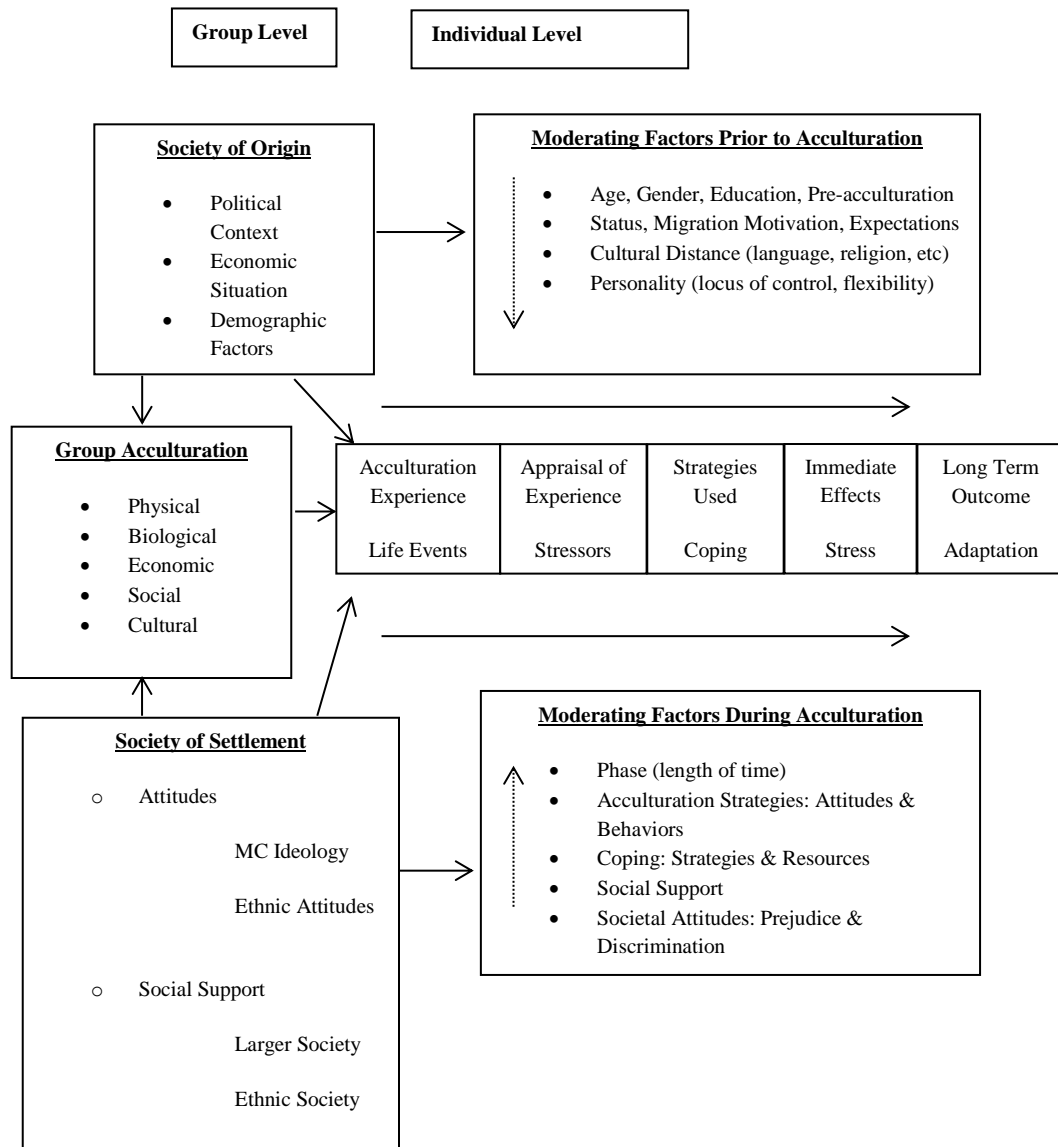


Figure 1. Berry's Acculturation Framework

Figure 1. Berry's Acculturation Framework. Adapted from Berry, J.W. (1980). Acculturation as varieties of adaption. In A.M. Padilla (Ed.), Acculturation: Theory, models, and some new findings (pp. 9-25). Boulder, CO: Westview.

This framework involves both structural and process features: the flow from group acculturation through individual acculturation to adaptation is a process that takes place over time and the factors listed above and below the process provide the structure in which acculturation takes place. The literature suggests that this central flow can be highly variable and the nature of an individual's psychological acculturation and adaptation depends on the unique features of the group-level factors and of the moderating or mediating factors prior to or during the acculturation process (Berry & Sam, 1996; Ward, 1996). The model includes both mediating and moderating factors (some variables may qualify as both) that influence the structure of the relationships. Coping resources, the variable that will be highlighted in this study, serves as both a mediator and moderator in this framework: a mediator when coping resources link stressors to the stress reaction and a moderator when coping resources affect the degree of the relationship between stressors and stress (Frese, 1986). For the purpose of this study, the researchers focused on the moderator and the latter function of coping resources, and identified how integrated health care serves as a coping resource to weaken the degree of the relationship between stressors and stress.

Berry's model emphasizes the consideration of society of origin and society of settlement in the acculturation process. The political, economic, and demographic conditions of one's society of origin will influence the cultural characteristics that an

individual is bringing with them to the acculturation process and will help to understand the cultural distance being experience and the degree of voluntariness or motivation. For the purpose of this study, it is important to consider the society of origin's beliefs around seeking psychological help, and how this may influence stigma. The history and attitudes of the society of settlement will also influence an individual's acculturation process. As discussed previously in this section, there are several pre-conditions that exist that represent a positive multicultural ideology and correspond to the integration strategy (Berry & Kalin, 1995). However, there may also be societies of settlement in which the individual experiences hostility, rejection, and discrimination, all resulting in poor adaptation. In regards to the current study, the populations being examined have migrated to a society of settlement, the university system, which reflects the former description, in which multiculturalism is promoted. As mentioned in the introduction of the literature review, there are many benefits for Universities to host international students (please see page 8), and some Universities may even have a department whose purpose is to promote multicultural excellence and enhance a supportive environment for international students.

In regards to group-level acculturation, migrant groups usually experience several changes as they become influenced by two cultures. Increased population density, changes in dietary intake, exposure to new diseases, language shifts, religious conversions, and forming new friendships are all examples of physical, biological,

economic, social, and cultural changes that can take place at the group-level. As discussed earlier in this paper (please see pages 21-27), there is a more detailed explanation of the unique changes that are experienced by the international student group. The integrated health care model may help to address some of these changes, particularly physical, biological, and social changes experienced by the international student population.

The central line in the figure above represents the 5 main psychological phenomena during the acculturation process: acculturation experience (life events), appraisal of experience (stressors), strategies used (coping), immediate effects (stress), and long term outcomes (adaptation). This study focuses on strategies used, particularly integrated health care, as a resource to change the immediate effects of stress and stigma, and hopefully long term outcomes. This psychological acculturation is highly variable due to the moderating factors shown in figure 2. These 5 main phenomena of psychological acculturation may be identified by several other names in the literature; however, there is agreement in the literature that the process of dealing with life events starts with a causal agent that places a demand on the organism (e.g., Aldwin, 1994; Lazarus 1990, 1993). In regards to the acculturation literature, the demands are from the experience of having to deal with two different cultures in contact and having to participate to some extent in each of the cultures (Berry, 1997). Moving to the second

psychological phenomena, the individual then considers the meaning of the life event and evaluates or appraises the event (i.e., stressors, opportunities, benign). When acculturation experiences are evaluated to be no problem by the individual, changes will be experienced easily and adjustment will be smooth. When some conflict is experienced and the individual has judged the conflict to be problematic, but controllable, then the acculturative stress paradigm is experienced. When the acculturation experience overwhelms the individual and it feels uncontrollable, then the psychopathology paradigm is experienced and there may be little success in dealing with acculturation.

The third psychological phenomena in the model represents strategies that individuals engage in to attempt to deal with the experiences that are appraised as problematic. Lazarus and Folkman (1984) identified two ways of coping – problem-focused (attempting to change or solve the problem) and emotion-focused (attempting to regulate emotions associated with the problem). Lazarus (1991) suggests that culture may influence which of these ways of coping is preferred. Diaz-Guerrero (1979) introduced active (alter the situation) and passive (self-modification) coping. Ultimately, these coping strategies will be most effective based on the extent to which the society of settlement is multicultural. It is important to note that both of these coping strategies are represented in behavioral health interventions in an integrated health care setting, as we will discuss later on in this review.

The fourth psychological phenomenon is the immediate effect, including physiological and emotional reactions, to the conditions of living. When stressors do arise and have been successfully coped with, the stress will be low and the immediate effects will be positive. Obviously, when stressors have not been successfully coped with, the stress will be and immediate effects will be negative (Berry, 1997). This study aims to implement a strategy that will lower stress and foster positive immediate effects in response to acculturative stress experienced by international students.

The final of the five psychological phenomena represented in this model is long-term adaptation that may be achieved. Adaptation is defined as the relatively stable changes that take place in an individual or group in response to environmental demands (Berry, 1997). In this model, the adaptation can be positive or negative; the individual may manage their new life very well, or he/she may not be able to carry on his/her life in the new society. Ward (1996) proposes that personality variables, social support, and life change events are predictors of good psychological adaptation, and cultural knowledge, degree of contact, and intergroup attitudes are all predictors of positive sociocultural adaptation. Education is also a factor that often leads to positive adaptation. Research has found that higher education is a predictor of lower stress (Jayasuriya et al., 1992). Education can be a personal resource in itself, as it promotes problem analysis and

problem solving, and it correlates with other resources, such as income, support networks, and occupational status.

In summary, acculturation is a very complex area of research in cross-cultural psychology. Berry's model provides a structure that identifies the main feature of the acculturation phenomena. There are many negative outcomes related to increased acculturative stress, including mental health and medical concerns. This research study hypothesized that self-stigma and perceived stigma from others for seeking mental health services are also negative outcomes related to acculturative stress. Using Berry's (1997) theoretical framework of acculturation, this study sought to use integrated health care as a moderating coping strategy for the acculturation process; therefore, supporting the acculturation strategy of integration (discussed above) and a positive adaptation to the society of settlement. Because social support is also identified as a predictor of positive adaptation in Berry's model, this construct was also controlled for in this research study.

Stigmatization and Seeking Mental Health Services

Stigma around seeking mental health services, as mentioned before, can be a part of the acculturation process, such as the immediate effect of acculturative stress, or a factor of group acculturation. Stigma experienced by international students may also be related to the society of settlement, as shown in Berry's (1997) model, in which the social support and attitudes of the larger society and the ethnic society can impact the

acculturation process. There is a growing body of research finding that international students do not seek psychological help (Yakushko et al., 2008; Tung, 2011), although there is a prevalence of mental health problems on college campuses, and the particular experience of acculturative stress among international students. For international students who experience acculturative stress, seeking psychological help in a new country may be filled with anxiety, fear, misunderstanding, or discomfort (Tung, 2011). Many international students tend to underutilize formal mental health services due to cultural stigma associated with emotional expression. These international students may seek help for the physical manifestations of emotional problems to avoid being stigmatized. Another reason for less help seeking behaviors among international students is they may lack awareness about availability of service and their needs for mental health services (Tung, 2011).

Boyer and Sedlacek (1989) concluded that 8% of international students in their sample used counseling center services for psychological testing or psychological or career counseling. Yi et al. (2003) found that the presenting concerns that most frequently brought international students to pursue counseling services were academic difficulties, anxiety, and depression. Nelson et al. (2004) looked at the use rates and presenting concerns of 41 international students during a single academic year at a US University. The researchers found that only 2% of the international students at the University pursued

counseling services. Racial and ethnic minority college students were found to underuse mental health services even more so than their nonminority counterparts, and often report more psychological distress. In a study done by Kearny, Draper, and Baron (2005) it was found that European American students attended more counseling sessions than all racial and ethnic minority groups on campus. Results from their study also demonstrated that among international students, Asian reported the greatest distress level, followed by Latino/Latina students, then African students, and finally European students. Corrigan (2004) found that fear of stigmatization was the most mentioned reason not to seek psychological help.

Public Stigma vs. Self-Stigma. According to the U.S. Surgeon General's report, the biggest obstacle to the progress and advancement of mental health is stigma associated with mental illness (U.S. Department of Health and Human Services, 1999). Stigma seems to prevent initiation of mental health treatment and hinders following up with continued care (Link, Struening, Neese-Todd, Asmussen, & Phelan, 2001). Vogel, Wade, and Hackler (2007) explain that public stigma associated with seeking psychological help refers to the belief that a person who seeks psychological help is seen as flawed and socially undesirable by the general public. Vogel et al. (2009) further distinguishes between perceived stigma from immediate others (i.e., family, friends) and perceived stigma from the general public, as stigmatization from people with whom the

individual frequently interacts with may have greater impact than the general public.

Self-stigma refers to the individual's own negative perceptions about he or she seeking psychological help. Vogel et al. (2009) found that higher self-stigma was associated with less willingness to seek psychological help. This study hypothesized that the greater experience of acculturative stress is related to greater self-stigma and perceived stigma by others around seeking psychological help.

Racial and Ethnic Differences in Stigma. It is important to note that cultural variables (i.e., acculturation, cultural norms, ethnic and cultural identity) influence the disparity in psychological help-seeking behaviors (Leong, Wagner, & Tata, 1995). When looking at variables of acculturation to Western values and enculturation to traditional cultural beliefs, research has not been consistent. While some studies found that greater identification with ethnic/cultural (home) values was related to more negative attitudes toward seeking psychological help in Africans (Obasi & Leong, 2009), Asians (Miller, Yang, Hui, Choi, & Lim 2011), and Latinos (Sanchez & Atkinson, 1983), other researchers found that this maintenance of cultural values had no association with attitude toward seeking psychological help in Africans (Wallace & Constantine, 2005) and Asians (Kim & Omizo, 2010), and a more positive association with attitude toward seeking psychological help among Latinos (Ramos-Sanchez & Atkinson, 2009). Among college students, it was found that Asian American and Pacific Islander students endorsed higher

levels of stigma around mental illness and seeking professional psychological treatment than other racial and ethnic minority students.

Dadfar and Friedlander (1982) did a seminal study finding that Western Cultures (European and Latino) had a more positive attitude toward seeking professional psychological help than students from non-Western cultures, and students who had prior contact with psychological services on campus had a more positive attitude towards seeking professional psychological help than those who did not. This is particularly noteworthy to this study, as the initial contact with a Behavioral Health Provider at a student's medical appointment may relate to a more positive attitude towards seeking out other psychological services. Tedeschi and Willis' (1993) study highlighted that Caucasian American females had more of a positive attitude toward seeking psychological help than Caucasian American males and male and female Asian students. The researchers also found that Asian international students preferred to seek help from an older counselor of similar ethnicity. Research has also shown that Vietnamese international students, in particular, expressed less positive attitude toward seeking psychological help, had less recognition of their need for professional help, and less confidence in the ability of mental health professionals to help them (Atkinson, Ponterotto, & Sanchez, 1984).

Martin, Lang, Olafsdottir (2008) propose the Framework Integrating Normative Influences on Stigma (FINIS) which breaks it down into microlevel factors (e.g., age, race) and mesolevel factors (e.g., social network characteristics) as they correlate to stigma, and looks at racism and discrimination as macrolevel factors that may influence the development of stigma associated with mental illness and attitude toward seeking psychological help. As all three levels of factors incorporate areas of acculturation and the previous research findings on the relationship between acculturation and stigma is inconsistent, this study aims to evaluate how acculturative stress contributes to changes in stigma around seeking psychological help.

Cultural Correlates of Stigma associated with Seeking Psychological Help.

Perceived discrimination, a component of acculturative stress, experienced by international students may also influence stigma associated with psychological help seeking behaviors. According to the FINIS model, the harmful effects of stigma associated with mental illness and psychological help seeking behaviors may be exacerbated by membership in other socially stigmatizing categories (e.g. racial/ethnic minorities, sexual orientation minorities). Because some traditional cultures view seeking mental health treatment as bringing shame to their ethnic groups, international students may associate seeking psychological help with a negative evaluation of themselves. For example, Chinese and Japanese cultures view the family as more important than the

individual, and seeking help for psychological problems may cause shame for the family (Sue & Sue, 1999). Personal problems are often resolved privately with the family instead of involving outsiders (Braune & Brown, 1998). Research also suggests that individuals from Filipino and Southeast Asian cultures often somaticize psychological problems and tend not to use mental health services because of conflicting values and beliefs with those from the Western cultures (Sue & Sue, 1999).

Because the traditional values and beliefs are significantly different between Asian countries and Western countries, Asian individuals may not have a favorable attitude toward Western professional psychological help. Dadfar and Friedlander (1982) found varying results on the relationship between length of time international students are in the United States and stigma associated with seeking psychological help. Atkinson and Gim (1989) found that more acculturated Asian American college students were more likely to recognize personal need for counseling, tolerate the stigma associated with counseling, and to be open with a counselor about their problems. However, Gim, Atkinson, and Whiteley's (1990) study found that low-medium acculturated students expressed greater willingness to seek psychological help than students that were highly acculturated. Atkinson and Lowe (1995) found that there was no relationship between acculturation and a student's willingness to seek mental health services. The contradictory results in the research indicate that further research is needed to clarify the

relationship between experience of acculturation and attitude toward seeking psychological help. This study aims to understand how much acculturative stress contributes to change in stigma around seeking psychological help by look at the following research questions and hypotheses.

Relationship Between Acculturative Stress and Stigma. There are several negative outcomes related to acculturative stress which may be associated with stigma around seeking psychological help. Considering perceived stigma by others in the acculturation process, one would believe that the higher level of acculturative stress experienced would result in a higher avoidance of being in a situation considered socially undesirable due to the need to feel belonging and connectedness within the new community. Likewise, considering self-stigma and the acculturation process, one may believe that if an individual were to already have a negative self-evaluation (a potential negative outcome of the acculturation process), one would also avoid additional negative perceptions about the self. Both of these considerations involve higher levels of stigma around seeking psychological help. Vogel et al. (2009) also confirms that higher self-stigma was associated with less willingness to seek psychological help. This study takes into account both self-stigma and perceived stigma from others as negative outcomes of acculturative stress.

Research Question and Hypothesis 1. How does acculturative stress among international college students in the United States contribute to the experience of self-stigma around seeking psychological help? To investigate research question 1, this researcher hypothesizes that acculturative stress contributes to the experience of self-stigma around seeking psychological help. In other words, a higher level of acculturative stress can predict a higher level of self – stigma.

Research Question and Hypothesis 2. How does acculturative stress among international college students in the United States contribute to the experience of perceived stigma by others around seeking psychological help? To investigate research question 2, this researcher hypothesizes acculturative stress contributes to the experience of perceived stigma by others around seeking psychological. In other words, a higher level of acculturative stress can predict a higher level of perceived stigma by others.

The Integrated Health Care Model

The integrated health care model also addresses international students' academic, social, and health care needs and stigma around seeking psychological help. Below are reviews on its history, development, rationale, and models.

History. In the 1960's, Kaiser Permanente was one of the first organizations to integrate psychology into primary care medicine. Their decision to integrate was partly influenced by research that revealed the use of behavioral interventions for the treatment

of “somatizers,” patients who were frequent utilizers of their healthcare systems, but who were found to have no diagnosable medical disease reduced medical utilization by 62% over 5 years (Cummings & VandenBos, 1981). By 1997, Kaiser Permanente became one of the most prominent examples of the integration of medical and mental health services, with health care delivery units containing physicians, nurse practitioners, behavioral health consultants, and clinical health educators to increase quality of care and improve the efficiency of practice (Tulkin & Guzman, 1999). The motivation behind the integration include a) the epidemiology of the problem or overall high prevalence of individuals with mental health issues presenting to primary care; b) desire for quality improvement in patient outcomes; c) development of new and efficacious treatment models; d) the desire not to restrict access to services and create silos of independent practice (Strosahl, 1996). As this model emerged, the core roles of the behavioral health clinicians became: a) to enhance short-term outcomes from interventions with medical patients who had comorbid mental health concerns; b) enhance longer term outcomes for patients with more chronic or pervasive issues; and c) to attempt to control utilization of patients who have ongoing medical and mental health issues and are more resistant to intervention by implementing targeted behavioral treatment (Strosahl, 1996).

Development. Integrating behavioral health into integrated health care represents a new wave within medicine, a wave that is rapidly expanding ideas and knowledge

around health and illness. There is a growing recognition in the literature, as well as among medical providers, of the need to integrate evidence-based behavioral health care into primary care settings (Blount, 2003; Robinson & Reiter 2007; Strosahl, 1998). The need for integrating behavioral health in medical settings is demonstrated by Strosahl's (1998) finding that approximately half of all individuals with a mental health disorder do not seek treatment with a mental health provider, but rather visit their primary care provider (PCP) for issues related to their mental health condition.

Evidence has been growing that the separation of “emotional” and “physical” problems into separate “mental health” and “medical” treatments is a poor representation of how problems are generated and best resolved (Blount, 1998). Integrated health care unifies medical and mental health care to avoid the dichotomy of “physical” or “mental” when looking at the presenting concern of the patient. Research findings promote a new way of thinking about health and illness and produce a more comprehensive perspective within medicine, a perspective that recognizes the unity of body and mind (Kabat-Zinn, 1990). This perspective emphasizes the interactions of mind, body, and behavior in efforts to understand, prevent, and treat illness. Therefore, medicine is expanding its own working model of health and illness by acknowledging how life-style, patterns of thinking and feeling, relationships, and environmental factors all interact to influence health. Drs. Janice Kielcot-Glaser and Ron Glaser of Ohio State University College of

Medicine demonstrated that the natural killer (NK) cell activity of medical students went down and then back up as a function of how much pressure the students were under. During exams, NK activity and other immune functions were diminished compared to levels during periods of time when they did not have exams. The researchers also found that loneliness, separation, and divorce are sometimes associated with reduced immune functions and that the practice of relaxation techniques can have enhancing effects (Kielcot-Glaser et al., 1996).

Blount (1998) explains that integrated primary care is the structural reflection of the biopsychosocial model (Engle, 1977), a model that is highly advocated in family medicine. The goal of the primary care behavioral health model is not to replace or eliminate the specialty mental health system, but rather to improve treatment of behavioral problems in primary care (Robinson & Reiter, 2007). The benefits of integrated health care include lower cost of services, increased patient and provider satisfaction with health care delivery, and a different way of understanding the mind and body (Blount, 1998). This model opens the door to mental health services for a greater population, that can quite possibly include international students.

Rationale. One argument for moving in the direction of integrated health care is the prevalence of physical symptoms that are a result of psychological distress. “Up to 70% of primary care medical appointments are for problems stemming from psychosocial

issues” (Gatchel & Oordt, 2003). Jenkins (1996) found that patients are socialized into believing that their presenting problem is biologically based, and believe by looking harder one will eventually find a cure. This idea is possibly based on the combination of people presenting distress in their lives in the form of physical symptoms and physicians’ tendency to search for a biological reason and shy away from potential psychosocial variables that may be contributing the presenting concern (Blount, 1998). Often, the inability to find an organic cause to a presenting problem leads to frustration and high utilization of medical services by the patient; this tends to be expressed in somatization and in anxiety (Lin et al., 1991). The experience of this pattern likely will lead to a referral to a mental health professional by the biomedical provider. Unfortunately, Glen (1987) found that between 50% and 90% of referrals to a mental health specialist do not result in therapy. Having a mental health professional in the medical setting can help to meet the patient “where they are,” and to fit their experience of their presenting problem. The patient is more likely to engage in mental health treatment that is housed in the same office as their medical provider (Blount, 1998). In Katon’s (1995) study it was found that patients who had been diagnosed with depression by their PCP and who were asked to participate in a collaborative structured treatment approach to depression, 91% signed up. Whereas, only about 50% of primary care patients show up for the first appointment when referred to an outside mental health specialist (Katon, 1995).

Another reason that integrated health care is an effective approach is that for presenting concerns that are clearly psychological or psychiatric in nature, the primary care medical setting is the central avenue for treatment (Blount, 1998). There have been several studies confirming that between 50% and 70% of patients with mental health problems in the U.S. are only treated by their PCP (Kessler, Burns, & Shapiro, 1987; Regier, Goldberg, & Taube, 1978; Reiger et al., 1993). It is also notable that depressive symptoms, among other mental health conditions, impact patients' functioning more so than any chronic physical illness (Katon & Schulberg, 1992; Wells & Burnam, 1991). Although many patients may not meet the DSM-V (American Psychiatric Association, 2013) criteria for a specific mental disorder diagnosis as looked at by a primary care provider, they may experience symptoms of anxiety, depression, or somatization-type problems that result in disabled functioning (Katon, Holliefield, et al., 1995; Zinbarg, 1994). Therefore, any improvement in the way mental health problems are treated in a medical setting could have a significant impact on the functioning of a large portion of the population (Blount, 1998).

There are several physical complaints that also have a stress component; examples of these are irritable bowel syndrome, headaches, insomnia, and chronic nonspecific pain. The physical complaints that are related to an emotional or behavioral component can result in PCPs spending time teaching patients about behavior changes

that are important to his or her health condition. Unhealthy lifestyles and behaviors are responsible for most of the top 10 causes of death and morbidity in the U.S. (United States Department of Health & Human Services, 2000). Examples of these behaviors include smoking, poor diet, lack of exercise, high-risk sexual behaviors, and problematic substance or alcohol use (Robinson & Reiter, 2007), all common experiences of a college student. In addition to lifestyles or behaviors that contribute to medical issues, there are also behavioral strategies that may help a patient cope with a chronic disease or medical conditions that disrupt lifestyle and relationships (Robinson & Reiter, 2007). Therefore, it is important that patients be supported and counseled on how to cope with a chronic medical condition, and motivated to make lifestyle changes to help manage any medical condition. Because of the ill health effects of stress, an experience shared by many international students, it is important for students to learn ways to cope with stress and prevent secondary symptoms or medical conditions.

The Model. A variety of models exist for the integration of medical and behavioral health services that differ in their level of integration (Strosahl, 2001; Strosahl, 1998). All models of integrated health care promote a holistic and comprehensive approach to treatment, focusing on “health care for the whole person” (Kaslow et al., 2007). The medical provider and the mental health provider have a close working relationship, in which the patient’s presenting problems are treated by a treatment team

comprised of several different specialists to coordinate care (Blount, 1998). When introducing an integrated health care model, the patient moves from receiving treatment from two separate treatments (often in different locations, times, dates) to having one treatment plan with different providers addressing different parts of the plan (Blount, 1998). A collaborative relationship between providers involves frequent sharing of information, joint treatment planning, and a “truly biopsychosocial approach to care” (Robinson & Reiter, 2007). Although the PCP ultimately maintains responsibility for patient care, the behavioral health providers (BHP) are utilized in several ways. The use of a certain behavioral health model varies depending on budget, available staff, preference of staff, and logistical considerations.

Strosahl’s (1998) primary care behavioral health model (PCBH) is widely used in community health centers, primary care clinics, VA’s, and private healthcare organizations (Robinson & Reiter, 2007). In this model the Behavioral Health Provider (BHP) provides services side by side with the PCP; often, BHP’s will see patients in the medical exam room. The BHP may see between 10 and 15 patients a day, and follow-up is usually 0-4 visits. The goal is to develop a comprehensive biopsychosocial treatment plan that the PCP then follows. Through this process, PCP’s also collaborate with BHP’s to learn more about behavior change strategies (Robinson & Reiter, 2007). In other terms, the BHP serves as part of the medical team whose role is to help PCP’s and other

members of the team manage the patient's psychosocial needs. Part of the success of the BHP is easy accessibility to behavioral health care, and the BHP meets patients with acute, chronic, and preventative needs (Strosahl, 1998). Typically, patients are seen by the BHP after they are seen by the PCP, so BHP schedules are often flexible throughout the day. BHP visits with patients tend to be brief, roughly between 15-30 minutes, requiring a very different approach to treatment than traditional outpatient therapy. Because of the short duration and setting, BHP's focus on functional assessment and functional restoration (Robinson & Reiter, 2007).

Behavioral and cognitive-behavioral treatment modalities lend themselves well to medical settings because their ability to affect long-term behavior change for health promotion and reduction of chronic illnesses, their ability to be tailored not only to an individual patient but also partners, families, groups, and communities. These treatment approaches also are fairly simple to implement and encourage self-sufficiency and self-reliance within a short period of time. Opportunity exists for the BHP to also aid with problems that are not usually seen in traditional therapy, such as chronic pain, headaches, obesity, smoking cessation, and weight management. Strategies such as psychoeducation, motivational interviewing, and solution-focused techniques are often used in the behavioral health role (Robinson & Reiter, 2007).

The emphasis in behavioral health care is on population management, and to improve population health through assisting in providing comprehensive health care (Robinson & Reiter, 2007). Using Strosahl's (1998) model of integrating behavioral health care into the medical setting, the BHP can (1) conduct further assessment of behavioral health issues, (2) provide brief interventions for mild-moderate mental health symptoms (i.e., stress management, behavioral activation), behavioral health issues (i.e., sleep hygiene), or symptoms associated with a chronic disease, (3) assess patients reporting severe mental health symptoms and refer specialized services as needed, and (4) provide crisis assessments. BHP's often keep an open schedule to meet with patients during medical appointments and maintain accessibility for PCP consultations throughout the day. Assessments and progress notes are shared with the treatment team through verbal or written communication.

Integrating Behavioral Health in a University Health Center. More recently, there has been evidence in the literature suggesting the need for integrating behavioral health care in a university health center setting (Alschuler, Hoodin, & Byrd, 2008). University health centers share many characteristics and features with primary care settings. They tend to be students first place to go when seeking non-emergency medical care, and are similar to standard primary care settings particularly in regards to services offered and their general approach to health care (Funderburk et al., 2012). However,

university health centers are unique in that they generally serve a certain age range (18-24years old), there is a limited period of time in which they are available (i.e., academic quarters), and there is a somewhat predictable pattern of stress/illness due to an increase of students' workload at the end of an academic semester or quarter (Funderburk et al., 2012). Though college students are a relatively healthy population, many studies have proven they are also a population prone to increased amounts of psychological stress (Carson & Runco, 1999; DeBerard, Masters, Spielmans, & Julka, 2005). There are multiple sources of stress including competing time pressures, uncertain futures, adjustment to life away from home, social pressure, and relationship issues. Students who learn healthy coping skills and who better manage their stress during college may be more likely to avoid medical conditions associated with chronic stress.

Similar to integrated primary care settings, integrating behavioral health care into a university health center can also reduce barriers and increase access to treatment for students. Eisenberg, Golberstein & Gollust (2007) found that a higher proportion of college students use university health clinics compared to campus mental health clinics, 79% versus 10% respectively. Also, because many mental health issues are related to physical symptoms and many students feel more comfortable seeing PCP's compared to therapists, students seek treatment at health clinics first (ACHA, 2010b). Studies that have looked at integrating behavioral health care into the university health care setting

have found increased access to mental health care, increased referral follow-through, and higher quality patient care (Masters, Stillman, Browning & Davis, 2005; Tucker, Sloan, Vance & Brownson, 2008; Westheimer & Steinley-Bumgarner, 2008). College campuses may be an ideal environment to provide integrated health care. Students who are learning many independent life skills for the first time can be exposed to the consideration of both body and mind in their healthcare. Because of the population-based approach and international students' tendency to seek help for the physical manifestations of mental health concerns, integrated health care may be an effective resources to help international students manage their stress. As previous literature has mentioned, international students are more likely to have a positive attitude toward seeking psychological help if they have had previous contact with a member of counseling services; therefore, the contact with the behavioral health provider at the health center may lead to less stigma around seeking psychological help.

Summary

In sum, international students experience many unique challenges compared to their domestic student counterparts. These challenges often result in increased levels of acculturative stress, which may vary in severity based on several factors as explained in Berry's (1997) framework of acculturative stress. There are several negative outcomes of acculturative stress, including an impact on one's mental health and physical health.

Based on the literature that addresses the many barriers international students experience in seeking mental health services, this study hypothesizes that the greater severity of acculturative stress one experiences will be associated with a greater stigma around seeking psychological help, both from the self and perceived from others. This study aims to find ways to weaken the strength of the above mentioned relationship, particularly by utilizing an integrated health care model in which mental health services are provided in a medical setting. Ultimately, this author believes that integrating behavioral health services in a university health care center will address the academic, social, and health care needs of international students and reduce stigma around seeking psychological help among international students. To address this belief this study examined the following research questions and hypotheses.

Research Question and Hypothesis 3. Does an introduction to the integrated health care model through a case vignette moderate the relationship between acculturative stress among international college students in the United States and self-stigma around seeking psychological help? This researcher hypothesizes an introduction to the integrated health care model within a university health care system will weaken the relationship between acculturative stress among international college students and stigma around seeking psychological help.

Research Question and Hypothesis 4. Does an introduction to the integrated health care model through a case vignette moderate the relationship between acculturative stress among international college students in the United States and perceived stigma by others around seeking psychological help? This researcher hypothesizes an introduction to the integrated health care model within a university health care system will weaken the relationship between acculturative stress among international college students and perceived stigma by others around seeking psychological help.

Chapter Three

Method

Participants. Based on a power analysis, 138 international college students from the University of Denver participated in this study. The participants were recruited from international student organizations on campus. Student demographic information include age, gender, race/ethnicity, home country, length of stay in the United States, area of study, financial support, socio-economic status, marital status, English language proficiency, and year in school.

Measures.

Demographic Questionnaire. Eleven demographic items were included in the study to gather information on participants' age, gender, race/ethnicity, home country, length of stay in the United States, area of study, financial support from parents or home country, marital status, living situation, English language proficiency as measured by the student's involvement in a transitional language program, and year in school.

Social Provisions Scale (Cutrona & Russell, 1987; Russell & Cutrona, 1984). The Social Provisions Scale is a 10-item scale that was used in this study to control for perceived social support. The items on the Social Provisions Scale are rated on a 4-point Likert-type scale ranging from strongly disagree to strongly agree. This scale assesses the six provisions of social relationships including guidance, reliable alliance, reassurance of

worth, attachment, social integration, and opportunity for nurturance. This measure has a strong concurrent validity ($r=.93$), and its items are highly correlated with total scores. The SPS-10 has an independence of its dimensions with moderate correlations between the subscales ranging between .469 to .632 and its five subscales are more strongly related to the support global score, indicating they are also indicators of the availability of social provisions. The SPS-10 explains 14.1% of the variance in psychological distress and retains 95% of the predictive power of the full scale (SPS-24). It also explains 25.4% of the variance in quality of life and its predictive power is equivalent to the full scale (Catron, 2013).

The Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994, 1998). The ASSIS was used to assess students' perception of stress. This assessment includes 36 items on a 5-point Likert scale. In the development of the scale, the authors created 125 statements in Likert format by interviewing 13 international students about their personal experiences and perspectives. From this process, the authors found 12 recurrent themes – perceived discrimination, social isolation, threat to cultural identity, inferiority, homesickness, fear, anger/disappointments, mistrust, communication problems, culture shock, perceived hatred, and guilt. These initial 125 items were then pilot tested with 17 undergraduate and 9 graduate international students, resulting in 78 items with 6-9 items under each theme. The psychometric properties were then evaluated

using 86 men and 42 women enrolled in ten regions of the United States, representing students from 27 different countries in Asia, Latin America, Middle East, Europe, and Africa. 82 of the participants were undergraduate students; studying a variety of majors (business, engineering, health professions, computer and information services, physical sciences, education, social sciences) Approximately 93% of the sample learned English as a second language in their home country before moving to the United States to pursue higher education.

Using the method of principal components, the authors extracted six factors accounting for 70.6% of total explained variance (Perceived discrimination, homesickness, perceived hate, fear, stress due to change/culture shock, and guilt). Therefore, the scale was reduced to 36 items and has subscales of Perceived Discrimination (8 items, e.g., “others are biased toward me”), Homesickness (4 items, e.g., “I feel sad leaving my relatives behind”), Perceived Hate (5 items, e.g., “People show hatred toward me verbally”), Fear (4 items, e.g., “I feel insecure hear”), Culture Shock/Stress Due to Change (3 items, e.g., “I feel uncomfortable to adjust to new foods”), Guilt (2 items, e.g., “I feel guilty that I am living a different lifestyle here”), and Miscellaneous (10 items, e.g., “I feel nervous to communicate in English”). Sandhu and Asrabadi (1994) reported that Cronbach alpha internal consistency for this scale was .95. Construct validity has been established with a negative correlation with adaptation and a

positive correlation with depression among international students (Constantine et al., 2004).

The Perceptions of Stigmatization by Others for Seeking Help Scale (PSOSH; Vogel et al., 2009). The PSOSH was used to assess concerns about being stigmatized by those one knows if he or she seeks professional psychological help. The PSOSH was developed in 2009 by Vogel et al. in order to examine the level of stigma in one's social network and how that impacts one's decision to seek psychological services. Data was collected over a 2-year period at a large Midwestern university to examine the reliability, factor structure, and validity of the scale scores among college populations. Five different samples (clinical and non-clinical) were used to specifically examine scale development, confirmatory factor analysis, concurrent validity, clinical sample, and test-retest reliability and validity. Each sample consisted of between 1% and 8% international students. Vogel and Wade developed 21 items to reflect how stigma associated with seeking psychological treatment might be reflected in the social reactions of others. The items reflected different types of behavioral, cognitive, and emotional reactions that others could have in response to an individual seeking psychological help. The readability of the items was matched to a 13 – to 15 – year olds level, and therefore were understandable to college students. Each item is based on a 5-point scale ranging from 1

(not at all) to 5 (a great deal), and the higher scores signify greater perceived stigma from others.

Using one of the five samples, Vogel et al. (2009) conducted an exploratory factor analysis on the 21 items to evaluate the items and determine the underlying factor structure. They found that all 21 items loaded at .6 or above on the factor (alpha = .96 for the 21 items). Although the researchers found results that supported the usefulness of all 21 items they created, they believed the length of the measure would not be as practical to researchers and clinicians. Therefore, the researchers selected the five highest loading items to be retained in the scale. Using the five items and the same sample, the internal consistency was .89 for the items, indicating both versions of the scale (21 item and 5 item) would be classified as excellent (Ponterotto & Ruckdeschel, 2007) and supporting the use of the briefer version.

In the second of the five samples, the researchers further examined the factor structure using the five-item scale. The researchers conducted a confirmatory factor analysis and found the data fit the one-factor model found in the first sample. They examined the invariance of this one-factor model across the variety of demographics, and found that the internal consistencies for the PSOSH for the total sample and for each racial/ethnic group were similar (total sample .89, Caucasian .90, African American .90, Latino/a .90, Asian American .88, Native American .89, multiracial American .86,

international student .83). The ANOVA resulted in no differences in the overall means across the racial/ethnic groups.

In the third sample, the internal consistency for the 5-item measure was .88, and the scores on the PSOSH were moderately positively correlated with scores on two other help-seeking measures (The Stigma of Seeking Professional Psychological Help, SSPPH: Komiya et al., 2000 and the Devaluation-Discrimination scale, DD, Link et al., 1987), supporting the validity of the PSOSH. The developers of the scale evaluated if the items on the PSOSH were distinct from items on the other stigma measures by conducting a principal axis factor analysis. All 5 items loaded above .6 on a single factor and did not load above .1 on any other factor; therefore, the items on the PSOSH reflect a distinct aspect of stigma. The researchers also evaluated if the PSOSH predicts self-stigma, as research has shown that public stigma predicts self-stigma (Vogel, Wade, & Hackler, 2007). Using the Self-stigma of Seeking Psychological Help Scale (SSOHS) found that scores on the PSOSH uniquely predicted that those who perceived greater stigma from others reported greater self-stigma. Test-retest reliability and validity was measured (3 weeks between Time 1 and Time 2), and it was found that the PSOSH scores did not change from Time 1 to Time 2. Across the five samples, this measure demonstrated strong internal consistency and test-retest estimates with the college student population (non-clinical and those experiencing clinical levels of distress). It is related to, but

distinguished from, other measures of stigma. The PSOSH includes items such as “Imagine you had an academic or vocational issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would ____”. This sentence stem is then followed by five items (e.g., “react negatively to you”) rated on a 5-point Likert-type scale.

The Self-Stigma of Seeking Help Scale (SSOSH; Vogel et al., 2006). The SSOSH was developed to examine whether avoidance of professional psychological help was related to one wanting to avoid self-stigma or to other factors, and to help understand the need for interventions designed to reduce the effects of self-stigma on individuals who are considering seeking help. The measure was developed over the course of five studies. Study 1 examined the initial reliability and factor structure. Study 2 used confirmatory factor analysis to evaluate initial reliability and validity estimates. Study 3 examined the construct and criterion validity, and the test-retest reliability. Study 4 cross validated the scale with a new sample, and study 5 explored the ability of the measure to predict those who pursued psychological services and those who did not in a 2 month period.

The sample used in study 1 were 583 college students (86% European American, 4% African American, 3% Latino/Latina American, 3% Asian American, 2% multiracial, and 2% international). Items were developed to reflect how one’s self-esteem might

change if a person considered seeking psychological help. The internal consistency of the scale was .91.

In study 2, the participants were 470 college students with similar representation of race and ethnicity as the sample in study 1. The internal consistency using this population was .89, very similar to the population of study 1. A confirmatory factor analysis was used to confirm the unidimensional factor structure. Support for construct validity was found in comparing scores on SSOSH with a scale of public stigma (SSRPH) and the DES Anticipated Risks and Anticipated Benefits scales. Similarly, support for criterion validity was found in comparing scores on the SSOSH with scores on the ATSPPSH and the ISCI. Vogel, Wade, and Haake (2006) also found that the self-stigma associated with seeking psychological help may be inhibiting people in their decisions around help-seeking. In supporting their instrument, it was also found that SSOSH uniquely predicts help-seeking attitudes over and above anticipated risks, anticipated benefits, and public stigma. Using this scale, those who perceived a greater self-stigma related to seeking psychological help had less positive attitudes toward seeing professional treatment.

In the 3rd study done to examine the psychometric properties of the SSOSH, researchers found the correlation between participant's Time 1 and Time 2 (2 months later) scores was .72, suggesting that the measure has good test-retest reliability. It is a

10-item measure that assesses an individual's negative views toward oneself for seeking professional psychological help (e.g., "I would feel inadequate if I went to a therapist for psychological help"). Items are rated on a 5 point Likert-scale.

Integrated Health Care Vignettes. Two case vignettes were specifically written for this study. Though original vignettes, they will be modeled after those described in other studies. The vignettes were developed with the assistance of Behavioral Health Providers and international students. One vignette represents typical treatment involved in addressing moderate levels of stress in a behavioral health care visit, and the control vignette represents a typical experience of how international students cope with stress. The two vignettes are identical except for the description of the setting (behavioral health vs. support as usual).

The behavioral health vignette is as follows.

A 19-year-old, sophomore, international student at the University of Denver has lately been feeling lonely and stress from his classes. He sometimes gets frustrated that he has trouble understanding the English language, and this is leading him to fall behind in classes and not connect with some of his domestic, English-speaking peers. Although he has been making some friends through the international student organization, he is also missing his family and friends from his home country and sometimes feels alone. He hasn't been sleeping well at night and has noticed that he has been feeling more tired than

usual. He also has been experiencing frequent headaches and hasn't been eating as much as usual.

He goes to the University health center to talk with someone about his headaches, difficulty sleeping, and change in appetite. The doctor asks about his classes and the student tells him he's having a hard time keeping up and difficulty understanding some of his professors. The doctor encourages the student to talk with the psychologist at the health center for just a few minutes.

The psychologist asks the student some questions about his experience at DU and acknowledges how difficult it can be for students to move to a new country, and how hard classes can be. The psychologist then talks about the relationship between stress and our physical health, and asks the student if he would like to learn a stress management technique. The student agrees, and the psychologist teaches the student how to do a deep breathing exercise to help manage stress. The psychologist instructs the student to take a deep breath in for 3 seconds, hold the breath for 9 seconds, and breathe out for 6 seconds. They practice the technique together for about 2 minutes, and the student feels more relaxed than when he first got to the health center.

After about five minutes, the medical provider returns to the room and they discuss the stress the student is under. The medical provider and the psychologist talk with the student about several options for him to manage stress such as relaxation,

enjoying his hobbies, doing workout, talking to friends and family, and counseling services as well.

The control vignette is as follows.

A 19-year-old, sophomore, international student at the University of Denver has lately been feeling lonely and stress from his classes. He sometimes gets frustrated that he has trouble understanding the English language, and this is leading him to fall behind in classes and not connect with some of his domestic, English-speaking peers. Although he has been making some friends through the international student organization, he is also missing his family and friends from his home country and sometimes feels alone. He hasn't been sleeping well at night and has noticed that he has been feeling more tired than usual. He also has been experiencing frequent headaches and hasn't been eating as much as usual.

The student decides to talk with his roommate, another international student, about his experience. His roommate shares with the student that others are also having difficulties, and suggests the student reach out to his professor or a classmate for help. The student felt less alone knowing that others might also be experiencing some difficulties.

Before class, the student talks to a classmate about his difficulties, and the classmate begins to vent about her own challenges. The student's stress begins to increase, as he tries to help the classmate with her personal problems.

The student remembers his roommate suggesting he talk with a professor, and considers meeting with one of his professors who he feels comfortable with. The student then meets with his professor during office hours, and his professor assists the student with class material and homework assignments. After some time, the student tells his professor about his headaches, difficulty sleeping, and change in appetite, and how he thinks it may be impacting his schoolwork. The professor asks about his classes and the student tells him he's having a hard time keeping up and has difficulty understanding some of his professors. The professor discusses options for extra credit and advice on how to manage time better. The student feels some relief after talking with his professor.

Procedure. Based on the power analysis, a sample of 138 international students (see under Expected Data Analysis for participant sample size) was derived through international student organizations from universities in the United States. It has been found in previous research (Mitchell, Greenwood, & Guglielmi, 2007) that approximately 36% of international student population is female, 67% are from Asian countries, 12% from North American countries, and 11% from European countries.

International student organizations were contacted through email and presented with information regarding the purpose, nature of the study, and a link to the survey. The organization leaders forwarded the email to international students. Upon interest in the study, the participant was directed to an online program where the survey will be administered. The first screen contained the informed consent document with another indication of the purpose of the study, a list of any potential risks and benefits from participating, a statement about confidentiality and what the data will be used for, the approximate amount of time it will take to complete the survey, and the contact information of the researchers. Participants were asked to indicate their acknowledgement and agreement to participate in the study. The participants were informed their participation is voluntary, and they can choose not to participate without any penalty. Participants were able choose to receive results about the study, and were provided with the researcher's email address to indicate their interest in receiving results. Participants who completed the survey online were randomly assigned to a group by the Qualtrics system. Participants were also invited to complete a hard copy of the survey. They were randomly assigned to one of the two groups by mixing the surveys from each group and having participants blindly choose one.

Data Analysis.

Sample Size. Using G*Power software (Faul, Erdfelder, Lang, and Buchner, 2007), an a priori power analysis was conducted to determine the appropriate sample size for the desired statistical analyses. Based on the power analysis, a sample of size of 120 participants will suffice for a moderate effect size and take into consideration participants with missing data. Aiming for a moderate effect size was most appropriate for this study due to accessibility of participants. For the linear multiple regression analysis with 1 predictor with an acceptable alpha level of .05 and a beta (power) of .80 and an expected medium effect size ($= 0.15$) the total sample size would be 55.

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: A priori: Compute required sample size

Input: Effect size f^2	=	0.15
α err prob	=	0.05
Power ($1-\beta$ err prob)	=	0.80
Number of predictors	=	1
Output: Noncentrality parameter λ	=	8.25
Critical F	=	4.02301
Numerator df	=	1
Denominator df	=	53
Total sample size	=	55
Actual power	=	0.805

For the linear multiple regression analysis with 1 predictor with an acceptable alpha level of .05 and a beta (power) of .80 and an expected small effect size ($= 0.02$) the total sample size would be 395.

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: A priori: Compute required sample size

Input: Effect size $f^2 = 0.02$

α err prob = 0.05

Power ($1-\beta$ err prob) = 0.80

Number of predictors = 1

Output: Noncentrality parameter $\lambda = 7.9$

Critical F = 3.8652292

Numerator df = 1

Denominator df = 393

Total sample size = 395

Actual power = 0.8006258

For the linear multiple regression analysis with 1 predictor with an acceptable alpha level of .05 and a beta (power) of .80 and an expected large effect size ($= 0.35$) the total sample size would be 25.

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero

Analysis: A priori: Compute required sample size

Input: Effect size $f^2 = 0.35$

α err prob = 0.05

Power ($1-\beta$ err prob) = 0.80

Number of predictors = 1

Output: Noncentrality parameter $\lambda = 8.75$

Critical F = 4.2793443

Numerator df = 1

Denominator df = 23

Total sample size = 25

Actual power = 0.8085699

Preliminary Data Analysis. Initial data preparation included identifying cases with missing data in order to determine whether the data is missing completely at random, missing at random, or not missing at random. In other words, it is important to determine whether the data is systematically missing as a result of the nature of a particular item or is missing with no discernable pattern. A dummy variable was created in order to indicate missing versus non-missing and then used to test mean differences in the independent and dependent variables. Next, a plot of the regression line helped to identify outliers, which can skew results. Further data screening procedures consisted of assessing residuals, including residual plots of predicted scores by errors of prediction, for the assumptions of normality, linearity, and homoscedasticity as suggested by Tabachnick and Fidell (2001). Additionally, coefficient alpha, an indication of reliability, was computed for each measure using the present sample of participants.

After data cleaning is complete and the assumptions tested, hierarchical multiple regression analyses was conducted. In this study, covariate variables (demographic variables) were statistically controlled in order to address potentially confounding effects on the dependent variable (self-stigma and perceived stigma by others). For example, an international student's amount of time in the United States may impact his or her experience of stigma. Or, one's home country may also influence the way he or she perceives seeking psychological services. With a hierarchical analysis, variables are

entered into the equation in a specified order with covariates entered in step one, variables of interest in step two, and interaction terms entered in step three (Tabachnik & Fidell, 2001). Regression coefficients and significance values were then reviewed in order to understand which terms are significantly contributing to the prediction of the dependent variable.

When conducting regression analyses using interaction terms, multicollinearity or correlations among the independent variables, is a general concern and can be addressed by centering the independent variables (Tabachnik & Fidell, 2001). After this is completed, the interaction terms of acculturative stress x behavioral health was computed. At this point, all variables were prepared for analysis including covariates, predictor variables, the moderating variable, and interaction terms.

Main Analysis. After accounting for missing data, hierarchical multiple regression analyses was conducted. In this study, covariate variables (demographic variables) were statistically controlled in order to address potentially confounding effects on the dependent variables (self-stigma and perceived stigma by others). With a hierarchical analysis, variables are entered into the equation in a specified order with covariates entered in step one, variables of interest in step two, and interaction terms entered in step three (Tabachnik & Fidell, 2001). Regression coefficients and

significance values are then reviewed in order to understand which terms are significantly contributing to the prediction of the dependent variable.

When conducting regression analyses using interaction terms, multicollinearity or correlations among the independent variables, is a general concern and can be addressed by centering the independent variables (Tabachnik & Fidell, 2001). After this is completed, interaction terms of acculturative stress \times integrated health care were computed. At this point, all variables were prepared for analysis including covariates, predictor variables, the moderating variable, and interaction terms.

A hierarchical linear regression will be conducted in order to investigate the relationship between the independent variable (acculturative stress) and the dependent variables (self stigma and perceived stigma by others). To test the first hypothesis, the analysis indicated whether acculturative stress predicts self-stigma around seeking psychological help. The covariate variables were entered at Step 1, and acculturative stress were entered at Step 2.

To test the second hypothesis, the analysis indicated whether acculturative stress predicts perceived stigma by others around seeking psychological help. Similar to testing hypothesis 1, to test hypothesis 2 the covariates were entered in at Step 1 and acculturative stress were entered in at Step 2.

To test Hypothesis 3, the covariate variables were again entered at Step 1, acculturative stress and integrated health care entered at Step 2, and the interaction term of acculturative stress \times integrated health care entered at Step 3. If the regression coefficient for the two-way interaction of acculturative stress \times integrated health care is statistically significant, the next step would be to interpret the interaction or test the moderator effect. A strategy suggested by other researchers (Aiken & West, 1991) consists of examining the moderator's effect at two levels (i.e. no participation in integrated care and participation in integrated care) by plotting participation in integrated care for acculturative stress of one standard deviation above and below the mean. Using a simple regression analysis, the slopes of the lines would be tested to see whether the slope at each level is significantly different from zero.

Lastly, to test hypothesis 4 the analysis indicated whether integrated health care has a moderating effect on the relationship between the predictor variable (acculturative stress) and the second outcome variable (perceived stigma by others for seeking psychological help). This analysis looks similar to that of hypothesis 3 - the covariate variables was again be entered at Step 1, acculturative stress and integrated health care entered at Step 2, and the interaction term of acculturative stress \times integrated health care entered at Step 3. If the regression coefficient for the two-way interaction of acculturative

stress \times integrated health care is statistically significant, the next step would again be to interpret the interaction or test the moderator effect.

Chapter Four

Results

Overview. Data analysis consisted of data preparation and cleaning, an exploration of missing data, preliminary analyses, a report of the composition of the sample, and an analysis of the four primary hypotheses. All statistical tests utilized a two-tailed approach with an alpha level of $p < .05$.

Data preparation. Upon closure of the survey, all participants that did not attempt to complete the three major variables of the study (ASSIS, SSOSH, and PSOSH) were eliminated from the sample. These participants, in general, agreed to participate, but completed little more than the informed consent page. This resulted in the deletion of 5 cases, reducing the sample size from 143 to 138 participants.

The data were initially examined for consistency, acceptable values/ranges, and coding fidelity. Any data that had a value that was above the highest possible score or below the lowest possible score was examined for data entry errors.

Analysis of missing data. Guidelines for exploring the pattern of missing data and dealing with missing data have been outlined by Tabachnick and Fidell (2007) and were utilized for the current research. All items of the survey had less than 5% missing and upon further analysis indicated a nonsystematic pattern of absent values. Specifically, each of the predictor variables were dummy coded (missing versus non-

missing) and used to conduct a t-test regarding significant differences on the dependent variable. No significant differences were found. This indicates several options for addressing the missing values. Deleting cases listwise involves dropping all cases that have missing values. In the absence of more sophisticated means of estimating missing data, this is oftentimes used (Tabachnick & Fidell, 2007). Due to the reduction in sample size that this would create, it was not chosen as a method. Mean substitution is a way of estimating the values of missing data. This preserves cases that have missing data, but has the risk of reducing variance in the sample. With small amounts of missing data, this can be seen as a conservative method (Tabachnick & Fidell, 2007). Since each item had negligible amounts of missing data (less than 5%), the mean of the scale was calculated and then imputed in place of the missing item.

Initial data exploration. In the initial exploration of the data, the means, standard deviations, ranges of scores of main measures, skewness, kurtosis, and Cronbach's alpha (based on standardized items) were calculated. These calculations do not include mean imputation, but rather are based on completed items. Refer to Table 1. The ASSIS ($\alpha = .95$), the SSOSH ($\alpha = .75$), the PSOSH ($\alpha = .84$), and the SPS ($\alpha = .79$) all revealed reliability coefficients within an acceptable range. Patients were randomly assigned to one of the two groups (control vs. intervention), and the sample size for each group was also calculated. The control group consisted of 67 participants (48.6%) and the

intervention group consisted of 71 participants (51.4%). Frequencies and percentages for demographic variables was also computer. Refer to table 8.

Control Variables. In preparation for the regression analyses, it was necessary to decide which demographic variables would be included as controls. In order to determine their effects on the current data independent samples t-tests, correlations, and ANOVAs were conducted (See tables 2 and 3).

When looking at the demographics' influence on the PSOSH a t-test was conducted for marital status, correlations were conducted for age and time in the USA, and ANOVA was conducted for ethnicity, gender, major, source of funding, year in school, and living situation. There was a significant difference in the PSOSH when looking at ethnicity, $F(5,129) = 3.26, p = .01$. Specifically, there was no significant difference in the PSOSH when looking at age, $r = -.01, p = .91$, major, $F(4,132) = 1.57, p = .19$, source of funding, $F(4,132) = 1.28, p = .28$, SES, $F(4,132) = .55, p = .70$, year in school, $F(5,131) = 1.83, p = .11$, living situation, $F(4,132) = 1.08, p = .37$, marital status, $t(133) = 1.02, p = .31$, time in the US, $r = -.13, p = .14$ and gender, $F(1,135) = .46, p = .50$.

When looking at the demographics' influence on the SSOSH a t-test was conducted for marital status, correlations were conducted for age and time in the USA, and ANOVA was conducted for ethnicity, gender, major, source of funding, year in school, and living situation (See table 4). Specifically, there was a significant difference

in the SSOSH when looking at ethnicity, $F(5,129)=3.57, p=.01$, and gender, $F(1, 135) = 14.16, p < .01$. There was no significant difference in the SSOSH when looking at age, $r = -.056, p = .52$, time in the US, $r = -.08, p = .35$, major, $F(4,132)=1.03, p=.39$, source of funding, $F(4,132)=.16, p=.96$, SES, $F(4,132)=.60, p=.66$, year in school, $F(5,131)=.83, p=.53$, living situation, $F(4,132)=1.58, p=.19$, and marital status, $t(133)=.87, p=.39$.

Social support may also be seen as a confounding variable in this study. The Social Provisions Scale (SPS-10) was significantly correlated with the SSOSH, $r = -.31, p < .01$. The SPS-10 was also significantly correlated with the PSOSH, $r = -.24, p < .01$. Therefore, social support, gender, and ethnicity will be controlled for in the main analysis.

Analysis of the assumptions of multiple regression. In order to conduct analyses that produce accurate results, it is important to explore the basic assumptions of parametric statistical tests, tests that rely on the normal distribution (Field, 2009). Multiple regression is most robust when the assumptions of normality of residuals, linearity, homogeneity of variance, non-multicollinearity, and mean independence are met (Tabachnick & Fidell, 2007). Since each hypothesis involved a unique combination of variables, the assumptions were tested for all four main analyses. This section outlines how the assumptions were tested and includes the general results. Deviations or atypical cases are mentioned directly in the section reporting the results for each hypothesis.

First, it was necessary to examine any unduly influential cases that would serve to bias the regression analysis. Mahalanobis distance was used to identify multivariate outliers. These values are an indicator of the distances from the means of the vector of predictor variables and, it is recommended that with a small to medium sample size, a value greater than 15 suggests an outlier (Field, 2009). A limited number of cases were found and deleted per the distance values for each regression. In regard to normality, standardized residuals plots including a histogram and normality plot were examined. Visual inspection of residuals using the histogram revealed an approximately normal distribution. In addition, the normal probability plot graphs observed residuals in relation to a straight line, with the line indicating the normal distribution (Field, 2009). It is expected that the observed residuals will lie primarily on the straight line, which was the case for the present data.

In order to assess the assumption of linearity and homoscedasticity, the scatterplot of the standardized residuals by the standardized predicted values was examined. The plotted data illustrated a relatively even dispersion of points around zero with no discernable pattern or funneling shape. Though not an assumption of multiple regression, multicollinearity can impact the results of this type of analysis and therefore, was investigated. Multicollinearity is an issue when multiple variables used for the regression analysis are too closely correlated and confound the results. Though some correlation is

expected, high correlations can reduce the accuracy of the regression coefficients, may affect the R-value, and may confound the interpretation of which individual predictors are most highly contributing to the explanation of the dependent variable (Field, 2009). There are two diagnostics that assist with determining the presence of multicollinearity: the variance inflation factor (VIF) and the tolerance statistic. Various authors provide recommendations for appropriate values for these diagnostics suggesting concerns when the value is greater than 10 (Myers, 1990) with others suggesting that the average VIF should be around 1.0 (Bowerman & O'Connell, 1990). It is suggested that tolerance, the reciprocal function of the VIF, should be no less than .1 (Menard, 1995). All collinearity diagnostics for the current data meet these requirements, suggesting that the variables were not highly multicollinear.

Finally, the assumption of independent errors suggests that the residuals of the regression analysis should not be correlated. Tabachnick and Fidell (2007) recommend using the Durbin-Watson statistic as a means of assessing this assumption. Specifically, a value near 2 suggests that the residuals are not correlated (Field, 2009). No problematic correlation of residuals was detected (SSOSH $d=1.8$, PSOSH $d=1.9$).

Analysis of the primary research hypotheses.

Hypothesis 1. Hypothesis 1 stated that level of acculturative stress would significantly predict the level of perceived stigma by others for international students,

controlling for social support and ethnicity. A hierarchical regression analysis was conducted with block 1 consisting of the control variables (ethnicity and social support) and block 2 consisting of the acculturative stress total score. Tabachnick and Fidell (2007) recommend centering variables used for regression analyses that involve the examination of interaction effects in order to reduce multicollinearity. Subsequent hypotheses involved the examination of interaction effects. Table 4 displays the unstandardized regression coefficients (B) and intercept, standard errors, the standardized regression coefficients (β), and R^2 . Examination of the regression equation indicated that when controlling for social support and demographic variables, the student's experience of acculturative stress significantly predicted the perceived stigma by others for seeking psychological help, $F(3, 131) = 7.79, p = <.01$. Specifically, the more acculturative stress symptoms experienced, the more perceived stigma by others for seeking psychological help. Block 1, consisting solely of the control variables, produced an R^2 of .08, $p = .01$ accounting for 8% of the variance of perceived stigma by others. Block 2, containing the variable of interest in addition to Block 1 variables, produced an R^2 value of .15, accounting for about 15% of the variance in the dependent variable. This represented a significant increase in predictive value ($p = <.01$).

Hypothesis 2. Hypothesis 2 predicted that the introduction of behavioral health would moderate the relationship between acculturative stress and the perceived stigma by

others for seeking psychological help when social support and demographics are controlled. No multivariate outlier was detected through the use of Mahalanobis distance. The initial block of the regression equation similarly consisted of the control variables of ethnicity and social support. In the second block, the presence (or lack of) the behavioral health case vignette was included along with the total score on the acculturative stress scale. Finally, in the third block the interaction effect was entered into the equation calculated by multiplying the behavioral health coded value by the Acculturative Stress Scale total score. Table 5 displays the unstandardized regression coefficients (B) and intercept, standard errors, the standardized regression coefficients (β), and R^2 . Results revealed significant models with the combination of variables in the second block, $F(4, 130) = 6.01, p < .01$, but not the combination of the variables in the third block, $F(5, 129) = 5.35, p < .01$. Block 1 produced an R^2 value of .27, $p = .01$. The R^2 value for block 2 was .40, $p < .01$, representing a statistically significant increase in predictive ability as a result of adding the variables in this block. In other words, 40% of the variance in the dependent variable was explained by the combination of independent variables in this equation. The interaction entered in block 3 did not statistically significantly increment prediction with an R^2 value of .42, $p = .12$. See Table 6 for unstandardized regression coefficients (B) and intercept, standard errors, the standardized regression coefficients (β), R^2 , and p -values.

Hypothesis 3. Hypothesis 3 stated that level of acculturative stress would statistically significantly predict self-stigma around seeking psychological help when social support, ethnicity, and gender are controlled. A hierarchical regression analysis was conducted with block 1 consisting of the control variables (ethnicity, gender, and social support) and block 2 consisting of the acculturative stress total score. One multivariate outlier was detected and deleted from the sample for this analysis. The regression analysis revealed no statistically significant result, $F(4, 130) = 6.79, p=.67$. See Table 6 for unstandardized regression coefficients (B) and intercept, standard errors, the standardized regression coefficients (β), and R^2 .

Hypothesis 4. The final hypothesis surmised that introduction of behavioral health would moderate the relationship between acculturative stress and self-stigma around seeking psychological help when social support and demographics are controlled. The initial block of the regression equation similarly consisted of the control variables of ethnicity, gender, and social support. In the second block, the presence (or lack of) the behavioral health case vignette was included along with the total score on the acculturative stress scale. Finally, in the third block the interaction effect was entered into the equation calculated by multiplying the behavioral health coded value by the Acculturative Stress Scale total score. Three multivariate outliers were detected and deleted from the sample for this analysis. The regression analysis revealed a statistically

significant result, $F(6, 128) = 5.66, p < .01$. Block 1 produced an R^2 value of .17, $p < .01$. The R^2 value for block 2 was .18, $p = .43$, not revealing a statistically significant increase in predictive ability as a result of adding the variables in this block. The interaction entered in block 3 did statistically significantly increment prediction with an R^2 value of .21, $p = .04$. In other words, 3% of the variance in the dependent variable was explained by the interaction term in this equation. To further understand the moderating effect of behavioral health on the relationship between acculturative stress and self-stigma around seeking psychological help, a simple effect analysis was performed. In this phase of analysis, simple slopes were calculated for acculturative stress for the control and behavioral health subgroups (coded “0” and “1” respectively). Results of simple slopes analyses indicated that the slope was not significant for the control group ($b = .062, \beta = .04, p = .074$) or the behavioral health group ($b = .03, \beta = .028, p = .35$). See Table 7 for unstandardized regression coefficients (B) and intercept, standard errors, the standardized regression coefficients (β), R^2 , and p -values.

Chapter Five

Discussion

Overview of the Study. As the number of international students enrolled in U.S. higher education continues to grow every academic year, it is essential that researchers and clinicians understand the unique experience and needs of this group. It is important for universities to support international students' educational experiences and foster their growth while in the United States. These students offer a matchless perspective which helps to create a more global campus culture, and it is the responsibility of the university to contribute to this culture by offering student support services that meet the needs of a diverse student population.

To be able to support international students' experience, it is helpful to have knowledge of the challenges they may face as they transition to the United States. This study looks at the experience of acculturative stress, specifically for international students. Acculturative stress is a construct that is related to some of the well documented concerns of international students, such as adjustment to a new culture, language barriers, social isolation, loneliness, unfamiliarity with the US academic expectations, and financial concerns (Wilton & Constantine, 2003). Berry's (1997) theory of acculturative stress provides an overarching framework for this study. It uses a bidirectional explanation of how individuals may experience the acculturation process and orientate

toward their home culture or host culture. It considers variables that contribute to the development of acculturative stress, such as those mentioned above, and takes into account moderating and mediating variables that may affect the process. The focus of this study is based on the idea that given a multiculturally supportive environment, individuals can potentially experience fewer negative outcomes of the acculturation process.

Several negative outcomes of the acculturation process have been identified, such as mental health issues, isolation, and a negative self-evaluation (Berry, 1997). Although some of these negative outcomes could be addressed in mental health counseling, research shows that international students underutilize counseling services (Tung, 2011). Stigma around seeking mental health services has been widely known to be a barrier to receiving treatment (Vogel, Wade, & Hackler, 2007), especially for minority populations (Martin, Lang, & Olafsdottir, 2008). Stigma can also be associated with negative self-evaluation (Vogel et al., 2007), one of the several possible outcomes of acculturative stress. Blaine (2000) describes stigma as the perception of being flawed because of a characteristic that is regarded as socially unacceptable. Using Berry's (1997) acculturation framework, stigma can be experienced at several points within the acculturation process, including characteristics of the home country or host country, group variables, short-term effect, or long term outcome.

Specifically, the purpose of this study was to examine the role of the integrated health care model within university health care systems in reducing stigma around seeking psychological help among international students; therefore, impacting the experience of acculturative stress and mental health stigma using Berry's model of acculturative stress. This study used a moderation analysis to explore the impact of integrated health care on weakening the impact acculturative stress may have on self-stigma and perceived stigma by others around seeking psychological help. This study proposed that the integrated health care approach will serve as a resource to international students that will impact their experience of stigma around seeking psychological help by addressing acculturative stress in a different way than conventional counseling services.

Overview of Hypotheses. The first hypothesis of this study proposing that a higher level of acculturative stress will predict a higher level of perceived stigma by others for seeking psychological help was supported. After controlling for perceived social support and demographic variables, it was found that acculturative stress predicted 15% of the variance in perceived stigma by others for seeking psychological help. Vogel et al. (2007) define perceived stigma by others associated with seeking psychological help as the belief that a person who seeks psychological help is seen as flawed and socially undesirable by the general public. It is thought that if international students feels like they do not belong, feel discriminated against, and feel alone (all factors of the

acculturative stress construct), then they may additionally worry about choosing behaviors that could lead to being perceived as flawed and socially undesirable. These results support that the higher level of acculturative stress experienced would result in a higher avoidance of being in a situation considered socially undesirable due to the need to feel belonging and connectedness within the new community. This finding is concerning, as those who experience higher levels of acculturative stress and who could benefit more from mental health treatment are the ones who experience higher levels of perceived stigma and are less likely to pursue mental health treatment. It is important for universities to be aware of this trend and assist international students in getting the help and support they need.

Interestingly, the third hypothesis of this study, proposing that a higher level of acculturative stress will predict a higher level of self-stigma for seeking psychological help, was not supported. After controlling for perceived social support and demographic variables, acculturative stress only predicted an additional .1% of the variance in self-stigma. Self-stigma refers to the individual's own negative perceptions about he or she seeking psychological help (Vogel et al., 2007). These results are surprising, considering that if an individual were to already have a negative self-evaluation (a potential negative outcome of the acculturation process), one would also avoid additional negative perceptions about the self. It is worth considering the difference in the self-stigma and

perceived stigma by others constructs, and what about the acculturation process makes one more susceptible to perceived stigma by others versus self-stigma. It is possible that negative self-evaluation may be related more to perception of others than self-perception due to external concerns such as issues of discrimination, lack of belongingness, and oppression.

The second and fourth hypotheses of this study evaluated the moderating role of an introduction to behavioral health on the experience of acculturative stress and stigma, both perceived by others (H2) and perceived by self (H4). Previous research (Ellis & Thornton, 2013) has found almost double the amount of international student participants were interested in services offered at the university's health center as compared to the services offered at the counseling center. Similarly, outside of the university, research has found that approximately half of all individuals with a mental health disorder do not seek treatment with a mental health provider, but rather visit their primary care provider (PCP) for issues related to their mental health condition (Strosahl, 1998). This study proposed using the integrated health care model in a university health system to serve as a coping resource available to reduce stigma and address the barriers of international students seeking psychological help; however, this study revealed no significant results for hypothesis 2 or hypothesis 4. There were several limitations to this study that may have contributed to a lack of findings.

Implications . The results of this study have implications for the field of psychology including clinical practice as well as for the training and education of mental health clinicians. The results of hypothesis 1, supporting that a higher level of acculturative stress predicts a higher level of perceived stigma by others associated with seeking psychological help, speak to the need of increasing access to care for international students. There is a need for university counseling centers, as well as other student affairs departments, to find ways to help break the stigma associated with seeking psychological help. Aligning with previous research suggesting that marginalized populations underutilize counseling services (Martin et al., 2008), it is important for university counseling centers to develop outreach services targeting historically disenfranchised groups.

For the purposes of student life organizations, including university counseling centers, in recruiting a more culturally inclusive group, student life organizations could employ several recruitment strategies intended to honor cultural differences. One strategy would be to develop materials that use culturally inclusive language and images to communicate the inclusion of heterogeneous groups of international students in student life events, including counseling center outreach events. Another strategy would be to use current international students as ambassadors to help increase awareness and normalize counseling for other potential international students in need of counseling services.

Additional strategies for counseling center recruitment include emphasizing the opportunities available for ethnically diverse employees to network and interact with international students, and highlighting opportunities to engage in mentorship with upper classmen. Relatedly, counseling centers could honor cultural differences by developing relationships with culturally diverse professional associations and organizations in the community. Other strategies include developing and explicitly highlighting inclusive policies regarding issues of acculturative stress, work/life balance, and highlighting university programs specifically designed for international students. Lastly, placing counseling center advertisements in venues that target international students could also increase access to care.

Members of the mental health and academic community could also integrate the findings of this study to enhance clinical practice and training in the field of psychology. First, members of the mental health and academic community could strive to honor differences in the ways individuals of various cultural backgrounds make decisions about education and life by employing a culturally-inclusive approach to clinical practice and training. This could be achieved in part by validating students' experiential realities regarding disempowering social forces such as power, privilege, oppression, and discrimination. More specifically, members of the mental health and academic community could consider how various forms of systemic oppression like racism,

sexism, classism, ageism, heterosexism, ableism, and size impact individuals' worldviews, and better consider how these disempowering social forces influence individuals' subjective well-being, academic performance and likelihood of utilizing resources. Secondly, members of the mental health, professional, and academic community could strive to create safe working and learning environments by clearly articulating non-discrimination policies, using culturally-inclusive language and decor, and by highlighting relationships with culturally-diverse associations and organizations. Additionally, members of the mental health and academic community could strive to address social inequities by improving clinical and training service for historically disenfranchised and disempowered groups. This could be achieved by developing relationships with culturally diverse associations and organizations within the community, and embedding a social justice framework within clinical practice and training.

The results of this study may be one step in taking down the perception of stigma in our society, by honoring cultural differences and individuals' realities and worldviews. This study is one piece in the movement that is attempting to rebuild perceptions of mental health on a systemic level. It is a movement working toward replacing some of the ethnocentric perceptions of mental health treatment with a culturally responsive approach based in personal connections. These results encourage clinicians, researchers, and

student life organizations to meet the needs of individuals from historically disempowered or marginalized groups, like international students. Training programs can engage in social justice and advocacy by promoting this paradigm.

Limitations. Several factors should be taken into consideration when utilizing and interpreting the results of the study. First, the sampling method was convenience sampling. It cannot be considered fully representative of the larger population of international students in academic settings.

The study was an analogue study operating on the assumption, as many studies do, that the vignette provided is similar to actually learning about behavioral health in person. There are a host of other factors that are active in an actual clinical setting and therapeutic contact that cannot be captured through the use of a vignette. The vignette was designed to be a brief introduction to the behavioral health model. There may be a greater sense of understanding when hearing directly about behavioral health from a psychologist or medical provider whereas that understanding and personal connection may not be ignited through reading about an international student.

Another limitation of the current study regards the limited racial/ethnic diversity of the participants surveyed. As this data was collected at the University of Denver, it is highly representative of the University of Denver international student demographics, and should not necessarily be generalized to other universities without careful consideration

to other factors that may exist. 63% of study participants identified as Chinese, and 78% have been living in the United States for less than 2 years. This limitation made multiple group comparisons difficult, and inhibited the ability to look at the impact of a longer time period in the United States on the predictor and/or outcome variables. The current study has a smaller sample size than what is ideal. Due to ease of access and time constraints, this study aimed to have enough participants to yield a medium effect size. Having a larger sample size may have resulted in a more diverse sample and stronger results. Additionally, a larger sample size will increase power and prove greater significance of interaction terms when using moderation analysis.

Measures for this study were selected based on previous research and all demonstrated sufficient reliability and validity, although several limitations to the scales should be discussed. Self-report measures in general are bound by the accuracy and truthfulness of the participant. The PSOSH reliability and validity were tested using a sample of mostly White college students. Approximately 1-8% of the sample was international students, and may have proven to be a stronger measure for the current study if specifically tested for reliability and validity among international students.

Additionally, there were two types of survey formats utilized. The primary administration tactic was online; however, in order to boost sample size, in-person invitations and paper administration were used. Another limiting factor was there was no

justification of the homogeneity of the sample across type of administration. There may have been some heightening of the effect of social desirability with the hard copy survey.

Another limitation in the current study is a lack of an English proficiency measure. For many international students, English may not be their first language. Although all participants completed the University of Denver's English as a Second Language Program, English language proficiency still may vary among participants. Depending on language skills, participants may have had difficulty understanding survey items; therefore, not answering as accurately as one may have if the item was written in their native language.

One limiting factor to the design of this study was the lack of a manipulation check for the case vignettes. Much of the design of this study was related to the participants' understanding of the behavioral health intervention experienced by the fictitious international student. With this in mind, it would have been helpful to confirm this understanding by adding a question to the survey. For example, adding the question, "Did the international student meet a psychologist or a medical provider, or both?" might have let the researcher know the participant thoroughly read and understood the case vignette. It is plausible that participants could have rushed through the survey without thoughtfully reading the vignette or answering questions.

Future Directions. It is recommended that future research further delineate the role of integrated behavioral health in the acculturation process and the experience of perceived stigma by others and self-stigma associated with seeking psychological help. This study serves as a preliminary look into the role of integrated behavioral health, as it uses a hypothetical (case vignette) to depict the behavioral health experience. Because the case vignettes used in this study reflect only the concept of behavioral health treatment, results may differ when studying exposure to actual treatment. Future studies should look at actual integrated behavioral health treatment sites for data collection, and may better understand the relationship by evaluating international students who have experienced behavioral health interventions.

In future research, it is also important to look at international students at other universities. Each university has a unique culture that contributes the international student experience. It would be useful to compare results among universities to help understand what student outreach services may be supporting international students and reducing stigma associated with seeking psychological help. It may be beneficial to explore what factors create a culture that fosters international students' adjustment to the university. This could possibly help understand mediating variables that may explain the relationship between acculturative stress and stigma.

Future research may delineate this relationship by also looking at the control variables that significantly impacted the outcome variables in this study – ethnicity, gender, and perceived social support. Additionally, future studies could apply a longitudinal approach, to better capture study participants’ experience of acculturative stress and stigma over a length of time in the United States. Understanding how differences in ethnicity and gender relate to stigma associated with seeking psychological help may help universities better cater their student support services, as well as help clinicians be more culturally responsive in their therapeutic approach. It is also important to note that perceived social support was significantly correlated with both self-stigma and perceived stigma by others, and future research may highlight this information to better understand how to foster social support to enhance the international student experience.

Lastly, future research could employ a qualitative approach, to better illuminate experiences of international students, stigma associated with seeking psychological help, and integrated behavioral health. As a primary aim for this study was to understand the experience of acculturative stress and how it relates to stigma, qualitative items could provide important insight and trends in thought regarding this relationship. Additionally, qualitative interviews with international students could yield important insights regarding international students’ actual experiences adjusting to universities and could provide

nuanced information about campus culture. The information drawn from qualitative items and qualitative interviews with international students could further be used to improve instruments used to measure acculturative stress and stigma, potentially enhancing the generalizability of results.

Concluding Remarks. As current census data suggests that international students represent 7% of the student population, and this number is continuing to grow, it beseeches universities to conduct research into fostering a positive international student experience. To date, there is limited research exploring the relationship between acculturative stress and stigma associated with seeking psychological help, as well as research exploring integrated behavioral health within a university health system. It was the intention of this study to bring awareness to the impact of acculturative stress, the presence of stigma associated with seeking psychological help, and attempt to understand if the integrated behavioral health model can play a role in the acculturation process. The results of this study speak to the presence of acculturative stress and its impact on perceived stigma by others associated with seeking psychological help. Future studies can build upon these findings to further illuminate the experience of acculturative stress, and increase access to care for the international student population.

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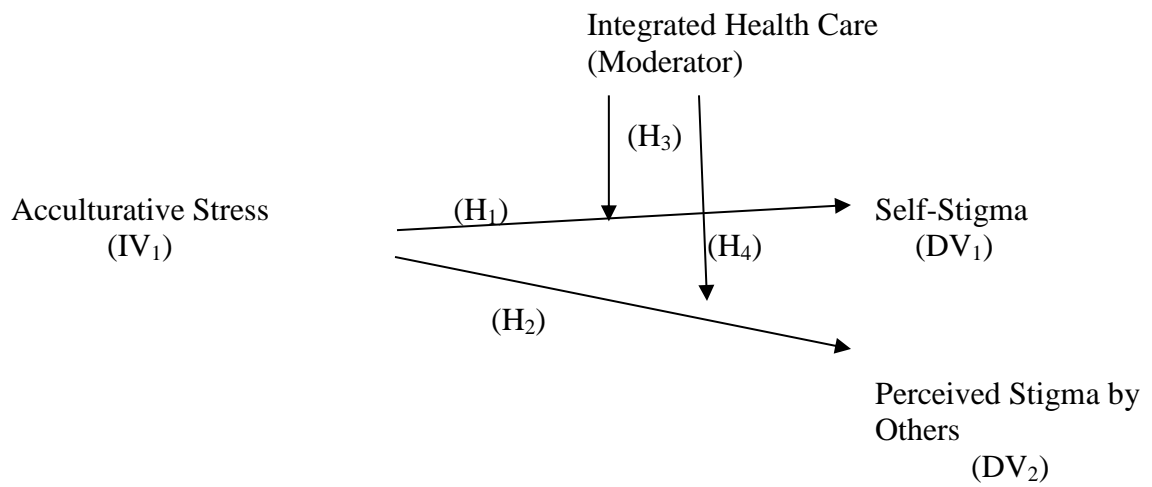
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Appendix A

Figure 1: Model Illustration



H₁: Hypothesis 1

H₂: Hypothesis 2

H₃: Hypothesis 3

H₄: Hypothesis 4

Recruitment email

Dear <<Insert director's name>>

Thank-you for letting me introduce my study to you. I am conducting a study to learn more about acculturative stress and stigma around seeking psychological help among international college students. Data are being collected for this study during the Summer 2015 and Fall 2015 quarters. I was hoping you could forward this information to your students and invite them to participate. It will require 15-20 minutes of their time.

The online link to our study is

https://udenver.qualtrics.com/SE/?SID=SV_3ghLDE1rpC9NV5P

if students would like to participate. Participation is completely voluntary.

If you have further questions concerning the study, please contact the primary investigator Brinda Prabhakar at 770-329-6129.

Thank you for your time.

Brinda Prabhakar

brindaprabhakar@gmail.com

University of Denver

Information Sheet for Exempt Research

Title: The Role of Integrated Health Care in Reducing Stigma around Seeking Psychological Help among International Students

Principal Investigator: Brinda Prabhakar, MS

Protocol #: 660031-1

Approved Date: 05-06-2015

You are being asked to be in a research study. This form provides you with information about the study. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part.

You are invited to participate in a research study about integrated health care, acculturative stress, and stigma around seeking psychological help among international students.

If you agree to be part of this study, you will be asked to complete one online survey. The survey will take approximately 15-20 minutes to complete.

There are minimal risks to participating in this study. Some questions ask about perceived stress. There is the possibility of some emotional discomfort. If this occurs, you may contact the DU Health and Counseling Center at 303-871-2205. You will be financially responsible for any costs associated with counseling.

There are no direct benefits to you for taking part in this research study. Your participation may help counselors working with college students. All participants have the option of printing out a confirmation page that generates a unique confirmation number that can be used as confirmation of completing the online survey. No course credit or extra credit will be given for completing the survey.

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any survey questions for any reason.

If you have questions about this study, call Brinda Prabhakar at 770-329-6129 or Ruth Chao, PhD at 303-871-2556. If you have any concerns or complaints about how you were treated during research participation, you may contact the Chair of the Institutional Review Board for the Protection of Human Subjects, at 303-871-4015 or by emailing IRBChair@du.edu, or you may contact the Office for Research Compliance by emailing IRBAdmin@du.edu, calling 303-871-4050 or write to the University of Denver, Office of Research and Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121.

The University of Denver Institutional Review Board has determined that this study qualifies as exempt from full IRB oversight.

You should receive a copy of this form for your records. Please sign the next page if you understand and agree to the above. If you do not understand any part of the above statement, please ask the researcher any questions you have.

Agreement to be in this study

I have read this paper about the study or it was read to me. I understand the possible risks and benefits of this study. I know that being in this study is voluntary. If I choose to be in this study I may print a copy of this consent form.

Please check the box below if you agree to the above:

Date:

By continuing with this research, you are consenting to participate in this study.

Appendix B
Demographic Questionnaire

1. What is your age?
 - a. younger than 18
 - b. 18-21
 - c. 22-25
 - d. 26-30
 - e. older than 30
2. What is your gender?
 - a. Male
 - b. Female
 - c. Transgender
3. How would you describe your race/ethnicity?
 - a. American Indian or Alaska Native
 - b. Asian or Asian American
 - c. Black or African American
 - d. Hispanic or Latino/Latina
 - e. Native Hawaiian or other Pacific Islander
 - f. White
 - g. Biracial/Multiracial
 - h. Other
4. What is your home country?
 - a. China
 - b. India
 - c. Saudi Arabia

- d. Other _____
- 5. How long have you been in the United States?
 - a. less than 1 year
 - b. 1-2 years
 - c. 2-4 years
 - d. more than 4 years
- 6. What is your area of study?
 - a. Business
 - b. Social Sciences
 - c. Engineering
 - d. Math and Computer Science
 - e. Other
- 7. How is your education funded?
 - a. Family
 - b. Government
 - c. Loans
 - d. University
 - e. Other
- 8. How would you describe your Socioeconomic Status (SES)?
 - a. Low
 - b. Low-middle
 - c. Middle
 - d. Middle-upper
 - e. Upper class
- 9. What is your marital status?
 - a. Single

b. Married

10. What year are you in school?

a. Freshman

b. Sophomore

c. Junior

d. Senior

e. Graduate School

f. English Language School/Intensive English Program

11. Which best describes your current living situation?

a. Living in a dormitory

b. Living off campus with a roommate

c. Living off campus alone

d. Living off campus with family

The Acculturative Stress Scale for International Students (ASSIS)

INSTRUCTIONS: We are interested in how you feel about the following statements. Please read each statement carefully. Choose a number which indicates how much the statement applied to you over the past 3 months. There is no “right” or “wrong” answer. Please respond to what you think or how you feel at this point in time.

The rating scale is as follows:

1-----2-----3-----4-----5
STRONGLY DISAGREE SOMEWHAT DISAGREE NEUTRAL SOMEWHAT AGREE STRONGLY
AGREE

- ___1. I feel that my people are discriminated against.
- ___2. I am treated differently because of my race.
- ___3. I am treated differently because of my color.
- ___4. Many opportunities are denied to me.
- ___5. I am treated differently in social situations.
- ___6. Others are biased toward me.
- ___7. I feel low because of my cultural background.
- ___8. I feel that my status in this society is low due to my cultural background
- ___9. I don't feel a sense of belonging here.
- ___10. I feel that I receive unequal treatment.
- ___11. I am denied what I deserve
- ___12. I feel angry that my people are considered inferior here.

- ___13. I feel some people don't associate with me because of my ethnicity.
- ___14. Homesickness bothers me.
- ___15. I feel sad living in unfamiliar surroundings.
- ___16. I miss the people and country of my origin.
- ___17. I feel sad leaving my relatives behind.
- ___18. People show hatred toward me nonverbally.
- ___19. People show hatred toward me verbally.
- ___20. People show hatred toward me through actions.
- ___21. Others are sarcastic toward my cultural values.
- ___22. Others don't appreciate my cultural values.
- ___23. I fear my personal safety because of my different cultural background
- ___24. I feel insecure here.
- ___25. I frequently relocate for fear of others.
- ___26. I generally keep a low profile due to fear.
- ___27. I feel uncomfortable to adjust to new foods.
- ___28. Multiple pressures are placed on me after migration.

___29. I feel uncomfortable to adjust to new cultural values.

___30. I feel guilty to leave my family and friends behind.

___31. I feel guilty that I am living a different lifestyle here.

___32. I feel nervous to communicate in English.

___33. I feel intimidated to participate in social activities.

___34. It hurts when people don't understand my cultural values.

___35. I feel sad to consider my people's problems.

___36. I worry about my future for not being able to decide whether to stay here or go back.

The Self-Stigma of Seeking Help Scale (SSOSH)

INSTRUCTIONS: People at times find that they face problems that they consider seeking help for. This can bring up reactions about what seeking help would mean. Please use the 5-point scale to rate the degree to which each item describes how you might react in this situation.

The rating scale is as follows:

1-----2-----3-----4-----5
STRONGLY DISAGREE SOMEWHAT DISAGREE NEUTRAL SOMEWHAT AGREE STRONGLY AGREE

- ___1. I would feel inadequate if I went to a therapist for psychological help.
- ___2. My self-confidence would NOT be threatened if I sought professional help.
- ___3. Seeking psychological help would make me feel less intelligent.
- ___4. My self-esteem would increase if I talked to a therapist.
- ___5. My view of myself would not change just because I made the choice to see a therapist.
- ___6. It would make me feel inferior to ask a therapist for help.
- ___7. I would feel okay about myself if I made the choice to seek professional help.
- ___8. If I went to a therapist, I would be less satisfied with myself.
- ___9. My self-confidence would remain the same if I sought professional help for a problem I could not solve.
- ___10. I would feel worse about myself if I could not solve my own problems.

The Perceptions of Stigmatization by Others for Seeking Help Scale (PSOSH)

INSTRUCTIONS: Imagine you had an emotional or personal issue that you could not solve on your own. If you sought counseling services for this issue, to what degree do you believe that the people you interact with would _____.

The rating scale is as follows:

1-----2-----3-----4-----5
NOT AT ALL A LITTLE SOME A LOT A GREAT DEAL

- ___1. React negatively to you
- ___2. Think bad things of you
- ___3. See you as seriously disturbed
- ___4. Think of you in a less favorable way
- ___5. Think you posed a risk to others

The Social Provisions Scale (SPS-10)

INSTRUCTIONS: Please use the 4-point scale to rate the degree to which each item describes you best.

The rating scale is as follows:

1-----2-----3-----4
STRONGLY DISAGREE DISAGREE AGREE STRONGLY AGREE

- ___1. There are people I can depend on to help me if I really need it.
- ___2. I feel that I do not have close personal relationships with other people.
- ___3. There is no one I can turn to for guidance in times of stress.
- ___4. There are people who enjoy the same social activities that I do.
- ___5. I do not think other people respect my skills and abilities.
- ___6. If something went wrong no one would come to my assistance.
- ___7. I have close relationships that people provide me with a sense of emotional security and well-being.
- ___8. I have relationships where my competence and skills are recognized.
- ___9. There is no one who shares my interests and concerns.
- ___10. There is a trustworthy person I could turn to for advice if I were having problems.

Table 1 – Overview of Variables

Overview of Independent and Dependent Variables: Means, Standard Deviations, Ranges of Scores, Skewness, Kurtosis, and Cronbach’s Alpha

Variable	N	Mean	(s)	Range	Skewness	Kurtosis	α
<i>ASSIS</i>	138	81.58	24.35	36-146	.21	-.61	.95
<i>SSOSH</i>	138	25.29	6.33	11-44	-.13	-.28	.75
<i>PSOSH</i>	138	9.63	4.17	5-21	.69	-.46	.84
<i>SPS</i>	138	31.5	4.88	19-43	.007	-.48	.79

Table 2 – Demographic Variables and Outcome Variable 1

Overview of Demographic Variables and Perceived Stigma by Others for Seeking Psychological Help: Pearson Correlation, ANOVA, and t-test results

Variable	F	<i>r</i>	α
<i>Age</i>		-.01	.91
<i>Time in the US</i>		-.13	.14
<i>Ethnicity</i>	3.26**		.01
<i>Gender</i>	.46		.50
<i>Major</i>	1.57		.19
<i>Funding</i>	1.28		.28
<i>SES</i>	.55		.70
<i>Year in School</i>	1.83		.11
<i>Living Situation</i>	1.08		.37
<i>Marital Status</i>	1.02		.31

Table 3 – Demographic Variables and Outcome Variable 2

Overview of Demographic Variables and Self-Stigma for Seeking Psychological Help: Pearson Correlation, ANOVA, and t-test results

Variable	F	<i>r</i>	α
<i>Age</i>		-.06	.52
<i>Time in the US</i>		-.08	.35
<i>Ethnicity</i>	3.57**		.01
<i>Gender</i>	14.16**		<.01
<i>Major</i>	1.03		.39
<i>Funding</i>	.16		.96
<i>SES</i>	.60		.66
<i>Year in School</i>	.83		.53
<i>Living Situation</i>	1.57		.19
<i>Marital Status</i>	.87		.39

Table 4 – **Hypothesis 1**

Hierarchical Regression of Perceived Stigma by Others for Seeking Psychological Help on Acculturative Stress, Ethnicity, Time in the United States, and Social Support

Block 1	B	SE B	β	p
SPS-10	-.22	.07	-.26	<.01
Ethnicity	.15	.16	.08	.34
Block 2				
SPS-10	-.11	.08	-.13	.17
Ethnicity	.20	.15	.10	.21
ASSIS	.05	.02	.31**	<.01

Note. ** $p < .01$. For block 1, $R^2 = .08$, $p = .01$, and for block 2, $R^2 = .15$, $p = <.01$; $\Delta R^2 = .08$, $p < .01$, and adjusted $R^2 = .13$.

Table 5 – Hypothesis 2

Hierarchical Regression of Perceived Stigma by Others on Acculturative Stress, Introduction of Behavioral Health, Social Support, Ethnicity, and Acculturative Stress x Introduction of Behavioral Health

	B	SE B	β	p
Block 1				
Social Support	-.22	.07	-.26**	<.01
Ethnicity	.15	.16	.08	.34
Block 2				
Social Support	-.12	.08	-.14	.13
Ethnicity	.18	.16	.09	.25
ASSIS	.05	.02	.30**	< .01
Behavioral Health	-.58	.68	-.07	.40
Block 3				
Social Support	-.10	.08	-.12	.20
Ethnicity	.18	.15	.09	.25
ASSIS	.08	.02	.46**	< .01
Behavioral Health	-.55	.68	-.07	.42
ASSIS x Behavioral Health	-1.07	.68	-.20	.12

Note. ** $p < .01$. For block 1, $R^2 = .08$, $p = .01$. For block 2, $R^2 = .16$, $\Delta R^2 = .08$, and $p < .01$. For block 3, $R^2 = .17$, $\Delta R^2 = .016$, and $p = .12$. Adjusted $R^2 = .14$.

Table 6 – **Hypothesis 3**

Hierarchical Regression of Self-Stigma for Seeking Psychological Help on Acculturative Stress, Ethnicity, Gender, and Social Support

Block 1	B	SE B	β	p
SPS-10	-.35	.11	-.27**	<.01
Ethnicity	.28	.23	.10	.23
Gender	-3.21	1.02	-.25**	<.01
Block 2				
SPS-10	-.33	.12	-.25**	.01
Ethnicity	.29	.24	.01	.22
Gender	-3.21	1.03	-.25**	<.01
ASSIS	.01	.02	.04	.68

Note. For block 1, $R^2 = .17$, $p < .01$ and for block 2, $R^2 = .17$, $\Delta R^2 = .001$, $p = .68$.
Adjusted $R^2 = .15$.

Table 7 – Hypothesis 4

Hierarchical Regression of Self-Stigma on Acculturative Stress, Introduction of Behavioral Health, Social Support, Gender, Ethnicity, and Acculturative Stress x Introduction of Behavioral Health

	B	SE B	β	p
Block 1				
Social Support	-.35	-.11	-.27	< .01
Ethnicity	.28	.23	.10	.23
Gender	-3.21	1.02	-.25**	< .01
Block 2				
Social Support	-.36	.12	-.27**	< .01
Ethnicity	.26	.24	.09	.28
Gender	-3.21	1.03	-.25**	< .01
ASSIS	.06	.02	.03	.72
Behavioral Health	-1.30	1.04	-.10	.22
Block 3				
Social Support	-.33	.12	-.25**	.01
Ethnicity	.25	.23	.09	.28
Gender	-3.04	1.02	-.24**	< .01
ASSIS	.06	.04	.24	.08
Behavioral Health	-1.25	1.03	-.10	.23
ASSIS x Behavioral Health	-2.16	1.03	-.26**	.04

Note. For block 1, $R^2 = .17$, $p < .01$. For block 2, $R^2 = .18$, $\Delta R^2 = .011$, $p = .43$. For block 3, $R^2 = .21$, $\Delta R^2 = .027$, $p = .04$. Adjusted $R^2 = .17$.

Table 8 – **Demographics**

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Younger than 18	3	2.2	2.2	2.2
18-21	71	51.4	51.8	54.0
22-25	39	28.3	28.5	82.5
26-30	13	9.4	9.5	92.0
Older than 30	11	8.0	8.0	100.0

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	66	47.8	48.2	48.2
Female	71	51.4	51.8	100.0

Country	Frequency	Percent	Valid Percent	Cumulative Percent
Angola	11	7.6	7.6	7.6
Brazil	3	2.1	2.1	9.7
China	76	55.1	55.1	64.8
India	5	3.6	3.6	68.4

Iran	4	2.9	2.9	71.3
Iraq	2	1.4	1.4	72.7
Kuwait	6	4.3	4.3	77
Norway	3	2.1	2.1	79.1
Saudi	9	6.5	6.5	85.6
Other	19	14.4	14.4	100.0

Time in US	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1 year	64	46.4	46.7	46.7
1-2 years	43	31.2	31.4	78.1
2-4 years	16	11.6	11.7	89.8
More than 4 years	14	10.1	10.2	100.0

Major	Frequency	Percent	Valid Percent	Cumulative Percent
Business	57	41.3	41.6	41.6
Social Sciences	19	13.8	13.9	55.5

Engineering	27	19.6	19.7	75.2
Math/Computer Science	14	10.1	10.2	85.4
Other	20	14.5	14.6	100.0

Funding	Frequency	Percent	Valid Percent	Cumulative Percent
Family	85	61.6	62	62.0
Government	27	19.6	19.7	81.8
Loans	4	2.9	2.9	84.7
University	17	12.3	12.4	97.1
Other	4	2.9	2.9	100.0
SES	Frequency	Percent	Valid Percent	Cumulative Percent
Low	11	8.0	8.0	8.0
Low-Middle	12	8.7	8.8	16.8
Middle	71	51.4	51.8	68.6
Middle- Upper	39	28.3	38.5	97.1
Upper	4	2.9	2.9	100.0

Marital Status	Frequency	Percent	Valid Percent	Cumulative Percent
Single	130	94.2	94.9	94.9
Married	7	5.1	5.1	100.0

Year in School	Frequency	Percent	Valid Percent	Cumulative Percent
Freshman	37	26.8	27	27.0
Sophomore	5	3.6	3.6	30.7
Junior	5	3.6	3.6	34.3
Senior	8	5.8	5.8	40.1
Graduate School	39	28.3	28.5	68.6
Launch Program	43	31.2	31.4	100.0

Living Situation	Frequency	Percent	Valid Percent	Cumulative Percent
Dormitory	5	3.6	3.6	3.6

Off Campus with roommate	85	61.6	62.0	65.7
Off campus alone	33	23.9	24.1	89.9
With Family	13	9.4	9.5	99.3
Other	1	.7	.7	100.0