DEVELOPMENT AND INITIAL VALIDATION OF THE INTERNATIONAL STUDENTS' ADVISING RELATIONSHIPS SCALE (iSTAR)

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by

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

DEVELOPMENT AND INITIAL VALIDATION: INTERNATIONAL GRADUATE STUDENTS' ADVISING RELATIONSHIPS SCALE

presented by Apoorvee Sawhney, a student for the degree of Doctor of Philosophy, and hereby certify that, in their opinion, it is worthy of acceptance.

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Dedication

I would like to dedicate this work and achievements in receiving this doctorate to my family (Mumma-Papa, Bhaiya-Bhavna, and my grandparents) and mentor, Dr. Daisaku Ikeda. I want to express my deepest appreciation to my parents (Avneesh Sawhney & Preetika Sawhney) who made huge sacrifices (many unseen) by supporting my decision of pursuing a doctorate in the U.S. Your constant support during the ups and downs of life have been my biggest treasure. My brother, Karan Sawhney, you have been my rock. Your support and love go beyond words. Additionally, my practice of Nichiren Buddhism was my anchor in helping me accomplish my mission of advancing Kosen Rufu (happiness of self and others) in the U.S. The support from my Buddhist community and friends was very meaningful in navigating this journey.

Lastly, I dedicate this work to all the international students who make the brave choice of coming to another country to fulfill their dreams. I hope this work advocates for you. I hope this work celebrates you!

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Abstract

The International Student's Advising Relationship scale (iSTAR) was developed to allow counselors, educators, and researchers to assess international students' relationship with their advisors from a cultural lens. An exploratory factor analysis was conducted with 285 international students and resulted in 3 factors: interpersonal support, instructional support, and visa issues that included 26 items. The alpha coefficients were Total Scale $\alpha = .956$; Interpersonal Support $\alpha = .946$; Instructional Support $\alpha = .915$; and Visa Issues $\alpha = .939$ implying that the scale as a whole and the subscales demonstrate a high degree of internal consistency. To provide initial validity evidence of the iSTAR measure, both criterion-related validity and discriminant validity were examined. Implications for counseling, mental health practices, and institutions in higher education were discussed.

Key words: international graduate students, advisors, cultural factors, mentoring, academic support, career development

Chapter I: Introduction

The United States began to host international students as early as 1784 and the enrollment rate has crossed half a million since 1999 (Jenkins, 1983; Institute of International Education, 2018). Today, the percentage of international student college enrollment in the U.S. is around 5.5% of the total U.S. enrollment. The U.S. is the largest host for international students globally. A significant proportion of this population comes to the U.S. to pursue graduate studies, which includes master's students (58.98%) and doctoral students (32.25%) (Institute of International Education, 2018). This growth can be accounted to the development in the economy of countries, and the ability of families and the government to support these students to meet global demands (Agarwal & Winkler, 1985). International students come from diverse countries and enroll in a range of programs to work on their primary goal of pursuing an educational degree (Institute of International Education, 2018; Moores & Popadiuk, 2011). Additionally, international students play a significant role in contributing to financial, cultural, and social aspects of the U.S. society (Institute of International Education, 2017). International students come to U.S. mostly to gain higher education and contribute significantly to universities in the form of revenue as well as culture and diversity in the learning curriculum. However, these students have numerous challenges such as acculturative stress, requirements for high level of English proficiency, understand and adapt to the sociocultural and political climate in the U.S., varied levels of openness from faculty and peers, financial stress, visa issues, adjustment to the novel educational system, academic writing, and availability and accessibility to opportunities have been well documented (Knox et al., 2013; Lee, 2013; Park et al., 2012; Wang & Heppner, 2015, Sherry et al., 2010). The present study aims at understanding ways to holistically support international students by examining their relationship with the advisor in the graduate program.

Advising is a key factor in helping international graduate students overcome the challenges that they face when they come to the U.S. and to flourish (Rice et al., 2009; Wei et al., 2012). An advisor is defined as the person who has the most contact with their advisee and is important for student training, program completion, career advancement, social networks, research and publication collaborations, job placement, and providing emotional support (Bargar & Mayo-Chamberlain, 1983; Beiber & Worley, 2006). Mentors are persons who are invested in a student's welfare by performing functions that include counseling, confirming progress, sponsoring, protecting, role modeling, networking, and informing (Green & Bauer, 1995; Rose, 2005; Winston & Polkosnik, 1984). Advising and mentorship can be seen on a spectrum with mentorship being more comprehensive and personal in supporting an advisee's development. Advisors play a central role as a supervisor, dissertation chair, professor, and support the personal and professional development of these students (Schlosser & Gelso, 2001, 2005; Schlosser et al., 2003). Moreover, a positive advising relationship was found to be a significant factor in reducing international students' stress levels and adjustment issues (Rice et al., 2009; Wei et al., 2012). Additionally, studies have found that the needs of international students vary from domestic students, which influences educational achievement and other areas of development in graduate school (Rice at al., 2009). Advisors play an important role in helping these students navigate their challenges and hone on their strengths. Culturally responsive advising is critical to support international students. It is defined as advisor's keenness to learn about their advisee's cultural background and have a genuine interest and appreciation for their cultural heritage (Zhang & Dixon, 2001). Cultural responsiveness exhibits itself in the advising relationship by advisors having an awareness of one's own cultural identity and views about

difference, and the ability to learn and build on the varying cultural and community norms of students and their families. It entails advisors striving to understand the within-group differences that make each student unique, while celebrating the between-group variations. Culturally responsive advisors continuously support international students through examination of assumptions about race and culture, and how that influences their advising relationships.

Rationale of the Study

Large gaps in the literature have been identified in understanding international graduate student experiences with advising. First, studies assessing advising focus on Asian international students and students from other countries are not adequately represented (e.g., Park-Saltzman et al., 2012; Pendse & Inman, 2017; Wei et al., 2012). Second, a lack of focus on culture in assessing the advisory relationship have been identified. In the field of counseling psychology, advising and supervision have been least represented in research whereas cultural factors were well-represented (Pendse & Inman, 2017). This suggests the need to merge the two (i.e., cultural factors and advising/supervision) and examine culturally sensitive advising in totality. Counseling psychology is identified as a field that is sensitive to cultural issues and relationships; this suggests why other fields may lack skills and training in providing culturally sensitive advising. Lastly, Schlosser and Gelso (2001) developed the Advisory Working Alliance Inventory (AWAI-S), which does not include cultural factors that may contribute to support and challenges of international students and its influences on the advising relationship. Additionally, the scale assesses the working alliance between the advisor and advisee, focusing on dimensions such as rapport, apprenticeship, and identification–individuation (i.e., advisee's wanting/not wanting to be like their advisor or seeing them as a role model) there is a need to understand advising relationships holistically as the relationship between the advisor and advisee is not

limited to collaboration on academic tasks and functions. Significant contributions have been made to understand this construct, one being the development the Model of the Advising Relationship, which is a multiculturally infused model to conceptualize advising (Schlosser et al., 2011b). Research has also highlighted the lack of measures to assess advising relationships and predict outcomes of this construct (Schlosser et al., 2011b). Therefore, the purpose of the present study is to develop a reliable and valid measure to examine advisee-advisor relationships among international students. The new scale is the international students' advising relationships measure (iSTAR). The implications of this study will be discussed later in the paper.

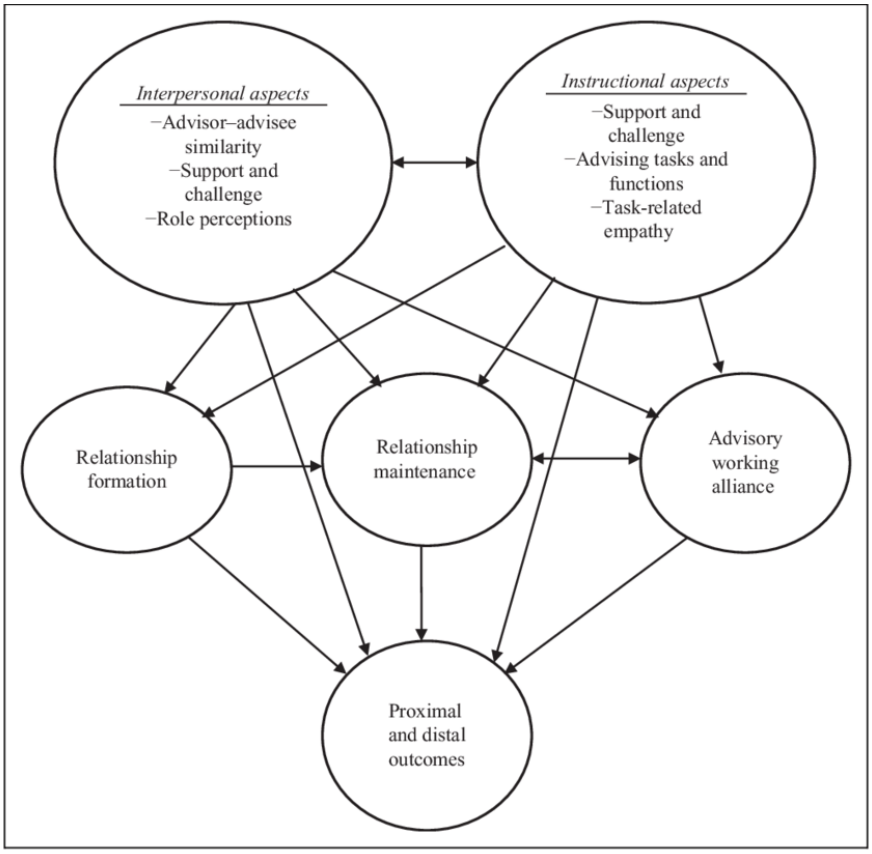
Theoretical Framework

The present study is theorized using the Model of the Advising Relationship (Schlosser et al., 2011b). The model highlights interpersonal (advisor-advisee similarity, support and challenge, role perceptions) and instructional aspects (support and challenge, advising tasks and related empathy) of advising relationships. Further, the model discusses how these aspects influence relationship formation, relationship maintenance and working alliance, and subsequently predict outcomes. This model has been used to understand mentoring in higher education, challenges in advising international students as well as for predicting outcomes like career development, and for education and training (Erford & Crockett, 2012; Knox et al., 2013; Wei et al., 2012; Furr & Brown-Rice, 2016; Kahn & Schlosser, 2014). The findings of these studies align with the model, and the scholars noted that advisors must consider and attend to international students' culture and unique challenges in graduate school. Moreover, culturally insensitive or culturally incompetent advising was considered a prominent problem among international students as shown in these studies. Prior studies have also noted that research competence, research self-efficacy, research engagement and attitudes, and research outcome

expectations are significant outcomes of advising (Rigg et al., 2013). Therefore, the Model of the Advising Relationship provides a strong theoretical foundation to develop a culturally fair measure to examine international graduate students' advising relationships. The next section highlights studies to better understand international students' advising relationships by examining interpersonal and instructional components of the relationship.

Figure 1

Model of the Advising Relationship (Schlosser et al., 2011b)



Note. The figure indicates the interpersonal and instructional aspects of the advising relationship.

Interpersonal Factors in the Advising Relationship

The connection formed between an advisor and advisee is often based on the similarity between the two individuals. Transitioning to another country and striving to acculturate into the

new culture is accompanied by many stressors. The conflict between international students' values, beliefs, and behaviors between their home culture and the mainstream culture may surface in advising (Berry, 1980; Park-Saltzman et al., 2012). Studies have found similarity in acculturation and worldview as positive contributors to the advising relationship (Knox et al., 2013). Furthermore, international students cope with loneliness and isolation as they adjust to their new home and look for support and connections (Sawir et al., 2008). Relationships with advisors is a source of support, particularly in the initial days of their adjustment (i.e., 9-24 months; Wang et al., 2018). Collectively, these challenges highlight the need for advisors to foster a relationship with advisees beyond task-related areas.

The interpersonal relationship is also influenced by international students' role perceptions of their advisors. Typically, international students in comparison to domestic students, value advisors more in the capacity of being relational (Rose, 2005). Additionally, gender and age differences influence the relationship, as they are naturally infused in one's culture (Offstein et al., 2004). Overall, many limitations are recognized in ways in which advisors provide effective advising to international students from the cultural lens. Some studies noted that advisors have recognized general challenges of these students but have not received training to address cultural issues pertaining to international students (Zhang, 2015, 2016). This training may help promote cross-cultural communications between advisors and advisees, which may enhance international students' advising experiences and subsequently, their well-being.

Instructional Factors in the Advising Relationship

Advisors help international graduate students make decisions around a range of topics, specially concerning their career development, such as course selection, internship opportunities, creating a plan of study, and examining graduation requirements (Sutton & Sankar, 2011; Varma

& Hahn, 2007). Studies have found that international students do not differ from domestic students in regard to advisor support as international students' main focus is their academic performance. Further, international students are hesitant to form many social relationships (Curtin et al., 2013). Other studies have found that those international students who felt disrespected by their advisors (interpersonal factors) experienced more academic stress compared to domestic students (Rice et al., 2009). These results highlight the importance of academic performances for these students as well as the central role of advisors in providing support compared to other social connections.

Studies have reported that advisors view international students as significant contributors in research work (Barber & Morgan, 1988; Trice, 2003). However, excessive demands from the advisors, lack of feedback, poor feedback, conflict, poor communication, and incongruency in research interests have been noted as factors that negatively influence the advising relationship (Rice et al., 2009; Adrian-Taylor et al., 2007). These challenges must be considered and intertwined in the advising relationship to showcase task-based empathy and offer support. Typically issues such as language barriers, lack of autonomy and initiation must also be considered in academic writing and research project developments (Yan & Berliner, 2009; Stevens et al., 2010). Based on these studies, advisors should take appropriate measures to support the development of international students who may struggle with taking the lead on projects, conveying their ideas in English, or feeling like they are not good enough. Moreover, international students were not different from domestic students in terms of academic performances, but efforts must be made by advisors to aid them in applying new knowledge in reduced stress situations, and also promote engagement in cultural perspectives to allow for interactions and connections among peers (Mellon, 2013).

In conclusion, the international graduate population is unique in their challenges, strengths and experiences. Advisors' ability to engage in culturally responsive ways when working and relating to their advisees serves as a critical role in supporting personal (e.g., language barrier, homesickness) and professional development (e.g., academic writing, networking) of international students. The scale development in the present study will aid in understanding how advising is perceived by international graduate students, which will provide areas for growth and training for advisors and potentially help in directing other resources on campus to be able to support this population.

Purpose of the Current Study

The aim of the present study is to (a) develop items assessing international students' advising relationships from a cultural lens and (b) use exploratory factor analysis to assess the factorial structure of the measure. Further, the predictive and discriminant validity of scale scores will be evaluated by (a) examining the association of scores of conceptually relevant constructs (e.g., academic satisfaction, acculturation, and life satisfaction) based on the advising relationship, (b) examining the correlations between scale scores and scores on other conceptually relevant measures (Advising Working Alliance), and (c) testing group differences (i.e., gender, nationality, and years in the U.S.).

Hypotheses

The current study will develop an instrument to assess international graduate students' advising relationships. The scores on the scale will be used to assess reliability (internal consistency) and validity (content, factor, predictive, concurrent, and discriminant). The hypotheses are listed below.

1. Reliability will be examined by assessing the internal consistency of the items. It is hypothesized that the responses on the items will be consistent and result in a coefficient alpha greater than .70.

2. Content validity of the developed scale will be examined by assessing the extent to which the items on the scale represent the entire domain (international graduate students' advising relationships). It is hypothesized that the content experts will indicate a mean of 3 or greater for each item reflecting the content that the scale intends to measure.

3. Factor validity will be examined based on the Model of the Advising Relationship (Schlosser et al., 2011b). It is hypothesized that 6 factors will be found.

4. Predictive validity will be examined by correlating the advising relationship scores with the scores on the (1) Acculturative Stress Scale for international Students, (2) Academic Satisfaction Scale, and (3) Satisfaction with Life Scale. It is hypothesized that the Advising Relationship scale scores will be positively correlated to scores on these scales, providing evidence of predictive validity.

5. Concurrent validity will be examined by correlating Advising Relationship scale scores with the scores on Advisory Working Inventory. It is hypothesized that the Advising Relationship scale scores will be moderately positively correlated to scores on this scale, providing evidence of concurrent validity.

6. Discriminant validity will be examined by correlating Advising Relationship scale scores with scores on Marlowe-Crown Social Desirability Scale-Short. It is hypothesized that

the Advising Relationship scale scores will not be significantly correlated to scores on the Marlowe-Crowne Social Desirability Scale, providing evidence of discriminant validity.

Chapter II: Literature Review

This chapter will provide an overview of the prominent literature around advising relationships of international graduate students. It will highlight the unique challenges and needs of international students and the role of the advising relationship as a protective factor for these students. Next, previous work on advising as it relates to international students will be discussed. The model used to theorize the present study and its components will be examined based on critically evaluating the studies in this area research. Lastly, the implications of the study will be discussed.

International Students in Context

The United States has experienced successive waves of international student enrollment in graduate programs and at present is the largest host of international students globally. International students are those who travel to another country to pursue an educational goal in a limited time (Moores & Popadiuk, 2011). It was reported that between 2017-2018 there were 10,94,792 international students enrolled in the U.S, that is, 5.5.% of the total U.S. enrollment. Around half of this population (42.9%) comprises graduate students including master's students (58.98%) and doctoral students (32.25%). International students come from a range of countries with China (33.2%), India (17.9%) and South Korea (5%) among the top 3 places of origin. Further, on examining the field of study that international students pursue, it was found that engineering was on the top (26.11%) followed by business and management (30%), and math and computer science (20.87). The health professions, education, and social sciences are less popular fields of study (Institute of International Education, 2018).

This data is indicative of globalization, cross-cultural exchanges, and advancement. It also highlights the diverse backgrounds of international students that influence challenges and

strengths. It is important to examine some factors that might be unfavorable in the home country (push factors) and factors that might be inviting (pull factors) in the host country to understand international students' experiences in totality. International students often feel motivated to come to the U.S. to gain higher education. Particularly, limited access to resources in developing countries draws them to study abroad. The home country is impacted by this decision depending on whether these international students wish to return home or not. Many of these students are high achievers from high socio-economic backgrounds and obtain better education compared to those who graduated from institutions in their home country. This can have implications such as loss of human capital if they decide to stay in the US or gain of human capital if they decide to go back (Freeman, 2006). Some other benefits of coming to the U.S include permanent residency in the U.S., economic benefits, creating new opportunities in the home country, and improved social status (Khadria, 2011, Zhou, 2015; Kim et al., 2011).

Studies have noted that international students play an instrumental role in enhancing the economy of the U.S. (Slaughter & Rhoades, 2004). It was found that in 2015-2016, international students contributed $36 billion to the U.S. economy (Bureau of Educational and Cultural Affairs, 2017). Further, the primary source of funding for international students was their own or family (58.6%) followed by current employment (18.8%) and lastly the U.S. colleges or universities (15.8%) (Institute of International Education, 2018). Collectively, these contribute to the advancement of U.S. industry. Another area that was deemed as important was international students' additions to culture and diversity in the U.S. This plays a significant role in providing different perspectives in classrooms to help create a space where novel and unique ideas and skills can germinate (Lee & Rice, 2007; Harrison, 2002). Overall, there are a variety of reasons

for international students to get an education in the U.S. Understanding the diversity within this population group and their unique needs are critical.

The international graduate student population has unique needs and that will be the focus of the present study. Graduate international students come to the U.S. to enhance skills in specific areas and subsequently become a cardinal source of knowledge and skills for the U.S. economy (Chellaraj et al., 2008). With globalization, competition is increasing and international graduate students with specialized skills are more likely to be absorbed by U.S companies. These contributions make them different from U.S. graduate and undergraduate students. Graduate students are adults in different developmental stages. Often, they make sacrifices related to family and finances to transition to the U.S. as an international graduate student (Benshoff et al., 2015). All these experiences are infused with a high level of uncertainty in their own and in their family's lives. Additionally, graduate school itself is inherently challenging and adapting to a new culture makes the process even more difficult. Moreover, international graduate students grapple with unique challenges like financial struggles, language barriers, homesickness, lack of cultural understanding and general adjustment to cultural norms (Sherry et al., 2010). Adapting to a new way of living, food preferences and change in the weather also influence the functioning of these students (McLachlan et al., 2010). Moreover, discrimination and racism experienced by these international students significantly impacts their well-being (Wei et al., 2012). Collectively, these experiences impact the mental health of students which bleeds into social, occupational and other important areas of functioning. The correlates of the acculturation process coupled with the strenuous workload and responsibilities make international graduate students a population that requires attention.

Advising Relationships

Social support is a protective factor that helps international graduate students navigate the range of struggles that international students experience. One important relationship in graduate school is the advising relationship. An advisor is identified as a single faculty member entrusted with the responsibility by the graduate school to guide students through the graduate program by playing different roles such as a course instructor, dissertation chair, supervisor, and academic advisor (Schlosser & Gelso, 2001, 2005; Schlosser et al., 2003). Further, the term advising can be understood as a spectrum. On one end of the spectrum can be an advisor who supports their students in course selection with minimal interactions whereas the other end can entail advisors helping students make career decisions, guide dissertation, promote professional development by meeting their unique needs (Schlosser et al., 2011b). The latter one more closely depicts mentoring and is usually inherently positive, compared to the other side of the spectrum which can be positive, negative, or neutral based on the advisor's involvement in the development of their advisees. Scholars have noted that there are qualitative differences between an advisor and a mentor; while an advisor can be a mentor, not all advisors would be considered mentors (Lunsford, 2012; Rose, 2005).

This relationship is pivotal in shaping the experiences of the students. By performing these responsibilities, advisors influence the experiences of students concerning doctoral studies, socialization, post-graduate opportunities, and professional development (Lovitts, 2002, 2004). This brings into light the salient role of the advising relationship for international graduate students. International students' stress levels and adjustment issues have been associated with the advising relationship (Rice et al., 2009; Wei et al., 2012). This calls for the need for a culturally-focused model of advising to be able to cater to the unique needs of the international student population.

Pendse and Inman (2017) performed a content analysis across 34 years to assess the representation of international students in the counseling field. The content categories indicated that supervision and advising was one of the least represented areas in counseling research focusing on international students (1.96%). However, top categories included cultural adjustments, acculturation stress, cultural values and, language proficiency. There is a need for integration of cultural factors with advising to understand and foster meaningful advising relationships (Schlosser et al., 2011b). This study was conducted using counseling related journals, a platform that is considered culturally sensitive and has more focus on the relational aspects of advising (Rice et al., 2009) compared to other fields such as health care, education, etc. (e.g., Ume-Nwagbo, 2012; DeJaeghere, & Zhang, 2008). This emphasizes the need to examine international students' advising relationships among diverse fields. Also, the study noted that the sample comprised mostly of Asian international students. This is supported by other studies that highlight the unique challenges of Asian international students (Zhang & Dixon, 2003). Therefore, there is a need to address concerns of other minority international students by making the samples more diverse. The aim of the present study is to develop a measure to assess advising relationships of international students in diverse disciplines and country of origin.

Previous Research on Advising Relationships

There is a dearth of research on conceptualizing the advising relationship. Schlosser and Gelso (2001) devised a measurement called the Advisory Working Alliance Inventory (AWAI) to assess the working alliance in advisor-advisee relationships in graduate school. The sample was comprised of 281 students enrolled in 13 counseling psychology doctoral programs, with no international students. The 3 subscales included rapport, apprenticeship, and identification-

individuation. The scale showed good reliability and validity. Good psychometric properties were reported for the rapport and apprenticeship subscale scores (e.g., Cronbach's coefficients alpha ranged from .84 to .95), and the total AWAI-S score (.95). The reliability coefficient for identification- individuation ranged from .57 to .77, which was weaker compared to rapport and apprenticeship among counseling psychology graduate students (Schlosser & Gelso, 2001, 2005). The Advisory Working Alliance Inventory has also been used to assess working alliance for international students as well. For an East Asian international student sample of 143 students from China, Taiwan, and South Korea, the Cronbach's coefficient alpha reported was .94 for the total AWAI-S scores (Wei et al., 2012). AWAI-S has been used to assess English proficiency, acculturative stress, self-efficacy, and contributions in training among international students. (Wei et al., 2012; Huber et al., 2010; Morrison & Lent, 2014). However, an important limitation of the AWAI-S is the lack of focus on culture in assessing the advisory alliance, also noted by the authors.

Rice et al. (2009) played an instrumental role in understanding the role of advisors from the perspective of international students. The sample comprised of 365 international students representing sixty-six different countries and a range of majors. The authors developed a model of an ideal advisor for international students, which included cross-cultural empathy, interpersonal relationship, advisement, identification-individualization, and financial support as predictors of an ideal advisor. They also assessed the factor structures of AWAI-S, which supported the psychometric properties of this scale. The Cronbach alpha for the rapport, apprenticeship, and identification-individuation subscales, and total AWAI-S scale were .93, .90, .74, and .95 respectively. Furthermore, this study concluded that international students value the relational aspects of advising.

Previous studies (Schlosser & Gelso, 2001) have examined working alliance but it appears important to examine advising relationships holistically. Although the model of an ideal advisor was grounded in qualitative data from international students, there are limitations to this data as the sample in the study comprised mostly those students who were dissatisfied with their advising experiences. Despite the inclusion of an important construct, that is, cultural components in advising, there is a need to re-assess this model to evaluate the data in which this model is rooted.

Theoretical Base of the Present Study

Schlosser et al. (2011b) developed a multiculturally infused model called Model of the Advising Relationship to conceptualize advising holistically. This model intentionally infuses multicultural considerations and adopts the belief that culture plays a potent role in relationship effectiveness. The model highlights cultural variables, taking into consideration contextual and environmental factors, and cultural issues in the advisor-advisee relationship. The theorists' highlight interpersonal (advisor-advisee similarity, support and challenge, role perceptions) and instructional aspects (support and challenge, advising tasks and related empathy) of advising relationships. Further, the model discusses how these aspects influence one another and influence relationship formation, relationship maintenance and working alliance. Subsequently, it theorizes how these factors produce outcomes.

This model is particularly helpful in assessing advising relationships of international students who have unique struggles enveloped in cultural experiences. Previous studies have used this model to conceptualize different variables. One study reported the importance of open communication to improve the advising relationship, while also stated that advisors must be intentional in understanding and attending to cultural factors influencing their advisees (Knox et

al., 2013). The model of the Advising Relationship has also been researched from the standpoint of training in professional psychology (Kahn & Schlosser, 2014). Overall, this model helps support culturally appreciate training and supervision. It also helps encapsulate different identities such as gender, age, sexual orientation, nationality, etc. and how it plays out in the advising relationship.

Developing a scale based on this model would be an advancement to the field and meaningful in the following ways, a) to support international students within their cultural contexts, b) to meet the need to measure these constructs to support training and education, and c) to examine the literature on international students' advising relationships and this will be mapped using the components of the Model of the Advising Relationship.

Interpersonal Aspects of Advising

Advisor-Advisee similarity

An important component in the interpersonal aspects of advising is the similarity between advisor-advisee. It has been found that the similarity in career paths between the advisor and advisee is a marker for a good advising relationship and that similarity resulted in positive outcomes (Knox et al., 2006). Similarity between advisor-advisee was also seen to play an important role in fostering a positive relationship of mutual respect as it was a bonding point (Knox et al., 2006). Furthermore, another contributor to the initial attraction between advisor and advisee was similarity in biculturalism or marginalization (Schlosser et al., 2011b). Rice et al. (2009) conducted a study comparing the advising experiences of international students and domestic students. The results on the AWAI-S indicated dissatisfaction among international students concerning their working alliance due to perceived cultural differences between themselves and their advisors. Studies have highlighted the role of similarity in acculturation,

enculturation, and worldviews as a positive contributor to the advising relationship (Knox et al., 2013). Further, the results on gender differences in advising were mixed. Schlosser and Gelso (2001) and Rice et al. (2009) found no gender differences in the advising relationships. However, these results might be skewed as the majority of the sample in the first study was comprised of women (72%) and the sample for the second study was predominantly men. However, qualitative studies have found that gender differences operate, for example, in Middle Eastern families, men in the family make decisions for the family and are in the forefront; this may determine the relationship advisees share with advisors depending on their gender (Zhang, 2015).

Additionally, differences in age, personality and life experiences also contribute to satisfaction with the advising relationship (Offstein et al., 2004). A study with Asian international students found that among students with a strong advisory working alliance but who perceived a lower proficiency in English, acculturative stress was positively associated with psychological distress. This can be understood from the perspective that Asian students are likely to make advisors proud similar to their parents by achieving in academics (Wei et al., 2012). When advisors play roles similar to their parents and treat their advisees well, advisees wish to honor them by excelling in their educational endeavors. This highlights the role of both age and cultural similarities and how they play out in advising.

Supports and Challenges

It is important for advisors to strike the right balance between support and challenging international students by understanding their cultural contexts. Some of the challenges that international students face includes financial struggles, language barriers, homesickness, lack of cultural understanding and general adjustment to cultural norms. Some strengths include positive relationships with instructors, and support in academic writing by the university (Sherry et al.,

2010). International students cope with loneliness and isolation and yearn for social support and connection in the new land (Sawir et al., 2008). Since relationships with instructors are found to be a strength, it is important to train advisors to provide support to students on these aspects.

Another study assessed the cross-cultural adaptation of international students. The sample was comprised of 169 students and 42.6% of the sample comprised of graduate students. The study found that in the first 9-24 months of their residence in the U.S., students experienced culture shock and their socio-cultural adaptation increases steadily after that (Wang et al., 2018). This emphasizes the role of advisors in providing support and building a relationship with international students early in their advising relationship. The study recruited students representing a range of age, gender, nationality but researchers did not conduct an analysis to understand how these demographics impact the outcome (Wang et al., 2018). This is a limitation of the study as international students' cultural experiences may vary based on these identities and in turn influence the support they seek from their advisors.

Many socio-political aspects influence the lives of international students and their status to continue to stay in the U.S. A study aimed to understand the impact of concerns due to Trump's anti-immigrant policies on international students (Wang et al., 2015). Interviews were conducted with a sample that was comprised of international students (42) from 6 different continents. Many international students refrained from going home due to fear of not being able to return. The study noted feelings such as being anxious, apprehensive and scared as an international student and also noted worry about future employment. This brings advisors to the forefront to enhance their awareness and knowledge on such issues to be able to support international students. The study does not assess the role of advisors in navigating the challenge around visa status and how that influences returning to the U.S. and employment, which would

be an important future direction. A limitation of the study is that it focuses on 1 university and does not take into perspective the diverse international groups across the U.S. Each sub-group (nationality and religious affiliation) of the international student population may be impacted differently. Further, there is a need to understand these concerns consistently as they continue to influence the day-to-day life of international students given new policies, and negative rectories of Trump.

Bieber and Worley (2006) also indicated that students noted valuable feedback from their advisors as a contributor to their academic development. Appropriately challenging advisees may influence interest in pursuing and encouraging their interests and also set them up for success.

Overall, these cultural factors must be infused in advising to be able to support international students personally and professionally. This urges advisors to go beyond just the academic needs of students (Tidwell & Hanassab, 2007) and to use this relationship to navigate cultural concerns along with developmental milestones that students face in their graduate programs (Park-Saltzman et al., 2012).

Role perception

The role of an advisor in a student's life and how students perceive their role is a product of their respective cultural experiences. Rice et al. (2009) developed a model of an ideal advisor for international students, which included cross-cultural empathy, interpersonal relationship, advisement, identification-individualization, and financial support. While this model has not been tested rigorously, it provides insight into the roles' advisees wish for their advisors to play. In contrast to this study, a study found international students had fewer financial struggles compared to domestic students (Curtin et al., 2013), which indicates that some students may not perceive their advisors to play a role in this area.

The views of international and domestic graduate students on the ideal characteristics of an ideal mentor are also different (Rose, 2005). The author assessed 3 attributes of an advisor that include integrity, guidance, and relationships among 537 students enrolled in Ph.D. programs. The demographic composition of the sample included 25% students in social sciences and least represented in the sample was health sciences (6%). He found that for both groups, women scored higher compared to men on integrity, age was negatively associated with relationships, and international students' relationships were more important in comparison to domestic students. This study also brings into light the role of socio-cultural factors and its influence on advising. There are mixed results on gender and age group differences in advising, examining this in the present study will provide implications for career counseling and training.

Further, whether advisors are to able support advisees as they navigate the socio-political environment or any personal/professional challenges will imply whether the relationship is confined to that of an advisor or move towards mentorship (Schlosser et al, 2011b). Heppner (2017) recognized the internationalization of counseling psychology and identified ways to support the unique needs of international students. One of the strategies was to deliver culturally sensitive career services to international students after identifying that few international students utilized services due to the fear of not being understood. The study highlights the ways in which project sought funding to staff international students, which led to an increase in international students seeking career services. The authors of the study highlighted this as one cultural project and calls for other such projects as critical in mentoring in real-life situations. This article highlights systemic changes to support international students as a way of mentoring by going beyond one-on-one mentoring. Such endeavors can be taken up by other fields beyond

counseling psychology to advocate for social justice which is defined as a core value to end oppression and injustice, and advocacy as a work to remove barriers (ACA, 2014).

Another study indicates the role of advising sensitivity and the need to cultivate awareness around the unique needs of international students (Park-Saltzman et al., 2012). This study identifies the roles that advisors play, including: 1) identifying ways in which the advisor can adopt novel ways to address their advisees' issues, 2) responding to their advisees in culturally responsive ways, 3) identifying areas in which the advisor does not feel culturally competent and receiving training in those areas, 4) enhancing the overall relationship, which subsequently would improve international students' well-being and professional development. Overall, the paper highlights key ways in which culturally sensitive mentoring can influence the advising relationship. The article is focused on Asian international students; as each culture brings its uniqueness, we need to expand our understanding to international students from other cultural groups.

Instructional Aspects of Advising

Supports and Challenges

It is important to understand the support and challenges to succeed in the academic and career development of international students. Rice et al. (2016) extended their previous work (Rice et al., 2009) of examining the advising experiences of both international students and domestic students. International (n = 434) and domestic (n = 387) students completed the Advisory Working Alliance Inventory Student version (AWAI-S) and based on the results on the measure the two groups did not differ in ratings regarding the general advising alliance, stress, and desire to change advisors. However, international students who felt disrespected by their advisors experienced more academic stress than domestic students. This highlights on how

interpersonal interactions between advisors and advisees influence instructional aspects of advising in the form of worry and concerns around academic performances.

Another study assessed differences between international students and domestic students concerning graduate school experiences and whether an advisor's support and belonging were related to students' self-concept (Curtin et al., 2013). The sample was comprised of 841 students who began their university graduate programs between 1998 and 2003. The study noted that international students did not differ from domestic students in terms of advisor support. This might be due to the focus international students place on research-based skills and academic achievement. Additionally, international students were less likely to report negative experiences regarding their academic experiences. This study also found that domestic and international students' positive advising experiences positively influences both academic self-concept and sense of belongingness. However, for international students no relationship between academic self-concept and sense of belongingness was found, which may tie in with less interest in being socially integrated. While this study underscores the focus, international students place on academic achievement it also highlights the sacredness of advising relationships compared to other social experiences.

Another study examined the perspectives of faculty members on challenges and benefits of international students (Trice, 2003). In this study, interviews were conducted with faculty members of 4 academic departments at a top midwestern research university and noted that majority of the students in these departments were Asian. All faculty members recognized that international students make significant contributions in their areas of study. They valued international graduate student's intellectual ability and presence in the program. Faculty recognized other concerns experienced by international students such as building a community,

adjusting to the culture, and being financially independent. The study noted that faculty found communication as a major challenge and wanted to learn ways to support students. Particularly, mechanical engineering faculty did not view international students as high achievers compared to other fields. This stresses the need for training faculty and advisors in the area of cultural awareness, communication, and global experiences to be able to support the needs of these students and to help them in achieving their career goals.

International students have unique challenges around seeking employment in the U.S., their country of origin, and other nations due to their status as an international student. Long-term career planning can be challenging as it requires students to take full consideration of immigration issues and may involve international re-location (Park-Saltzman et al., 2012). Advisors need to be sensitive around this decision-making process and understand different paths that international students need to take depending on their focus on the American job market or home country. For example, students with U.S. focused employment need to obtain practical training in the U.S. (i.e., a 12-month work authorization granted to nonimmigrant F-1 student visa holders) and learn about rules that regulate international student employment in the U.S. Students often look for support from their advisors to support their decision making around their career development and provide insight into the requirements and opportunities of employment in U.S. or outside (Spencer-Rodgers, 2000).

Advising tasks and functions

An advisor plays a range of roles in the graduate life of an international student. A concern that has not received great attention is areas of conflicts among international students and their advisors (Adrian-Taylor et al., 2007). The study was conducted with 55 international graduate students, out of which 29.6% were females. While the authors acknowledge that

advisors can contribute to reduced stress, physical problems, and overall satisfaction with graduate school, they also note advisor concerns such as lack of openness, supervisor's unavailability, varying expectations regarding responsibility, lack of feedback or support or guidance, etc. The study indicated that international students may not approach graduate program chair regarding their concerns due to the fear of negative consequences. Additionally, international students may avoid seeking counseling services as they may question its effectiveness. This urges universities to develop a system to evaluate advising satisfaction and utilization of student services. The implication of the study highlights the need for counseling centers on campus to create more awareness on campus by outreach directed towards international students specifically. Additionally, the authors call for the department staff and advisors to build trust with international students to share their concerns openly. They recommend that communicating expectations regarding responsibilities through open discussions from the beginning would help address this problem.

An important task of advisors is to address the challenges faced by international students. A study was developed to aid international students to succeed in areas such as academic writing because the writing is in English which differs in structure from the language they might have learned (Stevens et al., 2010). By engaging these students in reflective writing activities, training, and advising international students were able to build on their skills and participate in conferences and presentations. An advisor has a central role in guiding their students in grappling with the stressors that hinder their career development.

A study noted support that international students look for with regards to making decisions around their future. Particularly, anxiety around work-related matters such as finding summer internships, managing interviews, crafting resumes, work-visa issues, and employment.

Advising functions include providing support to international students in these areas as well. (Heng, 2017).

Overall, advisors hold different roles like coaching, teaching, guiding coursework, dissertation, internship, networking, and other roles that help international graduate students navigate through the graduate program. These roles are carried out in the realm of a relationship that must be based on the studies mentioned above. These career decisions are influenced by cultural context that affects the selection, training, and monitoring of choices in their career paths.

Task-related empathy

One area that graduate students are required to receive training is in research. However, many studies have found language barriers as a hindrance in this process. A study conducted on 18 Chinese international students found that the inability of international graduate students in producing quality work due to language insufficiency leads to advisors doubting international students' research skills (Yan & Berliner, 2009). This may make students doubt their academic capabilities and requires advisors to encourage students rather than doubting their credibility as a budding professional in their respective field. Moreover, it is important to recognize that students have unique needs based on their cultural backgrounds. The sample in this study was comprised of Chinese international students who often look out for guidance and they may have not developed self-directedness, autonomy and the ability to take initiative based on their cultural socialization. The advisor's ability to empathize with students when working on projects is essential to be able to support their career development and well-being.

Furthermore, studies caution advisors against theoretical abuse, which occurs when advisors enforce their research interests, conceptualizing framework, and meaning making onto

the advisees's work (O'Neill & Sankowsky, 2001). There is a dearth of literature on this area pertaining to international students. This might be due to the worry of negative consequences that international graduate students may experience by reporting these cases. It may lead to losing assistantships, which impacts students' financial status and a change in their research goals. This may influence their duration in the program, time and effort, and family plans. Moreover, these students may also lack knowledge about how these experiences are unjust. A qualitative study examined international students' perspectives on advising and noted that the program environment was not inclusive and culturally sensitive (Knox et al., 2013). Overall it was found that most students had positive experiences in advising. The majority of the sample was comprised of women who may have contributed to fostering a healthy advising relationship due to their emotional investment. Further, since these students were enrolled in counseling psychology, they may have developed skills to navigate their concerns and may not bank on the advising relationship for support. However, this may look very different for international students in other fields. Another reason could be that these students may not openly acknowledge challenges and concerns to maintain harmony (Park-Saltzman et al., 2012). Also, language barriers may influence students' sharing of concerns and can lead to fewer conversations. The students in the study advised international students to engage in open communications with advisors and other staff. International students must be protected against such unfair experiences and measures must be taken to improve communication and trust for international students to reach out for support.

Conclusion

Both interpersonal and instructional factors influence and are influenced by the working alliance, relationship formation, and relationship maintenance between advisors and advisees

(Schlosser et al., 2011b). Particularly for international students, the working alliance was associated with satisfaction with advising, and the area of study and gender were noted as areas of interest (Rice et al., 2009). This highlights the need to understand advising relationships in the cultural context. The development of a culturally sensitive scale to understand and assess advising relationships among international students is critical to support the unique needs of these students.

Implications of the Scale to Assess International Students' Advising Relationships

There is a range of challenges experienced by international graduate students and advisors are noted as a strong support system (Sherry et al., 2010). Therefore, a measure that assesses satisfaction with advising would be beneficial to understand the level of support offered to international students by considering cultural factors. The results from a scale development will help identify areas of support valued by students based on cultural experiences and may identify areas to strengthen among advisors.

Based on studies on cross-cultural adaptation among international students, it would be helpful to conduct group analysis based on age, gender, nationality to understand experiences of international students based on these identities (Wang et al., 2018). This will help in providing culturally sensitive advising. Additionally, many studies have restricted their sample to Asian international students (Park-Saltzman et al., 2012; Pendse & Inman, 2017; Wei et al., 2012). This suggests the need to examine experiences of other international populations to be able to support other cultural groups. It is important to consider heterogeneity and within-group differences among Asians as well. Considering Indian and Chinese international student, the difference in their experiences with proficiency with English language, family experiences, cultural norms,

etc. are notable and placing them under the umbrella of Asians can lead to dismissing their unique experiences and needs in advising.

Another implication of the scale development study would be to highlight areas that require greater cultural and socio-political awareness among advisors to support international students (Wang et al., 2015; Park-Saltzman, 2012; Zhang, 2015; Trice, 2003). Further, results on the scale may point to areas to enhance culturally competent training for advisors as cultural awareness was found to influence advising satisfaction and improved communication (Park-Saltzman et al., 2012). A scale developed to measure advising relationships may also be used to assess the advisors impact on international students' well-being, belongingness, self-concept, and openness (Curtin et al., 2013; Knox et al., 2013). Lastly, implications in counseling are also found such as examining the type of advisor that would match the student needs, to predict healthy advising relationships and subsequently predict personal and professional development

Schlosser et al. (2011) noted that predictions of outcomes of the advising relationship are few. The scale development in the present study, can be used to predict outcomes by assessing the predictive validity of the scale using constructs such as career development and well-being, which seem to be strongly associated with advising. Therefore, developing a culturally appropriate scale to assess these variables would be critical in understanding advising relationships and also extrapolating the information from this context to career development and career counseling.

Many qualitative studies use one-on-one interviews to provide rich data on international graduate student experiences, but qualitative studies do not allow us to generalize results (Adrian-Taylor et al., 2007; Rice et al., 2009; Knox et al., 2013). The scale development in the present study will help highlight common concerns among the international student population.

Collectively, this will provide implications for outreach on campus, policy-change, increase resources on campus, training for advisors, and help predict outcomes related to advising.

Chapter III: Method

In this chapter, the methodology and phases of developing a psychometrically sound scale to assess international graduate students' advising relationships are detailed. The methodology for the study is presented in two phases: (a) item construction by employing multiple item development methods to understand the construct under investigation (advising relationships), and (b) gathering psychometric data for the scale's scores, which includes conducting an exploratory factor analysis, and assessing the reliability and validity of the scores obtained on the scale. Further, in this section the inclusion criterion, recruitment process, data collection procedures, administration of scale, and incentives are highlighted.

Scale Development

Construct Definition

To avoid engaging in equivalence of measures and universality of construct detailed consideration must be given to conceptual, operational and cross-cultural equivalence (Hall et al., 2016). Most measures are validated on predominantly White college samples and it appears necessary to measure the construct keeping in mind different cultural values. For the purpose of this study, we focused on advising relationships as explained in the Model of the Advising Relationship. (Schlosser et al., 2011b). An advising relationship is defined *as students' perception of their relationship with their graduate advisor based on interpersonal aspects (advisor-advisee similarity, support and challenge, and role perception) and instructional aspects (support and challenge, advising tasks and functions and task-related empathy) of advising from a cultural lens, and its influence on personal and professional development of the advisee* (Schlosser et al., 2003, Schlosser et al., 2011b).

Item Generation

A multi-step item development process was adopted to develop a culturally sound measure to examine the advising relationship of international graduate students. Recommendations made by Crocker and Algina (1986) were used as the basis of developing items of this measure. The items were generated in 4 ways: (a) developed initial items based on the components of Model of the Advising Relationship mentioned above (Schlosser et al., 2011b), (b) reviewed the literature on advising for international graduate students, (c) members of a research team comprising of international students and domestic students from different disciplines generated a list of potential items, (d) feedback from 4 experts, 3 being international faculty members and 1 Latina psychologist well-known for her mentorship to international students, to ensure that items measured the construct appropriately and provided suggestions on restructuring items. Expert judges were asked to examine each potential item to determine the accuracy based on the following: (1) representativeness (i.e., characteristics) of advising relationships of international students, (2) cultural-validity (i.e., the degree of authenticity the cultural aspect of advising is represented), and (3) the need for revision, addition, or deletion. Experts were also asked to provide extensive open-ended feedback regarding questionable items (e.g., relevance, wording). The expert judges rated the accuracy of each item in capturing the advising relationships of international students using a Likert-type scale from 1 (*not at all*) to 5 (*very accurate*). Inclusion and exclusion of an item into the final version of the scale were based on a combination of expert ratings and open-ended feedback (See the Expert Judge Scale with Items in Appendix A). Means of each item can be found in Table 1. The final version of the scale included the feedback from the experts (i.e., deletion and addition of few items).

Participants

Based on previous literature, a ratio of 10 participants per item of the scale is suggested to effectively conduct an exploratory factor analysis (Tinsley & Tinsley, 1987). Additionally, a minimum sample size of 300 participants is recommended when conducting factor analysis (Worthington & Whittaker, 2006). The present study comprised of 285 participants. These participants were recruited from different regions of the U.S. (Midwest, East and West coast). Around half of the participants were from the Midwest region (51.56%). Further, the sample comprised a range of academic disciplines and country of origin. To participate in the study, the participants had to meet the following criteria: 18 years or older, self-identify as international students, and currently enrolled in a graduate program (master's or doctoral).

The sample for the study consisted of 285 international students. These participants self-identified as men (n = 135 [47.37%], women n = 144 [50.53%], transgender n = 1 [.35%], genderqueer n = 2 [.70%], Other n = 1 [.35%], and some who did not provide this information n = 2 [.70%]). Participants ranged in age from 19 to 49 years (M = 27.74, SD = 4.57). By relationship status, there were married (n = 71, 24.91%), single (n = 151, 52.98%), in a committed relationship (n = 51, 19.90%), separated (n = 1, .35%), and living with partner (n = 11, 3.86%). The most common country of origin of the participants were India (n = 105, 36.84%), China (n = 41, 14.39%), and South Korea (n = 18, 6.32%). Most participants reported not having children (n = 264, 92.63%). Additionally, there were many participants who reported having siblings (n = 215, 75.44%) and few of the siblings living in U.S. (n = 47, 21.86%) and living near by (n = 12, 25.53%). By educational attainment, there were high school graduates (n = 1, .35%), those with a Bachelor's degree (n = 104, 36.49%), Master's degree (n = 163, 57.19%), Doctorate degree (n = 15, 5.27%), and a Professional degree (n = 2, .70%). Most participants were employed with 20-hour assistantship per week (n = 171, 60%) followed by not

having an assistantship but seeking one (*n* = 30, 10.53%). By religion, there were Hindu (*n* = 78, 27.37%), who reported no preference (*n* = 52, 18.25%), Christian (*n* = 45, 15.79%), Buddhist (*n* = 12, 4.20%), Muslim (*n* = 32, 11.23%), Catholic (*n* = 11, 3.86%), Jewish (*n* = 2, .70%), Atheist (*n* = 29, 10.18%), Agnostic (*n* = 17, 5.96%), and who noted Other (*n* = 7, 2.46%). Based on the spiritual/religious affiliation participants indicated neutral preference (*n* = 77, 27.02%), very important (*n* = 61, 21.40%), important (*n* = 57, 20%), and unimportant (*n* = 47, 16.49%). The participants reported their advisor's demographics as men (*n* = 184, 64.57%), women (*n* = 94 (32.98%), Other (*n* = 3, 1.05%), and some who did not provide information (*n* = 4, 1.40%). Participants indicated those advisors who were of international origin (*n* = 127, 44.56%). Finally, participants indicated their advisor's race/ethnicity as European American (*n* = 146, 51.23%), Asian/Asian American (*n* = 82, 28.77%), African American (*n* = 16, 5.61%), Hispanic/Latino/a (*n* = 8, 2.81%), American Indian/Alaskan Native (*n* = 6, 2.11%), Multi-racial (*n* = 4, 1.40%), and who noted Other (*n* = 23, 8.07%). Refer to Table 2 for a complete description of the participants' demographics.

Data Collection and Procedures

The data for the present study were collected using an online data collection tool known as Qualtrics (http://www.qualtrics.com/). Participants indicated their interest by clicking on a button to an informed consent before they began responding to the survey. The anticipated time for completing the survey was 15-25 minutes. 3 validity check items were included to screen out invalid responses (e.g., "Please simply select/mark [strongly agree] for this item"). If participants responded correctly to 2 of the 3 validity check items, then their data were retained. The survey included the following: (1) consent form, (2) demographic form, (3) proposed International Graduate Students' Advising Relationship Scale, (4) Advisory Working Inventory (Schlosser &

Gelso, 2001), (5) Acculturative Stress Scale for international Students (Sandhu & Asrabadi, 1994), (6) Academic Satisfaction Scale (Lent et al., 2005), (7) Satisfaction with Life Scale (Diener et al., 1985), and (8) Social Desirability Scale (Ballard, 1992).

Based on the U.S. News rankings for the highest number of international students enrolled in national universities, the highest ranked universities within each region of the United States were chosen (U.S. News, 2019). These regions were defined by the U.S. Census Bureau as Northeast, South, Midwest and West regions (U.S. Census Bureau, 2013). The survey was disseminated to International Centers of these universities. In addition, personal emails were sent to faculty at different universities, other professional contacts, and friends and acquaintances who identify as international graduate students. All international graduate students enrolled in each of the target universities were invited to participate and encouraged to share the survey link with other international students. The survey link was distributed through a social media outlet (i.e., Facebook) and direct emails. Participants were offered the chance to win 1 of 2 $100 or 1 of 10 $50 or 1 of 10 $20 gift cards for their participation. All study incentives and procedures were reviewed and approved by the University of Missouri Institutional Review Board (IRB).

Overall, a total of 1448 survey responses were received, responses that did not meet the screening criterion (Are you an international student? and Do you have an advisor?) were removed (n = 68, 4.7%). Further, out of the total survey responses, those who did not correctly answer 2 out of the 3 validity check items were removed (n = 1038, 71.7%) and participants who completed the survey too quickly (i.e., less than 10 minutes) were removed (n = 907, 62.6%). The cut-off of 10 minutes was selected as that was the average time required to complete the first measure in the survey, which was important for scale development. Many of these excluded responses were not human responses (i.e., they were bots) and therefore, were removed. Those

who indicated the U.S. as their country of origin or current citizenship despite indicating that they were international students were removed. Only cases with 80% completed responses were retained for the analyses (n = 285), as suggested by Schlomer et al., 2010.

Measures

Consent Form

An informed consent form indicating the purpose, voluntary nature of participation, potential risks and benefits, confidentiality of data, and incentives for participation in study was provided. Additionally, contact information (names, phone number, email addresses) of the principal investigator and faculty chair were provided in the case of any questions or concerns about the study.

Demographic Form

A demographic survey was included to obtain additional information regarding participants' age, sex/gender, marital status, number of children, years in the U.S., racial/ethnic identity, country of origin, current institute of perusing degree, year in the program, present academic discipline, race/ethnicity of advisor, employment status (half/full assistantship, job on campus or off campus job), religious affiliation, support from international center, siblings in the U.S., and English proficiency.

Advisory Working Inventory (AWAI-S; Schlosser & Gelso, 2001)

This scale assesses the working alliance between an advisor and an advisee in graduate school. It is a 30-item measure that assesses 3 dimensions of the advising relationships: Rapport (eleven items), Apprenticeship (fouteen items), and Identification-individuation (5 items). Sample items include, "how well the advisor and advisee get along interpersonally" (rapport), "My advisor introduces me to professional activities (e.g., conferences, submitting

articles for journal publication)" (apprenticeship), and "I do not want to be like my advisor" (identification-individuation; all items for this subscale are reverse-scored). A Likert-type scale is used to respond to the items which range from 1 (strongly disagree) to 5 (strongly agree). High scores obtained on the sub-scale reflect high working alliance levels. The total scores on the AWAI-S highlight the overall quality of the advising relationship.

Overall, good psychometric properties were reported for the rapport and apprenticeship subscale scores (e.g., Cronbach's coefficients alpha ranged from .84 to .95), and the total AWAI-S score (.95). The reliability measure was weaker compared to the other two sub-scales for identification- individuation with alpha values ranging from .57 to .77 among counseling psychology graduate students (Schlosser & Gelso, 2001, 2005). Additionally, test–retest correlations over a 2-week period ranged from .75 to .92 for the total scale. Further, for an East Asian international student sample the Cronbach's coefficient alpha reported was .94 for the total AWAI-S scores (Wei et al., 2012). In terms of validity, construct validity was evidenced by significant positive correlations between advising alliance and research self-efficacy and general attitudes toward research (Schlosser & Gelso, 2001). Also, significant predictions about career development and career choices were noted as a result of the advising alliance (Kenny et al., 2006). In the present study, the internal consistency reliability for the current sample was .95.

Acculturative Stress Scale for International Students (Sandhu & Asrabadi, 1994)

This scale assesses the adjustment process of international students into a new culture. It is a 36-item measure comprised of 7 subscales: Perceived discrimination (8 items), Homesickness (4 items), Perceived hate/rejection (5 items), Fear (4 items), Stress due to change/culture shock (3 items), Guilt (2 items), and nonspecific items (10 items). Some sample items include "I am treated differently in social situations" (Perceived discrimination), "I miss

the people and country of my origin" (Homesickness), "People show hatred toward me nonverbally" (Perceived hate), "I fear for my personal safety because of my different cultural background" (Fear), "I feel uncomfortable to adjust to new cultural values" (Stress due to change), "I feel guilty to leave my family and friends behind" (Guilt), and "I feel nervous to communicate in English" (Miscellaneous). A Likert-type scale is used to record responses ranging from 1 (strongly disagree) to 5 (strongly agree). High scores reflect high levels of acculturative stress.

High reliability was noted by Sandhu and Asrabadi (1998), with the Cronbach's alphas ranging from .87 to .95 for the total score. In other studies, the coefficient alphas ranged from .92 to .94 for international students (Constantine et al., 2004; Kaul, 2001; Sandhu & Asrabadi, 1994). Additionally, Wei et al. (2007) translated the ASSIS into Chinese and administered both scales (English and Chinese) to their participants. The reliability of the English and Chinese versions was .93 and .91, respectively, demonstrating high reliability. Furthermore, a negative relationship was found between acculturative stress and positive adaption using ASSIS, which provides evidence for validity (Kaul, 2001). The association between ASSIS and depression among international students was positive providing evidence for validity (Constantine et al., 2004). In the present study, the internal consistency reliability for the current sample was .96.

Academic Satisfaction Scale (Lent et al., 2005)

This scale assesses academic satisfaction and consists of 7 items. Participants indicated the degree to which they felt content with their academic experience (e.g., "I like how much I have been learning in my classes."). The responses were obtained on a 5- point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). High scores on the scale reflected high level of satisfaction with one's academic life. The coefficient alpha was reported in the range of

.80 to .90 for the scores on the scale with predominantly White college students (Lent et al., 2005). In another study with a Mexican American college student population, the alpha coefficient was noted as .86. Additionally, construct validity was examined by correlating the scores obtained on the scale with other measures of academic persistence and life satisfaction (Lent et al., 2005). In the present study, the internal consistency reliability for the current sample was .86.

Satisfaction with Life Scale (SWLS; Diener et al., 1985)

The scale aims to assess overall satisfaction with life. The scale comprises of 5 items and responses were recorded on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Some example items include, "So far I have gotten the important things I want in life", "In most ways my life is close to my ideal". High scores on the scale indicate satisfaction with life. The estimates of internal consistency calculated report the coefficient of alpha ranging from .72 to .87 (Diener et al., 1985; Utsey et al., 2002). Convergent validity of the SWLS has been supported by significant positive correlations with measures of subjective well-being (Diener et al., 1985). In the present study, the internal consistency reliability for the current sample was .89.

Marlowe-Crown Social Desirability Scale-Short (MCSDS-S; Ballard, 1992)

This scale assesses the social desirability response tendencies via 13 true-false items. This is a short version of the 33 item Marlowe-Crowne Social Desirability Scale (MCSDS; Ballard, 1992). The scale is scored 0 to 13 with high scores indicating a greater propensity that the participant engages in a socially desirable response bias. The scores on the 13-tems have an acceptable level of reliability of .76 and was highly correlated to the original form (.93; Reynolds, 1982). The 13-item form is recommended as an easy-to-administer measure with a

viable short form for use in the assessment of social desirability response tendencies. In the present study, the internal consistency reliability for the current sample was .64.

Data Analysis

Preliminary Analysis

The data were first screened based on the 3 validity check items. If participants responded incorrectly to two of the 3 validity check items, then these cases were removed. The data were then screened to assess if it met the assumptions of the Exploratory Factor Analysis (EFA) before conducting the factor analysis (e.g., adequate sample size, examining missing data, assessing singularity; Brown, 2006). Additionally, data accuracy and identification of univariate and multivariate outliers were conducted (Tabachnick & Fidell, 2001). The analyses were completed using SPSS version 23. Brown (2006) cautions against imputation due to generation of an overly fitted model leading to factors that are a product of multiple imputation procedures. In the current analysis, no imputation procedures were considered, and analyses relied on all available values from raw data.

Proposed Analyses

Exploratory Factor Analyses (EFA). In an exploratory factor analysis, the term indicator is used to refer to the items, which are the observed variables obtained in the form of scores to the survey items. Further, a latent variable is unobserved, continuous, and is a hypothetical construct of interest, which causes the observed variables. The latent variables are referred to as factors. In the present study, the construct of interest (i.e., advising relationship) was understood to cause the participants' responses to the items related to this relationship. Furthermore, any variance in the observed variables that was not explained by the latent variable was referred to as error or residual (Kline, 2010). The common factor model indicates that an indicator represents a

linear combination of a common factor that explains the variance of a particular item, a related item, and an exclusive factor that is composed of both error and any latent factor that control for the variance in outcomes for that particular item alone. The aim of an EFA is to calculate the dimensionality of a set of indicators by culling out the least number of interpretable factors that help understand the relationship and covariance among a given set of indicators (Brown, 2006). Therefore, an exploratory factor analysis was an appropriate initial step in the measurement development to assess if the items share common factors and examine the overall strength of the correlations between items and factors. This analysis examined the item fit, generated an initial structure of the items, eliminated poorly performing items, and provided initial evidence of construct validity. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (factorability) was assessed. The commonly recommended value of .6 was considered acceptable for the present study (Kaiser, 1974).

There are 5 steps when conducting an EFA: (1) factor extraction, (2) factor rotation, (3) factor selection, (4) interpretation, and (5) completing a Confirmatory Factory Analysis (CFA) on the same sample (Brown, 2006). In the present study, CFA was not be performed. Parallel analysis (Horn, 1965) was used to determine the number of factors to be extracted. Parallel analysis involves creating a large number of randomly generated datasets with the same number of cases and variables as the study dataset. Factor analysis is then performed on each of these randomly generated datasets, and a distribution of eigenvalues for each factor is calculated (i.e., a distribution of eigenvalues for the first extracted factor, another distribution of eigenvalues for the second extracted factor, etc.). In line with best practices, principal axis factoring was used as the extraction method in all exploratory factor analyses (Matsunaga, 2010). The eigenvalues and the scree plots were used to identify stability in factors, number of factors for exploration,

variance in the entire set of items accounted for by a given factor, identification of eigenvalues to highlight any break/bend in size of eigenvalues to examine which factor explained most variability in the data (Worthington & Whittaker, 2006). An eigenvalue of 1.0 or higher reflected the stability in factors (Kaiser, 1958).

Rotations do not alter the model but help in interpretation. Oblique rotations were used as it allows factors to correlate. These are based on pattern matrices, that is, it includes factor loadings that showcase the unique relationship between the factor and the indicators, excluding any variance that may be caused by other factors. Thurstone (1947) suggested the common factor model, which noted that the common factor explains some of the variance for an individual item as well as the related item and a unique factor that is composed of both error and any latent factor that control for the variance in outcomes for that item alone. Overall, the exploratory factor analysis helped determine shared common factors, overall strength of correlations, and help eliminate poorly formed items.

A general rule proposed by Comrey and Lee (1992), suggests that factor loadings higher than .71 are excellent, .63 are very good, .55 are good, .45 are fair, and .32 or lower are poor. Decisions regarding retaining items were made based on theoretical impetus as well as cut off for highly loading items were preferred. Regarding factor loading, items with at least .55 (good) on 1 factor were retained. Additionally, cross-loadings with as a difference of less than .40 between strongest and second strongest factor loadings were removed (Matsunaga, 2010). The goal was to retain a single item that loaded highly onto 1 factor.

Reliability. To assess the consistency of scores, computing the reliability is important (DeVellis, 2013). In the present study, internal consistency reliability was assessed, which indicated the consistency in the items that measure a construct. For this purpose, the internal

consistency coefficient alpha (*a*) was assessed. Coefficient alpha estimated the ratio of communal variance (i.e., caused by the true score on latent factors) and the non-communal variance (within item variance that is caused by error), and the values range from 0-1.0. Further, the mean and standard deviation of each item, inter-item correlation, corrected-item correlation, and factor correlation analyses was conducted to determine item and scale performance. The accepted cut-off value for the Cronbach's alpha was .70.

Validity. This assesses the extent to which the item scores reflect and measure what the items claim to measure. In this case, the iSTAR scale measured advising relationships of international graduate students (DeVellis, 2013). In the present study, content, criterion-related (concurrent and predictive), and discriminant validity were calculated. Content validity was measured by the review of items by experts in the field to ensure that items measure the sample from a universe of potential items. Their ratings were assessed on a scale ranging from 0 (Not at all Accurate) to 5 (Very Accurate) and the minimum average score across the raters to retain an item was 3 (Appendix B). Experts' opinions' on relevance of items is also related to the content validity of the item scores. Items were reviewed by 4 experts and the degree to which the experts characterized the items as highly relevant is related to content validity. Further, criterion-related validity was calculated by comparing how the scores on the present study's measure correlate with Advisory Working Inventory (concurrent validity). In terms of predictive validity, zero order correlation analyses was conducted to understand the relationship between advising relationships and scores on measures of (1) acculturative stress, (2) academic satisfaction, and (3) life satisfaction. Furthermore, discriminant validity was assessed by comparing how the scores on the present study's measure correlate with the scores on the Marlowe-Crown Social Desirability Scale-Short.

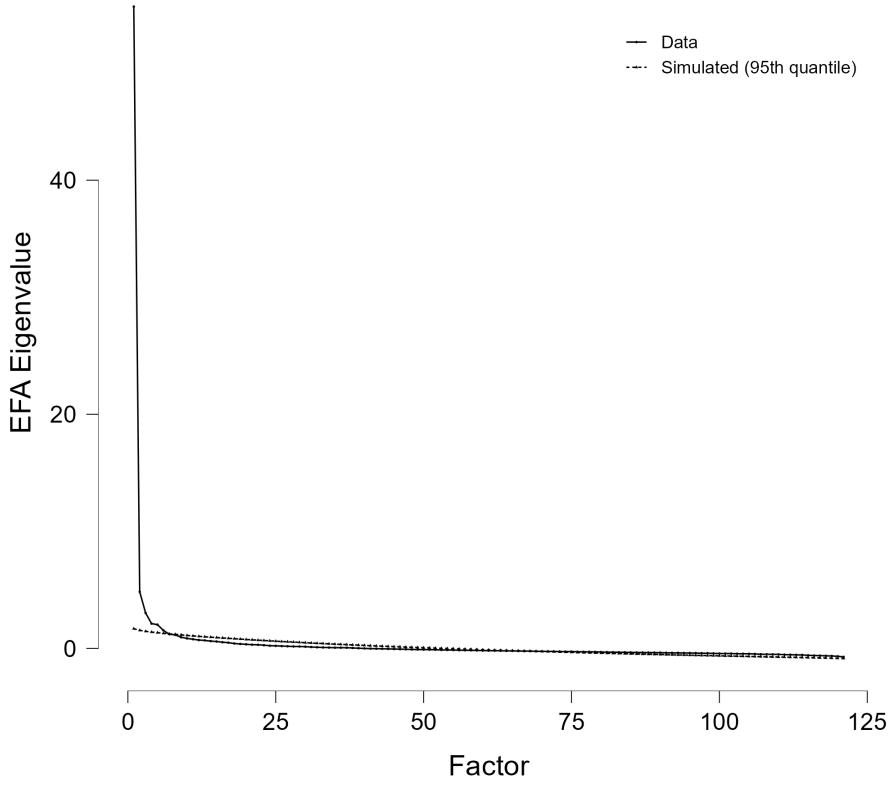
Chapter IV: Results

The first step included cleaning the data. Cases that did not pass were those that had random responses as well as cases with more than 20% missing data. Only cases with 80% completed responses were retained for the analyses (n = 285). The 20% of missing data criteria is one of the most stringent among recommended practices (Schlomer et al., 2010). In line with best practices, principal axis factoring was used as the extraction method in all exploratory factor analyses (Matsunaga, 2010). Additionally, direct oblimin was used as the rotation method in order to allow rotated solutions of factors to correlate.

Parallel analysis (Horn, 1965) was used to determine the number of factors to be extracted. Parallel analysis involves creating a large number of randomly generated datasets with the same number of cases and variables as the study dataset. A factor analysis was then performed on each of these randomly generated datasets, and a distribution of eigenvalues for each factor is calculated (i.e., a distribution of eigenvalues for the first extracted factor, another distribution of eigenvalues for the second extracted factor, etc.). When factor analysis was performed on the study dataset, the number of factors with eigenvalues greater than the 95th percentile of the eigenvalue distributions of the corresponding randomly generated factors was considered to be the number of factors to extract (Tabachnick & Fidell, 2013). This method is advantageous over visually inspecting the scree plot as it does not require subjective judgement (Cattell, 1966). However, for the total item pool (n = 121), the scree plot test criterion suggested 5 factors based on the scree plot as well. Following recommendations by O'Connor (2000), the current study used 1000 randomly generated datasets to create the eigenvalue distributions for each factor. For the total item pool (n = 121), the first 5 factors had eigenvalues greater than the 95% percentile of the eigenvalue distributions, implying that 5 factors should be extracted.

Figure 2

Scree plot



Note. The above scree plot indicates the extraction of 5 factors

Following the parallel analysis, multiple EFAs were conducted in order to reduce the number of items in the survey, whilst retaining the items that loaded highly on to a single factor. The first EFA was conducted on all 121 items, with 5 factors extracted. A total of 79 items were removed after this analysis due to having factor loadings below .55 on all factors (i.e., these items did not load highly onto any factor). The cut-off of .55 was chosen as this constitutes a good loading (Comrey & Lee,1992). It also corresponds to 30% overlapping variance between each item and the factor it loads on to (Tabachnick & Fidell, 2013). Appendix I shows the full 121-items and the analysis stages at which items were removed.

With the remaining 42 items, a second EFA was conducted, with 5 factors extracted using direct oblimin rotation. Twelve of the 42 items were then removed due to high cross-loadings on multiple factors. High cross-loadings are defined as a difference of less than .40 between strongest and second strongest factor loadings (Matsunaga, 2010).

With the remaining 30 items, a third EFA was performed. The results showed a good simple structure (i.e., all items loaded highly onto a single factor and there were no large cross-loadings), but two factors only had two items each loading on to them ("My advising relationship make me regret my decision to enroll in this program" and "My advising relationship has been a source of stress" formed 1 factor, and "I wish my advisor had more time to meet with me" and "I wish my advisor reached out to me more often" formed the other). Given that factors with fewer than 3 items are commonly unstable these 4 items were removed (Costello & Osborne, 2005), reducing the set of items to 3 factors.

With the remaining 26 items, a fourth EFA was conducted with only 3 factors extracted, as the items loading onto the fourth and fifth factors had been removed. This factor solution also resulted in good simple structure, where all primary loadings exceeded .40 and there were no meaningful cross-loadings, and 59.4% of the variance was explained by 3 factors. For confirmation of this factor solution, a parallel analysis was also conducted, and it was found that 3 factors were the optimal number to be extracted from these 26 items. Importantly, the 3-factor structure was theoretically logical and easy to interpret. Tab1e 1 reports the factor loadings, commonalities, and descriptive statistics of each item included in the final EFA. These 3 factors all correlated positively and significantly with each other (see Table 3).

Factor 1 was labeled *Interpersonal Support*, which consisted of 13 items that accounted for 29.4% of the total variance. These items reflect advisor's support regarding advisee's

personal challenges to support their well-being. The items reflect support regarding adjustment to the U.S. (e.g., homesickness, experiences of discrimination), personal factors influencing graduate school, and addressing advisee's concerns and the advising relationship with cultural awareness. Item factor loadings range from .609 to .860. The highest loading items were "I can share my personal concerns with my advisor", "My advisor initiates conversations around challenges that I may be facing", and "My advisor cares about my personal life". A high score on this factor is indicative of a high level of interpersonal support.

Factor 2 was named *Instructional Support*, which consisted of 10 items that accounted for 19.6% of the total variance. These items reflect advisor's support in professional development and their engagement in this process. Items reflect support regarding different advising functions (e.g., meeting with advisee, guiding research, providing feedback, networking), appropriately challenging advisees and facilitating career development. Item factor loadings range from .402 to .878. The highest loading items were "My advisor provides feedback and guidance on my work", "My advisor is willing to schedule individual meetings with me", and "My advisor is available for regular meetings with me throughout the academic year". High scores indicate high levels of instructional support.

Factor 3 was labeled *Visa* Issues, which consisted of 3 items that accounted for 10.6% of the total variance. These items reflect how visa restrictions influence academic planning, financial status, and possible job opportunities. Item factor loadings range from .883 to .939. The 3 items in this factor were "My advisor is aware of the impact of visa restrictions on academic planning", "My advisor is aware of the impact of visa restrictions on financial challenges (inability to work off-campus or part-time)", and "My advisor is aware of the impact of visa

restrictions as an international student based on my academic stage". High scores indicate the advisor is highly aware of visa issues of the student.

Formative Information

The means and standard deviations for the overall advising relationship score (range: 1 = Strongly Disagree, 5 = Strongly Agree) and scores for the 3 factors were as follows: Full scale total (M = 96.25, SD = 19.45), Interpersonal Support (M = 44.18, SD = 11.72), Instructional Support (M = 40.65, SD = 7.61), and Visa Issues (M = 11.43, SD = 2.77). Refer to Table 3 for item-level descriptive statistics.

Intercorrelation Among Factors

The inter-factor correlations were significant and ranged from .42 to .70 ($p < .001$). The intercorrelations suggest that the 4 factors are interrelated. All of the factors were significantly correlated with the total score (r = .94, .87, .61, respectably; $p < .001$). The correlations among factors and the full scale are presented in Table 4.

Reliability Estimates

The inter-item correlations ranged from .172 to .863, and the corrected-item correlations for the 26 items were all positive and ranged from .512 to .777. Cronbach's alpha was calculated to determine the internal consistency of the overall 26-item iSTAR measure, and each of the subscales. The alpha coefficients were Total Scale α = .956; Interpersonal Support α = .946; Instructional Support α = .915; and Visa Issues α = .939. These values are all above recommended thresholds, implying that the scale as a whole and the subscales demonstrate a high degree of internal consistency (Bland & Altman, 1997).

Validity Estimates

Construct validity was assessed by conducting Pearson correlations between scores on the iSTAR measure and other related and unrelated measures: Life Satisfaction, Academic Satisfaction, Social Desirability Scale, Acculturation Scale, and AWAI. Cohen's (1992) guidelines were used to characterize relationships between variables, where r = .10, .30, and .50 are considered to be small, medium, and large correlations, respectively.

Content validity of the iSTAR measure were examined by assessing the extent to which the items on the iSTAR measure represent the entire domain (international graduate students' advising relationships). Based on review of experts a mean of 3 or greater was found reflecting the content that the scale intends to measure (see Table 1).

Criterion-related validity was calculated by comparing how the scores on the iSTAR measure correlate with Advisory Working Inventory (concurrent validity). The iSTAR measure's total scores indicated a very strong, positive, and significant relation to the Advisory Working Inventory (r = .756, p < .001). In terms of predictive validity, correlation analyses were conducted to understand the relationship between the iSTAR measure's total scale scores and (1) Acculturative Stress Scale for international Students, (2) Academic Satisfaction Scale, and (3) Satisfaction with Life Scale. The iSTAR total scale score was not significantly related to the Acculturative Stress Scale for international Students (r = -.067, p= .262) however, indicated a medium, positive, and significant relation with the Academic Satisfaction Scale (r = .332, p < .001), and a small to medium, positive, and significant relationship with the Satisfaction with Life Scale (r = .291, p < .001).

Furthermore, discriminant validity was assessed by comparing how the scores on the iSTAR measure correlate with the scores on the Marlowe-Crown Social Desirability Scale-Short (r = .029, p = .630). Because nonsignificant correlations were observed between the iSTAR

measure and Marlowe-Crown Social Desirability Scale-Short, it supports the last hypothesis providing evidence for discriminant validity.

Finally, a one-way analysis of variance (ANOVA) was conducted to further explore construct validity by investigating potential sex differences on total iSTAR measure scores. Only participants who identified as “man” or “woman” were included in this analysis due to the extremely small frequencies of other responses. The ANOVA results, $F(1, 277) = 0.027$, $p = .869$, suggested that there was no statistically significant difference between self-identified women’s and men’s scores on the iSTAR measure.

Chapter V: Discussion

A measure that assesses international graduate students' advising relationships is needed for several reasons. First, the U.S. is the largest host for international students and the rate at which international student enrollment is increasing is significant (Institute of International Education, 2018). Second, international students experience a range of challenges around financial needs, acculturative stress, language proficiency, adaptation to the sociocultural and political climate in the U.S., visa issues, etc., that require immediate attention (Knox et al., 2013; Lee, 2013; Park et al., 2012; Wang & Heppner, 2015). Lastly, advising has been identified as a key factor in supporting international students in navigating these challenges and also helping them flourish personally and professionally in the U.S. (Rice et al., 2009; Wei et al., 2012). Thus far, no single measure to assess international students' advising relationships from a cultural context has been developed. The addition of a psychometrically sound international student advising relationship measure has the potential to advance research in international psychology, training and supervision psychology, and psychology in general.

In 2020, the past U.S. President Donald Trump's government planned to deport international students whose courses moved fully online because of the coronavirus pandemic. Additionally, the COVID-19 pandemic has exacerbated xenophobia and bigotry towards the Asian international community, especially on U.S. university campuses (Satiani & Singh, 2021). Given the current circumstances, this project's aim was to develop a scale to examine the support international graduate students receive from their advisors to navigate instances of microaggressions, policy changes, and the stress, anxiety and uncertainty associated with it. More research is needed to understand how the advising relationship influences international graduate students' experiences in U.S as these students' wrestle with the individual and systemic

factors. To advance this work, reliable and valid measures are needed that tap into cultural factors that affect international students in the United States. This measure allows researchers to expand prior psychological research by examining aspects of advising as experienced by international students within this cultural context.

The purpose of the present study was to develop and provide initial reliability and validity evidence of a culturally relevant psychometrically valid measure of advising relationships for international students. The Model of the Advising Relationship (Schlosser et al., 2011b), a review of past literature, expert opinions, and international student experiences were used to develop items to assess the construct of advising relationships of international students. One hundred and twenty-one items were initially generated to assess this construct. Findings from an exploratory factor analysis suggested 3 conceptually meaningful and stable factors that included 26 items (see Appendix I): (a) *Interpersonal Support*, (b) *Instructional Support,* (c) *Visa Issues*. Specifically, these factors captured advising relationships of international students from a cultural lens.

Best practices suggest that strong data requires multiple variables loading strongly onto the factors and uniformly high communalities without the presence of cross-loadings (Costello & Osborne, 2005). The factor loadings across the 3 factors ranged from fair (.402) to excellent (.93) (see Table 3). Given that the goal was to retain a single item that loaded highly onto 1 factor, there were no items with cross-loadings with as a difference of less than .40 between strongest and second strongest factor. Collectively, this satisfies the criteria noted by Tabachick and Fidell (2001) and avoids items that have overlapping variance on multiple factors. To test internal consistency, coefficient alpha (*a*) was assessed (Bland & Altman, 1997). Internal consistency estimates were strong for scores on the measure with the current sample as all alphas were above

.90 (see Table 5), suggesting that the scale may be a stable meaningful measure of international graduate students' advising relationships. In the next section, the following will be highlighted (a) factors, b) limitations and future directions for research, c) implications for clinical practice and training, and (d) summary and conclusions.

Factors

From a measurement development standpoint, the 3-factor solution demonstrated desirable performance. The factor solution for the construct accounted for the two broad domains of the Model of the Advising Relationship (Schlosser et al., 2011b), namely Interpersonal and Instructional aspects of advising. Factor 1 was named *Interpersonal Support*, which reflects the advisor's support in personal matters regarding adjustment to the U.S. (e.g., homesickness, experiences of discrimination), personal factors influencing graduate school, and addressing advisee's concerns and the advising relationship with cultural awareness. Specifically, multicultural considerations are infused into these items as it plays a salient role in relationship effectiveness (Helms & Cook, 1999). The interpersonal support items reflected a strong presence of cultural responsiveness from advisors [e.g., "I am able to talk to my advisor about the discrimination I face on campus as an international student (e.g., negative interactions with domestic students, biases held by people about my nationality")], concern for advisee's well-being [e.g., "My advisor enquires about my personal well-being (e.g., family, my mental health, etc.")] and sensitivity to institutional and systemic factors on advisee's experiences [e.g., "I am able to talk to my advisor about the discrimination I face on campus as an international student (e.g., negative interactions with domestic students, biases held by people about my nationality")].

This is consistent with previous research documenting cross-cultural empathy, financial support, and interpersonal relationship as important predictors of an ideal advisor (Rice et al.,

2009). Additionally, support around coping with acculturation, homesickness, culture-shock are well reported as well (Knox et al., 2013). Examination of cultural factors in advising specifically differences in social identities and how that influences advising have been noted (Zhang, 2015). In sum, the results of this study support existing research documenting the relevance of personal support in advising relationships.

Factor 2 was labeled *Instructional Support* which reflects the advisor's support in professional development and their engagement in this process. Items reflect support regarding different advising functions (e.g., meeting with advisee, guiding research, providing feedback, networking), appropriately challenging advisees, and facilitating career development. The instructional support items reflected a strong presence of advisor's availability and investment in advisee's development (e.g., "My advisor is available for regular meetings with me throughout the academic year"), promotion of skill development [e.g., "My advisor supports my academic engagements (e.g., preparing presentations for conferences, networking, academic writing, writing letters of recommendation)" and "My advisor provides feedback and guidance on my work"].

These findings are not surprising as international graduate students have noted factors such as lack of openness, supervisor's unavailability, varying expectations regarding responsibility, lack of feedback or support or guidance, etc. as instructional factors that are important to international students (Adrian-Taylor et al., 2007). The benefits of having a mentor have been found across disciplines and organizations. Common benefits include better psychological well-being, better career output, higher student retention, better physical health, and improved career motivation (Chan et al., 2015; Lunsford, 2012; Parent & Oliver, 2015). These findings are supported by previous research which have clearly highlighted that the

mentoring experience is the second most important factor in student success across disciplines (Lunsford, 2012).

Factor 3 was named *Visa Issues* and reflects how visa restrictions influence academic planning (e.g., My advisor is aware of the impact of visa restrictions on academic planning), financial status and possible job opportunities [e.g., "My advisor is aware of the impact of visa restrictions on financial challenges (inability to work off-campus or part-time")], and how it influences the advisee based on the developmental level (e.g., "My advisor is aware of the impact of visa restrictions as an international student based on my academic stage").

This is consistent with previous research documenting that international students depend upon their advisors for their visa problems, which influences the satisfaction with advising (Rose, 2005). Furthermore, the legal requirements of international students may look different depending on the students' home countries, visa statuses, and training stages, which makes advising international students even more difficult (Lee, 2013). International students' long-term career planning can be very complex, as it requires a full consideration of immigration issues and may involve international re-location (Park-Saltzman et al., 2012). If they decide to remain in the U.S., these students need to strategically navigate legal and bureaucratic challenges, such as maintaining visas or Optional Practical Training status (Lee, 2013). Furthermore, international students need to be extra careful and strategic with obtaining authorization, since they cannot apply for post-completion academic training upon graduation if they have or 1 or more years of full-time Curricular Practical Training (CPT). If students were found to be working without permission, due to financial difficulties or lack of knowledge, it would be considered a breach of law and would result in immediate dismissal from the university and the U.S. (Lee, 2013). These

findings are not surprising given how significantly visa issues influence an international students' financial status, well-being, career development, etc.

Validity

To provide initial validity evidence of the iSTAR measure, both criterion-related validity and discriminant validity were explored. To assess criterion-related validity, concurrent and predictive validity was assessed. Concurrent validity was calculated by comparing how the scores on the iSTAR measure correlated with the Advisory Working Inventory (AWAI-S; Schlosser & Gelso, 2001), which is an already established measure to assess advising working alliance. In terms of predictive validity, analyses were conducted to understand the relationship between advising relationships and scores on the following measures: (1) Acculturative Stress Scale for international Students (Sandhu & Asrabadi, 1994), (2) Academic Satisfaction Scale (Lent et al., 2005), and (3) Satisfaction with Life Scale (SWLS; Diener et al., 1985), which examine how well the scores of the iSTAR measure predict other constructs. The total scale and factor scores demonstrated good internal consistency reliability. This supported the hypothesis that the responses on the items will be consistent and result in a coefficient alpha greater than .70. Concurrent validity was provided when the scale scores demonstrated significant positive correlations with a measure of advising working alliance. Predictive validity was provided when the scale scores significantly correlated with satisfaction with life and academic satisfaction. However, no significant correlation was found between acculturative stress and the iSTAR measure scores. A noteworthy possibility of the nonsignificant relationship between the scale scores and measure of acculturative stress may be due to inherent difference in how acculturation was conceptualized and quantified. The Acculturative Stress Scale for international Students (Sandhu & Asrabadi, 1994) measures negative or challenging experiences of international

students such as perceived hate/rejection, fear, cultural shock, and guilt. The measure does not assess positive experiences such as joy, stimulation, accomplishments related to personal and professional goals with their time spent in the U.S. In contrast, the iSTAR measure examines positive experiences such as social integration into the U.S. culture, well-being, educational accomplishments, embracing unique cultural backgrounds of these international students as they adjust to the U.S. This difference in conceptualization may have contributed to a nonsignificant correlation between the iSTAR measure and the Acculturative Stress Scale for international Students.

Discriminant validity was assessed by examining the relationship between the scale scores and the Marlowe-Crown Social Desirability Scale-Short. The Social Desirability Scale assesses the influence of social desirability on self-reported measures. It was hypothesized that this scale would differ from advising relationship as a construct. Because nonsignificant correlations between the iSTAR measure and Social Desirability Scale was noted, discriminant validity was supported.

Limitations and Future Research

Several important limitations can be considered as we engage in consuming the results of this study. The most significant limitation involves issues with generalizability. First, applying results to additional racial and ethnic groups is not possible due to the sole focus on international students. This study may serve as an informative piece for the development of other culturally specific advising measures. Since the majority of the sample was of Asian heritage some caution is required in broadly generalizing findings across additional international student groups. Furthermore, intentionally recruiting international students of different cultural backgrounds would be helpful to gain a holistic picture of international graduate student experiences.

The majority of the sample was made up of international students in the Midwest. Further research is needed to address the generalizability of these findings and to validate the measure with international students living in other regions of the U.S. (e.g., West, East Coast). Future studies should consider testing the stability of the factor structure across diverse international students across different social identities (e.g., religion, sexual orientation). This may help gain insight into the intersectionality of identities and how that influences advising relationships. Future studies should consider testing the stability of the factors with a clinical sample as well.

From a measurement development standpoint, the first next step would be to conduct a Confirmatory Factor Analysis (CFA) and further validate this measure using a new sample to verify the factor structure (Brown, 2006). Therefore, another limitation of the current study was the lack of a confirmatory factor analysis to verify the 3-factor 26-item model solution. Future research is needed to test the hypothesized model to determine how well the model explains the observed data. Another limitation was the moderate sample size ($N = 285$) for the final factor analysis. A sample size of higher than 300 or a 10:1 participant to item ratio is usually recommended, which was not matched in this present study (Worthington & Whittaker, 2007). Additionally, only internal consistency reliability was assessed. Future research should also assess the temporal stability of the iSTAR measure scores with other samples and provide additional evidence to support convergent and divergent validity of the scale scores.

The present scale assesses advising relationships from the perspective of international students. Future research should consider examining how advisors perceive this relationship. Future research should examine the bidirectional influences between international students and their advisors with the perceived experiences with both individuals. Additionally, some international students may have co-advisors and future research should consider examining

advisee relationships with both advisors and how that shapes their experiences. Many other questions can be addressed by future research, including how cultural variables (e.g., race, gender, religion, sexual orientation) and developmental factors (e.g., advisee year in program, advisor academic rank) affect the advising relationship. Future research should also consider examining group differences (e.g., gender, academic disciplines, country of origin, etc.) to gain deeper insight into the advising relationship. Specifically, it is recommended to future researchers to attend to the significance of context and cross-cultural relationships in advising. The scale development from the present study can also be helpful in understanding how well an advising relationship can predict other constructs such as well-being, belongingness, self-concept, and openness (Curtin et al., 2013; Knox et al., 2013). Further research should consider examining the impact of advising relationship on other constructs. In sum, it appears that the measure is a culturally relevant measure with solid psychometric properties for use in research and practice pertaining to the advisor–advisee relationship in graduate school.

Implications

The development of this scale also has implications for practice and training. Practitioners can use the measure to assess whether stressors reported by international students are related to contextual factors (e.g., discrimination on campus, policy changes). Stigma around seeking mental health services is noted among international students (Maeshima & Parent, 2020). For this reason, there is not enough data to understand international students' experiences. However, clinical providers are in a position that may begin to bridge some of these findings to attain an accurate understanding of international graduate student experiences that may inform clinical conceptualization. Career counselors can utilize this tool to examine cultural factors that are affecting international graduate students' advising relationships and can provide culturally

sensitive support and interventions to promote career development. Additionally, the scale will be able to highlight cultural, social, and emotional support that international graduate students need to promote their well-being. International student experiences are situated within a xenophobic and politically charged climate and culturally informed clinicians would play an important role to support the psychological well-being of these students.

Additionally, data from this measure collected from Counseling Centers or other international student communities can be shared with university leadership, specific cultural organizations (e.g., Indian association, Chinese association), university international centers, and diversity and inclusion offices to examine ways in which these students can be supported. This data may suggest structural changes at an institutional level to create a positive climate in programs and on campus. Collectively, this can help to facilitate the integration of international students into the campus community.

Contextual factors (i.e., personal, professional training, and socio-cultural-political) influence training and advising experiences of international students (Chan et al., 2015). Based on findings, it is recommended that advisors engage in gaining awareness about the unique contextual factors (e.g., important festivals, family bonds, discrimination faced) and how it influences advising and subsequently influences the support they can provide to the students (Wang et al., 2015; Park-Saltzman, 2012; Zhang, 2015; Trice, 2003). Since advisors are noted to be a protective factor for international students (Sherry et al., 2010), the implementation of this scale can help identify areas of support and challenges experienced by the international student population. This can enable advisors to gain insight into areas that advisors can strengthen support in with regards to their advising relationship. Advisors and advisees will also benefit from an initial discussion of the advising expectations and rules, which helps them both

understand the support and challenges that advising entails to further advisee's personal and professional development. It is also recommended that advisors should clearly highlight advising to be a space for cultural discussions (e.g., similarities, differences in social identities) to create a culturally sensitive advising experience. Considering the rules and regulations around student immigration and visa requirements, it is recommended that programs form a strong alliance with the university international centers to clarify international graduate students' questions to support their career development effectively. Additionally, the data gathered from this scale administration and be useful to develop trainings by a university's international center's to engage advisors in culturally responsive advising.

The iSTAR scale has applications in other contexts as well (e.g., higher education, industry) where the mentor-mentee relationship is salient to advance career development and personal goals. Further research around the relationship between a mentor/supervisor/manager and individuals who work under their supervision in other career fields would be beneficial. By expanding the use of this measure to the industry sector/ higher education it would help support employees within a cultural framework.

Summary and Conclusions

Significant contributions have been made to understand the advising relationship and research has called for a measure to assess advising relationships, especially from a cultural context, to understand international graduate student experiences (Rice et al., 2009; Schlosser et al., 2011b; Wei et al., 2012). The development of an advising relationship measure for international students provides a new perspective in understanding what factors influence the advising relationship. The culturally focused nature of this measure helps understand the spectrum of advising relationships for the international student community.

The results of the present study suggest that advising relationship for international students is best depicted in a 3-factor model solution. Overall, results of this study indicate that the strength of advising relationships for international graduate students is marked by interpersonal support (e.g., awareness and support around homesickness, family bonds, microaggressions experienced), instructional support (e.g., availability to meet, providing feedback, challenge advisee to improve performance), and noting visa issues (e.g., impact on financial status, academic planning). The scale differs from previous advising relationship inventories as the iSTAR measure specifically focused on the international graduate student experiences and draws from the Model of the Advising Relationship, which is a multiculturally infused model to conceptualize advising.

The results of this study support previous literature that emphasizes the importance of providing personal and professional support situated within a cultural context in advising international graduate students. The present study expands current advising knowledge by addressing the importance advisor awareness and sensitivity towards microaggressions experienced by international graduate students. It highlights the unique challenges with visa issues experienced by international students as well as the emphasis on the advising relationship grounded in cultural values. The present study also addresses the relationship between the personal and professional development and how that shapes international student experiences, and lastly it is an example of a scale development that was rooted in cultural context of international students.

Given the current and future representation of international students within the U.S., it is salient that multidimensional, holistic, and culturally-based approaches attempting to understand advising relationships for international students be uncovered. Expanding the culturally-valid

and knowledge-base of advising will help examine the values of the advising relationship and how they are passed on from advisors to advisees as they become early career professionals. The study also hopes to reduce imposing White European American norms on advising international students who uphold different values with respect to conceptualizing their advising relationships.

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Table 1

Average Mean Scores of Item Rating Across 3 Expert Judges Assessing Adequacy and Relevance of Item Content

Original Items	*M*	*SD*
My advisor's support helps me navigate the challenges of graduate school	4.25	1.5
My advisor guides my dissertation	3.75	1.26
My advisor guides my selection of courses	3.75	1.26
My advisor guides my overall training plan	3.75	1.26
The relationship I have with my advisor is important to me	3.25	1.26
My advisor values our advising relationship	3.75	1.50
My advisor understands the cultural differences	3.75	0.96
My advisor is interested in my cultural background	4.5	1
My advisor addresses my financial challenges	4.25	0.50
I feel that my advisor understands the other commitments I have (e.g., family obligations, jobs, etc.)	4.25	1.50
My advisor helps me engage in training activities that are meaningful to me	3.5	1.29
My advisor supports my decisions and choices	4	1.41
My advisor does not enforce their opinions on me	3.5	1.29
Similarities between my advisor and myself help us connect better	3.25	1.26
Similarities in cultural factors (e.g., nationality, race, age, gender, religion, sexual orientation, etc.) positively contributes to the relationship with my advisor	3.75	0.96
My advisor supported my adjustment to new U.S. cultural norms when I entered the program	4.5	0.58
I am able to discuss challenges related to homesickness, language barriers, financial struggles, etc. with my advisor	5	0
My advisor is a source of support	4	1.41
I feel challenged by my advisor in academic tasks	3	0.82
My advisor understands the influence of the U.S. socio-political environment on me	4.75	0.50
My advisor is educated about how the U.S. socio-political environment influences me as an international student	4.75	0.50
I feel supported by my advisor in navigating the U.S. socio-political environment	5	0
My advisor encourages me to have a work-life balance	4.25	1.50
My advisor responds in culturally responsive ways to important days in my culture (e.g., holidays and festivals, supporting me to take certain days off)	5	0
I can share my academic concerns with my advisor	4.25	1.50
I can share my personal concerns with my advisor	4.25	1.50

My advisor initiates conversations around challenges that I may be facing	3.75	1.50
I trust my advisor	4.25	1.50
My advisor cares about my well-being	4.25	1.50
My advisor cares about my personal development	4	1.41
My advisor cares about my professional development	4.25	1.50
My academic performance is influenced by the support I receive from my advisor	3.75	1.50
I feel comfortable approaching my advisor regarding any challenges I might be facing	4.25	1.50
My advisor believes in my ability to succeed	4.25	1.50
My advisor challenges me to work hard	4	1.41
My advisor supports my research interests	4.25	1.50
My advisor helps me explore opportunities for my career (e.g., research tasks, internships, jobs)	4.25	1.50
My advisor initiates advising meetings with me	4	1.41
My advisor is available for regular meetings with me throughout the academic year	4	1.41
My advisor is willing to schedule individual meetings with me	3.75	1.26
My advisor provides feedback and guidance on my work	3.75	1.26
My advisor supports my academic engagements (e.g., preparing presentations for conferences, networking, academic writing, writing letters of recommendation)	4	1.41
My advisor understands that my career decisions may be driven by my cultural context	5	0
If I struggle with language barriers to express my work, my advisor believes in my skills and abilities	5	0
My advisor advocates for me in the program/college/university	4.25	1.50
do not depend on my advisor for support	4	1.41
I do not think my advisor has my best interest in mind	4.25	1.50
My advisor would benefit from attending culturally sensitive training to better support me	4.25	0.96
My relationship with my advisor is limited to academic needs	3.75	1.50
I would prefer to have a new advisor	3.75	1.89
I want to be like my advisor	3.75	1.26
I have learned significantly from my advisor	4	1.41
My advisor openly communicates with me about policy changes in the program	4.25	1.50
I can openly ask my advisor questions about any concerns within the program/college/university	4.25	1.50
My advisor is aware of resources on campus that can support me	4	1.41
My advisor is aware of resources within the profession that can support my professional development	4	1.41
My advisor is aware of professional networks that can support my	4	1.41

development		
My advisor supports my decision to visit home and allows for enough vacation days	4.75	0.50
I feel encouraged in my abilities because of my advisor's support	4	1.41
I wish my advisor had more time to meet with me	4	1.41
My advising relationship makes me regret my decision of enrolling in this program	4.25	1.50
My advising relationship has been a source of stress	4.25	1.50
My advisor helps me feel included in my department's community	4.25	1.50
My advisor helped me adjust to the new education system in the U.S.	5	0
My advisor gives me the autonomy to decide on areas that I want to work on	4.25	1.50
My advisor shares opportunities with me to promote my professional growth	4.25	1.50
My advisor understands how my personal life may influence graduate school	4.25	1.50
I feel comfortable with the way my advisor communicates with me	4.25	1.50
I wish my advisor reached out to me more often	4	1.41
My advisor addresses cultural differences between us	4.5	0.58
I feel passionate about my work because of my advisor	3.75	1.26
My advisor is passionate about my work	3.75	1.26
My advisor and I have a good rapport	4	1.41
My advisor understands my acculturation process	5	0
My advisor understands that my duration in the program is also influenced by other responsibilities (e.g., family commitments, returning to home country, cultural contexts)	5	0
My advisor helps me hone my strengths while working on tasks	4	1.41
My advisor challenges me to learn new skills to improve my work	3.75	1.26
I feel my advisor and I make a good team	4	1.41
My advisor inquires about my personal wellbeing (e.g., family, my mental health, etc.)	4.25	1.50
Having my advisor has made my graduate program easier	4	1.41
My advisor goes beyond their role to check in about my general well-being	4.25	1.5
My advisor seems aware of events in my country and checks-in with me about them	5	0
My advisor understands how my situation may be different from domestic students in the program	5	0
If given a chance, I would change to another advisor	4	1.41
My advisor has unknowingly disrespected my customs and traditions	5	0
I feel comfortable to ask clarifying questions to my advisor	4	1.41
I feel pressured to prove my worth to my advisor	4	1.41
My advisor values my opinions and inputs	4	1.41
My advisor is aware of the environmental microaggressions I	4.5	0.58

experience (e.g., not being able to work off-campus or enroll in part-time jobs)		
My advisor lacks cultural and religious understanding	4.25	0.96
I am able to talk to my advisor about the discrimination I face on campus (e.g., negative interactions with domestic students, biases held by people about my nationality)	4.75	0.50
I feel supported by my advisor in navigating the discrimination I experience on campus	4.75	0.50
My advisor supports my working style	3.75	1.26
I admire my advisor's work ethic	3.75	1.89
I wish my advisor understood my challenges better	4.5	1
My advisor focuses on my strengths rather than my weaknesses	4.33	1.15
My advisor is knowledgeable about my program's requirements	4	1.41
My advisor is informed about my performance in my graduate program	3.75	1.26
I avoid meeting with my advisor	4	1.41
My advisor makes me feel included in social gatherings	4.25	1.50
I feel supported by my advisor in navigating challenges related to adjustment, language, immigration rules, and academic behaviors related to cultural differences	5	0
My advisor creates opportunities for social, cultural, and academic integration for both domestic and international students	4.75	0.50
My advisor guides me in my career development after receiving my degree (e.g., jobs, further education, etc.)	3.5	1.73
At the beginning of our advising relationship my advisor made efforts to get to know me	4.25	1.50
I have been able to develop my vocational identity with the help of my advisor	4	1.41
My advisor has positively influenced my career efficacy	4	1.41

Note. Experts Rating Scale Range From 1 = Not At All Accurate to 5 =Very Accurate

Table 2

Participant Demographics

Age

N	Minimum	Maximum	Mean	Std. Deviation
285	19	49	27.74	4.57

Years in U.S.

N	Minimum	Maximum	Mean	Std. Deviation
285	0	18	4.05	2.95

Number of Children

N	Minimum	Maximum	Mean	Std. Deviation
21	1	3	1.81	0.87

Gender

	Frequency	Percent
Man	135	47.37
Woman	144	50.53
Transgender	1	.35
Genderqueer	2	.70
Other	1	.35
Prefer not to answer	2	.70
Total	285	100.00

Relationship Status

Single	151	52.98
Married	71	24.91
Committed Relationship	51	17.90
Separated	1	.35
Living with Partner	11	3.86
Total	285	100.00

Country of Origin

Australia	1	0.35
Bangladesh	9	3.16
Benin	1	0.35
Bolivia	1	0.35
Brazil	5	1.75

Bulgaria	1	0.35
Canada	3	1.05
Chile	3	1.05
China	41	14.39
Colombia	5	1.75
Costa Rica	2	0.70
Dominican Republic	1	0.35
France	1	0.35
Gabon	1	0.35
Ghana	2	0.70
Greece	1	0.35
Guatemala	1	0.35
Honduras	1	0.35
India	105	36.84
Indonesia	5	1.75
Iran	11	3.86
Japan	4	1.40
Jordan	1	0.35
Kenya	1	0.35
Liberia	1	0.35
Malaysia	4	1.40
Mexico	2	0.70
Mongolia	1	0.35
Mozambique	1	0.35
Nepal	2	0.70
Nicaragua	1	0.35
Nigeria	4	1.40
Norway	1	0.35
Pakistan	1	0.35
Palestine	1	0.35
Paraguay	2	0.70
Philippines	1	0.35
Portugal	2	0.70
Russia	4	1.40
Saudi Arabia	4	1.40
Singapore	3	1.05
South Korea	18	6.32
Spain	1	0.35
Sri Lanka	4	1.40
Taiwan	13	4.56
Tajikistan	1	0.35
Turkey	1	0.35
Ukraine	1	0.35
United Arab Emirates	1	0.35
Venezuela	1	0.35
Vietnam	2	0.70

	Total	285	100
Degree of pursue			
	Graduate (Master's)	93	32.63
	Visiting Scholar	6	2.11
	Graduate (Doctoral)	186	65.26
	Total	285	100.00
Year in Degree program			
	First	52	18.25
	Second	108	37.89
	Third	50	17.54
	Fourth	39	13.69
	Fifth or beyond	36	12.63
	Total	285	100.00
Education (highest degree earned)			
	High School Graduate	1	.35
	Bachelor's	104	36.49
	Master's	163	57.19
	Doctorate	15	5.27
	Professional (JD, MD)	2	.70
	Total	285	100.00
Employment status			
	10-hour assistantship a week	22	7.72
	20-hour assistantship a week	171	60.00
	No assistantship but seeking one	30	10.53
	No assistantship and not seeking one	14	4.91
	No assistantship, off-campus job	13	4.56
	No assistantship, on-campus job	11	3.86
	10-hour assistantship a week and on-campus job	12	4.21
	Other	12	4.21
	Total	285	100.00
Children			
	Yes	21	7.37
	No	264	92.63
	Total	285	100.00
Siblings			

Yes	215	75.44
No	70	24.56
Total	285	100.00
Siblings in U.S.		
Yes	47	21.86
No	168	78.14
Total	215	100.00
Siblings Near By		
Yes	12	25.53
No	35	74.47
Total	47	100.00
Spiritual/Religious Affiliation		
Christian	45	15.79
Hindu	78	27.37
Buddhist	12	4.20
Muslim	32	11.23
Catholic	11	3.86
Jewish	2	.70
Atheist	29	10.18
Agnostic	17	5.96
No preference	52	18.25
Other	7	2.46
Total	285	100.00
Spirituality		
Very Important	61	21.40
Important	57	20.00
Neutral	77	27.02
Unimportant	47	16.49
Very Unimportant	43	15.09
Total	285	100.00
Advisor's Gender		
Man	184	64.57
Woman	94	32.98
Other	3	1.05
Prefer not to answer	4	1.40
Total	285	100.00
International Origin of Advisor		
Yes	127	44.56
No	128	44.91
Maybe	30	10.53

Total	285	100.00
Advisor's Race/Ethnicity		
African American/Black	16	5.61
American Indian or Alaskan Native	6	2.11
Asian/Asian American	82	28.77
Hispanic/Latino/a	8	2.81
Multi-racial	4	1.40
European American/White	146	51.23
Other	23	8.07
Total	285	100.00

Table 3

Factor Loadings, Commonalities, and Descriptive Statistics of the 26 Items in the iSTAR Measure

Item	Interpersonal Support	Instructional Support	Visa Issues	h^2	*M*	*SD*
7	**0.655**	0.032	0.015	0.531	3.474	1.063
14	**0.776**	-0.085	0.070	0.426	3.175	1.249
21	**0.738**	0.043	0.048	0.372	3.593	1.152
23	**0.860**	-0.036	-0.095	0.368	3.284	1.230
24	**0.806**	0.065	-0.055	0.317	3.446	1.208
27	**0.805**	0.044	-0.062	0.349	3.509	1.099
64	**0.744**	0.073	0.016	0.355	3.639	1.094
67	**0.723**	-0.084	0.019	0.540	3.228	1.065
76	**0.777**	0.041	0.042	0.318	3.586	1.206
78	**0.713**	0.127	-0.004	0.356	3.172	1.248
79	**0.664**	-0.072	0.135	0.521	3.088	1.214
88	**0.609**	-0.016	0.113	0.564	3.414	1.112
99	**0.618**	0.080	0.166	0.407	3.572	1.094
2	0.171	**0.560**	-0.064	0.562	4.032	1.008
29	0.165	**0.402**	0.057	0.691	3.846	4.021
32	0.021	**0.605**	0.116	0.545	4.021	0.907
33	0.169	**0.657**	-0.066	0.430	4.126	0.941
35	0.181	**0.569**	0.036	0.481	3.765	1.229
36	-0.055	**0.786**	0.068	0.395	4.109	1.106
37	-0.118	**0.836**	0.045	0.393	4.351	0.913
38	-0.043	**0.878**	-0.041	0.304	4.249	0.922
39	0.098	**0.771**	-0.007	0.298	4.126	0.999
49	0.147	**0.576**	0.066	0.488	4.025	0.980
108	0.002	-0.002	**0.889**	0.208	3.835	1.002
109	0.034	-0.021	**0.939**	0.103	3.772	0.968
110	-0.000	0.065	**0.883**	0.171	3.818	0.958

Table 4

Inter-Factor Correlations

	Interpersonal Support	Instructional Support	Visa Issues
Interpersonal Support	1.000		
Instructional Support	.699	1.000	
Visa Issues	.504	.425	1.000
Total	.948	.873	.612

Note. All correlations are significant to $p < .001$.

Appendix A

Consent to Participate in Research

Title of Study: Development of international graduate students' advising scale
Principal Investigator: Apoorvee Sawhney, as246@mail.missouri.edu, (304) 919-1469
Advisor: Lisa Y. Flores, floresly@missouri.edu, (573) 884-9724

DESCRIPTION OF THE PROJECT:
You are invited to participate in a study that aims to understand the advising relationships of international graduate students. In an effort to better understand the nature of how advising is experienced by international graduate students, we are asking your help in partaking in a short survey. This is a University of Missouri research project being conducted by a doctoral student.

WHAT WILL BE DONE IF YOU TAKE PART IN THIS PROJECT?
If you decide to participate, you will be asked to answer questions about yourself and your advising relationship. The survey will take approximately 15-25 minutes to complete, and only those 18 years or older and identify as international graduate students are eligible to participate in this study. Your participation is entirely voluntary, and you can refuse to participate or withdraw from the study at any time without penalty. There are no anticipated risks involved in participating.

We ask that you answer all of the questions; however, you may skip or discontinue answering questions at any time.

All information collected will be confidential and kept in a secure place. Per university policy, the information collected will be kept in a secured and locked location for at least 7 years.

ARE THERE ANY BENEFITS TO PARTICIPATING?
You will not receive any immediate or direct benefits from your participation in this research. However, this study will help us to further understand the experiences of international students in the United States. This will aid in the creation of culturally integrative programs for the international student population.

WILL I RECEIVE PAYMENT?
After all the data has been collected, your initials and phone number will be entered into a raffle for a chance to win 1 of 2 $100 or 1 of 10 $50 or 1 of 10 $20 gift cards for your participation.

IS THERE POSSIBILITY FOR DISCOMFORT/RISK?
You may experience discomfort in answering some of the questions; however, the questions are not personally identifying. You will not be asked to include your name or identifying information on the survey. You will be asked on a different sheet to write your initials and a phone number only for the purpose of contacting the raffle winners. The raffle information forms will be kept separate from your answers. Finally, your participation is voluntary, and you can discontinue the survey at any time without explanation necessary**.** You will not be asked questions in which personal, sensitive, or identifiable information needs to be revealed.

WHAT WILL HAPPEN TO THE INFORMATION PROVIDED?

The results will be kept in a secured and locked place to ensure confidentiality. Additionally, please do not write your name on any part of the survey to ensure anonymity. The research assistants are the only individuals who will have access to the data. Finally, any presentation or publication of the data will in no way identify you or your institution.

WHO CAN I CONTACT IF I HAVE QUESTIONS?

If you have any questions regarding this research, please feel free to contact us at the number provided below.

We appreciate your time and participation in this project. We are available to answer any additional questions you may have. For questions about this project can contact Apoorvee Sawhney, who is the principal investigator. Her number is: (304) 919-1469.

If you are not satisfied with the answers provided by the principle investigator, have questions, or complaints, you can contact the Educational Research University of Missouri, Columbia and Campus Institutional Review Board by phone at (573) 882-3181, by email irb@missouri.edu, or at 483 McReynolds Hall Columbia, MO 65212.

Thank you for your help in participating in this research.

Campus IRB approved 05/29/2020
IRB # 2023948

Appendix B

Expert Judge Scale with Items

A comprehensive review of the psychological literature on international graduate students' advising relationships yielded the following items. Based on your knowledge about advising international students, you are being asked to rate the level of accuracy for potential items. For the current phase of item development, accuracy is based on the following for each potential item: (1) representativeness (i.e., illustrative, or a characteristic), and (2) cultural validity (i.e., authentic representation of the cultural underpinnings) of the advising relationships of international students.

Please use the following scale to indicate how accurate each item is in facilitating the advising relationships of international students. Note that the space provided between each item may be used to provide additional feedback about revising, rewording or deleting an item. If you would like to add additional items, please do so in the space provided. Thank you for your assistance.

Not at all Accurate	Somewhat Accurate	Moderately Accurate	Mostly Accurate	Very Accurate
1	2	3	4	5

My advisor's support helps me navigate the challenges of graduate school	1	2	3	4	5
My advisor guides my dissertation	1	2	3	4	5
My advisor guides my selection of courses	1	2	3	4	5
My advisor guides my overall training plan	1	2	3	4	5
The relationship I have with my advisor is important to me	1	2	3	4	5
My advisor values our advising relationship	1	2	3	4	5
My advisor understands the cultural differences	1	2	3	4	5
My advisor is interested in my cultural background	1	2	3	4	5
My advisor addresses my financial challenges	1	2	3	4	5
I feel that my advisor understands the other commitments I have (e.g., family obligations, jobs, etc.)	1	2	3	4	5
My advisor helps me engage in training activities that are meaningful to me	1	2	3	4	5
My advisor supports my decisions and choices	1	2	3	4	5
My advisor does not enforce their opinions on me	1	2	3	4	5
Similarities between my advisor and myself help us connect better	1	2	3	4	5
Similarities in cultural factors (e.g., nationality, race, age, gender, religion, sexual orientation, etc.) positively contributes to the relationship with my advisor	1	2	3	4	5

My advisor supported my adjustment to new U.S. cultural norms when I entered the program	1	2	3	4	5
I am able to discuss challenges related to homesickness, language barriers, financial struggles, etc. with my advisor	1	2	3	4	5
My advisor is a source of support	1	2	3	4	5
I feel challenged by my advisor in academic tasks	1	2	3	4	5
My advisor understands the influence of the U.S. socio-political environment on me	1	2	3	4	5
My advisor is educated about how the U.S. socio-political environment influences me as an international student	1	2	3	4	5
I feel supported by my advisor in navigating the U.S. socio-political environment	1	2	3	4	5
My advisor encourages me to have a work-life balance	1	2	3	4	5
My advisor responds in culturally responsive ways to important days in my culture (e.g., holidays and festivals, supporting me to take certain days off)	1	2	3	4	5
I can share my academic concerns with my advisor	1	2	3	4	5
I can share my personal concerns with my advisor	1	2	3	4	5
My advisor initiates conversations around challenges that I may be facing	1	2	3	4	5
I trust my advisor	1	2	3	4	5
My advisor cares about my well-being	1	2	3	4	5
My advisor cares about my personal development	1	2	3	4	5
My advisor cares about my professional development	1	2	3	4	5
My academic performance is influenced by the support I receive from my advisor	1	2	3	4	5
I feel comfortable approaching my advisor regarding any challenges I might be facing	1	2	3	4	5
My advisor believes in my ability to succeed	1	2	3	4	5
My advisor challenges me to work hard	1	2	3	4	5
My advisor supports my research interests	1	2	3	4	5
My advisor helps me explore opportunities for my career (e.g., research tasks, internships, jobs)	1	2	3	4	5
My advisor initiates advising meetings with me	1	2	3	4	5
My advisor is available for regular meetings with me throughout the academic year	1	2	3	4	5
My advisor is willing to schedule individual meetings with me	1	2	3	4	5
My advisor provides feedback and guidance on my work	1	2	3	4	5
My advisor supports my academic engagements (e.g., preparing presentations for conferences, networking, academic writing, writing letters of recommendation)	1	2	3	4	5
My advisor understands that my career decisions may be driven by my cultural context	1	2	3	4	5

If I struggle with language barriers to express my work, my advisor believes in my skills and abilities	1	2	3	4	5
My advisor advocates for me in the program/college/university	1	2	3	4	5
do not depend on my advisor for support	1	2	3	4	5
I do not think my advisor has my best interest in mind	1	2	3	4	5
My advisor would benefit from attending culturally sensitive training to better support me	1	2	3	4	5
My relationship with my advisor is limited to academic needs	1	2	3	4	5
I would prefer to have a new advisor	1	2	3	4	5
I want to be like my advisor	1	2	3	4	5
I have learned significantly from my advisor	1	2	3	4	5
My advisor openly communicates with me about policy changes in the program	1	2	3	4	5
I can openly ask my advisor questions about any concerns within the program/college/university	1	2	3	4	5
My advisor is aware of resources on campus that can support me	1	2	3	4	5
My advisor is aware of resources within the profession that can support my professional development	1	2	3	4	5
My advisor is aware of professional networks that can support my development	1	2	3	4	5
My advisor supports my decision to visit home and allows for enough vacation days	1	2	3	4	5
I feel encouraged in my abilities because of my advisor's support	1	2	3	4	5
I wish my advisor had more time to meet with me	1	2	3	4	5
My advising relationship makes me regret my decision of enrolling in this program	1	2	3	4	5
My advising relationship has been a source of stress	1	2	3	4	5
My advisor helps me feel included in my department's community	1	2	3	4	5
My advisor helped me adjust to the new education system in the U.S.	1	2	3	4	5
My advisor gives me the autonomy to decide on areas that I want to work on	1	2	3	4	5
My advisor shares opportunities with me to promote my professional growth	1	2	3	4	5
My advisor understands how my personal life may influence graduate school	1	2	3	4	5
I feel comfortable with the way my advisor communicates with me	1	2	3	4	5
I wish my advisor reached out to me more often	1	2	3	4	5
My advisor addresses cultural differences between us	1	2	3	4	5
I feel passionate about my work because of my advisor	1	2	3	4	5
My advisor is passionate about my work	1	2	3	4	5
My advisor and I have a good rapport	1	2	3	4	5

My advisor understands my acculturation process	1	2	3	4	5
My advisor understands that my duration in the program is also influenced by other responsibilities (e.g., family commitments, returning to home country, cultural contexts)	1	2	3	4	5
My advisor helps me hone my strengths while working on tasks	1	2	3	4	5
My advisor challenges me to learn new skills to improve my work	1	2	3	4	5
I feel my advisor and I make a good team	1	2	3	4	5
My advisor inquires about my personal wellbeing (e.g., family, my mental health, etc.)	1	2	3	4	5
Having my advisor has made my graduate program easier	1	2	3	4	5
My advisor goes beyond their role to check in about my general well-being	1	2	3	4	5
My advisor seems aware of events in my country and checks-in with me about them	1	2	3	4	5
My advisor understands how my situation may be different from domestic students in the program	1	2	3	4	5
If given a chance, I would change to another advisor	1	2	3	4	5
My advisor has unknowingly disrespected my customs and traditions	1	2	3	4	5
I feel comfortable to ask clarifying questions to my advisor	1	2	3	4	5
I feel pressured to prove my worth to my advisor	1	2	3	4	5
My advisor values my opinions and inputs	1	2	3	4	5
My advisor is aware of the environmental microaggressions I experience (e.g., not being able to work off-campus or enroll in part-time jobs)	1	2	3	4	5
My advisor lacks cultural and religious understanding	1	2	3	4	5
I am able to talk to my advisor about the discrimination I face on campus (e.g., negative interactions with domestic students, biases held by people about my nationality)	1	2	3	4	5
I feel supported by my advisor in navigating the discrimination I experience on campus	1	2	3	4	5
My advisor supports my working style	1	2	3	4	5
I admire my advisor's work ethic	1	2	3	4	5
I wish my advisor understood my challenges better	1	2	3	4	5
My advisor focuses on my strengths rather than my weaknesses	1	2	3	4	5
My advisor is knowledgeable about my program's requirements	1	2	3	4	5
My advisor is informed about my performance in my graduate program	1	2	3	4	5
I avoid meeting with my advisor	1	2	3	4	5
My advisor makes me feel included in social gatherings	1	2	3	4	5
I feel supported by my advisor in navigating challenges related to adjustment, language, immigration rules, and academic behaviors related to cultural differences	1	2	3	4	5

My advisor creates opportunities for social, cultural, and academic integration for both domestic and international students	1	2	3	4	5
My advisor guides me in my career development after receiving my degree (e.g., jobs, further education, etc.)	1	2	3	4	5
At the beginning of our advising relationship my advisor made efforts to get to know me	1	2	3	4	5
I have been able to develop my vocational identity with the help of my advisor	1	2	3	4	5
My advisor has positively influenced my career efficacy	1	2	3	4	5

Appendix C

Demographic Form

Thank you for your participation in the study. Please be sure to check the most appropriate answer.

Are you an international student?

❒ Yes ❒ No

What type of degree are you currently enrolled in?

❒ Graduate (Master's) ❒Graduate (Doctoral)
❒Visiting Scholar ❒Undergraduate
❒Professional degree (medical school or law school)

Which year are you in your current degree program?

❒First ❒Second ❒Third ❒Fourth ❒Fifth or beyond

Do you have an academic advisor?
❒ Yes ❒ No

Age:_____

Gender: ❒ Man ❒ Woman ❒ Trans man
❒ Trans woman ❒Genderqueer ❒Prefer not to respond ❒Other _____

Relationship Status:
❒ Single
❒In a committed relationship ❒ Divorced
❒ Married ❒ Separated
❒ Living with partner ❒ Widow

Do you have children?
❒ Yes ❒ No

How many children do you have? ____
How old are your children? ____

What is your country of origin?)_____
_____

Which country are you currently a citizen of?

_____

Years lived in the U.S: _____

State in which you currently reside:

_____

City in which you currently reside:

_____

Name of current college/university you are currently enrolled in _____

Years you have been at this college/university___

Your academic discipline/Major _____

Your current GPA

What is your highest degree obtained?
_____

What is your religious/ spiritual affiliation?
❒ Christian ❒ Buddhist
❒ Hindu ❒ Muslim ❒ Atheist
❒ Agonistic ❒Catholic ❒ Jewish
❒ No preference ❒ Other___

To what extent does your religious or spiritual preference play an important role in your life?
❒ Very important ❒ Important ❒ Neutral
❒ Unimportant ❒ Very unimportant

Do you have siblings?

❒ Yes ❒ No
Are any of your siblings currently in the U.S.?
❒ Yes ❒ No

Does your sibling live nearby?

❒ Yes ❒ No

Have you visited the international center of your university to seek support?
❒ Yes ❒ No

What services were you in need of when you visited the International Center?
❒ Advising ❒ document request ❒ travel signature
❒ Counseling services ❒ Other

What services have you sought on your campus?
❒ International Center ❒ Disability Center ❒ Career Center ❒ Counseling Center ❒ Writing Center

What is your employment status?

❒ 10 hour assistantship a week ❒ 20 hour assistantship a week ❒ 10 hour hour assistantship and on campus job ❒ No assistantship but seeking one ❒ No assistantship and not seeking one ❒ No assistantship, off-campus job ❒ No assistantship, on-campus job ❒ Other ___

How well do you speak in English?
❒ Very poorly ❒ Poorly ❒ Well ❒ Very well

How well do you read in English?
❒ Very poorly ❒ Poorly ❒ Well ❒ Very well

How well do you write in English?
❒ Very poorly ❒ Poorly ❒ Well ❒ Very well

How well do you understand when spoken to in English?
❒ Very poorly ❒ Poorly ❒ Well ❒ Very well

Is your advisor of an international background?

❒ Yes ❒ No ❒ Maybe

What is your advisor's country of origin?_____

What is your Advisor's race/ethnicity?

❒ African American/Black
❒ American Indian or Alaskan Native
❒ Asian/ Asian American
❒ Hispanic/Latino/a
❒ Native Hawaiian or Pacific Islander
❒ Multi-racial
❒ Euro American
❒ Other _____

What gender does your advisor identify with?
❒ Man ❒ Woman ❒ Trans man
❒ Trans woman ❒Genderqueer ❒Prefer not to respond ❒Other _____

Years you have worked with your current advisor?____

How important is your relationship with your advisor? (0 being very unimportant and 10 being very important) (rating scale insert)

0 (0)
1 (1)
2 (2)
3 (3)
4 (4)
5 (5)
6 (6)
7 (7)
8 (8)
9 (9)
10 (10)

Appendix D

Satisfaction with Life Scale

Below are 5 statements that you may agree or disagree with. Using the 1 - 7 scale below, indicate your agreement with each item by selecting the appropriate number from the options provided. Please be open and honest in your responding.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

In most ways my life is close to my ideal	1	2	3	4	5	6	7
The conditions of my life are excellent	1	2	3	4	5	6	7
I am satisfied with my life	1	2	3	4	5	6	7
So far I have gotten the important things I want in life	1	2	3	4	5	6	7
If I could live my life over, I would change almost nothing	1	2	3	4	5	6	7

Appendix E

Academic Satisfaction Scale

Below are 7 statements about your academic journey that you may agree or disagree with. Using the scale below to indicate your agreement with each item.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

I feel satisfied with the decision to major in my intended field	1	2	3	4	5
I am comfortable with the educational atmosphere in my major field	1	2	3	4	5
For the most part, I am enjoying my coursework	1	2	3	4	5
I am generally satisfied with my academic life	1	2	3	4	5
I enjoy the level of intellectual stimulation in my courses	1	2	3	4	5
I feel enthusiastic about the subject matter in my intended major	1	2	3	4	5
I like how much I have been learning in my classes	1	2	3	4	5

Appendix F

Acculturative Stress Scale for International Students

As foreign students have to make a number of personal, social, and environmental changes upon arrival in a strange land, this *cultural-shock* experience might cause them acculturative stress. This scale is designed to assess such acculturative stress you personally might have experienced. There are no right or wrong answers. However, for the data to be meaningful, you must answer each statement given below as honestly as possible.

For each of the following statements, please indicate the number that BEST describes your response. 1= Strongly Disagree, 2= Disagree, 3= Not Sure, 4= Agree, 5= Strongly Agree.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

Because of my different cultural background as a *foreign* student, I feel that:

Homesickness for my country bothers me	1	2	3	4	5
I feel uncomfortable to adjust to new foods and/or to new eating habits	1	2	3	4	5
I am treated differently in social situations	1	2	3	4	5
I feel rejected when people are sarcastic toward my cultural values	1	2	3	4	5
I feel nervous to communicate in English	1	2	3	4	5
I feel sad living in unfamiliar surroundings here	1	2	3	4	5
I fear for my personal safety because of my different cultural background	1	2	3	4	5
I feel intimidated to participate in social activities	1	2	3	4	5
Others are biased toward me	1	2	3	4	5
I feel guilty to leave my family and friends behind	1	2	3	4	5
Many opportunities are denied to me	1	2	3	4	5
I feel angry that my people are considered inferior here	1	2	3	4	5
I feel overwhelmed that multiple pressures are placed upon me after my migration to this society	1	2	3	4	5
I feel that I receive unequal treatment	1	2	3	4	5

People from some ethnic groups show hatred toward me nonverbally	1	2	3	4	5
It hurts when people don't understand my cultural values	1	2	3	4	5
I am denied what I deserve	1	2	3	4	5
I have to frequently relocate for fear of others	1	2	3	4	5
I feel low because of my cultural background	1	2	3	4	5
I feel rejected when others don't appreciate my cultural values	1	2	3	4	5
I miss the people and country of my origin	1	2	3	4	5
I feel uncomfortable to adjust to new cultural values	1	2	3	4	5
I feel that my people are discriminated against	1	2	3	4	5
People from some other ethnic groups show hatred toward me through their actions	1	2	3	4	5
I feel that my status in this society is low due to my cultural background	1	2	3	4	5
I am treated differently because of my race	1	2	3	4	5
I feel insecure here	1	2	3	4	5
I don't feel a sense of belonging (community) here	1	2	3	4	5
I am treated differently because of my color	1	2	3	4	5
I feel sad to consider my people's problems	1	2	3	4	5
I generally keep a low profile due to fear from other ethnic groups	1	2	3	4	5
I feel some people don't associate with me because of my ethnicity	1	2	3	4	5
People show hatred toward me verbally	1	2	3	4	5
I feel guilty that I am living a different lifestyle here	1	2	3	4	5
I feel sad leaving my relatives behind	1	2	3	4	5
I worry about my future for not being able to decide whether to stay here or to go back	1	2	3	4	5

Appendix G

Advisory Working Alliance Inventory

Consider your primary advisor. In the context of that advising relationship, please rate the extent to which you agree or disagree with each statement

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

My advisor welcomes my input into our discussions	1	2	3	4	5
I do not think that my advisor believes in me	1	2	3	4	5
My advisor does not encourage my input into our discussions	1	2	3	4	5
My advisor is not kind when commenting about my work	1	2	3	4	5
I do not feel respected by my advisor in our work together					
My advisor offers me encouragement for my accomplishments	1	2	3	4	5
I get the feeling that my advisor does not like me very much	1	2	3	4	5
My advisor takes my ideas seriously	1	2	3	4	5
I do not think that my advisor has my best interests in mind	1	2	3	4	5
I feel uncomfortable working with my advisor	1	2	3	4	5
I am often intellectually "lost" during meetings with my advisor	1	2	3	4	5
My advisor introduces me to professional activities (e.g., conferences, submitting articles for journal publication)	1	2	3	4	5
My advisor helps me conduct my work within a plan	1	2	3	4	5
My advisor has invited me to be a responsible collaborator in his/her own work	1	2	3	4	5
My advisor helps me establish a timetable for the tasks of my graduate training	1	2	3	4	5
Meetings with my advisor are unproductive	1	2	3	4	5
My advisor helps me recognize areas where I can improve	1	2	3	4	5
My advisor facilitates my professional development through networking	1	2	3	4	5
I consistently implement suggestions made by my advisor	1	2	3	4	5
I learn from my advisor by watching him/her	1	2	3	4	5
I am an apprentice of my advisor	1	2	3	4	5

My advisor does not help me stay on track in our meetings	1	2	3	4	5
My advisor strives to make program requirements as rewarding as possible	1	2	3	4	5
My advisor does not educate me about the process of graduate school	1	2	3	4	5
My advisor is available when I need her/him	1	2	3	4	5
I want to be like my advisor	1	2	3	4	5
I tend to see things differently from my advisor	1	2	3	4	5
I want to feel similar to my advisor in the process of conducting work	1	2	3	4	5
My advisor and I have different interests	1	2	3	4	5
I feel like my advisor expects too much from me	1	2	3	4	5

Appendix H

Marlowe-Crowne Social Desirability Scale Form C

List below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is **true** or **false** as it pertains to you personally.

List below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is **true** or **false** as it pertains to you personally.

True	False
1	2

It is sometimes hard for me to go on with my work if I am not encouraged	1	2
I sometimes feel resentful when I don't get my way	1	2
On a few occasions, I have given up doing something because I thought too little of my ability	1	2
There have been times when I felt like rebelling against people in authority even though I knew they were right	1	2
No matter who I'm talking to, I'm always a good listener	1	2
There have been occasions when I took advantage of someone	1	2
I'm always willing to admit it when I make a mistake	1	2
I sometimes try to get even rather than forgive and forget	1	2
I am always courteous, even to people who are disagreeable	1	2
I have never been irked when people expressed ideas very different from my own	1	2
There have been times when I was quite jealous of the good fortune of others	1	2
I am sometimes irritated by people who ask for favors of me	1	2
I have never deliberately said something that hurt someone's feelings	1	2

Appendix I

First column indicates which factor the item belongs to:
1 = Interpersonal Support; 2 = Instructional Support; 3 = Visa Issues
* = removed after first EFA (loading too low); ** = removed after second EFA (cross-loading);
*** = removed after third EFA (item loaded onto a two-item factor)

Factor/Item Removal	Item Number	Item
*	1	My advisor's support helps me navigate the challenges of graduate school
2	**2**	**My advisor guides my dissertation**
*	3	My advisor guides my selection of courses
*	4	My advisor guides my overall training plan
*	5	My advisor values our advising relationship
*	6	My advisor understands my cultural background
1	**7**	**My** advisor **is interested in my cultural background**
*	8	My advisor addresses financial challenges that I face as an international student
*	9	I feel that my advisor understands other commitments that I have (e.g., family obligations, jobs, etc.)
*	10	My advisor helps me engage in training activities that are meaningful to me
*	11	My advisor supports my decisions and choices
*	12	My advisor does not impose their opinions on me
*	13	My advisor supported my adjustment to new U.S. cultural norms when I entered the program
1	**14**	**I am able to discuss challenges related to homesickness with my advisor**
*	15	My advisor is a source of support
*	16	I feel appropriately challenged by my advisor on academic tasks
*	17	My advisor understands the influence of the U.S. socio-political environment on me
*	18	My advisor is educated about how the U.S. socio-political environment influences me as an international student
*	19	I feel supported by my advisor in navigating the U.S. socio-political environment
**	20	My advisor encourages me to have a work-life balance
1	**21**	**My advisor responds in culturally responsive ways to important days in my culture (e.g., holidays and festivals, supporting me to take certain days off)**
*	22	I can share my academic concerns with my advisor
1	**23**	**I can share my personal concerns with my advisor**
1	**24**	**My advisor initiates conversations around challenges that I may be facing**
*	25	I trust my advisor
*	26	My advisor cares about my well-being
1	**27**	**My advisor cares about my personal life**

*	28	My advisor cares about my professional development
2	**29**	**My academic performance is influenced by the support I receive from my advisor**
*	30	I feel comfortable approaching my advisor regarding any challenges I might be facing
*	31	My advisor believes in my ability to succeed
2	**32**	**My advisor challenges me to work hard**
2	**33**	**My advisor supports my research interests**
*	34	My advisor helps me explore opportunities for my career (e.g., research tasks, internships, jobs)
2	**35**	**My advisor initiates advising meetings with me**
2	**36**	**My advisor is available for regular meetings with me throughout the academic year**
2	**37**	**My advisor is willing to schedule individual meetings with me**
2	**38**	**My advisor provides feedback and guidance on my work**
2	**39**	**My advisor supports my academic engagements (e.g., preparing presentations for conferences, networking, academic writing, writing letters of recommendation)**
**	40	My advisor understands that my career decisions may be driven by my cultural background
*	41	If I struggle with language barriers to express my work, my advisor believes in my skills and abilities
*	42	My advisor advocates for me in the program/college/university
*	43	I do not depend on my advisor for support
**	44	I do not think my advisor has my best interest in mind
**	45	My advisor would benefit from attending culturally sensitive training to better support me
*	46	My relationship with my advisor is limited to academic needs
*	47	I would prefer to have a new advisor
*	48	I want to be like my advisor
2	**49**	**I have learned significantly from my advisor**
*	50	My advisor openly communicates with me about policy changes in the program
*	51	I can openly ask my advisor questions about any concerns within the program/college/university
*	52	My advisor is aware of resources on campus that can support me
*	53	My advisor is aware of resources within the profession that can support my professional development
*	54	My advisor is aware of professional networks that can support my development
*	55	My advisor supports my decision to visit home and allows for enough vacation days
*	56	I feel confident in my abilities because of my advisor's support
***	57	I wish my advisor had more time to meet with me

***	58	My advising relationship make me regret my decision to enroll in this program
***	59	My advising relationship has been a source of stress
*	60	My advisor helps me feel included in my department's community
*	61	My advisor helped me adjust to the new education system in the U.S.
*	62	My advisor gives me the autonomy to decide on areas that I want to work on
*	63	My advisor shares opportunities with me to promote my professional growth
1	**64**	**My advisor understands how my personal life may influence graduate school**
*	65	I feel comfortable with the way my advisor communicates with me
***	66	I wish my advisor reached out to me more often
1	**67**	**My advisor addresses cultural differences between us (e.g., nationality, gender, social class, religion)**
*	68	I feel passionate about my work because of my advisor
**	69	My advisor is passionate about my work
*	70	My advisor and I have a good rapport
*	71	My advisor understands my acculturation (adjustment to the U.S. culture) process
*	72	My advisor understands that my duration in the program is also influenced by other responsibilities (e.g., family commitments, returning to home country)
*	73	My advisor helps me hone my strengths while working on tasks
**	74	My advisor challenges me to learn new skills to improve my work
**	75	I feel my advisor and I make a good team
1	**76**	**My advisor enquires about my personal well-being (e.g., family, my mental health, etc.)**
*	77	Having my advisor has made my graduate program easier
1	**78**	**My advisor goes beyond their role to check in about my general well-being**
1	**79**	**My advisor seems aware of events in my country and checks-in with me about them**
*	80	My advisor understands how my situation may be different from domestic students in the program
*	81	If given a chance, I would change to another advisor
**	82	My advisor has unknowingly disrespected my customs and traditions
*	83	I feel comfortable to ask clarifying questions to my advisor
**	84	I feel pressured to prove my worth to my advisor
*	85	My advisor values my opinions and inputs
*	86	My advisor is aware of the policy-level constraints I experience as an international student
*	87	My advisor has limited knowledge about my cultural beliefs
1	**88**	**I am able to talk to my advisor about the discrimination I face on campus as an international student (e.g., negative interactions with domestic students, biases held by people about my nationality)**
**	89	I feel supported by my advisor in navigating the discrimination I experience on campus

*	90	My advisor supports my working style
*	91	I admire my advisor's work ethic
*	92	I wish my advisor understood my challenges as an international student better
*	93	My advisor acknowledges my strengths as an international student
*	94	My advisor is knowledgeable about my program's requirements
*	95	My advisor is informed about my performance in my graduate program
**	96	I avoid meeting with my advisor
*	97	My advisor makes me feel included in social gatherings
*	98	I feel supported by my advisor in navigating challenges related to adjustment, language, immigration rules, and academic behaviors related to cultural differences
1	**99**	**My advisor creates opportunities for social, cultural, and academic integration for both domestic and international students**
*	100	My advisor guides me in my career development based on my current academic stage
*	101	At the beginning of our advising relationship my advisor made efforts to get to know me
*	102	I have been able to develop my vocational identity with the help of my advisor
**	103	My advisor has positively influenced my career efficacy
**	104	My advisor is aware of the micro aggressions (instance of indirect, subtle, or unintentional discrimination) that international students experience (e.g., comments on accent, derogatory comments about home country, asking if you are a spy)
*	105	My advisor has limited knowledge about my religious beliefs
**	106	I am able to discuss challenges related to language barriers with my advisor
*	107	I am able to discuss challenges related to finances with my advisor
3	**108**	**My advisor is aware of the impact of visa restrictions on academic planning**
3	**109**	**My advisor is aware of the impact of visa restrictions on financial challenges (inability to work off-campus or part-time)**
3	**110**	**My advisor is aware of the impact of visa restrictions as an international student based on my academic stage**
*	111	My advisor supports my wish to do academic work in a second language
*	112	My advisor is sensitive towards microaggressions (instance of indirect, subtle, or unintentional discrimination) I experience as an international student within the program
*	113	My advisor is sensitive towards microaggressions (instance of indirect, subtle, or unintentional discrimination) I experience as an international student on campus
**	114	My advisor is sensitive towards microaggressions (instance of indirect, subtle, or unintentional discrimination) I experience as an international student off-campus
*	115	My advisor is sensitive towards the differences in our communication styles (e.g., high context vs. low context)

*	116	My advisor understands the impact of collectivistic vs. individualistic thinking pattern in decision making
*	117	My advisor supports me to develop intercultural competence
*	118	My advisor is committed to developing their own intercultural competence
*	119	My advisor understands the challenges I experience in my career decision making as an international student (e.g., returning home or staying in the U.S.)
*	120	My advisor understands that my career decision making may change throughout the duration of my program as an international student (e.g., staying in the U.S. or returning home)
*	121	My advisor understands the stress I experience about preparing myself for both possibilities of returning home or staying in the U.S.

VITA

Apoorvee Sawhney was born in India on October 13, 1994. She attended University of Delhi, India and graduated with a Bachelor of Arts (B.A.) degree in Psychology. She moved to U.S. in 2016 to pursue her Master of Education (M.Ed.) degree in Counseling Psychology from the University of Missouri, Columbia. After graduation, she entered the doctorate program in Counseling Psychology at the University of Missouri, Columbia. Apoorvee was matched at University of California, Irvine for her pre-doctoral internship. Clinically, her interests include working with students regarding adjustment to college/career/U.S., family concerns, spirituality, and identity development. Apoorvee is passionate about outreach and programming and sees it as a form of prevention and advocacy to support marginalized and underrepresented groups. Her research interests include multicultural issues, mentorship, training, and career development.