

2015

Homesickness and Psychological Distress in Asian International Students: The Potential Mediating Roles of Social Connectedness and Universal-Diverse Orientation

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Homesickness and Psychological Distress in Asian International Students: The Potential
Mediating Roles of Social Connectedness and Universal-Diverse Orientation

by
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Presented to the Graduate Research Committee
of Lehigh University
in Candidacy for the Degree of
Doctor of Philosophy
in
Counseling Psychology

Lehigh University
May 2015

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2015

Approved and recommended for acceptance as a dissertation in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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Acknowledgements

This project would not have been possible without guidance, inspiration, and encouragement from mentors, colleagues, friends, and family. My advisor, Dr. Cirleen DeBlaere, has been a steadfast support, and I am very grateful for the example she set throughout my graduate career. I would also like to thank my committee members, Drs. Grace Caskie, Timothy Silvestri, and Peggy Kong, for their invaluable contributions—from conceptual feedback to tips for statistical interpretation. Dr. Qiong Fu and Asmita Pendse were exceedingly kind to assist me with data analysis and cleaning. I also cannot overstate the importance of mentorship from other departmental faculty who have fundamentally shaped my journey from trainee to professional.

I am indebted to my cohort, honorary cohort members, and program predecessors for helping sharpen my skills and fuel my momentum. Other friends, family, and colleagues near and far have also grounded me and enriched my enjoyment of every new twist, turn, and discovery in the research process. Finally, I am honored to have become better acquainted with the Asian international student community informally and formally during my graduate school years, and I am thankful to those students who graciously chose to participate in this study.

Table of Contents

Abstract.....	page 1
Chapter I: Introduction.....	page 2
Chapter II: Review of the Literature.....	page 15
Chapter III: Method.....	page 40
Chapter IV: Results.....	page 54
Chapter V: Discussion.....	page 65
Tables.....	page 87
Figures.....	page 91
References.....	page 94
Appendix A: Recruitment Email.....	page 103
Appendix B: Informed Consent.....	page 104
Appendix C: Survey Measures.....	page 105
Appendix D: Debriefing.....	page 115
Curriculum Vitae.....	page 116

List of Tables

Table 1: Bivariate Correlations.....	page 87
Table 2: Standardized Factor Loadings.....	page 88
Table 3: Model Fit Results, Standardized Path Coefficients, and Outcome Variance Explained.....	page 89
Table 4: Mediational Effects.....	page 90

List of Figures

Figure 1: Hypothesized Indirect Effects for Primary Model 1.....	page 91
Figure 2: Hypothesized Indirect Effects for Primary Model 2.....	page 91
Figure 3: Primary Structural Equation Models.....	page 92
Figure 4: Alternative Structural Equation Models.....	page 93

Abstract

Homesickness is one of the most prevalent and problematic acculturative stressors experienced by Asian international college students (e.g., Lu, 1990; Smith & Khawaja, 2011; Ying, 2005). However, research has yet to examine variables that may account for how homesickness progresses into psychological distress for a percentage of these students (e.g., Tochkov et al., 2010). Sampling Asian international students ($N = 386$) at various U.S. American institutions, the present study explored social connectedness (SC) and universal-diverse orientation (UDO) as potential mediators of the relationship between homesickness and psychological distress. Two primary and two alternative sequential mediational models were tested. Each model offered evidence supporting the position that, accounting for age, 1) homesickness, SC, UDO, and psychological distress are meaningfully connected in Asian international college students and 2) when arranged in a multiple mediation sequence, the first three of these variables help to explain score variance in the fourth. The findings enhance our understanding of how homesickness manifests in this understudied population and can be used to inform the design of more effective counseling interventions.

Chapter I

INTRODUCTION

The number of international students enrolled in United States (U.S.) institutions of higher education has grown substantially within the last decade (Institute of International Education, 2014). Fittingly, researchers have shown increased interest in studying the acculturation and psychosocial functioning of this historically overlooked population (Lin & Betz, 2009; Mori, 2000; Yoon & Portman, 2004). Many existing studies on the international college student population have investigated the adjustment of Asian international students specifically (Zhang & Goodson, 2011b). A strong rationale exists for this concentration of research effort. Asian international students comprise approximately 64 percent of international students in the U.S., and the top three home nations of international college students are Asian (i.e., China, India, and South Korea; Institute of International Education, 2014). Perhaps due to the vast cultural distance between their home and host cultures (Lin & Betz, 2009; Wei, Liao, Heppner, Chao, & Ku, 2012), Asian students are potentially more vulnerable to experiencing acculturative stressors as compared with students from other home cultures (Zhang & Goodson, 2011a). Moreover, Asian international students report more psychological distress than both domestic college students and international students from other home country regions (e.g., Europe) (Zhang & Goodson, 2011a).

Although homesickness is one of the most prevalent adjustment-related concerns among Asian international college students (Lu, 1990; Ying, 2005), the phenomenon has been insufficiently researched in the literature to date (Stroebe, van Vliet, Hewstone, & Willis, 2002). This gap is concerning as homesickness has been consistently linked with various forms and degrees of distress in university students, ranging from impaired concentration to severe

depression and suicide (e.g., Stroebe et al., 2002; Ward & Kennedy, 1993; Willis, Stroebe, & Hewstone, 2003). A clear need exists to determine factors that differentiate those international students who struggle with homesickness-related distress from those with healthier adjustment (Rajapaksa & Dundes, 2002, 2003). Although data suggest that social contact with host nationals (i.e., U.S. American individuals) effectively reduces feelings of homesickness (e.g., Hendrickson, Rosen, & Aune, 2011; Ward & Kennedy, 1993), more research is needed to uncover the mechanisms underlying this process of adjustment.

Recently, Zhang and Goodson (2011b) called for more methodologically rigorous research to inform our understanding of international student adjustment, including studies on social connectedness (SC; Lee & Robbins, 1998) as well as other potential intervening variables. Heeding this call, the present study aimed to examine (1) the link between homesickness and psychological distress and (2) the extent to which SC and universal-diverse orientation (UDO; Miville et al., 1999) may mediate this link with a sample of Asian international students.

International Student Homesickness

Homesickness has been defined as a “psychological reaction to the absence of significant others and familiar surroundings” (Poyrazli & Lopez, 2007, p. 263) and, more specifically, “a state of distress characterized by adjustment difficulties and intense longing for home and ruminations about home after having left home” (van Vliet, 2001, p. 14-15 as cited in Willis et al., 2003). Typically, homesickness is conceptualized as including both missed persons as well as a missed home environment (Willis et al., 2003). This negative feeling state appears to share commonalities with phenomena such as nostalgia, loneliness, grief, and separation anxiety (Willis et al., 2003). For international students specifically, homesickness may additionally involve guilt for leaving loved ones behind in the home country (Chavajay & Skowronek, 2008).

Beyond rumination on missed elements, research suggests homesickness also involves problems assimilating new experiences and maladaptation to new environments (Bell & Bromnick, 1998; Willis et al., 2003).

Among the many acculturative stressors (i.e., stressors associated with cross-cultural encounters; Berry, Kim, Minde, & Mok, 1987) experienced by international students, homesickness appears to be one of the most frequent and intense. Homesickness has been found to explain nine to 20 percent of the variance in scores of overall international student acculturative stress (e.g., Sandhu & Asrabadi, 1994 [44% Asian participants]; Ying, 2005 [all Asian participants]), and although not tested for statistical significance, international students have reported elevated mean levels of homesickness relative to other acculturative stressors (Chavajay & Skowronek, 2008 [78% Asian participants]). In a study by Rajapaksa and Dundes (2002, 2003; 31% Asian participants), upwards of 30 percent of international students reported frequent feelings of homesickness, a significantly higher proportion than for domestic U.S. American students. Of concern, 14 percent of international student participants reported thinking about home constantly (Rajapaksa & Dundes, 2002, 2003). Homesickness has also been identified as one of the most frequently reported personal or social counseling needs of international college students (Das, Chow, & Rutherford, 1986 [home cultures not reported]).

Several factors may increase Asian international students' risk of experiencing homesickness while in the U.S. Though empirical data are scarce regarding experiences of international student homesickness by home country region, Smith and Khawaja (2011) postulate that Asian international students raised in collectivistic home cultures may feel a particularly acute sense of loss as compared with international students from more individualistic home cultures (e.g., United Kingdom, the Netherlands) more similar to the U.S. culture. In addition,

research shows that amount of physical distance from home is associated with greater levels of felt homesickness in college students (Tognoli, 2003). Finally, one study found preliminary, albeit statistically nonsignificant, evidence that Taiwanese students studying at U.S. institutions with more conationals (i.e., individuals from one's home culture) experienced slightly greater homesickness than those at schools with a moderate density of Taiwanese international students (Ying & Han, 2008). Owing to the large and increasing number of Asian international students attending U.S. colleges and universities (Institute of International Education, 2014), Asian international students run the risk of being regularly reminded of their missed home social network and home culture while going about their daily lives in an unfamiliar, stressful host environment.

Homesickness and Psychological Distress

It is generally assumed that elevated or enduring homesickness may seriously compromise international students' adjustment (Chavajay & Skowronek, 2008). Unfortunately, few studies have examined the precise impact of homesickness on psychological distress in the international college student population. However, the literature that does exist demonstrates positive associations between the two. For instance, homesickness related positively to levels of depression and anxiety in a study of Indian international students in the U.S. (Tochkov, Levine, & Sanaka, 2010). Likewise, Ward and Kennedy (1993) found significant associations between homesickness and psychological adjustment issues in New Zealander students studying abroad. In addition to its direct negative impact on mental well-being, Hendrickson et al. (2011) conjectured that homesickness may lead to social alienation among international students — which in turn could contribute to poor overall adjustment.

Supplementing these data, studies of adjustment issues in domestic college student samples demonstrate strong relationships between homesickness and poor academic performance, cognitive failure, and psychological disturbance (Fisher & Hood, 1988; Stroebe et al., 2002; van Tilburg, Vingerhoets, van Heck, & Kirschbaum, 1999; Willis et al., 2003). Homesickness also has been clearly linked with depression among college students, regardless of levels of emotional stability or self-esteem (Fisher & Hood, 1988; Stroebe et al., 2002). Alarming, cases of homesickness-fueled suicide have been reported (Willis et al., 2003). Of note, data suggest that homesickness acts as an antecedent to distress rather than the reverse (Stroebe et al., 2002).

Although the unique effects of homesickness have received inadequate attention in the research literature on international student adjustment, numerous studies have linked the broader construct of acculturative stress to psychological distress in this population. Many of these studies used measures that included homesickness items and sampled large numbers of Asian international students (e.g., Constantine, Okazaki, & Utsey, 2004 [43% Asian participants]; Wei et al., 2007 [all Asian participants]; Wei et al., 2012a [all Asian participants]). In their review of works on international student experiences, Smith and Khawaja (2011) reported consistently positive relationships between acculturative stress and psychological distress in international students. In addition, multiple studies with samples exclusively comprised of Asian international college students have revealed significant positive correlations between acculturative stress and depression (e.g., Lee, Koeske, & Sales, 2004; Wei et al., 2007; Ying & Han, 2006). Somatic complaints such as sleep and eating disturbances have also been connected positively with acculturative stress experienced by international students (Mori, 2000). Given the serious and potentially fatal consequences of homesickness in domestic students, as well as consistent data associating acculturative stress with psychological distress in international students, it is

imperative to investigate how homesickness manifests in international students specifically—and what factors underlie its relationship with psychological distress.

Social Connectedness as a Potential Mediator

Positive social interaction promotes the psychological well-being and adjustment of international college students generally as well as Asian international students specifically (e.g., Lee et al., 2004; Li & Gasser, 2005; Yang & Clum, 1995; Ye, 2006). Connections with host nationals in particular have been shown to bolster healthy psychosocial adjustment (e.g., Li & Gasser, 2005 [all Asian participants]), and studies suggest these ties may be pivotal in countering homesickness (e.g., Hendrickson et al., 2011 [59% Asian participants]; Ward & Kennedy, 1993 [1% Asian participants]). As put forth by Yoon et al. (2012a), host national relationships may serve as a vehicle for healthy acculturation by fostering identification with the host culture.

Although the sheer number of host national interactions or friendships may foster adjustment, international students' internalizations of the subjectively felt distance between themselves and others might be more salient with regard to homesickness. In other words, because homesickness develops from an internalized sense of loss, an internalized sense of gain in closeness or belongingness could help offset the phenomenon. Social connectedness (SC), a construct that encompasses such social gain internalizations, has shown particular promise in the literature on international student adjustment and acculturative stress. Representing one's subjective sense of interpersonal closeness, SC is theorized to contribute to thoughts, emotions, and behaviors when engaging in interactions with others (Lee & Robbins, 1998). Persons with high SC easily form new relationships and are more inclined to partake in social activities (Lee & Robbins, 1998).

Just as homesickness may be particularly pronounced in individuals from Asian home cultures, researchers have asserted that SC may be especially important to assess in persons

whose cultures place emphasis on social connections (i.e., individuals from collectivistic cultures; Yeh & Inose, 2003; Yoon et al., 2012a). Thus, the SC construct may be especially relevant for Asian international students' well-being, as their more interdependent sense of self can be uprooted as the result of the transition to life in the host culture (Yeh & Inose, 2003). SC may motivate students to interact with both host nationals as well as conationals, as making new social connections may help restore a critical aspect of Asian students' identities (Yeh & Inose, 2003).

Although initially conceived to be a stable attribute of the self, research suggests SC may be impacted by context, such as one's felt belongingness to different communities (Yoon et al., 2012a). As such, intense experiences of homesickness-related grieving, rumination, and adaptation difficulties could directly influence international students' SC while in the U.S. Overwhelming homesickness, in tandem with having few interactions with the host national community, could cause Asian international students to feel divorced from their general sense of SC even when possessing healthy relationships with conationals. Thus, though no known prior research has examined SC and homesickness concomitantly in international students, the variables likely would be negatively related given that studies of Asian and other international students have demonstrated negative associations between SC and the broader umbrella variable of acculturative stress (e.g., Duru & Poyrazli, 2007 [all Turkish participants]; Yeh & Inose, 2003 [61% Asian participants]). In studies of U.S. American college students, SC showed significant negative associations with both psychological distress and anxiety (Lee et al., 2001 [10% Asian American participants]; Lee & Robbins, 1998 [7% Asian American participants]). Furthermore, two recent studies suggest SC is positively linked with healthy social engagement with host nationals (Hendrickson et al., 2011 [59% Asian participants]), negatively linked with depression

(Zhang & Goodson, 2011a [all Asian participants]), and may support healthy acculturation (Hendrickson et al., 2011; Zhang & Goodson, 2011a) in international students. Therefore, SC could potentially mediate the relationship between homesickness and psychological distress in Asian international students.

UDO as a Potential Mediator

In addition to Asian international students' challenge of restoring feelings of belonging thousands of miles away from their home country, vast differences between home and host cultures could impede students' social interactions with host nationals (Ying, 2002). This in turn could block successful management of homesickness. As with social variables examined in research on international students, one's appraisals of cultural and linguistic distance may matter more to adjustment than objective measurement of such distances. Chavajay and Skowronek (2008) posited that international students who hold intolerant attitudes toward host nationals may experience greater depression and other mental health concerns. In contrast, interpreting the distance between one's home and host cultures as an opportunity as opposed to a threat (Berry, 1997) might facilitate increased host national interaction and, in turn, reduce the negative impact of homesickness. Adjustment is further promoted when positive host community attitudes deepen into affiliation. In their literature review, Zhang and Goodson (2011b) found that greater host identification was associated with fewer psychological symptoms in international college students as well as improved sociocultural adjustment.

Given the importance of viewing the study abroad experience as an opportunity for creating new multicultural affiliations, UDO, a construct that encapsulates individuals' global attitudes toward diversity, could function to mediate the relationship between homesickness and psychological distress. An attitude of acceptance of both similarities and differences among groups of people (Miville et al., 1999), UDO captures the ability of individuals to feel

comfortable with, cognitively appreciate, and purposely seek diversity of social connections and experiences (Fuertes et al., 2000a; Miville et al., 1999). Links between UDO and psychological distress for international students can be extrapolated from a study of U.S. American college students, wherein UDO explained significant variance in three dimensions of psychological well-being (Brummett, Wade, Ponterotto, & Lewis, 2007 [2% Asian participants]). Specifically, UDO related significantly and positively with self-esteem, psychological hardiness, and psychosocial functioning (Brummett et al., 2007).

A recent study by Kegel and DeBlaere (2014) offered evidence that UDO is a meaningful construct for Asian international students studying in the U.S. As seen in prior research with other samples (Strauss & Connerley, 2003 [12% Asian American participants]; Wang et al., 2003 [2% Asian American/Pacific Islander participants]), UDO scores positively correlated with personality traits and qualities (i.e., Openness to Experience, Agreeableness, and ethnocultural empathy) that would likely foster motivation for, and successful navigation of, cross-cultural social interactions (Kegel & DeBlaere, 2014). In another recent study, UDO fully mediated the relationships between two multicultural personality traits (i.e., open-mindedness and flexibility) and adjustment in international college students (Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2012 [65% Asian participants]). UDO also partially mediated the relationship between cultural empathy and adjustment in the study. It therefore appears UDO may play an important role in promoting healthy adjustment in international students, including Asian individuals (Yakunina et al., 2012).

It is conceivable that experiences of homesickness could adversely impact international students' attitudes toward diversity. Though connections involving homesickness specifically are as yet untested, Yakunina, Weigold, Weigold, Hercegovac, and Elsayed (2013) uncovered a

negative relationship between acculturative stress and UDO in their research with international students (65% Asian participants). In addition, though linked with stable personality and demographic variables (e.g., Singley & Sedlacek, 2009; Strauss & Connerley, 2003), UDO levels of U.S. American college students are also impacted by both personal functioning and experiences with diversity (e.g., Jesiek, Shen, & Haller, 2012 [23% Asian American participants]; Miville, Romans, Johnson, & Lone, 2004 [1% Asian American participants]; Spanierman, Neville, Liao, Hammer, & Wang, 2008 [25% Asian American participants]). As positive social interactions with diverse others lead to increases in UDO (Bowman, 2010), international students experiencing concerning levels of homesickness—to the detriment of their involvement with the host culture—could hold relatively more negative views of diversity.

Finally, UDO may represent a vehicle for healthy acculturation, providing Asian international students with a mechanism by which to affiliate with a new host culture as opposed to ruminating on losses associated with homesickness. For instance, students with high UDO might be inclined to integrate their use of English and their native tongue (Salamonson et al., 2007), creating the foundation for a more integrated bicultural identity. More specifically, students suffering from homesickness may feel obliged to strictly adhere to home culture roots (Sandhu & Asrabadi, 1994) or unwilling to identify with the host country (Zhang & Goodson, 2011a)—contributing to psychological distress. UDO may therefore mediate the relationship between homesickness and psychological distress in Asian international college students.

Potential Mediation Processes between SC and UDO

Though mediation processes between SC and UDO have not been previously studied in the international student literature, it seems plausible that healthy levels of SC might provide the template for positive and tolerant diversity attitudes. According to Baker and Baker (1987),

feelings of connectedness enable people to have greater respect for interpersonal differences.

Lee, Draper, and Lee (2001) stated that it is believed individuals with low SC may use dysfunctional interpersonal behaviors to guard against experiences of social rejection. In other words, SC may enable international students to view differences between individuals more as opportunities than as threats (Berry, 1997). Zhang and Goodson (2011a) alluded to this possible parallel between the development of healthy levels of SC and the development of healthy levels of UDO:

International students with greater SC with Americans may feel more comfortable during intercultural communication and more easily identify with Americans whose culture differs from their own. The greater sense of connectedness may make the students more open to learning American culture ... It may also enable students to develop intercultural friendship or social support, which can contribute to psychological adjustment (p. 617).

At the same time, it is feasible that UDO provides the foundation for maintenance of SC in the face of a major cross-cultural transition. Although SC is conceptualized as being largely stable and enduring (Lee & Robbins, 1998), physical separation from home country connections could dramatically impact Asian international students' collectivistic-oriented sense of self (Yeh & Inose, 2003). Possession of accepting and tolerant diversity attitudes may be a prerequisite for maintaining SC—buttressing host national SC in particular (Yoon et al., 2012a). In a multiple mediator model of Asian international student homesickness, UDO might partially account for how SC mediates the relationship between homesickness and psychological distress, or SC might partially account for how UDO mediates the relationship between homesickness and psychological distress. Thus, both models were tested in the present study.

Overview of the Present Study

The aim of this study was to explore the potential intervening roles of SC and UDO in the relationship between homesickness and psychological distress with a sample of Asian

international college students studying in the U.S. Though possible that SC and UDO could act as moderators, to honor the investigational goal of explaining how homesickness might progress into psychological distress—and to build on recent research with Asian international students (e.g., Yakunina et al., 2012; Zhang & Goodson, 2011a) wherein these variables have operated as significant mediators—the current investigation focused only on potential mediational processes. Specifically, structural equation modeling (SEM) was utilized to test models wherein both SC and UDO partially and sequentially mediate the link between homesickness and distress experienced by Asian international college students. Below, and as depicted in Figures 1-3, were the hypothesized relationships proposed by these primary models:

Model 1) Homesickness would be related directly and positively with psychological distress in Asian international students. Homesickness would negatively relate to students' attitudes toward diverse others (i.e., UDO), which in turn would negatively relate to their sense of belonging (i.e., SC). Decreases in UDO and SC would in turn partially explain the positive connection between homesickness and psychological distress. The entire model sequence would involve partial mediation.

Model 2) This model was identical to the first in terms of proposing multiple simultaneous mediators, however it reversed the hypothesized order of the mediators in the sequence of relationships. That is, homesickness would negatively relate to students' sense of belonging (i.e., SC), which in turn would negatively relate to their attitudes toward diverse others (i.e., UDO), which would partially explain the positive connection between homesickness and psychological distress.

Testing alternative models is considered best practice when analyzing psychological data using SEM methodology, particularly in order to protect against confirmation bias (MacCallum

& Austin, 2000). Indeed, some research has examined SC and UDO as predictors of acculturative stress, yielding significant findings (Duru & Poyrazli, 2007; Yakunina et al., 2013; Yeh & Inose, 2003). Therefore, as depicted in Figure 4, two alternative mediation models were tested wherein: (1) SC would partially account for the homesickness-mediated relationship between UDO and psychological distress, and (2) UDO would partially account for the homesickness-mediated relationship between SC and psychological distress. It was hypothesized that both of the primary mediational models would meet the conditions for mediation, whereas the alternative models would not. Specifically, it was anticipated that both UDO and SC would significantly reduce the strength of the relationship between homesickness and psychological distress, whereas homesickness would not significantly reduce the strength of the relationship between UDO or SC and psychological distress.

Chapter II

REVIEW OF THE LITERATURE

Despite its frequency in college student and other populations (e.g. Rajapaksa & Dundes, 2002, 2003; Stroebe et al., 2002), the research community has yet to reach consensus on the defining elements of homesickness (Nijhof & Engels, 2007; Stroebe et al., 2002). References to nostalgia, loneliness, and grief are typical touchstones for the phenomenon (Willis et al., 2003). Interpreting results of two empirical studies of homesickness in British ($n = 280$) and Dutch ($n = 482$) university students (race/ethnicity not reported), Stroebe et al. (2002) asserted that homesickness can be viewed as an experience falling within the Dual Process Model of Coping with Bereavement. According to this theoretical framework, homesickness encompasses both attachment and cognitive stress variables, and coping tasks entail coming to terms with loss and adapting to a changed environment (Stroebe et al., 2002). Two triggers for the development of homesickness that speak to the Dual Process Model include the physical absence of an individual who is trusted (Nijhof & Engels, 2007) and, in the case of international students, lack of familiarity with the new host environment (Mori, 2000). In line with this conceptualization of homesickness as a “mini-grief” (Stroebe et al., 2002, p. 150), Beck, Taylor, and Robbins (2003) observed that the symptoms of homesickness would most closely align with the *Diagnostic and Statistical Manual-IV-TR* criteria for Adjustment Disorder with Depressed Mood.

Although rumination on missed persons and a missed home environment as well as associated problems assimilating new experiences are considered key ingredients of homesickness generally (Bell & Bromnick, 1998; Stroebe et al., 2002; Willis et al., 2003), and in Asian international students specifically (Shin & Abell, 1999), recent research portrays homesickness as even more faceted. Verschuur, Eurelings-Bontekoe, and Spinhoven (2004) found evidence supporting the existence of both state and trait homesickness in a large study of

Dutch adults ($N = 617$; race/ethnicity not reported). Interestingly, although both presentations were positively associated with measures of depression and anxiety, state homesickness was more strongly associated with depression, whereas trait homesickness was more strongly linked with anxiety. The authors concluded that homesickness is best conceptualized as a mixed negative affective experience consisting of both depressive and anxious feelings (Verschuur et al., 2004).

Homesickness in International Students

Per a study that included participants from India, Pakistan, Far East Asia, and Southeast Asia, as many as two out of three international college students report experiencing problematic levels of homesickness while studying in the U.S. (Stafford, Marion, & Salter, 1980; race/ethnicity not reported). Moreover, though quite common among domestic college students, homesickness is even more prevalent and intensely felt among international students. In a study of 182 international students (31% Asian participants) and 100 U.S. American students at institutions of higher learning, 30 percent of international students reported frequent feelings of homesickness compared with just nine percent of domestic students (Rajapaksa & Dundes, 2002, 2003). In addition to this significant group difference, more international students than domestic students felt they had “left part of themselves at home” (Rajapaksa & Dundes, 2002, 2003, p. 19). Similarly, Tochkov et al. (2010) reported significantly higher levels of homesickness in Indian international college students surveyed ($M = 91.2$ out of a possible 165) as compared with domestic U.S. American students ($M = 82.11$). These results parallel those of a larger study of 198 international students (65% Asian/Pacific Islander participants) and 241 U.S. American students, wherein the former group had greater mean homesickness scores ($M = 81.26$ out of a possible 165) than their U.S. American counterparts ($M = 65.55$) (Poyrazli & Lopez, 2007).

Homesickness is also a persistent issue for international students studying in the U.S. One study of 115 East Asian international students found no significant correlation between length of residence in the U.S. and homesickness (Ye, 2005). Poyrazli and Lopez (2007) further established that international students' ($n = 198$; 65% Asian participants) length of residence in the U.S. did not predict level of homesickness. Of note, one longitudinal study of Taiwanese international graduate students did uncover a significant decrease in homesickness between the spring of participants' first academic year abroad and the fall of the following year (Ying, 2005). However, homesickness ratings remained elevated as compared with other stressors (e.g., cultural differences, social isolation), and a trend of increased homesickness was observed at two time points following the fall of the students' second year (Ying, 2005). Taken together, these data intimate that international college students may grapple with homesickness at any juncture during their sojourn.

Not only is homesickness prevalent and lasting, but the experience is often intense and challenging for international college students. Studying Taiwanese international students ($N = 172$), Ying and Liese (1994) found that homesickness was a better predictor of adjustment than all other tested variables, including but not limited to relational, cultural, and academic problems as well as size of the conational community. Homesickness negatively correlated with adjustment and explained a significant 25 percent of the variance in participants' adjustment scores (Ying & Liese, 1994). Other data corroborate the relative intensity of international college student homesickness as compared with other commonly experienced acculturative stressors. Though the researchers did not test for statistical significance, Chavajay and Skowronek (2008) tabulated that international students (78% Asian participants) reported more homesickness than perceived discrimination, perceived hate, fear, stress due to change and

culture shock, guilt, or miscellaneous acculturative stress. Further, of all acculturative stress items assessed, the one endorsed most by the sample fell within the homesickness subscale: “I miss the people and country of my origin” ($M = 3.70$ out of a possible 5; higher scores indicating more acculturative stress). It is thus unsurprising that homesickness is considered “particularly emotionally taxing” among the various stressors international students face (Ying, 2005, p. 62) and has been identified as one of this population’s most predominant counseling needs (Das et al., 1986).

Though minimal research has characterized homesickness in Asian international college students specifically, researchers believe this group may be more burdened by the experience than others. Strong collectivistic enculturation may trigger Asian students to feel homesickness more acutely than students from individualistic home cultures (Smith & Khawaja, 2011). Additionally, physical distance from home increases the likelihood of experiencing homesickness, as was found in research with domestic college students (Tognoli, 2003; race/ethnicity not reported). Students whose parental homes were farther than 100 miles from campus reported significantly more homesickness as compared to students whose homes were within a 50-mile radius ($\chi^2 = 6.68, p < .001$) (Tognoli, 2003). Half a world of physical distance, along with monetary or logistical obstacles to visiting home, could therefore factor into increased risk for homesickness among the Asian international student population. Finally, although the difference did not achieve statistical significance, Ying and Han (2008) reported that attending a university with a high versus medium density of conationals was related to slightly greater homesickness in a study of 155 Taiwanese international students. Small sample size and possible range restriction issues with the homesickness measure (i.e., use of a three-point Likert scale) may have precluded significant results (Ying & Han, 2008). Nevertheless, this trend

aligns with other research connecting greater homesickness with more conational interaction and affiliation at the possible expense of forming host national ties (e.g., Ward & Kennedy, 1993). Considering the relative multitude of Asian students in the U.S. (Institute of International Education, 2014), Ying and Han's (2008) findings further imply that homesickness could be particularly challenging for this international college student subgroup.

The number of studies on international student homesickness pales in comparison with research investigating the broader variable of acculturative stress (e.g., Poyrazli et al., 2004; Wei et al., 2007; Ye, 2006; Yeh & Inose, 2003; Ying, 2005). Notably, widely used measures of acculturative stress include homesickness as one of their tested stressor domains (e.g., the Acculturative Stress Scale for International Students [Sandhu & Asrabadi, 1994]; the Migration-Acculturation Stressors Scale [Ying, 2005]). Although research on acculturative stress has been steadily growing, studies have rarely presented their results by type of acculturative stressor (e.g., Constantine et al., 2004; Poyrazli et al., 2004; Wei et al., 2007; Yakunina et al., 2013). Very recently, however, studies have focused attention on the specific acculturative stressor of perceived discrimination (e.g., Cetinkaya-Yildiz, Cakir, & Kondakci, 2011; Duru & Poyrazli, 2011; Meegan & Kashima, 2010). Given its problematic intensity and prevalence (Rajapaksa & Dundes, 2002, 2003; Stroebe et al., 2002), homesickness too deserves separate, more in-depth study among the international college student population.

Homesickness and Psychological Distress

Relationship between Homesickness and Distress in International Students

Though homesick feelings are considered culturally universal and a common reaction to leaving one's home environment, intense experiences can precipitate mental health symptoms that warrant clinical attention (van Tilburg, Vingerhoets, & van Heck, 1996). Several factors

may increase the risk of developing symptoms among international students—and Asian international students in particular. First, simultaneously grappling with both developmental concerns and cultural adjustment concerns doubly strains the mental health of international students as compared with domestic college students (Mori, 2000). Furthermore, students from Asian home cultures consistently report higher levels of psychological distress than international students from home regions sharing more cultural similarities with the U.S., such as Europe (Zhang & Goodson, 2011a). Finally, cultural stigma against seeking traditional counseling services coupled with Asian students' normative coping style of emotional suppression could lead to increased psychological distress in the face of stressors such as homesickness (Mori, 2000; Smith & Khawaja, 2011).

Few empirical studies have explored the impact of homesickness on psychological distress in international college students, but what data do exist support a positive relationship. Though results did not reach statistical significance, homesickness was positively associated with both depression and anxiety in a small study of 35 international undergraduate students (D. Matsumoto, personal communication, June 4, 2012; Matsumoto, LeRoux, Robles, & Campos, 2007 [home country not reported]). In a similarly sized study comparing adjustment in Indian ($n = 40$) and domestic ($n = 35$) college students, homesickness correlated significantly and positively with both depression and anxiety in the international students surveyed (Tochkov et al., 2010). Sampling Taiwanese international college students ($N = 216$ at baseline, $n = 97$ at final follow-up), Ying (2005) too reported a significant positive correlation ($r = .42, p = .001$) between homesickness and depression. Strikingly, homesickness levels also significantly differed between more and less depressed participants in a survey of 171 Taiwanese international graduate students (Ying & Liese, 1991). In the study, struggling more with homesickness served

as a significant predictor of level of mood decline in students whose depression scores increased pre- to post-arrival in the U.S. (Ying & Liese, 1991).

Supplementing these data of adult student sojourners, a study of 178 New Zealander secondary school students (1% Asian participants aged 16 to 19 years) completing a field service abroad program found that homesickness significantly contributed to psychological adjustment problems, including depressive symptoms (Ward & Kennedy, 1993). Homesickness related uniquely and positively to psychological adjustment issues ($0.61, p < 0.001$) and mood disturbance specifically ($0.38, p = 0.0001$). In addition, a regression model including homesickness, locus of control, life changes, and level of sociocultural adjustment explained 55 percent of the variance in scores for psychological adjustment (Ward & Kennedy, 1993). Given proposed connections between homesickness and social alienation among international college students (Hendrickson et al., 2011), it is likely that homesickness also indirectly affected psychological adjustment in this model by contributing to poorer sociocultural adjustment.

Relationship between Acculturative Stress and Distress in International Students

Acculturative stress, a variable that commonly includes items or subscales devoted to homesickness in its measurement, also has been consistently linked with psychological distress in the international college student literature (Smith & Khawaja, 2011). Homesickness and other acculturative stressors accounted for significant variance in psychological distress in a study of 188 Chinese international students (Wei et al., 2012a). Acculturative stress positively associated with psychological distress ($r = .50, p < .001$), as was measured by a scale encompassing general distress, somatic concerns, and performance distress (Wei et al., 2012a). Additionally, in recent work testing a structural equation model of psychological distress, Wu and Mak (2012) reported a positive path ($.42, p < .05$) between acculturative stress and psychological distress in

undergraduates from mainland China ($N = 180$) studying abroad in Hong Kong. Scores on the acculturative stress measure, which included a homesickness subscale, correlated significantly and positively with three forms of distress: depression ($r = .44$), anxiety ($r = .43$), and somatic concerns ($r = .35$) (Wu & Mak, 2012).

As with aforementioned studies on homesickness, some research specifically hones in on the relationship between acculturative stress and depression among international college students. For example, in a survey of 320 international students (43% Asian participants) from four different U.S. American colleges and universities, acculturative stress, including experiences of homesickness, explained 48 percent of the variance in participants' depression scores (Constantine et al., 2004). Acculturative stress and depressive symptoms were positively connected ($t = 10.38, p < .001$) accounting for home country region, sex, level of English fluency, social self-efficacy, and self-concealment behaviors (Constantine et al., 2004). In another study, homesickness and other acculturative stressors explained significant variance in the depression scores of 187 Chinese international students attending a U.S. American university (Wei et al., 2007). As hypothesized, acculturative stress correlated positively with depression in this sample ($r = .60, p < .001$; Wei et al., 2007). Further, a longitudinal study by Ying and Han (2006) uncovered that homesickness and other stressors experienced in Taiwanese international students' ($N = 155$) first semester of study accounted for significant variance in their third semester depression scores ($\beta = .41, p < .001$).

Relationship between Homesickness and Distress in Domestic Students

Multiple studies with domestic students have enhanced understanding of how homesickness adversely impacts the well-being of individuals who have left home to attend university. For instance, research with first-year college students shows that intense

homesickness can feed psychological concerns associated with severe consequences if left unaddressed—including withdrawal from college or even suicide (Willis et al., 2003). Beck et al. (2003) found that homesickness explained unique variance in the depression scores ($t = 7.67, p < 0.001$) of 167 incoming U.S. American college freshmen (race/ethnicity not reported). Homesickness correlated significantly and positively with depression ($r = 0.55, p < 0.01$), and a model including sociotropy, autonomy, and homesickness scores accounted for almost half the variance in students' depression scores (Beck et al., 2003). In another study, first-year Scottish college students ($N = 196$; race/ethnicity not reported) categorized as homesick experienced significantly more anxiety ($t = 4.07, p < .001$), depression ($t = 3.93, p < .001$), and overall psychological symptomology ($t = 2.6, p = .005$) than non-homesick students (Fisher & Hood, 1988). In addition, the homesick group reported higher levels of cognitive failure than their non-homesick counterparts ($t = 1.91, p = .03$) (Fisher & Hood, 1988).

Using regression analyses to investigate antecedents and consequences of homesickness in 482 Dutch college students (race/ethnicity not reported), Stroebe et al. (2002) found significant paths between homesickness and depression ($\beta = .62, p < .05$) controlling for whether or not students had relocated to attend university. A significant path emerged between relocation and homesickness ($\beta = .21$), relocation and depression were nonsignificantly associated, and relocation showed a significant but minute indirect effect on depression ($\beta = .13$). Although the statistics were not reported, similar results were seen when examining connections between relocation, homesickness, and a broad measure of psychological distress including depression, anxiety, and somatization subscales. Additionally, relationships between homesickness and depression remained significant when accounting for emotional stability in the Dutch student sample and when accounting for self-esteem in a separate sample of 280 British college students.

Stroebe et al. concluded, “This implies that it is not distress or depression that precedes homesickness, but that homesickness may actually bring about distress or depression” (p. 163). Though exhibiting strengths such as a large sample size, use of multiple distress measures, and statistically demonstrated distinction between relocation and homesickness effects, the study’s cross-sectional design limits firm establishment of the antecedence of homesickness (Stroebe et al., 2002). However, based on this and other abovementioned research, it is fair to view homesickness as a potential precipitator or aggravator of psychological distress in college students—including Asian international college students.

Importance of Host National Connections

Numerous studies support the psychosocial adjustment benefits of international students’ social connections with host nationals. Measuring Turkish international college students’ ($N = 229$) relative amount of socialization with host nationals versus fellow Turkish conationals, Duru and Poyrazli (2011) found that greater socialization with U.S. American individuals was associated with significantly fewer adjustment difficulties ($F(2,215) = 4.17, p < .01$). These findings were consistent for both male and female students (Duru & Poyrazli, 2011). Relatedly, Ying and Liese (1994) found that friendship with U.S. American individuals explained a significant 18 percent of the variance of adjustment scores in Taiwanese international students ($N = 172$), as compared with a nonsignificant amount of variance explained by friendships with conationals. As expected, Taiwanese students who made greater efforts to befriend U.S. American individuals were more likely to report better adjustment (Ying & Liese, 1994). Finally, in a study of 117 Asian international students from diverse home countries, higher quantity and quality of interactions with host nationals correlated positively with sociocultural adjustment ($r = .61, p = .01$) (Li & Gasser, 2005). Moreover, contact with U.S. American persons partially

mediated the relationship between international students' cross-cultural self-efficacy and sociocultural adjustment (Li & Gasser, 2005), suggesting that positive social engagement with host nationals supports the conversion of inner psychological well-being to healthy sociocultural adaptation.

Beyond conferring general gains in psychosocial adjustment, host national connections—in contrast with conational connections—may be pivotal to alleviation or successful management of international students' experiences of homesickness. Comparing international students ($N = 84$; 59% Asian participants) with proportionately high or low numbers of U.S. American friends within their social networks, Hendrickson et al. (2011) reported that participants in the former group were significantly less homesick ($F(1,79) = 4.1, p < .05$). Pederson et al. (2011) published similar results, demonstrating a significant negative relationship between homesickness and social interaction with host nationals ($r = -0.19, p < 0.05$) in a sample of 248 U.S. American college students (19% Asian/Pacific Islander participants) who had recently studied abroad. Finally, research with 178 New Zealander secondary students (1% Asian participants) in study abroad programs uncovered that homesickness negatively associated with host national social interaction ($r = -0.24, p < .001$) but positively associated with conational social interaction ($r = 0.17, p < .01$) (Ward & Kennedy, 1993). Thus, it appears that formation of host national connections serves as a valuable mechanism for Asian international students' general adjustment and coping with homesickness in particular. These relationships may promote healthy acculturation by fostering identification with the host culture (Yoon et al., 2012a)—enabling international students to feel a sense of gain (i.e., more at home abroad) in the face of loss (i.e., being away from their native culture and home).

Obstacles to Forming Host National Connections

Despite the benefits of interacting with host nationals while attending university in the U.S., many international students keep to their home national groups. In a study by Rajapaksa and Dundes (2002, 2003), 42 percent of international students ($n = 182$; 31% Asian participants) reported having no U.S. American friends. In contrast, only 15 percent said they had no fellow international friends (Rajapaksa & Dundes, 2002, 2003).

Literature has shed light on various barriers that preclude international college students' success interacting with and befriending U.S. American individuals. One set of obstacles resides within the host national community. Personality—for instance, low scores on openness to experience—has been empirically connected with decreased likelihood that U.S. American college students will cultivate friendships with international student peers (Williams & Johnson, 2011). Apprehension related to intercultural communication also has been shown to inhibit formation of these cross-cultural connections in a U.S. American student sample (Williams & Johnson, 2011). Prejudicial attitudes and discriminatory actions of some host nationals further impede positive relationship building with international students (Mori, 2000).

Other obstacles to forming host national connections stem from the skills and mentalities of international students. First, it is widely documented that poor English proficiency correlates positively with experiencing homesickness and acculturative stress in Asian and other international college students (Poyrazli & Lopez, 2007 [65% Asian/Pacific Islander participants]; Poyrazli et al., 2004 [55% Asian participants]; Yeh & Inose, 2003 [100% Asian participants in sample subgroup analysis]). According to some research, Asian international students' command of English may be lower than that of students from other home regions (e.g., Europe) (Poyrazli et al., 2004), placing this group at increased risk for experiencing “second language anxiety” debilitating for the formation of new social networks in the U.S. (Chen, 1999). For

some international students, however, the desire to improve English language skills may incentivize interactions with host nationals—which in turn could lay the groundwork for meaningful relationship formation.

As with host nationals, international college students' psychological traits and tendencies also may stand in the way of making critical social ties in the U.S. Both neuroticism and maladaptive perfectionism have been positively linked with acculturative stress in studies with Turkish (Duru & Poyrazli, 2007) and Chinese (Wei et al., 2007) international students, respectively. In addition, Ward and Kennedy (1993) demonstrated that possessing an external locus of control was positively related to homesickness among New Zealander students (1% Asian participants) studying abroad. Investigating behavioral patterns of international students (73% Asian participants), one study revealed that emotion regulation abilities related negatively with homesickness over time (Yoo, Matsumoto, & LeRoux, 2006). The authors proposed that students less able to regulate negative emotions related to acculturative stressors experienced blunted cognitive functioning needed to navigate the new environment (Yoo et al., 2006).

International students also may hold negative attitudes toward the host culture that could prevent healthy interactions with U.S. American individuals. Different rules governing social interaction in the more individualistic U.S. American culture as compared with Asian collectivistic cultures could be off-putting to some students (Yeh & Inose, 2003). Moreover, it is worth noting that individuals may choose to study in the U.S. for a variety of reasons unrelated to experiencing a new culture. As articulated by Chavajay and Skowronek (2008), “international students themselves may be intolerant or discriminatory toward...members of the host culture. These difficulties can contribute to international students' loneliness, alienation, mistrust, powerlessness, and depression” (p. 828).

Potential Mediating Role of Social Connectedness

Because relationships act as a cornerstone of identity for many persons from Asian cultures (Yeh & Inose, 2003), successfully establishing connections with U.S. American peers may take on even more importance for Asian international students. Social connectedness (SC) represents an individual's subjective sense of interpersonal closeness (Lee & Robbins, 1998). Possessing a healthy baseline sense of SC that recoups upon formation of new ties in the U.S. may allow Asian international students to preserve psychological well-being in the face of homesickness.

Homesickness and SC

Although scant research has investigated homesickness and SC concurrently, data demonstrate an inverse relationship between SC and the broader variable of acculturative stress. Yeh and Inose (2003) uncovered negative correlations between SC and acculturative stress in both their racially/ethnically diverse overall study sample ($N = 359$; $r = -.48$) as well as in an Asian international student subset ($n = 227$; $r = -.45$). In addition, SC explained significant variance in acculturative stress scores after accounting for demographics, English language fluency, and home country region. A study of Turkish international college students ($N = 229$) corroborated these findings, reporting a negative correlation between SC and acculturative stress ($r = -.27$, $p < .01$) and identifying SC as a unique predictor of acculturative stress in regression analyses (Duru & Poyrazli, 2007). Notably, both studies utilized a measure of acculturative stress featuring homesickness as a subscale (Duru & Poyrazli, 2007; Yeh & Inose, 2003).

Though SC may guard against the experience of certain acculturative stressors more external to the self (e.g., perceived discrimination), in the case of homesickness, SC might be more aptly viewed as a byproduct and signal of ineffective coping mechanisms. For example, research with 86 international college students (59% Asian participants) demonstrated that

having more conationals in one's friendship network was associated with lower general feelings of SC ($r = -.29, p < .01$) (Hendrickson et al., 2011). Additionally, a nonsignificant trend was observed between reporting more host national friends and higher scores on SC ($r = .14$). Given the connection between maintaining proportionately more U.S. American friends and lower homesickness in this study, it seems plausible that students unsuccessfully wrestling with homesickness would have fewer social relationships with host nationals and, in turn, lower SC. Indeed, the authors found SC negatively related with homesickness, however the results did not achieve statistical significance (Hendrickson et al., 2011).

Further supporting the potential link between homesickness and SC, recent research has demonstrated that SC might be more of a blend between what Zhang and Goodson (2011a) call a "self-based construct" and a "situation-based construct" (p. 617). Yoon et al. (2012a) differentiated between general SC, SC within mainstream society, and SC within one's ethnic community using a study subsample of Asian international students ($n = 134$). General SC correlated significantly with both mainstream society SC ($r = .40, p < .01$) and ethnic community SC ($r = .38, p < .01$), evidencing conceptual overlap (Yoon et al., 2012a). At the same time, these correlations were moderate in size as opposed to large (Cohen, 1988). The gap between Asian international students' general and community-specific senses of SC likely illustrates the impact of leaving home country connections behind and the challenge of forming new social networks in the U.S. Thus, environmental and community composition change appears to have marked influence on SC levels. The desire to reclaim one's general sense of SC founded on home country connections and culture—rather than tackling the difficult task of building host country SC—could help explain how homesickness fuels distress in some international students.

SC and Psychological Distress

Several studies have drawn links between SC and psychological distress in international students. General level of SC correlated positively with general experiences of positive affect ($r = .17, p < .05$) and negatively with general experiences of negative affect ($r = -.42, p < .01$) in research studying 134 Chinese, Korean, and Indian international college students (Yoon et al., 2012a). The correlation between participants' SC with host nationals and positive affect was even greater ($r = .28, p < .01$). Likewise, Wei, Wang, Heppner, and Du (2012b) recently demonstrated a link between Chinese international students' ($N = 383$) SC with the host national community and general stress experienced within the past month ($r = -.26, p < .001$), whereas SC with participants' ethnic community showed no significant association with stress. Thus, feeling connected with U.S. American individuals seems particularly crucial for sustaining mental well-being in the Asian international student population.

The largest known study of SC in international college students offers further confirmation of the importance of possessing an internal sense of belonging within the host culture. Surveying 508 Chinese international college students, Zhang and Goodson (2011a) reported significant negative correlations between SC with host nationals and two outcome variables: depression ($r = -.33, p < .001$) and sociocultural adjustment difficulties ($r = -.48, p < .001$). Strikingly, SC with U.S. American individuals explained 67 percent of the variance in Chinese students' depression scores—more than the amount accounted for by social interaction with U.S. American individuals (Zhang & Goodson, 2011a). This finding offers additional support for the contention that international students' subjective, internal sense of connection with others is more critical to well-being than an objectively quantified number of interactions or friendships.

Studies in domestic samples supplement nascent research exploring the relationship between SC and mental health in international college students. Lee and Robbins (1998) found that greater reported levels of SC correlated negatively with trait anxiety levels ($r = -.63$) in a study of 185 U.S. American undergraduates (7% Asian American participants). Similarly, in scale validation research with a sample of 100 U.S. American college students (22% Asian American participants), SC related significantly and negatively with anxiety in social situations ($r = -.57$) and with distress in social situations ($r = -.55$) (Lee et al., 2001). Another study of college students ($N = 184$; 10% Asian American participants) uncovered significant negative relationships between SC and both symptoms of depression ($r = -.45, p < .004$) as well as general psychological distress ($r = -.32, p < .004$) (Lee et al., 2001). Of note, the measure of psychological distress used in the study encompassed six clinical domains including depression, phobic anxiety, somatization, obsessive-compulsiveness, hostility, and social discomfort (Lee et al., 2001). SC also was consistently linked with both depression and hopelessness in two cohorts of college students (4% Asian/Asian American participants in the overall sample) assessed at two time points during two different semesters (Rice, Leever, Christopher, & Porter, 2006). Time 1 correlations were $-.60$ for SC and depression and $-.44$ for SC and hopelessness; time 2 correlations were $-.62$ and $-.53$ for depression and hopelessness, respectively (Rice et al., 2006). In summary, data from both international and U.S. American college student samples establish a clear inverse relationship between SC and various forms of psychological distress.

SC as a Potential Mediator of Homesickness and Psychological Distress

Though no prior research has examined SC as a mediating variable between homesickness and psychological distress specifically, evidence suggests that SC may underlie relationships of conceptually similar constructs operating in international and domestic college

student populations. Indeed, interest in the mediating potential of SC has grown in recent years, particularly in research with ethnic minority and international sojourner populations (Zhang & Goodson, 2011b). In their research with Chinese international students ($N = 508$), Zhang and Goodson (2011a) found that SC with host nationals fully mediated the relationship between students' adherence to U.S. American culture and depression. Further, SC levels partially mediated the association between host culture adherence and sociocultural adjustment problems. In contrast, SC with U.S. American persons did not moderate the relationship between acculturation and psychosocial adjustment as initially predicted (Zhang & Goodson, 2011a). These data lend support to the position that internal feelings of belonging with host national persons, an active ingredient of acculturation, confer benefits to the international college student population.

Wei et al. (2012b) conducted SC research along similar investigational lines with 383 Chinese international college students. SC in the ethnic community significantly moderated the relationship between perceived racial discrimination and posttraumatic stress symptoms, whereas SC in mainstream U.S. American community did not moderate this relationship. However, the researchers detected that perceived discrimination indirectly impacted participants' well-being through having low SC with mainstream society (Wei et al., 2012b). It could be that another acculturative stressor, namely homesickness, could similarly indirectly impact Asian international students' well-being by way of association with low host national SC.

The mediating potential of SC is further buttressed by significant results from studies in domestic college student samples. For instance, SC served to fully mediate the relationship between extraversion and well-being in 295 college students (13% Asian/Asian American participants; Lee et al., 2008). Similarly, surveying 499 college students (4% Asian/Asian

American participants), Rice et al. (2006) found that SC partially mediated the relationship between perfectionism and three outcome variables: depression, hopelessness, and academic integration. Another study of U.S. American college students ($N = 272$; 3% Asian American participants) revealed that SC mediated the relationship between the predictor variables of social support and social competence and the outcome variables of depression and self-esteem (Williams & Galliher, 2006). Finally, Yoon, Hacker, Hewitt, Abrams, and Cleary (2012) reported that SC with both mainstream and ethnic communities mediated the relationship between acculturation and well-being in a sample of Asian American college students ($N = 273$). Participants reporting higher levels of SC with mainstream society reported greater subjective well-being ($r = .60, p < .001$), whereas participants reporting higher levels of SC with their ethnic community had significantly lower well-being scores ($r = -.22, p < .001$) (Yoon et al., 2012b). These data underscore the important role SC plays in explaining how various psychological processes, social encounters, and personal traits factor into psychological well-being.

Potential Mediating Role of UDO

For Asian international students, healthy handling of homesick feelings may involve not only the sociocultural imperative and skills necessary to form connections with host nationals, but also positive attitudes toward persons who represent a vastly dissimilar culture from their own. Universal-diverse orientation (UDO), an attitude toward diversity that encompasses appreciation for others' similarities and differences (Miville et al., 1999), could propel international students to interpret the grief of leaving their home country as an opportunity to build new and diverse ties abroad. Further, in being conceptually related to taking an integration approach to acculturation, high UDO could lead students to have more meaningful interactions

with host nationals, as well as interpret these interactions in ways that positively reframe the experience of homesickness.

Homesickness and UDO

Although no known research has investigated the specific impact of homesickness on UDO in any population, Yakunina et al. (2013) recently reported a significant negative correlation ($r = -.34$) between acculturative stress and UDO in their survey of 336 international students (65% Asian participants) studying in the U.S. Other UDO studies have uncovered several variables that factor into college students' diversity attitudes. Firstly, data support that UDO both operates as a predictor of psychological well-being and, at the same time, is predicted by wellness variables. Miville et al. (2004) reported that, along with gender, particular wellness variables accounted for variance in emotional, cognitive, and behavioral aspects of UDO in a sample of U.S. American undergraduates (1% Asian American participants). Specifically, collective self-esteem helped to explain significant variance in cognitive UDO scores, social self-efficacy and general self-efficacy explained variance in emotion-centered UDO scores, and social self-efficacy, general self-efficacy, and problem-focused coping explained variance in behavioral UDO scores (Miville et al., 2004). Because personal functioning factors into individuals' capacity to embrace diversity, it follows that troubling or intense homesickness could hamper UDO directly or indirectly by disrupting mechanisms involved in self-esteem and self-efficacy.

Further, although multiple studies link stable demographic and personality dimensions with UDO (e.g., Kottke, 2011; Singley & Sedlacek, 2009), more offer evidence that experience-dependent variables impact individuals' UDO attitudes. For instance, one study of non-native Australian nursing students ($N = 816$; race/ethnicity not reported) found that participants who spoke both English and another language at home—as opposed to speaking just one of two

known languages—had higher UDO scores (Salamonson, Everett, Andrew, Koch, & Davidson, 2007). This finding supports the possible connection between higher levels of UDO and electing an integration approach to acculturation.

Beyond the personal choice to exercise bicultural identities in everyday life, a number of studies have reported gains in UDO as the result of both formal and informal diversity experiences in samples of largely U.S. American college students. A large study of college freshmen ($N = 3081$; 7% Asian/Pacific Islander participants) showed that in addition to attendance at lectures and workshops, serious discussions with diverse others positively impacted end-of-year UDO scores (Seifert, Goodman, King, & Baxter Magolda, 2010). Findings controlled for precollege UDO scores and multiple other precollege and college factors (Seifert, et al., 2010). Using the same college student database, Bowman (2010) reported that positive interactions with diverse peers were associated with UDO score increases over the course of an academic year. Likewise, collaboration with international, culturally diverse peers was associated with increased UDO in research with pre-service student teachers ($N = 202$; race/ethnicity not reported) (Ertmer et al., 2011). Finally, longer study abroad experiences were related to greater increases in UDO scores in a sample of U.S. American engineering students (Jesiek et al., 2012). Given that meaningful social exchange with diverse others is a major means of boosting UDO, Asian international students who are ineffectively coping with homesickness may be less capable of maintaining or growing positive diversity attitudes as a result of poor quality interaction with host nationals.

UDO and Psychological Distress

Although empirical investigation of UDO as a predictor of psychological distress is sparse, three studies speak to psychological benefits associated with higher levels of UDO. In the aforementioned study by Yakunina et al. (2013), UDO demonstrated an indirect effect on

international students' (65% Asian participants) psychological adjustment that was fully mediated by acculturative stress. Specifically, higher levels of UDO were related to lower levels of acculturative stress and, in turn, higher levels of adjustment. In a similar earlier investigation by the same researchers, UDO explained significant variance in levels of psychological adjustment reported by 341 international college students (65% Asian participants) (Yakunina et al., 2012). Assessed aspects of adjustment included such dimensions as interpersonal relationship functioning, physical health, life satisfaction, and happiness. As anticipated, UDO scores were positively associated with adjustment ($r = .41, p < .001$) (Yakunina et al., 2012). Yakunina et al. (2013) proposed that having greater UDO might aid adjustment by enabling students to better cope with fundamental differences between their home and host cultures.

In another study investigating U.S. American undergraduate students ($N = 124$; 2% Asian participants), UDO scores explained significant variance in several tested dimensions of psychological well-being, including psychological hardiness, psychosocial-interpersonal functioning, and self-esteem (Brummett et al., 2007). After controlling for political correctness ideology, analyses showed that UDO related positively with each facet of well-being (Brummett et al., 2007). According to Cohen (1988), correlations between UDO and the three outcome variables ranged from small for self-esteem ($r = .21, p < .05$) to medium for both psychosocial-interpersonal functioning ($r = .33, p < .001$) and psychological hardiness ($r = .41, p < .001$) (Brummett et al., 2007).

Additional research has connected UDO with benefits for U.S. American college students. According to work by Fuertes, Sedlacek, Roger, and Mohr (2000b), first-year college students ($N = 206$; 10% Asian/Asian American participants) with higher UDO scores reported higher academic self-confidence ($r = .25, p < .01$) than their counterparts with lower UDO. In that same

study, UDO positively correlated with greater openness to seeking help ($r = .19, p < .01$), including receiving counseling services (Fuertes et al., 2000b). Should these advantages generalize, the links may be particularly valuable for international students who encounter a greater amount of stressors in acclimating to life at a U.S. American college (Mori, 2000).

UDO as a Potential Mediator of Homesickness and Psychological Distress

To date, very few studies have examined UDO as an intervening variable, and only one has yielded significant results of relevance to the present study. Yakunina et al. (2012) recently found evidence that UDO fully mediated the relationship between two facets of the multicultural personality (i.e., open-mindedness and flexibility) and psychological adjustment in their sample of international college students ($N = 341$; 65% Asian participants). Students' UDO scores also partially mediated the relationship between cultural empathy and adjustment. Seeing as UDO helped to explain how healthy personality factors contributed to well-being in this study of international college students (Yakunina et al., 2012), it is conceivable that UDO also might help explain the connection between negative emotional experiences (i.e., homesickness) and psychological distress in international college students.

Besides UDO, other attitudes related to appreciation of diversity have been shown to shape international students' experiences and adjustment. For instance, in one study, Taiwanese international students who possessed more positive attitudes toward friendship formation with U.S. American individuals had a higher proportion of host national friends within their social network (Ying, 2002). Moreover, less positive attitudes toward forming friendships with fellow Taiwanese nationals also led to higher proportions of cross-cultural relationships (Ying, 2002). Similarly, in their study of New Zealander students studying abroad (1% Asian participants), Ward and Kennedy (1993) found that more favorable attitudes toward host nationals were

positively related to participants' level of sociocultural adjustment. In addition, perceived cultural distance between participants' home and host cultures uniquely accounted for variance in sociocultural adjustment, such that greater perceived distance correlated with greater sociocultural problems (Ward & Kennedy, 1993). Being inclined to both recognize similarities with host nationals (i.e., perceiving less cultural difference between home and host cultures) and appreciate differences (i.e., seeking meaningful connections with host nationals) could provide means for Asian international students to establish a new sense of home in the U.S. Along those lines, a 2011 review of almost two decades of research on international student well-being found substantial evidence that greater host identification was associated with fewer psychological symptoms as well as improved sociocultural adjustment (Zhang & Goodson, 2011b).

Purpose of the Study

The present study aimed to expand field knowledge regarding the adjustment of Asian international college students by investigating two potential mediators of the relationship between homesickness and psychological distress: SC and UDO. To the author's knowledge, this study was the first to examine SC and UDO concomitantly with homesickness in an effort to uncover how the variables relate to psychological distress. It was predicted that one of the two primary models being tested would accurately represent the data (see Figures 1-3).

- 1) Model 1 specified that homesickness would relate directly and positively with psychological distress in Asian international students. Homesickness would negatively relate to students' UDO, which in turn would negatively relate to their SC. Decreases in UDO and SC would in turn partially explain the relationship between homesickness and psychological distress. The total sequence of variables would involve partial mediation.

- 2) Model 2 specified the same relationships excepting the order of proposed mediators; homesickness was hypothesized to negatively relate to students' SC, which in turn would negatively relate to their UDO.

Furthermore, two alternative models (Figure 4) were also tested to determine whether UDO and SC explain significant variance in homesickness. Model 3 held that SC would partially account for the homesickness-mediated relationship between UDO and psychological distress. Model 4 maintained that UDO would partially account for the homesickness-mediated relationship between SC and psychological distress.

Chapter III

METHOD

Participants

Study participants were 386 international students enrolled at a U.S. institution of higher education (i.e., two- or four-year community, public, or private college or university).

International college students experience greater psychological distress pre-arrival through the first six weeks after relocation abroad, during which time they address creation of new social supports and initial sociocultural adjustment in the host country (O'Reilly, Ryan, & Hickey, 2010). As such, participants were required to have lived in the U.S. a minimum of six weeks prior to consenting to participate.

The sample ranged from 18 to 49 years of age, and the average age was 24.55 ($SD = 4.83$). Participants identified as having an Asian racial/ethnic background according to the U.S. Census definition, which includes persons from Far Eastern Asia, Southeastern Asia, and the Indian subcontinent (Hoeffel, Rastogi, Kim, & Shahid, 2012). A breadth of home countries was represented, including China (32%), India (23%), Korea (8%), Taiwan (5%), Japan (4%), Vietnam (4%), and Thailand (3%) (12% from 10 additional countries; 8% missing). More participants identified as female (59%) than male (39%), and one participant identified as male-to-female transgender (1% missing). In terms of sexual orientation, 94 percent of the sample identified as heterosexual, 2 percent as gay or lesbian, 2 percent as bisexual, less than 1 percent as asexual, and two participants indicated they were questioning their orientation (1% missing). Participants' reported socioeconomic status ranged from lower class (2%) and working class (12%) to middle class (52%) to upper middle class (32%) and upper class (2%) (1% missing).

The sample demonstrated good geographic diversity with regard to current university location (Northeast: 28%, Southeast: 25%, Midwest: 26%, Northwest: 10%, Southwest: 9%; 2%

missing). Sixty-three percent were graduate students, and 35 percent were undergraduates (1% missing). While participants had spent variable lengths of time in the U.S. (less than 6 months: 24%, 6 months to 1 year: 13%, 1 to 2 years: 22%, 2 to 3 years: 11%, 3 to 4 years: 7%, 4 to 5 years: 7%, 5 or more years: 15%; 2% missing), the majority (65%) were in the first or second year of their academic programs. Approximately 3 percent of the sample rated their written English language fluency as poor, but the remainder of the sample was more evenly split across fair (23%), good (42%), or excellent (31%) proficiency (1% missing).

Regarding relational demographic statistics, approximately one half of participants (53%) reported being single. Another 28 percent were in dating relationships, 4 percent were engaged, 12 percent were married, 1 percent was divorced, two participants were separated, and one reported a complicated relationship status (1% missing). On the whole, the sample reported socializing more with persons from their home country than with U.S. American individuals. About 21 percent of participants rarely or never socialized with host nationals, compared to 13 percent reporting they rarely or never socialized with home nationals (2% missing). Whereas 46 percent socialized often or very often with host nationals, 62 percent socialized often or very often with home nationals. Thirty-two percent reported sometimes socializing with host nationals, and 23 percent sometimes socialized with home nationals. The proportion of U.S. American friends in the sample's social networks was relatively small (<20% U.S. American friends: 37%; 20-39% U.S. American friends: 26%; 2% missing).

Procedures

A study announcement was emailed to international student offices, international student campus organizations, and Asian campus cultural organizations at 200 colleges and universities nationwide. Multiple other institutions of higher education, which were pursued for earlier

research (Kegel & DeBlaere, 2014) featuring equivalent recruitment methods for the same target population, were not contacted due to prior denial of the request or low Asian international student enrollment. Of the institutions presently contacted, 40 explicitly agreed to honor the recruitment request. Another 143 institutions either did not respond or provided an unclear response, but may have separately honored the request. Eleven institutions explicitly denied the request for reasons such as policy prohibiting involvement with outside research requests or protection of students' time in the face of numerous similar requests from other researchers. Contacts at four institutions indicated that they were personally unable to tend to the request, and this author chose not to pursue additional steps that may or may not have led to study announcement dissemination (e.g., submission to the targeted institution's review board). Lastly, contacts at two institutions sent a delayed response after the recruitment period had ended.

The research announcement invited directors or other contacts to forward the study invitation to email lists of international students affiliated with their institution or organization. Potential participants were informed that the study was researching the experiences and attitudes of Asian international students in the U.S. Individuals who then chose to participate in the study completed anonymous online surveys consisting of an informed consent page, survey instrument and validity check items, and a debriefing page. Participants received no compensation for their participation.

A total of 973 individuals participated in the study to some degree. Participants missing greater than 25 percent of total survey responses (excluding the demographics questionnaire) or greater than 20 percent of any single survey measure were excluded from analyses. In addition, responses from participants who did not meet inclusion criteria or who skipped or mistakenly

answered more than two of the three validity items were not used. Following these procedures, data from 386 respondents were retained for statistical analysis.

Instruments

Demographics

Participants were asked to report their age; gender; race/ethnicity; sexual orientation; socioeconomic status; nation of origin; academic program type (e.g., study abroad, certificate, or degree program); degree pursued (e.g., associate, bachelor's, Master's, or doctoral degree); year in the academic program; school geographical region; relationship status and whether a romantic partner was left behind in their home country; living situation (e.g., on- or off-campus residence, living alone or with others); degree of socialization with host nationals, conational international students, and other international students; English fluency; months lived in the U.S.; number of visits back to their home country since moving to the U.S.; length of time since last visiting their home country; and previous living experiences abroad.

Homesickness

Homesickness was assessed using the Homesickness subscale of the Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994), the Homesickness subscale of the Homesickness and Contentment scale (HC; Shin & Abell, 1999), and the Attachment to Home subscale of the Homesickness Questionnaire (HQ; Archer, Ireland, Amos, Broad, & Currid, 1998).

ASSIS Homesickness subscale. Sandhu and Asrabadi (1994) designed the ASSIS to comprehensively assess acculturative stressors experienced by international college students. In scale development research, Homesickness subscale items accounted for the second highest amount of variance in overall ASSIS scores. Consisting of four Likert-type, self-report items rated from 1 (*strongly disagree*) to 5 (*strongly agree*), the Homesickness subscale includes items

such as “I miss the people and country of my origin” and “I feel sad leaving my relatives behind”. Subscale items are summed to establish a total score, with higher scores indicating higher perceived levels of homesickness (Sandhu & Asrabadi, 1994). Sandhu and Asrabadi (1998) reported an ASSIS Homesickness subscale reliability estimate of .89. The Cronbach’s alpha with the present sample was .75. Validity is supported by a factor analysis of total ASSIS scores in a sample of international college students (44% Asian participants) (Sandhu & Asrabadi, 1994; Sandhu & Asrabadi, 1998). Additionally, significant positive correlations between international students’ (63% Asian/Pacific Islander participants) ASSIS Homesickness subscale scores and scores on other ASSIS subscales (e.g., fear, stress due to change/culture shock) provide evidence of convergent validity, whereas the lack of correlation between Homesickness scores and age offers evidence of divergent validity (Poyrazli, Thukral, & Duru, 2010).

HC Homesickness subscale. The HC assesses emotional and psychological adjustment in international students in the process of adapting to a new culture (Shin & Abell, 1999). Scale items were expressly designed to be sensitive to traditional Asian cultural values such as deference and emotional restraint. The Homesickness subscale of the HC includes ten Likert-type, self-report items. Ratings range from 1 (*very often*) to 5 (*never*). Sample items are “I want to go back to my own country” and “I think about what I would do if I were back home”. Item 2, “I write letters to my family and friends back home,” was slightly modified to include use of email and videochat (i.e., “I write, email, and/or videochat with my family and friends back home.”) Higher summed scores on the subscale indicate better adjustment. In scale development research with Chinese and Korean international students and spouses of students, the coefficient alpha for the HC Homesickness subscale was .86 (Shin & Abell, 1999). With the current sample, a Cronbach’s alpha of .79 was achieved. Supporting convergent validity,

homesickness scores correlated positively with number of months in the U.S. but negatively with various types of adjustment (i.e., societal, interpersonal, family, and associational) as well as positive perceptions of coming to the U.S. (Shin & Abell, 1999). Divergent validity was demonstrated in a lack of correlation between Homesickness subscale scores and sex, numbers of months married, and type of academic program pursued (Shin & Abell, 1999).

HQ Attachment to Home subscale. Normed on university student samples in the United Kingdom, the HQ was developed to assess homesickness as a grief reaction, encompassing cognitions, motivational factors, emotional states, and behaviors (Archer et al., 1998). The Attachment to Home subscale of the HQ assesses ruminations about home and distress related to being away from home (Archer et al., 1998). The subscale contains 14 Likert-type, self-report items. Participants rate level of agreement with each item on a 5-point scale (1 = *does not apply to me at all*; 5 = *applies to me all the time*) (J. Archer, personal communication, May 9, 2012). Examples of items on the subscale are “I can’t help thinking about my home” and “I often dream about my family back home” (Archer et al., 1998). Several items were amended to reflect modern modes of communication as well as the unfeasibility of Asian international students returning home for short visits: “I write home every week” was changed to “I write and/or email home regularly”; “I rarely write home” was modified to “I rarely write or email home”; “If I ever went home for the weekend I wouldn’t want to come back” was revised to “If I ever went home during a break I wouldn’t want to come back”; and “It upsets me if I am unable to phone home each week” was altered to “It upsets me if I am unable to phone and/or videochat home regularly”. Item responses are summed to generate a total HQ score, with higher scores representing greater homesickness. The Attachment to Home subscale demonstrated good reliability ($\alpha = .83$) in the scale development sample of British university students (race/ethnicity

not reported) (Archer et al., 1998). The Cronbach's alpha in the present study was .88. In support of construct validity, the subscale correlated positively with avoiding the impact of the loss of home as well as with persistently confronting the impact of this loss (Archer et al., 1998). HQ Attachment to Home scores were also negatively related to overall satisfaction with the university and satisfaction with socializing at the university, demonstrating convergent validity. The subscale showed a stronger association with a single-item question about homesickness than did the other HQ subscale, Disliking the University; researchers posited that individuals' subjective assessment of homesickness is more closely aligned with items on the Attachment to Home subscale (Archer et al., 1998). Although the HQ was not created specifically for use with Asian international students, this widely used measure has been utilized in studies of international college students, including those with a majority from Asian home countries (e.g., Poyrazli & Lopez, 2007 [65% Asian/Pacific Islander participants]; Tochkov et al., 2010 [53% Indian participants]).

Social Connectedness

Social connectedness (SC) was assessed with the 15-item version of the Social Connectedness Scale (SC-15) (Lee et al., 2008). Because this measure does not feature subscales, SC-15 items were parceled (Matsunaga, 2008) into three subscales for purposes of establishing SC as a latent variable for SEM. The SC-15 was developed to minimize overlap between the constructs of SC and extraversion, retaining 15 items from the 20-item Social Connectedness Scale-Revised (SCS-R; Lee et al., 2001) that demonstrated conceptual distinctiveness from extraversion, strongly loaded on SC, and did not cross load on extraversion in exploratory factor analysis (Lee et al., 2008). The SC-15 has 15 Likert-type, self-report items rated from 1 (*strongly disagree*) to 6 (*strongly agree*) (Lee et al., 2001; Lee et al., 2008).

Examples of scale items include “I feel close to people” and “I am able to relate to my peers” (Lee et al., 2001; Lee et al., 2008). Items are summed to achieve a total SC score (Lee et al., 2001). Higher total scores on the SC-15 indicate higher levels of SC (Lee et al., 2001). Lee et al. (2008) reported a Cronbach’s alpha reliability estimate of .93 for the SC-15 in a college student sample (13% Asian/Asian American participants). In terms of validity, the SC-15 correlated positively with life satisfaction, positive affect, and affective balance while correlating negatively with negative affect (Lee et al., 2008). Reliability and validity in Asian international college students were established in a study utilizing the 20-item SCS-R (Yoon et al., 2012a). The SCS-R achieved a Cronbach’s alpha of .89, and scores correlated positively with satisfaction with life and positive affect as well as correlated negatively with negative affect (Yoon et al., 2012a). In present study analyses, the full 15-item scale had a Cronbach’s alpha of .92, and parcel reliability ranged from .75 to .80.

Universal-Diverse Orientation

Subscales of the Miville-Guzman Universality-Diversity Scale, Short Form (M-GUDS-S; Fuertes et al., 2000a) were utilized to assess cognitive, behavioral, and affective components of universal-diverse orientation (UDO). Each subscale consists of five Likert-type, self-report items. M-GUDS-S items are rated on a continuum from 1 (*strongly disagree*) to 6 (*strongly agree*), and responses are summed to achieve total subscale scores (Fuertes et al., 2000a).

Relativistic Appreciation. Relativistic Appreciation, the cognitive subscale of the M-GUDS-S, assesses the extent to which individuals appreciate others’ similarities and differences and the positive impact this has on oneself (Fuertes et al., 2000a). Examples of items include “Persons with disabilities can teach me things I could not learn elsewhere” and “Knowing how a person differs from me greatly enhances our friendship”. Higher scores on the subscale denote

more positive cognitive appreciation of diversity (Fuertes et al., 2000a). Fuertes et al. (2000a) reported a Cronbach's alpha of .59 for Relativistic Appreciation in a scale development study of U.S. American college students (10% Asian American participants), and previously obtained subscale reliability among Asian international college students was .67 (Kegel & DeBlaere, 2014). The Cronbach's alpha with the present Asian international student sample was .64. In terms of convergent validity, Relativistic Appreciation scores correlated positively with tolerance for other religions and having a close friend of another race than oneself (Fuertes et al., 2000a). Divergent validity was demonstrated via the lack of subscale correlation with having lesbian friends and with the race of the majority of one's friendships; both Diversity of Contact and Comfort with Differences subscale scores were significantly associated with these items (Fuertes et al., 2000a).

Diversity of Contact. Encompassing the behavioral component of UDO, Diversity of Contact (Fuertes et al., 2000a) assesses one's level of engagement with diverse others as well as with diverse activities. "I often listen to music of other cultures" and "I attend events where I might get to know people from different racial backgrounds" are examples of items on this subscale. Higher Diversity of Contact scores reflect greater interaction with diverse individuals and practices (Fuertes et al., 2000a). Internal consistency estimates for the subscale in both the scale development sample (10% Asian American college students) and in a past study of Asian international students were acceptable at .82 and .74, respectively (Fuertes et al., 2000a; Kegel & DeBlaere, 2014). Present study data demonstrated a Cronbach's alpha of .62. In support of validity, Diversity of Contact scores correlated significantly and positively with having lesbian friends and having a close friend of another race (Fuertes et al., 2000a). In addition, subscale scores were negatively associated with discomfort around gay individuals and having mostly

friends of one's same race. Moreover, distinct from the other two subscales, only Diversity of Contact scores correlated significantly and positively with discussing cultural awareness with friends (Fuertes et al., 2000a).

Comfort with Differences. The affective subscale of the M-GUDS-S, Comfort with Differences (Fuertes et al., 2000a), assesses the amount of felt connection, discomfort, or ambivalence related to contact with diverse others. Sample items are "I often feel irritated by persons of a different race" and "It is very important that a friend agrees with me on most issues". Subscale items are reverse scored so that higher Comfort with Differences scores indicate greater levels of connection and comfort with diversity (Fuertes et al., 2000a). Cronbach's alphas reported for the subscale were .92 in scale development research (Fuertes et al., 2000a; 10% Asian American college students) and .74 in a prior study of Asian international students (Kegel & DeBlaere, 2014). A Cronbach's alpha of .68 was achieved with the current sample. Supporting convergent validity, Comfort with Differences subscale scores related positively with tolerance for other religions, having a close friend of a different race, and having lesbian friends (Fuertes et al., 2000a). Furthermore, negative correlations were uncovered between subscale scores and feeling uncomfortable around gay individuals as well as having friends mostly the same race as oneself. The Comfort with Differences and Diversity of Contact subscales diverged by way of a nonsignificant relationship between Comfort with Differences scores and speaking with friends about topics related to cultural awareness. Likewise, the significant positive correlation between Comfort with Differences subscale scores and friendships with diverse others contrasted the lack of the same relationship with Relativistic Appreciation subscale scores (Fuertes et al., 2000a).

Psychological Distress

The Depression, Anxiety, and Somatization subscales from the Hopkins Symptom Checklist 58-item version (HSCL-58; Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974) were utilized to assess psychological distress. Each subscale consists of Likert-type, self-report items that ask individuals to rate the frequency of each symptom in the past seven days, present day inclusive, along a scale from 1 (*not at all*) to 4 (*extremely*). Subscale items are averaged, and higher scores on each subscale are indicative of greater psychological distress (Derogatis et al., 1974).

Depression. The Depression subscale of the HSCL-58 reflects a range of symptoms that contribute to clinical depression (Derogatis et al., 1974). The 11 items span cognitive, affective, behavioral, somatic, and loss of interest concerns. Example items include “Crying easily” and “Feeling no interest in things”. The item “Feeling blue” was modified to “Feeling down” to enhance clarity of expression for sample participants who may have learned English as a second language. To the same end, “Worrying or stewing about things” was truncated to “Worrying about things”. An alpha coefficient of .86 and test-retest reliability estimate of .81 support the reliability of the subscale in White and Black individuals (Derogatis et al., 1974). Moreover, internal consistency was .83 in a study consisting largely of Asian international students (Khawaja & Dempsey, 2007). The Cronbach’s alpha with the current sample was .89. With regard to construct validity, the Depression factor on the HSCL corresponded with an empirically derived symptom dimension generated from factor analysis of psychiatrists’ patient ratings (Derogatis et al., 1974). A sample of outpatients diagnosed with depression scored more highly on the Depression subscale than they did on the Anxiety subscale of the HSCL-58, providing further evidence of validity. Other research has found the HSCL can detect distress-

reduction benefits of treating depressed inpatients with antidepressant medication. In addition, items on the Depression subscale were sensitive to changes in nonclinical samples recuperating from stressful life events (Derogatis et al., 1974).

Anxiety. The HSCL-58 Anxiety subscale includes six clinical markers of high anxiety levels, including somatic, affective, and behavioral concerns (Derogatis et al., 1974). Sample items are “Heart pounding or racing” and “Feeling fearful”. The Anxiety subscale demonstrated acceptable reliability in a sample of White and Black individuals in terms of both internal consistency (.84) and test-retest reliability (.75) (Derogatis et al., 1974). In a sample of international college students, the majority of whom were Asian participants, the Cronbach’s alpha reliability estimate was .80 (Khawaja & Dempsey, 2007). A Cronbach’s alpha of .83 was obtained in the present study. Construct validity of the subscale was buttressed by the close match between the Anxiety subscale factor and results of a factor analysis of psychiatrist patient ratings (Derogatis et al., 1974). Further supporting validity, a sample of outpatients diagnosed with anxiety scored more highly on the Anxiety subscale than on the Depression subscale. In addition, anxiety items on the HSCL were reported to effectively reflect positive gains in individuals treated with antianxiety medication (Derogatis et al., 1974).

Somatization. The Somatization subscale of the HSCL-58 encompasses various forms of distress that result from perceived bodily malfunction (Derogatis et al., 1974). Sample subscale items are “Heavy feelings in your arms or legs” and “Hot or cold spells”. Derogatis et al. reported a Cronbach’s alpha of .87 and test-retest reliability estimate of .82 for the Somatization subscale in White and Black study participants (Derogatis et al., 1974). The subscale showed good reliability ($\alpha = .83$) in a sample of largely Asian international students (Khawaja & Dempsey, 2007). With the current sample, the Cronbach’s alpha was .82. Regarding validity,

samples of both anxious and depressed individuals reported higher scores on Somatization than did a random community sample featuring a high proportion of nonclinical participants (Derogatis et al., 1974). Items on the Somatization subscale also were sensitive to changes in nonclinical individuals' distress levels following stressful life events. As with other HSCL subscales, Somatization symptom clusters matched up well with empirical dimensions of clinical symptom ratings supplied by psychiatrists (Derogatis et al., 1974).

Data Analysis

Model Specification. Structural Equation Modeling (SEM) was used for data analysis given the aim of testing multiple hypotheses simultaneously as part of a system of predicted relationships. In addition to comparing fit statistics among four mediation models, analyses featured several latent variables assessed by multiple measures. Use of SEM was expedient for testing the reliability and utility of each observed variable.

Based on prior homesickness, SC, and UDO literature, two primary models were tested as part of the analyses. To investigate the relative contribution of each observed variable or subscale, the latent variables of homesickness, SC, UDO, and psychological distress were scaled to have variances of one. In the two primary models, homesickness was tested as a hypothesized predictor of psychological distress, with UDO and SC hypothesized to operate as partial mediators of this relationship. Specifically, it was expected that homesickness would be related positively to psychological distress, and lower levels of UDO and SC would partly account for this relationship. Model 1 specified that UDO would mediate the SC-mediated relationship between homesickness and psychological distress, and Model 2 specified that SC would mediate the UDO-mediated relationship between homesickness and psychological distress (see Figures 1-3). As no known previous studies have investigated relationships between UDO and SC in

international students, no hypotheses regarding whether Model 1 or Model 2 more accurately describes the set of relationships investigated were made.

Two alternative models also were tested to confirm placement of UDO and SC as mediators of homesickness rather than predictors (see Figure 4). Model 3 specified that SC would mediate the homesickness-mediated relationship between UDO and psychological distress. Model 4 specified that UDO would mediate the homesickness-mediated relationship between SC and psychological distress.

Chapter IV

RESULTS

Preliminary Analyses

Sample Size

Two hundred participants is a generally accepted minimum sample size for structural equation modeling (SEM) according to the statistical literature (Hoe, 2008; Hoelter, 1983; MacCallum & Austin, 2000). In addition, researchers maintain that five to 10 participants per freely estimated parameter are adequate for SEM analyses (Bentler & Chou, 1987; Hoe, 2008; Kline, 1998). Because this author anticipated a maximum of 30 freely estimated model parameters and expected some survey responses to be unusable due to exclusion criteria or amount of missing data, a total of 300 to 350 Asian international undergraduate and graduate students was targeted for this study. The final sample size of 386 participants surpassed these criteria and was considered appropriate for analysis using SEM.

SC-15 Parceling

Items on the SC-15 were assigned to one of three parcels using the single-factor parceling method (Landis, Beal, & Tesluk, 2000; Matsunaga, 2008). The single-factor procedure has been found to perform well (i.e., demonstrate good model fit) in cases wherein three parcels are created, and it is considered preferable to random item parceling because of its even spread of item loadings (Matsunaga, 2008). Applying this method entailed conducting a factor analysis to generate factor loadings, then distributing items loading from highest to lowest to each parcel in a sequential, counterbalanced order (Matsunaga, 2008).

Tests for Normality

Preliminary analyses, reliability analyses, descriptive statistics, and correlations were conducted using SPSS version 20. Checks for normality were conducted to ensure data were

appropriate for SEM (Schumacker & Lomax, 2004). Regarding tests of univariate normality, skewness values fell within the range of acceptability (i.e., between -2 and 2; Curran, West, & Finch, 1996). Similarly, kurtosis values also were within acceptable limits (i.e., between -7 and 7; Curran et al., 1996).

Tests for multivariate normality included examinations of multivariate kurtosis and potential multivariate outliers. With respect to the former, Mardia's coefficient exceeded the recommended cutoff (Muthén & Kaplan, 1985) at 27.42 ($CR = 14.70$). Mitigating this result is the high sensitivity of Mardia's coefficient as an indicator of normality (Bollen, 1989). Furthermore, univariate normality was observed with present study data, and maximum likelihood estimation is robust to a moderate degree of multivariate nonnormality (Benson & Fleishman, 1994; Lei & Lomax, 2005).

Potential multivariate outliers were identified through Mahalanobis distance estimation. Using $p < .001$ as cutoff criteria, five significant outliers were detected. The directionality, magnitude, and significance of path coefficients and model fit indices were similar when comparing all four models with and without outlier participants. Therefore, outlier participants were retained in final SEM analyses.

Covariate Analyses

Research has demonstrated that poor English language proficiency positively correlates with homesickness and acculturative stress among international students (Poyrazli et al., 2004; Poyrazli & Lopez, 2007; Yeh & Inose, 2003). In addition, some—albeit not all—data suggest that age significantly relates to international students' levels of homesickness (e.g., Kwon, 2009; Poyrazli & Lopez, 2007; Ye, 2005). In light of these data, preliminary analyses included covariate analysis and mean comparisons on variables of interest by level of English proficiency and age/life experience group (i.e., undergraduate and graduate students).

Bivariate correlations between English proficiency and the three dependent observed variables (i.e., depression, anxiety, and somatization) yielded no significant results. Likewise, multivariate analyses of variance demonstrated no significant group differences between participants who identified as undergraduate or graduate students. It was deemed important to also assess numerical age as a possible covariate due to the notable number of nontraditionally aged undergraduate students (e.g., many 25 year-old students) and younger graduate students (e.g., 20 to 22 year-old students) represented within the sample. Bivariate correlations demonstrated significant negative relationships between age and Depression ($r = -.11, p < .05$) as well as between age and Anxiety ($r = -.13, p < .05$). No significant relationship was found between age and Somatization. On the basis of these findings, numerical age—but neither English proficiency nor undergraduate/graduate student status—was included in model analyses as a potential covariate.

Descriptive Statistics

Means. Means, correlations, and reliability statistics are provided in Table 1. On the whole, means were comparable to those seen in previous research of Asian international and other college students. Means for all three homesickness measures were particularly closely aligned with past study results. The current ASSIS Homesickness subscale mean ($M = 2.80, SD = .87$) paralleled means observed by Kim (2011) with international undergraduate and graduate music therapy students ($M = 2.80, SD = .98$; 76% Asian participants) and Chavajay and Skowronek (2008) with international undergraduate and graduate students ($M = 3.0, SD = .9$; 78% Asian participants). With regard to the HC Homesickness scale, for which higher scores indicate better adjustment, the present mean ($M = 2.54, SD = .64$) was similar to that generated from a sample of Chinese and Korean international students and their spouses ($M = 2.52, SD$

= .82; Shin & Abell, 1999). Finally, as could be expected, the current sample's mean on the HQ Attachment to Home subscale ($M = 2.32$, $SD = .75$) appeared higher than that of a sample of majority Caucasian U.S. American college freshmen ($M = 1.81$, $SE = .51$; Beck et al., 2003) and a racially/ethnically unspecified sample of undergraduate students ($M = 2.00$, $SD = .68$; Flett, Endler, & Besser, 2009). Of note, the present HQ Attachment to Home subscale mean could not be compared with statistics from prior international student research (e.g., Poyrazli & Lopez, 2007; Tochkov et al., 2010) as the latter investigations exclusively used total HQ scores.

The mean for the SC-15 in this study ($M = 3.84$, $SD = .99$) was lower than the mean reported in other research with college students ($M = 4.78$, $SD = .80$; Lee et al., 2008 [13% Asian/Asian American participants]). The present mean also fell below the average level of social connectedness among Asian international college students administered the lengthier SCS-R ($M = 4.32$, $SD = .67$). However, the current SC-15 mean was slightly higher than that seen with Chinese international students answering select SCS-R items specifically modified to assess social connectedness with host nationals ($M = 3.46$, $SD = .78$; Zhang et al., 2012a).

M-GUDS-S means in the current study showed some variation across subscales (Diversity of Contact: $M = 4.53$, $SD = .81$; Relativistic Appreciation: $M = 4.72$, $SD = .72$; Comfort with Differences: $M = 4.45$, $SD = .93$). These means were fairly comparable to previously reported means for Asian international undergraduate and graduate students (Diversity of Contact: $M = 4.71$, $SD = .84$; Relativistic Appreciation: $M = 4.78$, $SD = .70$; Comfort with Differences: $M = 4.76$, $SD = .84$) (Kegel & DeBlare, 2014). Additionally, the total M-GUDS-S mean with the present sample ($M = 4.57$; $SD = .82$) accorded with the total M-GUDS-S means ($M = 4.57$, $SD = .69$ and $M = 4.58$, $SD = .67$, respectively) from two studies of

international college students that did not report subscale scores (Yakunina et al., 2012, 2013; 65% Asian participants for both studies).

Finally, the present sample's Depression ($M = 1.69$, $SD = .56$), Anxiety ($M = 1.39$, $SD = .48$), and Somatization ($M = 1.42$, $SD = .38$) HSCL-58 subscale scores were generally similar to the average psychological distress score ($M = 1.57$, $SD = .43$) reported by Chinese international students in recent research (Wei et al., 2012a). Participants in the Wei. et al. study (2012a) completed the HSCL-21, which contains items that overlap with those of the HSCL-58 (Derogatis et al, 1974).

Intercorrelations. Bivariate correlations were analyzed to confirm the significance and direction of the relationships among indicators of homesickness, SC, UDO, and psychological distress (see Table 1). A good proportion of these correlational results were consistent with expectation. Scores on all three indicators of homesickness correlated significantly and negatively with scores on the parceled SC-15 subscales. With one exception (i.e., a nonsignificant link between the HC Homesickness subscale and the HSCL-58 Somatization subscale), scores for all homesickness indicators demonstrated significant positive relationships with those of all indicators of psychological distress. Finally, scores for each parceled SC-15 subscale related significantly and positively with those of each M-GUDS-S subscale and significantly and negatively with each psychological distress indicator.

Other bivariate correlations involving UDO indicators were less consistent, and some results were unanticipated. The scores for two homesickness indicators (i.e., the ASSIS and HC Homesickness subscales) correlated significantly and negatively only with Comfort with Differences M-GUDS-S subscale scores. Meanwhile, scores for the HQ Attachment to Home subscale were not significantly associated with those of any M-GUDS-S subscale. Furthermore,

though Comfort with Differences subscale scores negatively related with scores for all three indicators of psychological distress, neither Diversity of Contact nor Relativistic Appreciation scores correlated with any HSCL-58 subscale. Finally, scatterplots did not reveal the presence of any nonlinear relationships between uncorrelated M-GUDS-S subscales and either homesickness indicators or HSCL-58 subscales.

SEM Analyses

SEM analyses examined the relationships between homesickness, SC, UDO, and psychological distress when ordered in different mediation sequences (see Figures 1-4). All four models posited positive relationships between homesickness and psychological distress as well as between SC and UDO. Additionally, all proposed negative relationships between SC and psychological distress and between UDO and psychological distress. With regard to the primary models tested, Model 1 hypothesized that homesickness would relate directly with psychological distress and that UDO would partially explain the SC-mediated relationship between homesickness and psychological distress. Model 2 also anticipated a direct association between homesickness and psychological distress but hypothesized that SC would partially explain the UDO-mediated relationship between the primary predictor and outcome variables. Two alternative models repositioned homesickness as a mediator rather than a primary predictor. In Model 3, where UDO was treated as the primary predictor for psychological distress, SC was proposed to partially account for the homesickness-mediated relationship between UDO and psychological distress. Model 4 hypothesized a direct relationship between SC and psychological distress and posited that UDO would partially account for the homesickness-mediated relationship between predictor and outcome variables.

Models were analyzed using Mplus version 7 statistical software. Full information maximum likelihood estimation was used to address the issue of missing data. As anticipated, model fit was improved when including age as a covariate for all four tested models.

Factor Loadings

Table 2 presents the factor loadings for all indicators as well as SC parcels. Each indicator variable loaded positively and significantly on its respective latent variable. Across all tested models, the highest loading indicators for homesickness, UDO, and psychological distress were the HQ Attachment to Home subscale (.88, $p < .001$ for all models), the M-GUDS-S Diversity of Contact subscale (range: .87-.91, $p < .001$ for all models), and the HSCL-58 Depression subscale (.85, $p < .001$ for all models), respectively.

Model Fit

Model fit statistics, path coefficient magnitude and significance, and amount of variance explained were similar for the four models (see Table 3). Model fit chi square values ranged from 158.93 to 162.65 ($df = 58$, $n = 381$, $p < .001$ for all models). When comparing data across models, narrow ranges were observed for comparative fit index (CFI) and Tucker-Lewis index (TLI) estimates ($CFI = .951-.953$; $TLI = .934-.937$) as well as root-mean-square error of approximation (RMSEA) and standardized root mean square residual (SRMR) estimates ($RMSEA = .067-.069$; $SRMR = .068-.071$). Thus, aside from significant chi square results, fit statistics met recommended cutoff criteria signifying a well-fitting model ($CFI > .90$; $RMSEA$ and $SRMR \leq .10$; Westin & Gore, 2006).

Modification indices were examined, however none of the proposed additional paths were deemed appropriate for incorporation. Furthermore, deletion of nonsignificant paths (i.e., between homesickness and UDO and between UDO and psychological distress) was considered

inadvisable per the literature opposing such post hoc model modifications in counseling psychology research (Martens, 2005). Though adding or deleting paths was not pursued, exploratory analyses were conducted to determine whether model fit would improve after converting the directional paths between SC and UDO into bidirectional paths, thereby indicating a covariance relationship. Fit index results did not improve following these modifications for any of the models.

Path Coefficients

For all four models, the same proposed model paths were significant at the .05 level, in the anticipated direction, and of comparable magnitude. Regardless of model directionality, paths between homesickness and SC and between SC and psychological distress were significant and negative. In addition, paths connecting SC and UDO were significant and positive for all models. Contrary to hypotheses, other paths involving UDO (i.e., between UDO and homesickness and between UDO and psychological distress) were nonsignificant.

Explained Variance

Each model surpassed the others in terms of amount of significant variance explained for one of the four tested latent variables (i.e., homesickness, SC, UDO, and psychological distress). Specifically, Model 1 accounted for the most variance in SC (17.8%, $p < .01$), Model 2 accounted for the most variance in UDO (19.8%, $p < .001$), Model 3 accounted for the most variance in homesickness (5.7%, $p < .05$), and Model 4 accounted for the most variance in psychological distress (41.7%, $p < .001$). As it was the ultimate endogenous variable of interest, variance in psychological distress was explicitly compared across the four models. Although Model 4 had the highest value of the four, the other models were found to perform very similarly (Model 1: $R^2 = .412$, $p < .001$; Model 2: $R^2 = .416$, $p < .001$; Model 3: $R^2 = .407$, $p < .001$). Thus,

as was seen with other indicators of model equivalence (i.e., fit index results and path coefficient significance, direction, and magnitude), no single model provided a clear advantage with regard to construct variance explained.

Initially, it was anticipated that Akaike Information Criteria values alone could guide selection of the one model best representative of the study data. Unexpectedly, however, model fit, path coefficient, and explained variance results were only marginally different across the four models. Because no one model offered distinctive advantages spanning these result categories, all four were deemed worthy of further evaluation for mediation effects.

Mediation Analyses

Analysis of multiple mediation involves assessing the total indirect effect of all hypothesized mediators acting in concert, as well as testing specific indirect effects of individual mediators in light of the presence of other, typically correlated mediators specified by a model (Preacher & Hayes, 2008). Preacher and Hayes (2008) identified bootstrapping as the preferred method for testing indirect effects in multiple mediation models. For the present analyses, bootstrapping procedures utilized resampling methods with replacement to create 10,000 random samples to test the significance of direct and indirect effects operating within each model. Parameter estimates and bias-corrected 95 percent confidence intervals for both specific and sequential indirect effects were generated.

Results of the mediation analyses are presented in Table 4. The four models demonstrated differences in terms of the significance of total, total indirect, and direct effects. In line with hypotheses, the primary models (i.e., Models 1 and 2) showed significant total effects, total indirect effects, and direct effects. With regard to Model 4, total effects and direct effects

were significant, but total indirect effects were not significant. Finally, only total indirect effects were significant for Model 3 at the level of 95 percent statistical confidence.

Models 1, 2, and 4 each possessed a single specific indirect effect. In both Models 1 and 2, SC significantly mediated the relationship between homesickness and psychological distress (Model 1: .104 [95% CI: .051, .157]; Model 2: .105 [95% CI: .043, .167]). In other words, a portion of the positive link between homesickness and psychological distress was attributable to students' low levels of SC. Model 4 showed a similar but transposed effect involving homesickness as a significant mediator of the relationship between SC and psychological distress (-.088 [95% CI: -.139, -.036]). This result indicated that part of the negative link between SC and psychological distress was attributable to students' low levels of homesickness. Contrasting with hypotheses, but consistent with the aforementioned nonsignificant path coefficients involving UDO, specific indirect effects of UDO in Models 1, 2, and 4 were nonsignificant.

Distinct from the other three models, two significant indirect effects emerged for Model 3. First, SC significantly mediated the relationship between UDO and psychological distress (-.169 [95% CI: -.283, -.056]). Thus, some of the association between having low UDO scores and increased psychological distress was accounted for by possessing low SC. Second, the mediational sequence between the main exogenous variable (i.e., UDO) and the ultimate endogenous variable (i.e., psychological distress) was significant for Model 3 (-.030 [95% CI: -.058, -.003]). This latter result is indicative of significant multiple, sequential mediation operating within this model—the only of its kind observed across the four tested models. The sequence demonstrated that in addition to SC mediating the UDO–psychological distress relationship as detailed above, homesickness also partially explained how UDO and SC related to scores on psychological distress. Specifically, the negative relationships between both UDO

and SC and the outcome variable of psychological distress were partly attributable to low levels of homesickness. Notably, only indirect effects were significant for Model 3, suggesting that the relationships seen with UDO as the primary exogenous variable represented full mediational effects between the tested variables.

Chapter V

DISCUSSION

The present research contributes to the small but growing literature base on homesickness in international college students generally and Asian students in particular. By examining homesickness, the study hones in on an acculturative stressor identified as prevalent, intense, challenging, and lasting for this population (Poyrazli & Lopez, 2007; Smith & Khawaja, 2011; Ying, 2005; Ying & Liese, 1994). Investigating multiple potential mediators with structural equation modeling (SEM), the study design responded to a call to explore more intervening variables in research with international students (Zhang & Goodson, 2011b). Specifically, this research represents the first time SC and UDO have been examined concomitantly with homesickness to ascertain how the variables singularly and jointly relate to psychological distress.

Several sets of mediation hypotheses were tested and compared within this study. First, it was hypothesized that the two primary models (i.e., Models 1 and 2) would meet the conditions for mediation, such that both SC and UDO would significantly reduce the strength of the positive relationship between homesickness and psychological distress in Asian international students. These two models proposed sequences of mediation that transposed the order of SC and UDO (see Figures 1-3). In contrast, as represented by alternative Models 3 and 4, it was anticipated that homesickness would not reduce the strength of the negative relationship between UDO or SC and psychological distress (see Figure 4).

As evidenced by multiple indices, all models demonstrated satisfactory fit without the need for modification. In addition, each model explained approximately 41 percent of the variance in psychological distress, the main endogenous variable of interest. According to Abelson (1985), the amount of variance explained is a generally accepted measure of the

explanatory importance of tested factors in psychological research. Thus, controlling for the covariate of age, it can be inferred that the constructs of homesickness, SC, and UDO all meaningfully explain variance in psychological distress experienced by Asian international college students.

Although unforeseen, the findings for model fit and variance explained highlight the value of specifying primary and alternative models *a priori*. The results also provided good rationale for examining each individual model's contributions in terms of its proposed systems of relationships. That all four SEM models tested so similarly in the present study suggest that homesickness, SC, and UDO relate to each other—and, in turn, psychological distress—in a complex fashion.

Across models, similar patterns emerged for the factor loadings of the four tested latent variables. As expected, very high loadings were found for the SC parcels, suggesting both high reliability and homogeneity of indicator measurement (Geiser, 2013). Fairly high loadings also were found for the three homesickness measures, however slight differences (i.e., the HQ Attachment to Home subscale loading highest and ASSIS loading lowest) emerged across models. The differences suggest it may be valuable to assess various facets of Asian international student homesickness through the use of multiple measures. Given the contrast in length between the ASSIS and HQ Attachment to Home scales, factor loading differences could illustrate the importance of selecting indicators long enough to tap into Asian students' broad range of homesickness signs and symptoms. Alternatively, these results may reflect the within-group cultural diversity of this specific sample, as certain homesickness items may have resonated more with Chinese, Indian, Korean, and other Asian international students overrepresented in the current sample.

Factor loadings for M-GUDS-S subscales were comparatively more heterogeneous. Diversity of Contact subscale scores loaded highest to the latent variable of UDO by a wide margin; the standardized loadings were nearly double those for Relativistic Appreciation and approximately triple those for Comfort with Differences. These results are not surprising given the sizes of the bivariate correlations among M-GUDS-S subscales. Comfort with Differences in particular appeared to operate differently than the other M-GUDS-S subscales. Of note, Comfort with Differences is the only UDO subscale featuring reverse-scored items (e.g., “It’s really hard for me to feel close to a person from another race”). As Comfort with Differences items are interspersed throughout the M-GUDS-S, some study participants may have overlooked the negative phrasing when responding. Although the M-GUDS-S was validated in a prior Asian international student sample (Kegel & DeBlaere, 2014), responses in this study may have been unduly influenced by participants having to answer the question twice: once for currently in the U.S. and once for previously in their home country. For instance, items such as “I am interested in learning about the many cultures that have existed in this world” and “I am only at ease with people of my race” might be interpreted differently when participants are specifically prompted to consider their experiences pertaining to studying in the U.S. and interacting with diverse others on a likely daily basis.

HSCCL-58 subscales also demonstrated substantially different loadings onto the latent variable of psychological distress. The Depression and Anxiety subscales both loaded relatively highly onto the factor, whereas Somatization contributed to a much lower degree. Thus, the psychological distress experienced by the current sample seems to have been mostly connected to depressive and anxious symptomatology. Though Asian individuals’ tendency to somaticize symptoms of psychological distress has been well-documented in the literature, the acculturation

level of students in this study may have impacted respondents' openness to acknowledging negative emotions that are not traditionally sanctioned for expression in their home cultures (Okazaki, 2000). Further, due to the nature of its items, the Somatization subscale may have inspired consideration of concerns with no psychological underpinnings—for instance, physiological issues (e.g., sleep deprivation causing “feeling low in energy or slowed down”), lifestyle choices (e.g., exercise causing “soreness of your muscles”), or medical conditions (e.g., scoliosis causing “pains in the lower part of your back”).

Covariate Results

Two potential covariates were evaluated in the current study: level of English proficiency and age (initially defined as undergraduate or graduate student status). Both variables had been previously shown to relate to homesickness and/or acculturative stress in the international college student literature (Poyrazli et al., 2004; Poyrazli & Lopez, 2007; Ye, 2005; Yeh & Inose, 2003). In present study analyses, neither English proficiency nor undergraduate/graduate student status was significantly related to measures of psychological distress. Although an unexpected result, measurement issues may have interfered with results for English proficiency. Secondly, whereas past international student research has assessed English proficiency in broader terms (e.g., “What is your present level of English fluency?”, “How comfortable are you communicating in English?”; Yeh & Inose, 2003), the current survey only asked participants to assess their written English fluency. It is conceivable that level of spoken English proficiency would be more pertinent to international students' ability to interact with host nationals—relating in turn with experiences of homesickness (Hendrickson et al., 2011; Pederson et al., 2011).

Considering the demographics of the obtained sample, which included many nontraditionally aged (i.e., older) undergraduate students as well as nontraditionally aged (i.e.,

younger) graduate students, it is understandable why using undergraduate/graduate student status as a nominal proxy for age did not yield significant group differences along dimensions of psychological distress. Numerical age, on the other hand, significantly and negatively correlated with HSCL-58 Depression and Anxiety subscales and functioned as a significant covariate in all four tested models. The second finding aligns with some literature that previously established young chronological age as a risk factor for increased homesickness among both domestic and international college students (e.g., Poyrazli & Lopez, 2007; Thurber & Walton, 2012). In one study, however, Ye (2005) found no significant connection between age and homesickness in a sample of East Asian international college students. Though not statistically assessed, it is possible that the relationship between age and homesickness in the present study may have applied more strongly to participants from home countries in Southeastern Asia or the Indian subcontinent.

Relationship between Homesickness and Psychological Distress

In line with prior research connecting both homesickness and acculturative stress with various forms of psychological distress (e.g., Stroebe et al., 2002; Tochkov et al., 2010; Wei et al., 2007; Wei et al., 2012a), study results demonstrated a sizeable and consistent positive link between homesickness and psychological distress. First, bivariate correlations demonstrated significant positive relationships between nearly all measures of homesickness and the three HSCL-58 subscales (i.e., Depression, Anxiety, and Somatization). Corresponding with past research on acculturative stress (including but not limited to homesickness) and psychological distress (e.g., Wu & Mak, 2012), the current largest bivariate relationship was evidenced between homesickness and depression, the second largest between homesickness and anxiety, and the smallest between homesickness and somatic symptoms. The small intercorrelations

between psychological distress subscale scores supported the individual contributions of each symptom class and highlight the usefulness of assessing all three in studies of Asian international student homesickness.

All four SEM models further established the link between experiences of homesickness and psychological distress in Asian international college students. All models yielded moderately sized, highly significant path coefficients linking the latent variables of homesickness and psychological distress. As could be expected, the standardized coefficients observed with homesickness and psychological distress (range: .34-.35, $p < .001$ for Models 1-4) were slightly smaller than a previously reported path coefficient connecting the broader construct of acculturative stress with psychological distress (.42, $p < .05$) (Wu & Mak, 2012).

The magnitude of the present homesickness–psychological distress path coefficient is remarkable given that each model also included a covariate (i.e., age) as well as multiple mediators or primary predictor variables (i.e., UDO and SC) for psychological distress. Building on correlational studies positively associating homesickness with particular forms of international student distress (e.g., Tochkov et al., 2010; Ying, 2005), research negatively associating homesickness with college students’ psychological adjustment (Ward & Kennedy, 1993), and studies showing positive links between acculturative stress and international students’ psychological distress (e.g., Wei et al., 2012a; Wu & Mak, 2012), the current data offer compelling evidence that homesickness and psychological distress symptoms are strongly associated among Asian international students.

Relationship between Homesickness and SC

Across the four tested models, bivariate correlations demonstrated that all SC indicators were significantly and negatively associated with indicators of homesickness. Despite being the

first known study to examine general levels of SC and homesickness exclusively in Asian international students, this relationship was expected given that prior research yielded negative correlations between SC and the broader variable of acculturative stress in international college students (e.g., Duru & Poyrazli, 2007; Yeh & Inose, 2003). Even so, the present result is notable as no such correlation emerged for homesickness and general SC in a small study of international college students from various home countries (Hendrickson et al., 2011).

Path coefficients in Models 1 and 2 demonstrated significant negative associations between homesickness and students' reported levels of SC (-.22 for both models). SC thus may be a byproduct of, or otherwise intertwined with, ineffective coping mechanisms for homesickness among Asian international college students. Students struggling to deal with homesickness likely have fewer social relationships with host nationals (Hendrickson et al., 2011), which could reduce general levels of SC even if ethnic community SC remains constant. These data support the notion that SC might be a blend of a "self-based construct" and "situation-based construct," as described by Zhang and Goodson (2011a).

In Models 3 and 4, path coefficients of similar size (-.25 and -.26, respectively) revealed the same homesickness–SC relationship in the inverse sequence. As had been previously found in Turkish international college students (Duru & Poyrazli, 2007), SC scores explained significant variance in homesickness scores in this Asian international student sample. Having strong internalizations of SC may enable Asian international students to circumvent prolonged or pronounced homesickness by driving positive, rewarding interactions with host nationals—actions that may support healthy acculturation (Hendrickson et al., 2011; Zhang & Goodson, 2011a). Taken together, the results of all four models suggest that low levels of SC are significantly associated with levels of homesickness in Asian international students.

Relationship between SC and Psychological Distress

As anticipated based on research linking general SC levels with both psychological distress and anxiety in U.S. American college students (Lee et al., 2001; Lee & Robbins, 1998), a consistent relationship surfaced between SC and psychological distress in the current study. From bivariate correlational results, all indicators of SC significantly and negatively related to indicators of psychological distress. Beyond significant bivariate results, SC also was found to explain significant variance in Asian international students' scores on psychological distress (path coefficient for all models: $-.48, p < .001$). Thus, the more strongly students felt a sense of social belonging, the fewer symptoms of overall or dimension-specific psychological distress they reported.

These data build on previous research with international students that revealed negative associations between general SC and negative affect (Yoon et al., 2012a) as well as host national SC and depression (Zhang & Goodson, 2011a). In a recent study sampling Chinese international students (Wei et al., 2012b), ethnic community SC was not significantly linked with stress whereas host national SC was ($r = -.26, p < .001$). By demonstrating a highly significant and sizeable relationship between general SC (which likely tapped some combination of both host national and ethnic community SC) and psychological distress, the present study expands on this work by confirming the importance of Asian international students' felt connection with U.S. American individuals.

Relationship between Homesickness and UDO

Despite loading highest on the latent variable of UDO, Diversity of Contact showed no significant bivariate correlations with any measure of homesickness. Even more unexpectedly, scores on Relativistic Appreciation were positively associated with HC Homesickness scores.

Meanwhile, Comfort with Differences demonstrated significant negative bivariate correlations with two of the three homesickness instruments (i.e., the ASSIS and HC Homesickness scales). Comfort with Differences and Relativistic Appreciation scores were not significantly correlated in this study, which is rare in the UDO literature. Given that prior research showed positive links between UDO and discussions and interactions with diverse peers in U.S. American college students (Bowman, 2010; Ertmer et al., 2011; Seifert et al., 2010), it seems peculiar that only the subscale that loaded lowest to UDO demonstrated a significant negative relationship with homesickness in this study.

None of the tested models yielded significant path coefficients between homesickness and UDO or the inverse path (i.e., between UDO and homesickness). Taken at face value, these data would suggest that Asian international college students' attitudes toward diversity were not linked with their experiences of homesickness. However, several study-specific factors may have contributed to these unanticipated and uneven correlational and path data, inviting cautious interpretation of UDO-related study results. First, all M-GUDS-S subscales exhibited fairly low levels of reliability (i.e., alphas below .70; Fraenkel & Wallen, 2006). Also, as mentioned previously, the negative phrasing of Comfort with Differences items may have confused some participants and distorted mean M-GUDS-S scores.

Range restriction issues also may have prevented UDO from showing meaningful connections to homesickness. Approximately 17 percent of participants' mean M-GUDS-S scores were 4 or lower (out of a possible 6), and just 0.8 percent of participants had a mean score of 3 or less. The spread of scores was markedly different for SC: nearly 60 percent of participants reported a mean SC-15 score of 4 or less (out of 6), and about 23 percent had a mean score of 3 or less. Comparing ranges obtained with the M-GUDS-S and SC-15 is appropriate as

the scales are psychometrically similar (e.g., both have 15 six-point Likert-type items with nearly identical response categories) and the variables were significantly and positively correlated in this study. Asian international college students may be predisposed to having higher-than-average levels of diversity acceptance given that they are self-selecting to study in a country and culture that is vastly different from their own.

Furthermore, social desirability may have led participants to either consciously or unconsciously inflate their reported attitudes toward diversity. Such efforts would align with traditional Asian values like collectivism and with research documenting that social groups with lower power (e.g., immigrants) tend to act in more socially desirable ways to effect positive impression management (Johnson & van de Vijver, 2003). For a study designed to illuminate the experiences and attitudes of Asian international students, perhaps reporting lower levels of SC felt more individualistic and personal—hence less shame-inducing—than reporting lower levels of UDO. Participants also may have been sensitive to managing impressions of their community because of assumptions made about this researcher’s own ethnic background (i.e., not having an Asian last name).

Relationship between UDO and Psychological Distress

In the present study, Comfort with Differences was the only UDO indicator to negatively correlate with any evaluated dimension of psychological distress. In addition, as with results for paths involving homesickness and UDO, path coefficients between UDO and psychological distress were nonsignificant across the four models. These data depart from earlier research linking UDO with psychological adjustment in international college students (Yakunina et al., 2012, 2013) as well as with multiple domains of psychological well-being in U.S. American undergraduate students (Brummett et al., 2007). The absence of a relationship between UDO

and psychological distress could stem from the same aforementioned issues that may have led to the lack of connection between UDO and homesickness in this study—particularly as participants' scores on the HSCL-58 subscales also seemed restricted. Specifically, the highest mean HSCL-58 score reported by a participant was 3.04 (out of 4 possible).

It is possible that connections could have emerged between UDO and homesickness and between UDO and psychological distress had participant recruitment used different inclusion criteria. For instance, criteria could have better targeted participants who were currently experiencing homesickness or psychological distress symptoms. It also may be that UDO effectively offsets the impact of homesickness and contributes to lowered psychological distress at specific points in students' acculturation process. Such associations would be masked by the current sample, which included Asian international students who had been in the U.S. for widely varying lengths of time.

Finally, cultural subgroup differences may have obscured potential significant relationships between UDO and homesickness or psychological distress in this study. Consistent with this possibility, an exploratory multivariate analysis of variance indicated a significant effect of home country on homesickness, SC, UDO, and psychological distress when comparing the data of Chinese international students with that of students from other home countries ($F(12, 373) = 3.41, p < .001$). Univariate results showed significant group membership differences for two tested indicators: Comfort with Differences ($F(1, 384) = 22.19, p < .001$) and Anxiety ($F(1, 384) = 4.69, p = .031$). Follow-up bivariate correlations demonstrated a significant negative relationship between Comfort with Differences and Anxiety among Chinese participants ($r = -.23, p < .01$), whereas this relationship was nonsignificant among non-Chinese participants ($r = -.11, p = .09$). Future research that studies a more culturally homogenous sample, or that analyzes

factorial invariance for home culture subgroups of a larger sample size, could help clarify the roles of UDO generally and Diversity of Contact and Relativistic Appreciation specifically when modeled together with homesickness, SC, and psychological distress.

Relationship between SC and UDO

SEM analyses indicated that UDO and SC were positively linked. Interestingly, the relationship between UDO and SC was not better represented as a covariation. Rather, distinct processes were demonstrated whereby appreciation of cultural similarities and differences explained significant variance in Asian international students' felt interpersonal closeness, and felt interpersonal closeness explained significant variance in students' appreciation of cultural similarities and differences. Perhaps simultaneously appreciating cultural similarities and differences in others enables international students to feel a sense of belonging more on a core philosophical level even when specific peer relationships are hampered by reasons such as acculturative stress.

Primary Model Mediation Results

Models 1 and 2 generated significant mediation results across all effect categories, including total effects, total indirect effects, direct effects, and one specific indirect effect each. Accounting for age, SC was found to partially mediate the relationship between homesickness and psychological distress in both primary models. Though homesickness was positively linked with students' psychological distress as anticipated per prior studies (e.g., D. Matsumoto, personal communication, June 4, 2012; Matsumoto et al., 2007; Tochkov et al., 2010; Ying, 2005), a significant portion of that relationship was attributable to possessing low levels of SC.

To elaborate, primary model results provide evidence that ruminations on missed people and surroundings, along with problems assimilating new experiences in the host environment

(Bell & Bromnick, 1998; Willis et al., 2003), negatively related to Asian international students' feelings of SC. Reduced inclination to form new relationships and partake in social activities (Lee & Robbins, 1998) in turn was associated with increased symptoms of psychological distress. Intense or frequent homesickness and lowered general SC could have been connected by reduced quantity and quality of participants' interactions with host nationals (e.g., Hendrickson et al., 2011; Ward & Kennedy, 1993). Meanwhile, the mediational effect of SC in the two primary models may have cultural roots. Individuals who possess more interdependent self-concepts, as is common in Asian cultures, may be more vulnerable when losing home culture connections when studying abroad (e.g., Yeh & Inose, 2003).

None of the specific indirect effects involving UDO as a mediator were significant for Model 1 or Model 2. Though counter to initial study hypotheses, this outcome follows the pattern set by other UDO-related outcomes in this study (e.g., the absence of significant path coefficients between UDO and homesickness or psychological distress). Notably, however, including UDO in combination with SC as part of the multiple mediator sequence did not render either primary model's total effects nonsignificant. In fact, total indirect effects for Models 1 and 2 were comparable to the specific indirect effect when SC served as a lone mediator. Taken together, results suggest that an important relationship exists between UDO and SC—such that even though UDO did not relate with either homesickness or psychological distress in the current study, this did not detract from the overall explanatory power of either primary model.

Notably, a direct relationship between homesickness and psychological distress remained even after accounting for the mediation effects of SC and UDO. This result builds on past literature in two ways. First, it corroborates that Asian international student homesickness not only correlates with psychological distress generally as well as its domains (e.g., depression,

anxiety) (Tochkov et al., 2010; Ying, 2005), but it also explains significant variance in psychological distress. Secondly, the present data expand on research that previously demonstrated a positive link between acculturative stressors and international students' levels of general psychological distress (Wei et al., 2012a; Wu & Mak, 2012) and depression specifically (Constantine et al., 2004; Wei et al., 2007; Ying & Han, 2006). Given the size of the homesickness–psychological distress link after taking into account two intervening variables, there is stronger rationale for singling out homesickness as a particularly critical acculturative stressor experienced by the Asian international college student population.

Alternative Model Mediation Results

Diverging from original hypotheses, the two alternative models in the present study yielded several significant results. As with the primary models, mediation analysis of Model 4 demonstrated significant total, direct, and one specific indirect effect with SC positioned as the primary exogenous variable. However, specific indirect effects involving UDO as well as total indirect effects were nonsignificant. Interestingly, the absolute values of the total and direct effects observed with Model 4 (i.e., .524 and .483, respectively) were slightly larger than those observed with either Model 1 (i.e., .453 and .348, respectively) or Model 2 (i.e., .449 and .346, respectively). These results suggest that SC plays an important role in accounting for levels of psychological distress among Asian international college students—data that build on past research demonstrating negative associations between host national SC and depression (Zhang & Goodson, 2011a), host national SC and general stress (Wei et al., 2012b), and general SC and negative affect (Yoon et al., 2012a) in samples of international college students.

Homesickness partially mediated the relationship between SC and psychological distress in Model 4. Specifically, higher SC scores were linked with reduced homesickness scores,

which in turn were linked to reduced symptoms of psychological distress. Although prior literature informed the positioning of SC as an intervening variable in this study's primary models (e.g., Wei et al., 2012b; Yoon et al., 2012a; Zhang & Goodson, 2011a; Zhang & Goodson, 2011b), a separate line of research has examined SC as a predictor of acculturative stress. Work by Duru and Poyrazli (2007) and Yeh and Inose (2003) found that SC explained significant variance in acculturative stress levels in samples of Turkish and majority Asian international students, respectively. The current study more precisely uncovered that SC explains significant variance in homesickness levels of Asian international college students. Furthermore, in this sample, having a greater internalized sense of closeness or belonging to others was linked to fewer homesick ruminations and may have supported effective assimilation of new host environment experiences—which in turn could have helped explain some students' lower reported levels of psychological distress.

Unlike the other models tested, Model 3 yielded nonsignificant total and direct effects between its main exogenous variable (i.e., UDO) and psychological distress. However, indirect effects were found linking UDO with psychological distress. Per Hayes (2009), it is appropriate and potentially valuable to interpret indirect effects in SEM without the presence of significant total effects. Based on significant total indirect effect and specific indirect effect results, UDO was associated with psychological distress in the current Asian international student sample through mechanisms involving SC alone as well as a mediational sequence of SC and homesickness together. Regarding the former, UDO was positively related to SC scores, which in turn was related to reduced symptoms of psychological distress. Elaborating on the latter, UDO positively related to SC, which in turn was negatively related to homesickness, which finally was related to reduced psychological distress. Because no direct effects were observed

with Model 3, it can be assumed that the combination of SC and homesickness served to fully mediate the relationship between UDO and psychological distress with this sample.

These findings imply that the relationship between UDO and SC in Asian international students may be substantial enough to have bearing on the psychological benefits of maintaining feelings of belongingness. Given that the Diversity of Contact subscale loaded highest onto the latent variable of UDO, it is reasonable to infer that the more participants endorsed openness to diversity in this study, the more they were developing connections and interacting with host nationals. In turn, these efforts may have generated more opportunities to bolster SC than if students socialized only with individuals from their own home cultures. That an elevation in SC, as connected to elevated UDO, was directly and indirectly connected to lowered scores on psychological distress expands on previous international student research linking greater host national socialization and friendships with improved adjustment (Duru & Poyrazli, 2011; Li & Gasser, 2005; Ying & Liese, 1994) as well as research linking greater host national socialization and friendships with reduced homesickness (Hendrickson et al., 2011; Pederson et al., 2011; Ward & Kennedy, 1993).

Summary of Model Results

Model results partially support the initial hypotheses proposed by this study. However, the primary models did not surpass the alternative models in terms of yielding significant outcomes. Rather, each model offered unique and useful evidence supporting the position that, as experienced by Asian international college students and accounting for age, 1) homesickness, SC, UDO, and psychological distress are meaningfully connected and 2) when arranged in a multiple mediation sequence, the first three of these variables help to explain score variance in the fourth.

Across the board, homesickness was positively associated with psychological distress and negatively associated with SC. SC was consistently negatively associated with psychological distress, and UDO was consistently positively associated with SC. Contrary to hypotheses, UDO was not significantly directly related to either homesickness or psychological distress.

Finally, specific mediational sequences involving SC alone as a mediator of the homesickness–psychological distress link, SC and SC plus homesickness as mediators of the UDO–psychological distress link, and homesickness alone as a mediator of the SC–psychological distress link were significant. Thus, counter to hypotheses, homesickness functioned as both a significant primary predictor and mediating variable in this sample, and the same was true for SC. Indeed, when comparing total, specific indirect, and direct model effects across the four models, SC seems to have served as both a slightly stronger primary predictor variable and stronger intervening variable than homesickness in this study. This result suggests that Asian international college students’ current, subjective sense of social belonging may be pivotally linked with their current experiences of homesickness, experiences of psychological distress, and attitudes toward diversity.

Strengths and Limitations

This study featured several strengths that heeded calls for more methodologically sound research on international student adjustment (Zhang & Goodson, 2011b). First, a sizeable sample ($N = 386$) facilitated adequate power to discern significant results (Heppner, Wampold, & Kivlighan, Jr, 2008). Also, by testing full structural equation models, the study enabled comparison of multiple measures of homesickness—a rarity in the homesickness literature. Reduced confirmation bias through evaluating multiple *a priori* models represented another advantage of the study design (MacCallum & Austin, 2000).

The sample itself demonstrated demographic strengths useful for enhancing generalizability of study results. For example, good geographic diversity was shown in terms of both home nation and host institution region within the U.S. Moreover, it so happened that the top three most represented home countries in this study sample matched the top three sending nations of international college students according to the U.S. Institute of International Education (2014).

Despite these strengths, several threats to validity should be noted. Though beneficial for increased generalizability of results, the heterogeneity of the sample's cultural backgrounds could have compromised the validity of statistical conclusions (Heppner et al., 2008). For instance, results may be more or less applicable for individuals from particular Asian cultural backgrounds. Indeed, an exploratory multivariate analysis of variance revealed a significant effect of home country (i.e., China compared to other countries) on the set of variables tested in this study, with Anxiety and Comfort with Differences scores demonstrating significant univariate results. Relatedly, female students and graduate students were overrepresented in the current sample. Because the present study design did not include moderation analyses, it is difficult to know whether model fit and mediation results are an accurate reflection of the experiences of male and undergraduate Asian international students.

As described earlier, the reliability of select measures (e.g., the three M-GUDS-S subscales) (Heppner et al., 2008) may have adversely impacted study data. Given that survey measures were completed online, there was no way to control for situational variability associated with how and when participants responded (Heppner et al., 2008). That all study measures were self-report represents another threat to validity. Thus although the use of SEM circumvents the mono-operation bias, results may have been negatively impacted by the mono-

method bias (Heppner et al., 2008). For instance, participants may have responded in socially desirable ways, clouding construct validity.

Finally, how the construct of homesickness was operationalized in this study might not have accurately encapsulated the phenomenon for all participants. Homesickness was conceptualized as a negative emotional experience and type of acculturative stress; as such, many ASSIS Homesickness, HC Homesickness, and HQ Attachment to Home items possess a negative valence (Archer et al., 1998; Sandhu & Asrabadi, 1994; Shin & Abell, 1999). Yet the form that homesickness takes might diverge for Asian international college students at different developmental stages (e.g., young, single adults newly leaving their parental homes versus adults who are coupled or have children of their own) or with different amounts of prior experience living abroad (e.g., none versus some).

Study Implications

It is believed that the present study is the first to shed light on possible mechanisms underlying the connection between homesickness and psychological distress in Asian international college students. By testing various potential sequences of mediation, the study provides valuable information on the relationships between homesickness, SC, UDO, and psychological distress that can shape future work by both clinicians and researchers. It is also hoped that the results will prove useful to non-clinical staff who directly serve the Asian international student community (e.g., office of international students staff, residential life staff).

Results indicate that Asian international college students who experience clinically concerning homesickness—as manifested in the form of depressive, anxiety, or somatic symptoms—are likely to in part be struggling with issues of SC. This presents clinicians with an opportunity to intervene by focusing clinical interventions for homesickness not simply on

coping with the grief and stress of missing home (e.g., Stroebe et al. 2002), but also on active efforts to rebuild a sense of belonging based on clients' available social resources. More relationship-oriented interventions, as well as innovative outreach and community-building efforts, could be particularly beneficial for Asian international students grappling with homesickness. For example, Thurber and Walton (2012) suggest that treatment for homesickness in international college students include promoting community connections and campus involvements, as well as encouraging friendships with host nationals and conationals. Beyond the homesickness literature, clinicians can also draw on interventions described in preexisting bodies of SC research in their efforts to help reduce distress in Asian international students.

In light of the substantial link established between the specific acculturative stressor of homesickness and psychological distress, it could be beneficial to screen for homesickness in Asian international students who present to counseling centers or other campus health and wellness venues (e.g., medical centers, career counseling centers). Misattributing homesickness-specific distress to other types of acculturative stressors or developmental issues could delay symptom relief. Further, among Asian international students who identify homesickness as a presenting concern in counseling, present study data point to the importance of assessing not only depressive sequelae but also anxiety and somatic symptoms.

It is important to note that homesickness in Asian international students need not be automatically pathologized simply because of its demonstrated connections with psychological distress. Citing past work on the topic (Berry, 2006; Boski, 2008), Geeraert and Demoulin (2013) advance the view that acculturative stress is “part of an effective process to get individuals acculturated or integrated into a new cultural environment” (p. 1242). In light of this

perspective, the present study offers rationale for normalizing and validating homesickness in Asian international college students. Students could benefit from psychoeducation about how when approached from a strengths-based perspective, homesickness experiences may help incentivize them to make new, meaningful, and healthy bonds with host nationals and their host environment during the course of their stay in the U.S.

In terms of the growing body of literature on Asian international college student adjustment, the present data provide rationale for future research exploring homesickness independent of other acculturative stressors within this population. Investigating other potential mediators of the relationship between homesickness and distress, as well as both trait and state antecedents of clinically concerning homesickness in Asian international students, would be helpful lines of inquiry. Of note, to this author's knowledge, only one previous study has examined homesickness as an intervening variable in the literature (Beck et al., 2003). Thus, the present study could serve as a springboard for future research investigating homesickness as a mediator or moderator of the effects of other social variables (e.g., social support) known to impact the well-being of Asian international college students specifically or international or domestic students more broadly.

It would also be beneficial to identify whether certain demographics moderate the relationships between homesickness, SC, and psychological distress—including, for instance, gender or home country. Differentiating between the roles of host national versus conational/ethnic community SC would help bridge the gap between this study and other current research involving SC (e.g., Yoon et al., 2012a). In addition, researchers would do well to supplement quantitative, cross-sectional study designs with qualitative research and longitudinal

research on how homesickness, SC, and psychological distress morph during the process of acculturation.

Finally, although the demonstrated importance of UDO in this study was restricted to its relationship with SC, the magnitude of the two variables' connection should not go unnoticed. The data suggest that both effective interventions for homesickness and efforts to promote UDO are relevant to Asian international students' positive feelings of SC. Providing direction for future research, current results indicate it would be worthwhile to assess whether the benefits of increased UDO with regard to SC ultimately relate to outcomes other than psychological distress—for instance, sociocultural adaptation or acculturation strategy.

Table 1. Bivariate Correlations

Scale	1	2	3	4	5	6	7	8	9	10	11	12	<i>M</i>	<i>SD</i>	α
1. ASSIS	-												2.80	.87	.75
2. HC	.64**	-											2.54	.64	.79
3. HQ	.64**	.73**	-										2.32	.75	.88
4. SC-1	-.18**	-.14**	-.17**	-									3.91	1.05	.80
5. SC-2	-.17**	-.12*	-.18**	.82**	-								3.79	1.08	.79
6. SC-3	-.19**	-.14**	-.20**	.81**	.80**	-							3.82	1.03	.75
7. DOC	-.05	.01	.01	.29**	.26**	.28**	-						4.53	.81	.62
8. RA	.07	.14**	.05	.17**	.19**	.13*	.45**	-					4.72	.72	.64
9. CWD	-.22**	-.15**	-.08	.35**	.31**	.34**	.23**	.04	-				4.45	.93	.68
10. DEP	.30**	.27**	.38**	-.44**	-.47**	-.44**	-.06	-.00	-.20**	-			1.69	.56	.89
11. ANX	.27**	.22**	.33**	-.29**	-.27**	-.30**	-.04	.08	-.17**	.61**	-		1.39	.48	.83
12. SOM	.12*	.10	.25**	-.20**	-.20**	-.21**	-.01	.05	-.15**	.47**	.51**	-	1.42	.38	.82

Notes. * $p < .05$, ** $p < .01$. ASSIS = Acculturative Stress Scale for International Students, Homesickness subscale; HC = Homesickness and Contentment Scale, Homesickness subscale; HQ = Homesickness Questionnaire, Attachment to Home subscale; SC-1 = Social Connectedness Scale-15, parcel 1; SC-2 = Social Connectedness Scale-15, parcel 2; SC-3 = Social Connectedness Scale-15, parcel 3; DOC = Miville Guzman Universality-Diversity Scale, Short Form (M-GUDS-S), Diversity of Contact subscale; RA = M-GUDS-S, Relativistic Appreciation subscale; CWD = M-GUDS-S, Comfort with Differences subscale; DEP = Hopkins Symptom Checklist 58-item version (HSCL-58), Depression subscale; ANX = HSCL-58, Anxiety subscale; SOM = HSCL-58, Somatization subscale.

Table 2. Standardized Factor Loadings

	Model 1	Model 2	Model 3	Model 4
ASSIS	.75***	.75***	.75***	.75***
HC	.83***	.83***	.83***	.83***
HQ	.88***	.88***	.88***	.88***
SC-1	.91***	.91***	.91***	.91***
SC-2	.90***	.90***	.90***	.90***
SC-3	.89***	.89***	.89***	.89***
DOC	.90***	.87***	.91***	.87***
RA	.51***	.52***	.50***	.52***
CWD	.27***	.28***	.26***	.28***
DEP	.85***	.85***	.85***	.85***
ANX	.73***	.73***	.73***	.74***
SOM	.58***	.58***	.58***	.58***

Notes. *** $p < .001$. ASSIS = Acculturative Stress Scale for International Students, Homesickness subscale; HC = Homesickness and Contentment Scale, Homesickness subscale; HQ = Homesickness Questionnaire, Attachment to Home subscale; SC-1 = Social Connectedness Scale-15, parcel 1; SC-2 = Social Connectedness Scale-15, parcel 2; SC-3 = Social Connectedness Scale-15, parcel 3; DOC = Miville Guzman Universality-Diversity Scale, Short Form (M-GUDS-S), Diversity of Contact subscale; RA = M-GUDS-S, Relativistic Appreciation subscale; CWD = M-GUDS-S, Comfort with Differences subscale; DEP = Hopkins Symptom Checklist 58-item version (HSCL-58), Depression subscale; ANX = HSCL-58, Anxiety subscale; SOM = HSCL-58, Somatization subscale.

Table 3. Model Fit Results, Standardized Path Coefficients, and Outcome Variance Explained

	Model 1	Model 2	Model 3	Model 4
<i>CFI</i>	.951	.952	.953	.953
<i>TLI</i>	.934	.936	.937	.936
<i>RMSEA</i>	.069	.068	.067	.068
<i>SRMR</i>	.071	.069	.070	.068
χ^2 (58, $n = 381$)	162.645***	160.079***	158.926***	159.516***
<i>AIC</i>	8265.888	8263.322	10663.888	8262.759
<i>BIC</i>	8439.371	8436.805	10845.857	8436.242
<i>SABIC</i>	8299.767	8297.201	10699.904	8296.638
HS→UDO	-.01	.07	--	--
HS→SC	-.22***	-.22***	--	--
UDO→SC	.36***	--	.35***	--
SC→UDO	--	.40***	--	.38***
UDO→PD	.08	.09	.08	.09
SC→PD	-.48***	-.48***	-.48***	-.48***
HS→PD	.35***	.35***	.34***	.35***
Age→UDO	-.22***	-.22***	--	-.23***
Age→PD	-.11*	-.11*	-.12*	-.11*
Age←→UDO	--	--	-.22***	--
UDO→HS	--	--	.09	.10
SC→HS	--	--	-.25***	-.26***
R^2 for SC	.178**	.047*	.124**	--
R^2 for UDO	.047*	.198***	--	.196***
R^2 for PD	.412***	.416***	.407***	.417***
R^2 for HS	--	--	.057*	.055*

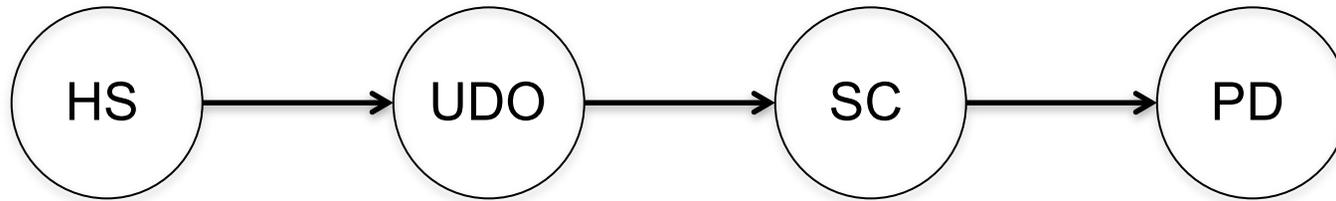
Notes. * $p < .05$, ** $p < .01$, *** $p < .001$. *CFI* = comparative fit index; *IFI* = incremental fit index; *RMSEA* = root mean square error of approximation; *SRMR* = standardized root mean square; *AIC* = Akaike Information Criterion; *BIC* = Bayesian Information Criterion; *SABIC* = Sample-size Adjusted Bayesian Information Criterion. UDO = universal-diverse orientation; PD = psychological distress; SC = social connectedness; HS = homesickness.

Table 4. Mediation Effects

Effects	Model 1	Model 2	Model 3	Model 4
Total HS→PD	.453 (.337, .568)*	.449 (.296, .603)*	--	--
Total indirect HS→PD	.105 (.052, .158)*	.104 (.004, .163)*	--	--
Specific indirect:				
HS→SC→PD	.104 (.051, .157)*	.105 (.043, .167)*	--	--
HS→UDO→PD	-.001 (-.017, .014)	.007 (-.012, .026)	--	--
HS→UDO→SC→PD	.002 (-.023, .028)	--	--	--
HS→SC→UDO→PD	--	-.008 (-.025, .010)	--	--
Direct HS→PD	.348 (.239, .456)*	.346 (.214, .478)*	--	--
Total UDO→PD	--	--	-.090 (-.229, .049)	--
Total indirect UDO→PD	--	--	-.168 (-.295, -.042)*	--
Specific indirect:				
UDO→HS→PD	--	--	.031 (-.020, .082)	--
UDO→SC→PD	--	--	-.169 (-.283, -.056)*	--
UDO→SC→HS→PD	--	--	-.030 (-.058, -.003)*	--
Direct UDO→PD	--	--	.079 (-.061, .219)	--
Total SC→PD	--	--	--	-.524 (-.626, -.421)*
Total indirect SC→PD	--	--	--	-.041 (-.130, .049)
Specific indirect:				
SC→HS→PD	--	--	--	-.088 (-.139, -.036)*
SC→UDO→PD	--	--	--	.034 (-.039, .107)
SC→UDO→HS→PD	--	--	--	.013 (-.011, .037)
Direct SC→PD	--	--	--	-.483 (-.618, -.348)*

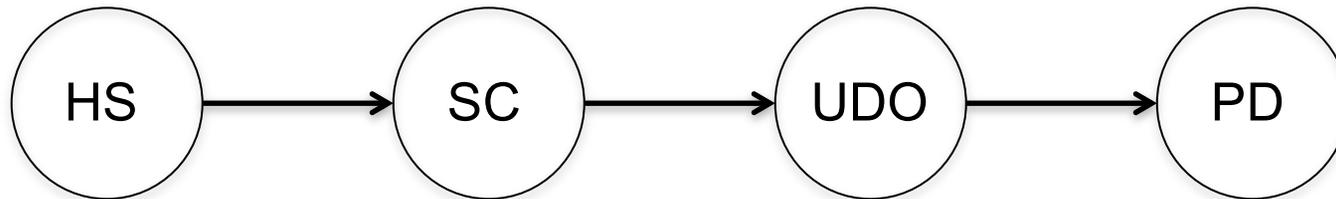
Notes. Effect magnitude and 95 percent confidence intervals. * = significant effect. HS = homesickness; PD = psychological distress; SC = social connectedness; UDO = universal-diverse orientation.

Figure 1. Hypothesized indirect effects for primary model 1.



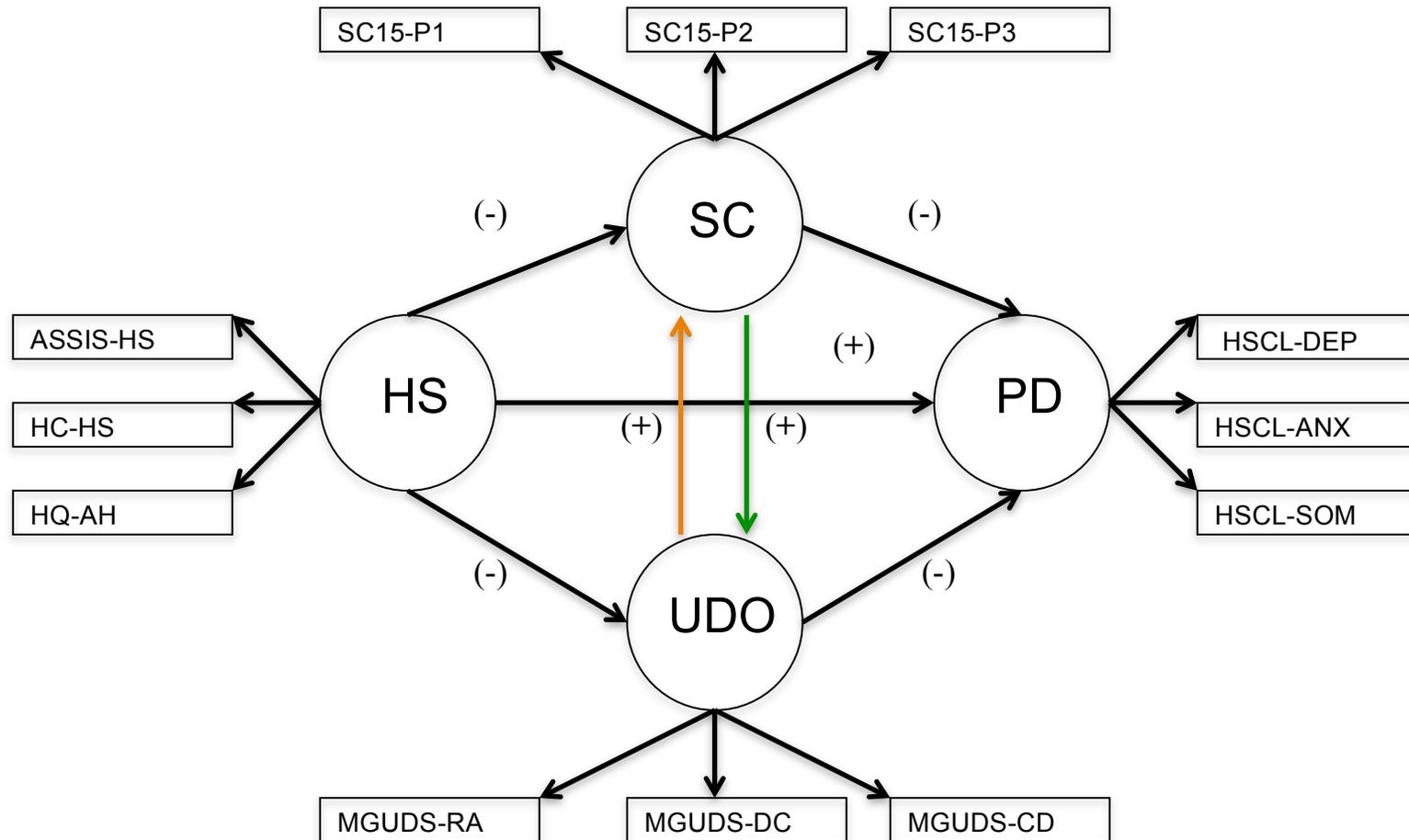
Note. HS: Homesickness. UDO: Universal-diverse orientation. SC: Social connectedness. PD: Psychological distress.

Figure 2. Hypothesized indirect effects for primary model 2.



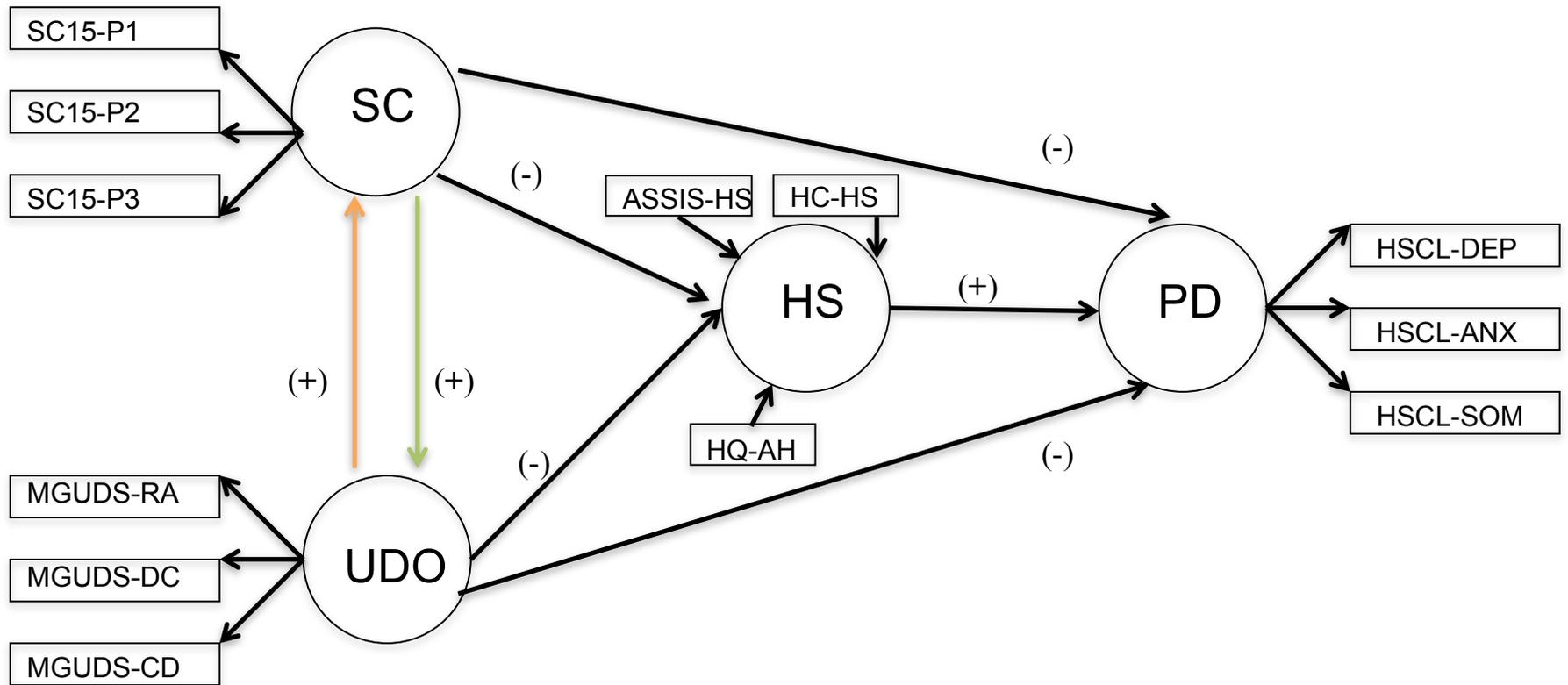
Note. HS: Homesickness. SC: Social connectedness. UDO: Universal-diverse orientation. PD: Psychological distress.

Figure 3. Primary structural equation models.



Notes. The orange arrow signifies model 1; the green signifies model 2. HS: Homesickness. SC: Social Connectedness. UDO: Universal-Diverse Orientation. PD: Psychological Distress. ASSIS-HS: Acculturative Stress Scale for International Students, Homesickness subscale. HC-HS: Homesickness and Contentment scale, Homesickness subscale. HQ: Homesickness Questionnaire, Attachment to Home subscale. SC15-P1: Social Connectedness Scale-15, parcel 1. SC-15: Social Connectedness Scale-15, parcel 2. SC15-P3: Social Connectedness Scale-15, parcel 3. MGUDS-RA: Miville-Guzman Universality-Diversity Scale, Short Form, Relativistic Appreciation subscale. MGUDS-DC: Miville-Guzman Universality-Diversity Scale, Short Form, Diversity of Contact subscale. MGUDS-CD: Miville-Guzman Universality-Diversity Scale, Short Form, Comfort with Differences subscale. HSCL-DEP: Hopkins Symptom Checklist-58, Depression subscale. HSCL-ANX: Hopkins Symptom Checklist-58, Anxiety subscale. HSCL-SOM: Hopkins Symptom Checklist-58, Somatization subscale.

Figure 4. Alternative structural equation models.



Note. The orange arrow signifies model 3; the green signifies model 4. SC: Social Connectedness. UDO: Universal-Diverse Orientation. HS: Homesickness. PD: Psychological Distress. SC15-P1: Social Connectedness Scale-15, parcel 1. SC15-P2: Social Connectedness Scale-15, parcel 2. SC15-P3: Social Connectedness Scale-15, parcel 3. MGUDS-RA: Miville-Guzman Universality-Diversity Scale, Short Form, Relativistic Appreciation subscale. MGUDS-DC: Miville-Guzman Universality-Diversity Scale, Short Form, Diversity of Contact subscale. MGUDS-CD: Miville-Guzman Universality-Diversity Scale, Short Form, Comfort with Differences subscale. ASSIS-HS: Acculturative Stress Scale for International Students, Homesickness subscale. HC-HS: Homesickness and Contentment scale, Homesickness subscale. HQ: Homesickness Questionnaire, Attachment to Home subscale. HSCL-DEP: Hopkins Symptom Checklist-58, Depression subscale. HSCL-ANX: Hopkins Symptom Checklist-58, Anxiety subscale. HSCL-SOM: Hopkins Symptom Checklist-58, Somatization subscale.

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Appendix A: Recruitment Email

Hello!

My name is Karen Kegel, and I am a doctoral student in the College of Education at Lehigh University. For my dissertation, my research advisor and I are conducting a study on the experiences and attitudes of Asian international students living in the United States. By choosing to participate, you will help increase our understanding of this understudied population.

To participate, you must identify as an Asian international college student studying in the United States. In this study, Asian is defined as having a home country in Far Eastern Asia, Southeast Asia, or the Indian subcontinent. You also need to have been living in the U.S. for six weeks or more. Finally, you must be 18 years of age or older.

If you would like to participate in my study, please click on this link to go to the online survey:
[insert link here]

Thank you very much for your time! If you know of other Asian international students who might be eligible to participate, please feel free to send them this link.

If you have any questions about the study, please contact me at kak209@lehigh.edu. This research has been approved by the Lehigh University Institutional Review Board (IRB #13/104).

Best,
Karen Kegel, M.A.
Cirleen DeBlaere, Ph.D.

Appendix B: Informed Consent

Dear Participant,

I am requesting your participation in a study of the experiences and attitudes of Asian international students at universities in the United States. This research is being conducted for my doctoral dissertation under the guidance of Dr. Cirleen DeBlaere, Counseling Psychology, Lehigh University. Participation will involve completing a short survey that will take approximately 25 minutes.

To participate, you must:

- Be at least 18 years old
- Be an international student enrolled at a university in the United States
- Have been living in the U.S. for six weeks or longer
- Consider yourself of Asian race/ethnicity
- Identify your home country as in Far Eastern Asia (e.g., China, Japan), Southeastern Asia (e.g., Vietnam, Indonesia), or the Indian subcontinent (e.g., India, Pakistan)

Your responses will be anonymous and confidential. Answers will be reported as averages using data from other participants.

By participating, you will help increase our understanding of the experiences and attitudes of Asian university students in the United States. There is no compensation or direct benefit for participating in this study. Some questions asking you to reflect on your experiences or attitudes may cause minor discomfort, however you do not have to answer questions you do not want to answer. You can discontinue participating in the study at any time.

If you have any questions about this research, you may contact me, Karen Kegel, M.A., at kak209@lehigh.edu. You may also contact my research advisor, Cirleen DeBlaere, Ph.D., at cid209@lehigh.edu or (610) 758-3255.

Questions or Concerns:

If you have any questions or concerns regarding this study and would like to talk to someone other than the researchers, **you are encouraged** to contact Susan E. Disidore at (610) 758-3020 (email: sus5@lehigh.edu) or Troy Boni at (610) 758-2985 (email: tdb308@lehigh.edu) of Lehigh University's Office of Research and Sponsored Programs. All reports or correspondence will be kept confidential.

Thank you in advance for your time and participation.

Sincerely,
Karen Kegel, M.A.
Cirleen DeBlaere, Ph.D.

This research has been approved by the Lehigh University Institutional Review Board (IRB #13/104). I have read the procedure described above. By clicking the "Next" button below, I am voluntarily agreeing to participate in this survey study.

Appendix C: Survey Measures

Homesickness subscale of the Acculturative Stress Scale for International Students

(ASSIS; Sandhu & Asrabadi, 1994)

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See original article for the scale text.

Homesickness subscale of the Homesickness and Contentment Scale

(HC; Shin & Abell, 1999)

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Attachment to Home subscale of the Homesickness Questionnaire
(HQ; Archer et al., 1998)

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See original article for the scale text.

Social Connectedness Scale-15
(SC-15; Lee et al., 2008)

Additional instructions to modify SC-15 for this study:

Please read each question and answer it two times. First, answer the question based on how you feel CURRENTLY (now, while living in the U.S.) Next, answer the question based on how you have felt IN THE PAST (when you were living in your home country, before coming to the U.S.).

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See original article and SCS-Revised in Lee et al. (2001) for the scale text.

Miville-Guzman Universality-Diversity Scale, Short Form

(M-GUDS-S; Fuertes et al., 2000a)

Additional instructions to modify M-GUDS-S for this study:

Please read each question and answer it two times. First, answer the question based on how you feel **CURRENTLY (now, while living in the U.S.) Next, answer the question based on how you have felt **IN THE PAST** (when you were living in your home country, before coming to the U.S.).**

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See original article for the scale text.

Subscales of the Hopkins Symptom Checklist-58

(HSCL-58; Derogatis et al., 1974)

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See original article for the scale text.

Demographics Questionnaire

Please tell us a little about yourself. This information will only be used to describe the sample as a whole.

1. Age: _____
2. Gender:
 - a) Male
 - b) Female
 - c) Transgender (male-to-female)
 - d) Transgender (female-to-male)
 - e) Other (please specify): _____
3. Sexual orientation:
 - a) Straight/Heterosexual
 - b) Gay or lesbian/Homosexual
 - c) Bisexual
 - d) Other (please specify): _____
4. Race/ethnicity:
 - a) Asian/Pacific Islander
 - b) Black/African
 - c) Caucasian/European
 - d) Hispanic/Latino/a
 - e) Native American/American Indian
 - f) Multiracial (please specify): _____
 - g) Other (please specify): _____
5. How would you describe you and your family's current social class?
 - a) Lower class
 - b) Working class
 - c) Middle class
 - d) Upper middle class
 - d) Upper class
6. Home country: _____
7. Type of program you are enrolled in:
 - a) Study abroad program lasting 1 year or less in the U.S.
 - b) Certificate or degree program lasting 1 year or less in the U.S.
 - c) Certificate or degree program lasting more than 1 year in the U.S.
 - d) Other (please specify): _____
8. Degree pursued:
 - a) Associate's degree
 - b) Bachelor's degree
 - c) Master's degree
 - d) Doctoral degree
 - e) Other (please specify): _____
9. Year in academic program:

- a) Year 1
 - b) Year 2
 - c) Year 3
 - d) Year 4
 - e) Year 5
 - f) Year 6
 - g) Year 7
 - h) Year 8
 - i) Year 9
 - j) Year 10
10. American school region:
- a) Northeast U.S.
 - b) Northwest U.S.
 - c) Midwest U.S.
 - d) Southeast U.S.
 - e) Southwest U.S.
11. Relationship status:
- a) Single
 - b) In a dating relationship
 - c) Engaged
 - d) Married
 - e) Separated
 - f) Divorced
 - g) Other (please specify): _____
12. If you have a romantic partner, where does he/she live?
- a) In your home country
 - b) With you or close to your U.S. address
 - c) Far from you in the U.S. or in another country
13. How would you describe where you live?
- a) On campus
 - b) Off campus
14. With whom do you live?
- a) Yourself
 - b) American students
 - c) Asian international students from your home country
 - d) Asian international students not from your home country
 - e) International students in general
 - f) Family members/your romantic partner
 - g) Other (please specify): _____
15. How would you rate your written English fluency?
- a) Poor
 - b) Fair
 - c) Good
 - d) Excellent
16. How long have you lived in the U.S.?
- a) Less than 6 months

- b) 6 months to 1 year
 - c) 1 to 2 years
 - d) 2 to 3 years
 - e) 3 to 4 years
 - f) 4 to 5 years
 - g) More than 5 years
17. How many times have you visited home (in your home country) since moving to the U.S.?
- a) 0 times
 - b) 1 time
 - c) 2 times
 - d) 3 times
 - e) 4 times
 - f) 5 or more times
18. When was your most recent visit home?
- a) Within the last 2 weeks
 - b) Within the last month
 - c) Within the last 3 months
 - d) Between 3 and 6 months ago
 - e) Between 6 and 12 months ago
 - f) More than 1 year ago
19. How often do you socialize with people from the U.S.?
- a) Never
 - b) Rarely
 - c) Sometimes
 - d) Often
 - e) Very often
20. How often do you socialize with people from your home country?
- a) Never
 - b) Rarely
 - c) Sometimes
 - d) Often
 - e) Very often
21. How often do you socialize with international students from countries that are not your home country?
- a) Never
 - b) Rarely
 - c) Sometimes
 - d) Often
 - e) Very often
22. What percentage of your friends or social network are from the U.S.?
- a) Less than 20%
 - b) Between 20% and 39%
 - c) Between 40% and 59%
 - d) Between 60% and 79%
 - e) More than 80%

23. Please describe your PAST experiences living abroad, not including being in the U.S. now:

- a) Never lived outside your home country until now
- b) Lived outside your home country for less than 3 months
- c) Lived outside your home country for 3 to 6 months
- d) Lived outside your home country for 6 to 9 months
- e) Lived outside your home country for 9 months to 1 year
- f) Lived outside your home country for more than 1 year

Appendix D: Debriefing

Thank you!

Thank you for participating in my dissertation study. I hope the experience was positive for you. If taking the survey has caused you to feel any distress, you are encouraged to speak to staff at your university's office of international students, office of multicultural affairs, or counseling center.

The goal of this study is to learn more about the experiences of Asian international students at universities in the United States. **Please do not discuss the study purpose or the survey contents with others.** Doing so could bias the responses of future participants and invalidate the study.

If you have additional questions about the study, you may contact myself (Karen Kegel) at kak209@lehigh.edu. You may also contact my research advisor, Cirleen DeBlaere, at deblaere@lehigh.edu or (610) 758-3255.

Questions or Concerns:

If you have any questions or concerns regarding this study and would like to talk to someone other than the researchers, **you are encouraged** to contact Susan E. Disidore at (610) 758-3020 (email: sus5@lehigh.edu) or Troy Boni at (610) 758-2985 (email: tdb308@lehigh.edu) of Lehigh University's Office of Research and Sponsored Programs. All reports or correspondence will be kept confidential.

I greatly appreciate the time you took to participate in my study. Thanks again!

Sincerely,
Karen Kegel, M.A.
Cirleen DeBlaere, Ph.D.
Counseling Psychology
Lehigh University

KAREN KEGEL
Curriculum Vitae

EDUCATION

- Lehigh University, Bethlehem, PA 2009-2015
Doctor of Philosophy, Counseling Psychology (APA accredited)
Dissertation (defended December 2014): Homesickness and Psychological Distress in Asian International Students
- Wake Forest University, Winston-Salem, NC 2007-2009
Master of Arts, Counseling (CACREP accredited)
- Boston College, Chestnut Hill, MA 1998-2002
Bachelor of Arts, English and Psychology
- University College London, London, England Spring 2001
Affiliate student, European Cultural Studies and Psychology

AWARDS & HONORS

- Research on Psychotherapy with Women Award 2012
• Awarded by the Society for the Psychology of Women (APA Division 35) for DeBlaere, C., Brewster, M., Bertsch, K., DeCarlo, A., **Kegel, K.**, & Presseau, C. (2012). Perceived discrimination experiences and psychological distress among sexual minority women of color: The moderating role of collective action.
- Women of Color Psychologies Award 2012
• Awarded by the Association for Women in Psychology for DeBlaere, C., Brewster, M., Bertsch, K., DeCarlo, A., **Kegel, K.**, & Presseau, C. (2012). Perceived discrimination experiences and psychological distress among sexual minority women of color: The moderating role of collective action.
- Honorable Mention, APA Annual Convention Student Poster Awards 2012
• Awarded by the Division of International Psychology (APA Division 52) for **Kegel, K.**, & DeBlaere, C. (2012). Universal-diverse orientation in Asian international students: Confirmatory factor analysis of the Miville-Guzman Universality-Diversity Scale, Short Form.
- Outstanding Small Chapter Award, Pi Alpha chapter 2008
• Awarded by Chi Sigma Iota, the international honor society for counseling.

FELLOWSHIPS, SCHOLARSHIPS, & GRANTS

- Lehigh University Graduate Student Senate: Conference Presenter Travel Grant 2012
- Lehigh University College of Education: Equity and Community Initiative Grant 2011
• Submitters: Kreider, L., Soheilian, S., **Kegel, K.**, Bertsch, K., & Presseau, C.
- Lehigh University Presidential Fellowship 2009-2010

COUNSELING EXPERIENCE

- Stanford University Counseling and Psychological Services, Stanford, CA 2013-2014
Predoctoral Intern (APA-accredited internship)
- Provided brief individual therapy to undergraduate and graduate students.
 - Conducted diagnostic intakes, triage evaluations, and substance use assessments.
 - Screened students for circumstances warranting potential accommodations.
 - Delivered on-call consultations and crisis interventions.
 - Assisted with program development, service promotion, and outreach activities.
 - Worked with center psychiatrists on shared cases and supplied community referrals.
- Lenape Valley Foundation, Doylestown, PA 2011-2012
Counseling Practicum Trainee, Partial Hospital Program
- Ran partial hospital counseling groups for adults with acute or chronic concerns.
 - Led psychoeducational groups for partial hospital and transitional outpatient clients.
 - Conducted intakes and devised treatment plans.
 - Provided individual counseling as needed.
- Lehigh University College of Education, Bethlehem, PA 2011-2012
Supervision Trainee for Master's-level students
- Provided off-site supervision for students interning at college and community clinics.
 - Remotely supervised student-interns employed at international schools.
 - Co-led a semester-long supervision group for practicum students.
- Lafayette College Counseling Center, Easton, PA 2010-2011
Counseling Practicum Trainee
- Conducted intakes and provided brief individual counseling to undergraduate students.
 - Regularly utilized process and outcome measures to inform treatment approach.
 - Administered and interpreted NEO PI-R and Strong Interest Inventory assessments.
 - Evaluated students who violated college alcohol and drug policies.
- Salem College Counseling Services, Winston-Salem, NC 2008-2009
Counseling Intern
- Provided individual counseling to undergraduate and graduate students.
 - Conducted intakes and served as mental health consultant to various campus entities.
 - Led psychoeducational programs and organized a campus depression screening week.
- Wake Forest University Baptist Medical Center, Winston-Salem, NC Spring 2008
Counseling Practicum Trainee, Cancer Patient Support Program
- Utilized counseling skills with individuals, couples, families, and groups.
 - Handled new patient orientations and circulation of psychoeducational materials.

COUNSELING-RELATED WORK EXPERIENCE

- Lehigh University Center for Academic Success, Bethlehem, PA 2010-2012
Graduate Assistantship: Learning and Study Skills Consultant
- Provided individual academic coaching services to undergraduates.
 - Utilized brief counseling interventions and made campus referrals.
 - Presented outreach workshops on stress management, test taking, and other topics.
- Wake Forest University Learning Assistance Center, Winston-Salem, NC 2007-2009

Graduate Assistantship: Academic Counselor

- Holistically addressed undergraduate concerns via individual academic counseling.
- Employed an academic coaching model for students with ADHD.
- Ran tutor trainings and customized academic workshops upon request.

ADDITIONAL WORK EXPERIENCE

Various Advertising Agencies, New York, NY 2007-present
Freelance Copywriter, Pharmaceutical Advertising

- Write medical, marketing, and educational copy for health professionals and patients.

AgencyRx/Cline Davis & Mann, Inc., New York, NY 2004-2007
Copy Supervisor/Senior Copywriter/Copywriter, Pharmaceutical Advertising

- Oversaw integrity of advertising copy and collateral for oncology drug account.
- Managed full-time and freelance writers, providing training, direction, and feedback.

Taylor & Francis/Marcel Dekker, Inc., New York, NY 2003-2004
Copywriter, Science/Medical/Technical Publishing

- Wrote promotional copy for professional reference books, texts, and encyclopedias.

Career Press/New Page Books, Franklin Lakes, NJ 2002-2003
Acquisitions Assistant

- Evaluated incoming manuscript proposals for career and mind/body/spirit books.

TEACHING EXPERIENCE

Lehigh University College of Education, Bethlehem, PA Summer 2011
Teaching assistant for Professional Seminar

- Assistant and guest lecturer for course spanning professional issues and ethics.

PUBLICATIONS

DeBlaere, C., Brewster, M., Bertsch, K., DeCarlo, A., **Kegel, K.**, & Presseau, C. (2014). Perceived discrimination experiences and psychological distress among sexual minority women of color: The moderating role of collective action. *Psychology of Women Quarterly*.

Kegel, K., & DeBlaere, C. (2014). Universal-diverse orientation in Asian international students: Confirmatory factor analysis of the Miville-Guzman Universality-Diversity Scale, Short Form. *Cultural Diversity and Ethnic Minority Psychology*.

Kegel, K. (2009). Homesickness in international college students. In G. R. Walz, J. C. Bleuer, & R. K. Yep (Eds.), *Compelling counseling interventions: VISTAS 2009* (pp.67-76). Alexandria, VA: American Counseling Association.

CONFERENCE PRESENTATIONS

Kegel, K., & DeBlaere, C. (2012, August). *Universal-diverse orientation in Asian international students: Confirmatory factor analysis of the Miville-Guzman Universality-Diversity Scale, Short Form*. Poster session presented at the annual meeting of the American Psychological Association, Orlando, FL.

Kegel, K. A. (2012, June). *Universal-diverse orientation: A summary of empirical research*. Discussant on panel presented at the meeting of the Society for Psychotherapy Research, Virginia Beach, VA.

Austin, A., **Kegel, K.**, & Vella, M. (2011, March). *Empowering transgendered youth: Best practices with feminist-centered therapy*. Structured discussion at the 36th Annual Conference of the Association for Women in Psychology, Philadelphia, PA.

DeBlaere, C., Brewster, M., **Kegel, K.**, Bertsch, K., DeCarlo, A., & Presseau, C. (2011, January). Multiple perceived discrimination experiences and psychological distress of sexual minority women of color: The moderating role of collective action. In K. Anhalt & N. Nakamura (Chairs), *Risk and resiliency among LGBT people of color: Linking science and practice*. Symposium presented at the National Multicultural Conference and Summit, Seattle, WA.

Austin, A., Heard, S., **Kegel, K.**, & Presseau, C. (2010, February). *Incorporating social justice into graduate curricula: Conversations about who, what, why, and how*. Roundtable discussion at the 27th Annual Winter Roundtable on Cultural Psychology and Education, New York, NY.

Kegel, K. A. (2009, March). *Worlds apart: Homesickness in international college students*. Poster session presented at the annual American Counseling Association Conference and Exposition, Charlotte, NC.

ADDITIONAL RESEARCH EXPERIENCE

Lehigh University Counseling Psychology Department, Bethlehem, PA 2009-2013

- Assisted Cirleen DeBlaere, PhD with research on diversity and multiculturalism. Managed literature searches, produced research summaries, assisted with survey item generation and measure selection, drafted materials for institutional review board submission, formatted online surveys, helped with recruitment, conducted reference checks, and prepared manuscripts for journal submission.

Boston College Psychology Department, Chestnut Hill, MA 1999-2000

- Assisted Donnah Canavan, PhD with research on social energy. Handled literature searches, organized reference lists, and contributed to theory development.

SERVICE ACTIVITIES

APA Division 17: Associate Editor, *The Diversity Factor* newsletter 2011-2013

APA Division 17: APA 2012 Convention Hospitality Space Volunteer August 2012

Lehigh University Multicultural Resource Center: Newsletter Copyeditor 2009-2012

Lehigh University Graduate Research Review: Co-Editor and Writer 2009-2010

Lehigh Valley Association of Independent Colleges: Research Poster Rater 2010

Chi Sigma Iota, Pi Alpha chapter: Secretary and Newsletter Editor 2008-2009

PROFESSIONAL DEVELOPMENT

Albert Ellis Institute Workshops, New York, NY
“REBT/CBT Evidence-Based Treatments for Anxiety,” Michael Hickey, PhD 2013
“REBT/CBT Professional Skills Development: Basics,” Kristene Doyle, PhD 2010

Annual Burnett Seminars, University of North Carolina-Chapel Hill
“Learning Outside the Lines,” Jonathan Mooney 2009
“Unwrapping the Gifts of the Mind,” Ed Hallowell, MD, EdD 2008

PROFESSIONAL AFFILIATIONS

American Psychological Association, Student Affiliate 2009-present

APA Society of Counseling Psychology (Division 17), Student Member 2009-present