Sociocultural Facets of Asian International Students’ Drinking Motives in the College Context: Examining Social Norm Perception, Language Discrimination, and Need to Belong

by

Kristi L. Eustice

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Approved April 2016 by the Graduate Supervisory Committee:

Giac-Thao Tran, Chair
William Corbin
Cynthia Glidden-Tracey

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ABSTRACT

Increasing numbers of Asian international students enter the U.S. each year; however, this group remains highly understudied. This is particularly true in regard to alcohol use and behavior. The purpose of the current study was to investigate if and how the sociocultural factors of social norm perception, perceived language discrimination, and need to belong relate to drinking motivation among Asian international students. Hierarchical regression was used with 194 self-identified Asian international student participants to analyze two separate three-way interactions. It was hypothesized that high social norm perceptions, greater perceived language discrimination, and high need to belong would interact to predict greater 1) drinking to cope, and 2) drinking to conform. Results did not support either hypothesis; however, main effects indicated that perceived language discrimination was related to drinking to cope and drinking to conform. In addition, need to belong and social norm perception interacted to predict drinking to conform. Implications, limitations, and future directions are discussed.
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CHAPTER 1

PROBLEM IN PERSPECTIVE

College students have been identified by the Center for Disease Control (2011) as at-risk for heavy alcohol consumption and alcohol-related problems. A national survey found that approximately four out of five college students drink alcohol, with about half of those students consuming alcohol via binge drinking behavior (National Institute on Alcohol Abuse and Alcoholism; NIAAA, 2013). The NIAAA (2013) has recognized the severity of abusive and underage college drinking as a significant public health problem resulting in serious academic and social consequences for U.S. college students. Twenty-five percent of college students have reported missing class, doing poorly on exams or papers, falling behind, and/or receiving lower grades as a result of alcohol use. Each year roughly 1,825 college students, ages 18–24 years, die from unintentional alcohol-related injuries; 696,000 students are sexually assaulted by another student who has been drinking; 97,000 students are victims of alcohol-related sexual assault or date rape; and approximately 400,000 engage in unprotected sex, with 100,000 of these students reporting having been too intoxicated to know if they had given consent (NIAAA, 2013). Certain subgroups within the college student population, such as Greek members and student athletes, are considered especially at-risk for heavy alcohol use and related concerns (Turrisi, Mallett, Mastroleo, & Larimer, 2006). Notably, international students have been considered at-risk for adjustment issues and/or psychological difficulties (Andrade, 2006; Chen, 1999; Sümer, Poyrazli, & Grahame, 2008); however, to date little research has investigated if or how this at-risk status relates to alcohol use.
Researchers suggest that cultures that condone and/or reinforce drinking behavior are likely to provide widely accessible and conducive environments for individuals to consume alcohol (Social Issues Research Center; SIRC, 1998), as is the case with the U.S. college campus. The image of excessive drinking has become enmeshed within the mainstream conception of U.S. college campus social life and is further reinforced by popular media (Lederman & Stewart, 2005). Once international students arrive on campus, there is potential for this ideology to persist as many students fall victim to the phenomenon of social norm misperceptions regarding alcohol use. Social norm misperceptions entail the tendency for most students to believe that their peers consume alcohol more heavily and frequently than they do and hold more permissive alcohol attitudes than is actually the case (Borsari & Carey, 2003; Perkins, 2002). Notably, human behavior is unquestionably affected by the way we think others in our social groups are behaving, even when these perceptions are inaccurate (Berkowitz, 2004). A review of the literature revealed that social norm misperceptions of alcohol use influence the drinking behavior of many students, with greater misperceptions of drinking norms predicting heavier consumption rates as students are likely to adjust their behavior to fit that of the perceived norm (Borsari & Carey, 2001). It is in this way that the sociocultural context of the college environment may hold unique potential to influence incoming international students’ motivation to consume alcohol.

Student motivations or reasons for consuming alcohol, coined ‘drinking motives,’ are a critical component for researchers and educators to understand, as particular motives have been identified as direct pathways to alcohol use (e.g., problematic drinking; Cooper, 1994). Cooper (1994) established four categories of drinking motives
that have been confirmed and validated within the U.S. college population. These motives include drinking for: (1) enhancement reasons, such as to elate overall mood; (2) social reasons such as to facilitate interaction; (3) coping reasons such as to avoid or ease negative emotions; and (4) conformity reasons such as to fit in with a peer group or avoid rejection (Cooper, 1994; Kuntsche, Knibbe, Gmel, & Engels, 2005). If researchers and practitioners are better able to understand the factors that affect students’ reasons for drinking, specific intervention and prevention efforts aimed at targeting factors that impact students’ drinking motives can be strengthened, resulting in less problematic consumption and related consequences. While it is known that higher norm misperceptions are associated with heavier consumption for many, the specific motivation to alter drinking behavior is unclear. The current study seeks to further the literature on drinking motives in college students to investigate if and how certain aspects of the college sociocultural environment, such as social norm perception, influence students’ drinking motives.

Considering certain drinking motives have been found to relate to problematic drinking (Cooper, 1994; Kuntsche et al., 2005; Martens, Rocha, Martin, & Serrao, 2008), and that some sub-populations may be at greater risk for problematic consumption and related concerns, it is critical to investigate which drinking motives potentially at-risk groups endorse. As mentioned, findings have alluded to the notion of international students as an at-risk sub-population, as the cross-cultural transition of living and going to school in another country can often entail sociocultural, environmental, and physiological adjustments (Chen, 1999). Studies suggest that, as a result of these adjustments, many international students are likely to experience psychological
difficulties including stress, anxiety, helplessness, loneliness, depression, and sense of loss (Chen, 1999; Ebbin & Blackenship, 1986; Sawir, Marginson, Deumert, Nyland, & Ramia, 2008; Wu, Garza, & Guzman, 2015). Some cultural and social factors found to lead international students to experience considerable stress and mental health concerns include discrimination, language difficulty, lack of social connectedness, and academic concerns (Bertram, Poulakis, Shaw-Elsasser, & Kumar, 2014; Chavajay & Skowronek, 2008; Chen, 1999; Han, Han, Luo, Jacobs, & Jean-Baptiste, 2013; Yeh & Inose, 2003). Notably, a survey administered at North Dakota State University showed international students reporting the necessity of alcohol as a requirement for having fun more so than their domestic peers (North Dakota State University; NDSU, 2012).

Cross-cultural adjustment may be especially difficult for international students relocating from non-European countries, as they may experience more discrimination (Lee & Rice, 2007) and acculturative stress (Yeh & Inose, 2003) than their migrant European peers, yet are less likely to seek formal services such as counseling (Mori, 2000). In addition, Pedersen (1991) noted that the larger the difference in cultural background from home to host country for international students, the more difficult it will likely be to adjust. This is notable as the majority (63%) of international students in the U.S. relocate from Asia, with numbers expected to continue to grow (Institute of Internal Education; IIE, 2011). Entering the country for the purpose of attending a major university where alcohol consumption is widely endorsed as a social facilitator may impact Asian international students’ motivation to consume alcohol, especially considering that these students are likely to have left their primary social support
networks behind. In other words, there may be an association between Asian international students’ perception of campus drinking and their motivation to drink alcohol.

Given that Cooper’s (1994) drinking motives have been found to be a direct pathway to alcohol use, with drinking to cope, drinking to conform, and drinking for enhancement linked to heavy use and/or alcohol-related problems (Cooper, 1994; Kuntsche et al., 2005; Martens et al., 2008), it is important for researchers to explore this construct among subpopulations of the U.S. college campus, including the rising number of Asian international students (IIE, 2011). Not only do Asian international students enter a new social world where alcohol use is perceived as heavy and tolerated, they also are often exposed to additional stressors such as language discrimination and an unfulfilled need to belong. Accordingly, there may be potential for Asian international students to engage in problematic drinking behavior, such as drinking to cope with or drinking to conform to their new sociocultural environment and stressors. Despite this knowledge, Asian international students remain an understudied population requiring attention.

In addition to investigating the relationship between social norm perceptions and drinking motives in the Asian international student population, it is important to identify moderating factors that may strengthen this association. For instance, *language discrimination*, or being discriminated against due to speaking English as a second language or with an accent, is an important construct to consider (Wei, Wang, & Ku, 2012). Asian international students have reported feeling excluded and avoided by their native peers as well as ridiculed for speaking English with an accent (Houshmand, Spanierman, & Tafarodi, 2014). As a result of feeling excluded and avoided, Asian international students frequently experience difficulty interacting with others on the
primarily White college campus (Houshmand et al., 2014). Language difficulty and lack of English proficiency can greatly hinder students’ communication, thus influencing their ability to form new social connections with domestic peers (Chen, 1999; Heggins & Jackson, 2003). This information is important considering individuals from Asian cultures often value relatedness and interdependence with others (Markus & Kitayama, 1991) and that individuals from collectivist cultures tend to suffer more than those from individualistic cultures when they experience a lack of significant relationships (Sawir et al., 2008). Accordingly, *language discrimination* and *need to belong* may be substantial factors in the lives of Asian international students with the potential to strengthen the relation between their social norm perception and drinking motives.

Following is a literature review of factors that may influence Asian international students’ motivation to drink alcohol (i.e. *drinking motives*). In the current study, a three-way interaction will be tested to investigate if social norm perception of alcohol use predicts students’ drinking motives, and if this relationship is influenced by students’ level of perceived language discrimination and need to belong. Special considerations regarding the Asian international student population will be extrapolated, limitations of previous research will be delineated, and the current research study will be discussed.

![Diagram](Figure 1. Proposed Model)
CHAPTER 2

REVIEW OF THE LITERATURE

Social Norms Theory

Social norms theory posits that, in many social situations, individuals incorrectly perceive the attitudes and/or behaviors of their peers as significantly different from their own when in fact they are not (Berkowitz, 2004). This misperception influences individuals to alter their perceptions or behavior to fit that of the believed norm (Berkowitz, 2005). Social norms theory has been applied to alcohol consumption (Berkowitz, 2005; Franca, Dautzenberg, & Reynaud, 2010; Pedersen, Neighbors, & LaBrie, 2010; Perkins, 2002), and misperceptions of drinking norms have been widely documented in high school settings, college environments, and young adult populations throughout the U.S. Misperceptions about peer alcohol consumption are held by a wide range of campus members, including undergraduate and graduate students as well as faculty and staff alike (Berkowitz, 2005; Perkins, 2002).

Frequently, college students tend to misconceive descriptive norms regarding peer alcohol consumption. Descriptive norms refer to the perceived explicit behavior of others (i.e., how frequently and how much an individual drinks). This norm is formulated based on observing and recalling others’ alcohol consumption behavior (Berkowitz, 2004; Borsari & Carey, 2003). Another common type of misperceived norm includes injunctive norms or the perceived attitudes or beliefs of others—both types of norms have been found to influence the drinking behavior of college students (Neighbors et al., 2008; Perkins, 2002). Findings suggest that most students tend to believe that their peers not only consume alcohol more heavily and frequently than they do (descriptive norm), but
that their peers also have more permissive attitudes toward alcohol (injunctive norm) than are actually the case (Borsari & Carey, 2003; Perkins, 2002). As a result of these misconceptions, students may change their drinking behavior to match that of their perceived group norm, potentially causing higher consumption for many (Berkowitz, 2005, 2004; Borsari & Carey, 2001; Perkins, 2003). In particular, studies have shown that norm misperceptions of alcohol use lead to greater consumption for light and moderate drinkers and influence nondrinkers to begin drinking (Berkowitz, 2005).

Although both types of norms have been found to influence the drinking behavior of college students (Neighbors et al., 2008; Perkins, 2002), descriptive norms have been found to exert a stronger influence on alcohol consumption (Cho, 2006). Interventions targeting descriptive norms have been found to produce significant reductions in norm perceptions, with some interventions also resulting in decreased self-reported alcohol use among participants (Borsari & Carey, 2003). It may be that, in general, the behavior which informs descriptive norm perception is more noticeable and easier to discern than the information needed to develop injunctive norms. Similarly, it may be that observing the behavior of others requires less cognitive analysis than inferring personal attitudes/beliefs (Cho, 2006; Cialdini, 2003). Taken together it seems that this type of norm may be more readily formed and misperceived. This knowledge signifies the importance of investigating this type of norm in particular. The current study will focus on descriptive norm perception. It is proposed that descriptive norms will be more salient and impactful for international students entering the U.S. college environment. Instead of inferring how accepting and approving their college peers are of alcohol use, Asian
international students drinking motives are expected to be influenced by their perceptions of how others are acting/behaving.

The current study seeks to examine whether descriptive norm perceptions significantly predict Asian international students’ drinking to conform. If Asian international students develop social norm misperceptions that the average U.S. college student frequently consumes large amounts of alcohol this may increase the likelihood that they consume alcohol in an attempt to conform to, or fit in with, the perceived norm of their new sociocultural environment.

**Drinking Motives**

According to theorists, the decision to consume alcohol stems from a combination of historical factors (i.e., biochemical reactions, socio-cultural and environmental factors) and current factors (i.e., availability and exposure to alcohol) as well as alcohol expectancies and ‘drinking motives’ (Kuntsche et al., 2005). Broadly defined, motives are “conscious or unconscious reasons for behavior that directs a person’s energies towards a goal” (Kuntsche et al., 2005, p. 485). Cox and Klinger (1988, 1990) theorized a motivational model of alcohol use suggesting that drinking motivation results from individuals’ expectancies of alcohol-related effects (i.e., beliefs about whether alcohol will be positively or negatively reinforcing) and the source of these anticipated effects (i.e., will alcohol use result in internal or external rewards). Regarding perceived reinforcement of alcohol-related effects, individuals may drink because they expect alcohol to have positive effects such as enhanced mood (positive reinforcement) or in hopes of avoiding a negative outcome (negative reinforcement) such as a way to avoid negative emotions. Regarding the source of these expected effects, internal rewards of
alcohol use may entail emotion management and regulation, while external rewards may include enhanced social integration and acceptance. Taken together, reasons for drinking may be internally-generated and positively-reinforcing, externally-generated and positively-reinforcing, internally-generated and negatively-reinforcing, or externally-generated and positively-reinforcing (Cooper, 1994).

Based on these motivational dimensions, Cooper (1994) established and validated four measure of drinking motives: drinking for enhancement, social, coping, and conformity. While alternative categories of drinking motives have been examined (Grant, Stewart, O’Connor, Blackwell, & Conrod, 2007; Stewart, Zeitlin, & Samoluk, 1996), studies suggest that Cooper’s original four categories are the most reliable and frequently used (Cooper, 1994; Kuntsche et al., 2005; MacLean and Lecci, 2000). Drinking for 

**enhancement** motives indicates that the individual consumes alcohol in hopes of improving their overall mood or well-being or simply because they enjoy the taste of alcohol. The enhancement motive results from internally-generated, positive reinforcement motivations. Those who drink for **social** motives anticipate that alcohol will help facilitate positive social rewards and are a result of externally-generated, positive reinforcement motivations. **Coping** drinking motives aim to reduce, regulate, and/or avoid emotion and result from internally-generated, negative reinforcement models. Lastly, drinking for **conformity** reasons entails drinking to avoid social censure or rejection, and are a result of externally-generated, negative reinforcement motives (Cooper, 1994).

Cooper (1994) emphasized the importance of understanding the motivation for an individual’s alcohol use, noting that this information has the potential to provide
awareness into the circumstances in which one decides to drink, the amount he/she chooses to drink, and the likely consequences of consumption. Likewise, it has been postulated that to limit risky drinking behavior, researchers must first understand the antecedents and etiology of the behavior, placing the motivation for drinking alcohol at the pinnacle of importance (Kuntsche et al., 2005). Drinking motives have been found to differ among individuals; for some individuals, the expected change as a result of drinking may be due to the direct chemical effects of the substance, such as tension reduction or mood enhancement. For other individuals, indirect effects, such as peer approval, are most salient (Kuntsche et al., 2005). These findings imply that knowing individuals’ motivation for drinking, as well as the factors that influence drinking motivation are critical for understanding and attenuating problematic drinking behavior.

As mentioned, many theorists consider drinking motives to be a final common pathway to alcohol use (Cooper, 1994), and empirical research has shown that reasons for drinking account for a considerable amount of variance in alcohol behavior above and beyond typical situational factors ($R^2 = .183, p < .01$; Kairouz, Glikksman, Demers, & Adlaf, 2002). Conclusions from over 84 articles in a meta-analysis examining the relationship between drinking motives and alcohol use indicate possible consequences of each motive. Kuntsche et al. (2005) report that individuals who drink for enhancement reasons tend to participate in heavy alcohol consumption. Likewise, drinking to cope was associated with heavy consumption patterns as well as alcohol-related problems (Kuntsche et al., 2005). Moreover, previous work found that individuals endorsing greater coping motives experienced a greater frequency of heavy drinking episodes when increased levels of perceived stress were also reported (Abbey, Smith, & Scott, 1993).
Social drinking motives were found to be associated with moderate, non-problematic drinking, yet findings are mixed (Bradizza, Reifman, & Barnes, 1999; Kuntsche et al., 2005; Read, Wood, Kahler, Maddock, & Palfai, 2003). Bradizza et al. (1999) found social motives to predict alcohol misuse above coping motives. Unfortunately, conformity drinking motives were not addressed in the literature review, as many empirical studies fail to acknowledge this category despite its validation as a distinct construct (Cooper, 1994; Maclean & Lecci, 2000). Although previous findings suggest that drinking to conform is related to light, infrequent drinking, a direct positive relation between drinking to conform and drinking-related problems has been found—even after controlling for typical alcohol consumption (Cooper, 1994). Similarly, Martens et al. (2008) found drinking to conform to be significantly positively related to alcohol use and alcohol-related problems, although to a lesser extent than the other three drinking motives. Drinking to conform has also been found to be related to drinking at parties where pressure to conform is likely at its peak compared to drinking at home or at a bar (Cooper, 1994).

Although the literature is scarce, some findings support the rationale that certain drinking motives may be pervasive among particular ethnic groups or subpopulations, such as Asians or Asian Americans (LaBrie, Lac, Kenney, & Mirza, 2011; Martens et al., 2008; Theakson, Stewart, Dawson, Knowlden-Loewen, & Lehman, 2004). Based on current knowledge, findings suggest that Asian individuals are more likely to drink to cope and/or conform when compared to their Caucasian counterparts. Theakson et al. (2004) found that non-Asian ethnicity (in this case, individuals with primary ethnic backgrounds from Europe, Canada, the Middle East, Australia, and New Zealand) was
correlated with drinking for enhancement and social reasons, while Asian ethnicity was significantly related to drinking to conform. LaBrie et al. (2011) also reported that Asian participants were more likely to report drinking to conform or cope, whereas Caucasians were more likely to report motives related to enhancing positive mood (i.e., social and enhancement). Results pointed to the inference that Asian students may feel the need to drink in accordance with the normative culture (LaBrie et al., 2011).

Extant literature also suggest that, although Asian students typically consume alcohol at lower levels than their Caucasian peers, Asian students may still be consuming alcohol in amounts which places them at-risk for detrimental consequences (LaBrie et al., 2011). Asian international students may believe most students consume heavy amounts of alcohol, and, as a result, feel pressure to consume alcohol while attempting to fit in and immerse themselves in their new social environment. These students may also be inclined to drink to cope or conform due to additional factors influencing their adjustment to the U.S. university setting. Taken together, this information emphasizes the need for further exploration into sociocultural factors that may influence the reasons that Asian international students consume alcohol. If Asian international students are drinking for reasons that have the potential to lead to problematic drinking, such as drinking to cope/conform, significant academic and personal consequences may occur, highlighting the need for prevention and intervention efforts targeting this population.

**Moderating Variables**

While social norm perception has been found to influence drinking behavior among college students and is hypothesized to influence Asian international students’ drinking motives, there may be other sociocultural factors, including perceived language
discrimination and the need to belong, that play a role in this relationship. It may be that the strength of the relationship between social norm perception and drinking motives varies depending upon these sociocultural factors. As Asian international students enter U.S. universities likely wanting to belong and establish new social relationships, they may be met with discrimination as a result of their English-speaking abilities (Houshmand et al., 2014; Lee & Rice, 2007; Wei et al., 2012), among other things as previously stated, which may impact their motivation to drink, especially to drink to cope or conform. The proposed study will explore the influence of perceived language discrimination and students’ need to belong as moderators of the relationship between social norm perception and students drinking to cope and/or conform.

**Perceived language discrimination.** Research has shown over and again the far-reaching and detrimental effects of perceived discrimination (Grollman, 2014; Pascoe & Richman, 2006; Schmitt, Branscombe, Postmes, & Garcia, 2014). Not only is an individual’s mental health status (e.g., anxiety, depression, well-being) affected, but discrimination has also been linked to additional physical health problems including hypertension, cardiovascular disease, and substance use (Williams & Mohammed, 2009). While the majority of research has focused on the concept of racial discrimination and its effect on mental and physical health and stability, little research has focused on additional forms of discrimination that may be relevant for incoming migrant populations. As the number of Asian international students residing in the U.S. tends to increase annually and is expected to continue to grow (IIE, 2012), there is valid justification for research surrounding multicultural issues specific to this population. Similarly, it is critical that
special attention is focused on additional types of discrimination that may influence recent migrants compared to racial minorities born in the U.S. (Wei et al, 2012).

One concept which is particularly salient for many Asian international students is language discrimination. *Language discrimination* is defined as discrimination against another individual because English is their second language or because they speak English with an accent (Wei et al., 2012). Although this type of discrimination can often be subtle, it undoubtedly impacts those who experience it (Wei et al., 2012). In Wei et al.’s (2012) study, negative relations between perceived language discrimination and self-esteem and perceived language discrimination and life satisfaction were found. Furthermore, perceived language discrimination accounted for a significant amount of variance in depression and anxiety above and beyond racial discrimination (3% and 8% of variance, respectively; Wei et al., 2012). Similarly, international students from East and South Asia have reported feeling excluded and avoided by White peers as well as ridiculed for their accents, with many international students perceiving this hostility as resulting from their accents and/or language ability (Houshmand et al., 2014). For Asian American immigrants, language discrimination has been found to be positively related to chronic health (i.e., a combination of physical and mental health conditions) above and beyond racial discrimination (Yoo, Gee, & Takeuchi, 2009). Cumulatively, it is apparent that language discrimination is a significant factor, distinct from racial discrimination, to consider as influential in the lives of migrant international students who speak English with an accent and/or as a second language.

Language proficiency is undoubtedly a critical and fundamental requirement for daily living as well as for studying in higher education systems. It is important for
establishing relationships and communicating with others (Chen, 1999). Difficulties in gaining social support are likely to be a consequence of an individual’s language trouble as language difficulty can hinder an individuals’ ability to interact socially and leads to missed opportunities for social participation (Bertram et al., 2014). Unfortunately, the literature suggests that host domestic students are not always considerate or helpful when it comes to the social hurdles faced by international students (Hayes & Lin, 1994). Even though many domestic students recognize that language difficulties are prominent among the international student population, they are frequently insensitive to the social and communication needs of their non-domestic peers (Hayes & Lin, 1994), which may lead to further difficulty in social interaction.

These findings along with the dearth of information available on the subject provide justification for the need for further research to investigate the effect of language discrimination in immigrant populations, with special attention to those who exhibit prominent language differences such as speaking English with a heavy accent. This information may be especially impactful for migrant Asian international students who are working to immerse themselves in a new social milieu where alcohol use is perceived as condoned and pervasive. Having the added challenge of speaking English with an accent and/or as a second language in this environment may further impact these individuals’ motivation to drink. Wei et al. (2012) denote the need for examination of the effects of perceived language discrimination on substance use. The current study seeks to examine if the relation between social norm perception and drinking to cope/conform is influenced by Asian international students’ level of perceived language discrimination. The association between social norm perception and coping/conformity drinking motives may
be strengthened for those experiencing greater language discrimination. These individuals may have more of a tendency to drink to cope with discriminatory treatment by their peers, anticipating that this behavior will assuage negative feelings, or conform in an attempt to fit in and avoid rejection within their social environment.

**The need to belong.** The most prominent theory of belonging defines the *need to belong* as “a persuasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships” (Baumeister & Leary, 1995, p. 497). The idea behind a fundamental human need to belong is not a new one. Freud, Maslow, and Bowlby, all attempted to evaluate whether the need to belong is a fundamental human motivation that drives and influences social behavior (Baumeister & Leary, 1995). The need to belong can easily be conceptualized through an evolutionary standpoint where, historically, group membership has provided important survival and reproductive advantages for the individual. In this regard, obtaining and sustaining meaningful relationships with others holds important benefits against a multitude of external threats (Baumeister & Leary, 1995). As a result of this evolutionary selection, it is proposed that human beings possess internal mechanisms which steer them into positive, long-term relationships and create learning experiences that reinforce positive social interactions, while discouraging social deprivation (Baumeister & Leary, 1995).

Critically, researchers have demonstrated the importance of human belonging on functioning and psychological well-being (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992), and a sense of belonging has been shown to be closely related to indicators of both social and psychological functioning (Hagerty, Williams, Coyne, & Early, 1996). Specifically, a positive relation between sense of belonging and perceived
support and positive social support actions has been established, indicating that sense of belonging increases with greater perceived social support or vice versa (Hagerty et al., 1996). Conversely, the lack of feeling that one belongs has been associated with negative health outcomes. In a sample of community college students, conflict and negative social support were inversely related to sense of belonging (Hagerty et al., 1996). Furthermore, lower social belongingness scores were found to be significantly correlated with depression, anxiety, loneliness, a history of psychiatric treatment, and suicidal thoughts and attempts in these students (Hagerty et al., 1996). In sum, a strong need to belong can undoubtedly affect an individual’s emotions, cognitions, and behaviors. Further, when this need remains unmet, the individual is faced with a host of possible negative outcomes (Gere & MacDonald, 2010).

Recently, much has been written about the importance and implications of college students’ sense of belonging. In terms of the college population, sense of belonging can be defined as “students’ perceived social support on campus; a feeling or sensation of connectedness; the experience of mattering or feeling cared about, accepted, respected, valued by; and important to the group (e.g. campus community) or others on campus (e.g. faculty, peers)” (Strayhorn, 2012, p. 3). It has been suggested that feelings of belongingness with peers in the classroom or on campus are critical aspects of one’s college experience, and that sense of belonging has the potential to affect students’ degree of academic achievement, including the individual’s decision to continue college (Strayhorn, 2012). All in all, students’ sense of belonging is an important component to being successful during the college years and is greatly impacted by student’s abilities to
form social networks and socialize with their peers (Maestas, Vaquera, and Zehr, 2007; Rayle & Chung, 2007).

It has been suggested that many individuals from Asian cultures view interrelatedness with others as highly important, placing great emphasis on fitting in and pleasant interdependence with those around them (Markus & Kitayama, 1991). Feeling like one is socially connected to the world also has been found to influence an individuals’ acculturative stress, especially for international students relocating from interdependent cultures as great emphasis is placed on establishing new social networks (Yeh & Inose, 2003). It may be that social integration and cohesion are of greater importance to well-being for those in collectivist cultures. Goodwin, Cook, & Yung (2001) found culture to be a significant contributor in the negative relation between loneliness and life satisfaction with this relation found to be more pronounced in a collectivist sample (i.e., Chinese Canadians) compared to an individualistic sample (i.e., Anglo-Canadians). Social connectedness to the host culture in particular is one of the most dominant stressors for international students, pointing to the importance of establishing new social networks and belongingness in this population (Chen, 1999). Another study suggested that international students, compared to domestic peers, experienced significantly increased trips to the student health center for stress and health-related issues (e.g. loneliness, depression) partially due to a need for social interaction (Ebbin & Blackenship, 1986). There is little surprise that social support has been found to be a significant buffer against stress for international students (Misra, Crist, & Burant, 2003). In a study of Korean international students, greater social support played a protective role in the positive relation between acculturative stress and mental health (i.e.,
symptoms of anxiety, depression, and somatization, among others); however, this buffering effect was only found among students exhibiting greater acculturation (Lee, Koeske, & Sales, 2004). Furthermore, empirical survey data suggests that sense of belonging is a critically important concept for immigrant students with strong peer relationships representing a significant facilitator of belongingness for these individuals (Stebleton, Soria, & Huesman, 2014).

Although little is known regarding college students’ (or, more specifically, Asian international college students’) need to belong in relation to their drinking patterns, the theoretical framework of the ‘need to belong’ hypothesis provides insight into the possible relations between these constructs. Litt, Stock, and Lewis (2012) suggest that young adults with a strong need to belong are likely to allow the normative behavior of their peers and the social consequences of engaging in risky behavior to influence their decision-making process. In their study, the relation between perceived descriptive norms for best friends and drinking cognitions (i.e., behavioral willingness to participate in a series of alcohol-related behaviors) was moderated by individuals’ need to belong, with the relation between variables stronger among students with a high need to belong. This finding provides evidence that college students’ decision to consume alcohol is in fact influenced not only by their perceptions of others’ usage, as previous research in social norms theory has indicated, but also by their need to belong (Litt et al., 2012).

While research is scant regarding Asian international students and their need to belong in the college environment, these findings hold significant implications for the importance of belonging within this population. Further, these findings imply that Asian international students are likely to place high importance on belonging as well as possess
a high need to belong when entering college in a new country. Accordingly, Asian international students may be likely to pay attention to the social behavior of their peers, including alcohol consumption. At the same time, they may also be likely to experience discrimination based on their language speaking abilities, thus negatively impacting their ability to form new social relationships. For individuals possessing a high need to belong, this occurrence may be even more detrimentally impactful. The current study seeks to explore if Asian international students’ level of needing to belong, in addition to level of perceived language discrimination, strengthens the relation between social norm perception and drinking motives.

**Social norms and perceived language discrimination.** It seems plausible that an interaction between high social norm perception and high perceived language discrimination may result in drinking to conform and/or cope among Asian international students. For instance, individuals who experience greater language discrimination may perceive this behavior as rejection from their peers as Asian international students have reported feeling avoided and excluded by White peers as a result of their language abilities (Houshmand et al., 2014). When individuals experience rejection, they are likely to pay greater attention to social information which may help repair a damaged relationship or prevent rejection in the future. Similarly, for individuals who find the cost of rejection to be high, such as being ostracized by a particular group (e.g., their college peers), it is suggested that motivation to repair the relationship and behave in a pro-social way should also be high (Smart Richman & Leary, 2009). Moreover, when personal identity as an in-group member (in this case identifying as a U.S. college student) is questioned/threatened, some ethnic minorities have been shown to attempt to reassert
themselves as part of the dominant in-group by engaging in dominant group practices (Cheyran & Monin, 2000). In the case of the newly integrated international college student, attention to social behavior such as alcohol use may be salient. Students who experience language discrimination more frequently as well as hold higher social norm perceptions of alcohol use may believe that alcohol use (i.e., drinking to conform) will help facilitate future social interaction and re-assert themselves within the dominant culture, allowing them to fit in with peers and avoid feeling left out or perceived as an outsider despite language differences.

Due to the highly visible use of alcohol on college campuses, Asian international students may also be motivated to utilize alcohol as a way to cope with academic, social, and/or interpersonal stress (i.e., social rejection), assuming their domestic peers are also drinking to cope. Research suggests that Asian individuals may endorse drinking to cope. Moreover, there is literature shedding light on how the U.S. college environment may reinforce drinking to cope in Asian international student populations. Neill and Proeve (2000) found that students from Southeast Asia were more likely to reference other’s coping styles than their domestic peers, and that international students with low self-esteem were at-risk for utilizing nonproductive coping styles. Another study reported one of the most common coping methods among newly migrant Asian international high school students as utilizing impulsive behavior, such as excessive drinking, eating, smoking, and drug use, after experiencing acculturative problems (e.g., communication and/or interpersonal difficulties; Yeh & Inose, 2002). Together, findings suggest that Asian international students may participate in nonproductive coping mechanisms similar to their peers. Asian international students with high social norm perceptions who
experience greater language discrimination may drink to cope in hopes of mitigating the negative feelings associated with experiencing discriminatory rejection.

**Current Study**

While it is expected that social norm perception will predict drinking motivation in Asian international students, it is proposed that perceived language discrimination and the need to belong will play moderating roles in this relation. In the context of greater perceived language discrimination, it is expected that higher levels of need to belong will exacerbate the association between high social norm perceptions and drinking to cope/conform. Given that Asian international students may enter the U.S. college environment with few or no immediate social bonds, students who possess a strong need to belong, hold high social norm perceptions, and experience high levels of language discrimination may be more motivated to employ drinking behavior that they believe will aid in the facilitation of peer acceptance and new relationships (i.e., drink to conform) or will help ameliorate the effects of lacking these important social ties (i.e., drink to cope). On the contrary, if Asian international students possess a weaker need to belong, the effects of social norm perception and language discrimination experiences may be less influential on their motivation to drink alcohol.

The current study seeks to inform the literature about critical and influential concepts which may have implications for alcohol use in the Asian international student population. Due to the lack of information regarding drinking motives among Asian international students, this study aims to explore previously neglected populations as well as examine both general and culturally-specific sociocultural factors which could potentially play a major role in this population’s motivation to consume alcohol. In sum,
the purpose of the current study is to identify if and how the constructs of social norm perception of alcohol use, perceived language discrimination, and need to belong act or interact in a way which significantly predicts or influences drinking motives among Asian international students. I hypothesize the following will be found:

- Hypothesis 1: A three-way interaction with those with high social norm perception, greater perceived language discrimination, and high need to belong reporting greater motivation to drink to cope

- Hypothesis 2: A three-way interaction with those with high social norm perception, greater perceived language discrimination, and high need to belong reporting greater motivation to drink to conform.
CHAPTER 3

METHODS

Participants

Self-identified Asian international students (N = 317) were recruited from August 2015 through January 2016. *A priori* inclusion criteria for analyses outlined that participants must be (a) currently be attending a 4-year U.S. college/university (i.e., participants attending a community college were excluded from analysis); (b) between the ages of 18–28 years to reduce cohort effects; and (c) registered for and/or attending at least one on-campus/in-person class or they must have taken at least one on-campus/in-person class during their current college/graduate training program (i.e., exclusively online students were not included in analyses). The final sample was comprised of 194 Asian international students due to the exclusion of multivariate and univariate outliers (discussed below) and participants without full data and/or not meeting inclusion criteria. Only participants who responded to each item across all measures (i.e., demographic information, social norm perception, perceived language discrimination, need to belong, and drinking motive) were included.

The 194 self-identified Asian international students used in the current analysis ranged in age from 18 – 28 years (mean age = 22.99). The sample included 117 (60.3%) male participants and 77 (39.7%) female participants reporting citizenship of India (n = 95, 49%); China (n = 69, 35.6%); Taiwan (n = 8, 4.1%); South Korea (n = 3, 1.5%); Vietnam (n = 2, 1%); Japan (n = 1, 0.5%); Thailand (n = 1, 0.5%); Indonesia (n = 1, 0.5%); United States (n = 1, 0.5%); and other countries (n = 13, 6.7%), including
Bangladesh (n = 3), Canada (n = 1), Malaysia (n = 4), Pakistan (n = 1), Russia (n = 1), Singapore (n = 2), and Sri Lanka (n = 1).

Participants were primarily Master’s students (n = 100, 51.5%) followed by Bachelor’s (n = 65, 33.5%), Doctoral (n = 28, 14.4%), and Postdoctoral (n = 1, 0.5%) students. The participant identifying as a postdoctoral student was included as s/he met all inclusion criteria including being currently enrolled in at least one on-campus/in-person course. The majority of participants (n = 185, 95.1%) were enrolled full time and identified as first year students (n = 82, 42.3%) followed by second year (n = 69, 35.6%); third year (n = 21, 10.8%); fourth year (n = 21, 10.8%); and fifth year or more (n = 1, 0.5%). Most participants had been living the U.S. for 2 years or less (74.7%) at the time of participation. One hundred sixty-two participants spoke English as a second language (83.5%). Participants’ self-reported English speaking proficiency was as follows: excellent (n = 72, 37.1%); good (n = 80, 41.2%); fair (n = 40, 20.6%); and poor (n = 2, 1%).

Measures and Instruments

Social norms. A modified version of the Baer, Stacy, & Larimer’s (1991) Drinking Norm Rating Form (DNRF) was adapted to assess descriptive drinking norm perceptions of the general campus population (i.e. a “typical” U.S. college student). The modified DNRF is a shortened version of the original measure which mirrors the Daily Drinking Questionnaire (DDQ; Collins, Parks, and Marlatt, 1985) and asks participants to report perceived daily alcohol consumption of a referent, on average, over the past 3 months (e.g., Lee, Geisner, Lewis, Neighbors, & Larimer, 2007; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Neighbors, O’Connor, Lewis, Chawla, Lee, & Fossos, 2008).
the current study, participants were instructed to estimate how many drinks a typical U.S. college student consumes each day of the week, on average, taking into consideration perceived drinking behavior over a typical academic semester. This slight adaptation was used due to data collection beginning in August. Participants reported their estimates for each day of the week in standard drinks. A standard drink was defined for participants as 1.5 ounces of spirits, 5 ounces of wine, or 12 ounces of beer. Participants had access to a standard drink chart (See Appendix) to aid understanding and accuracy when completing this measure. A sum score indicating participants’ estimates of weekly normative consumption for a typical U.S. college student was calculated by adding participants’ daily estimates of drinking across the seven days (Grossbard et al., 2009; Lee et al., 2007; Neighbors et al., 2007; Neighbors et al., 2008). Higher scores indicate greater social norm perception of weekly alcohol consumption. This method has demonstrated good re-test reliability among college students (Neighbors, Dillard, Lewis, Bergston, & Neil, 2006).

Need to belong. Sum scores from the Need to Belong scale (NTBS) were used to measure individuals’ desire for acceptance and belonging (Leary et al., 2013). The NTBS consists of 10 items rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Items indicating a low need to belong were reverse-scored so that higher scale scores imply a greater need to belong. Some sample items include “I want other people to accept me,” “I have a strong need to belong,” and “My feelings are easily hurt when I feel that others do not accept me.” Cronbach’s alpha for the NTBS is generally reported as above .80 in college student populations (e.g. Carvallo & Pelham,
2006; Litt et al., 2012; Pickett, Gardner, & Knowles, 2004). Cronbach’s alpha from the current analysis (English survey) was .69 demonstrating near adequate reliability.

**Perceived language discrimination.** Sum scores from the seven-item perceived language discrimination (PLD) scale were used to reflect the extent to which an individual feels they have been discriminated against due to speaking with an accent or English being his or her second language (Wei et al., 2012). Participants were asked to respond on a 5-point Likert-type scale (1 = strongly disagree to 5 = strongly agree). Higher scores indicate greater perceived language discrimination. In a sample of primarily Asian international college students (72.8%), the PLD scale demonstrated good internal reliability (Cronbach’s alpha = .94). In a sample comprised of only Asian international students 2-week test-retest reliability was high, $r = .83$ (Wei et al., 2012). Internal reliability statistics were generally consistent across English and Non-English speaking individuals and males and females (Wei et al., 2012). Reliability from the current analysis (English survey) was .97, demonstrating excellent reliability. Sample items include, “Others avoid me because of my English,” “Others treat me as if I don’t know anything because of my English,” and “I feel rejected by others because of my English” (Wei et al., 2012).

**Drinking motives.** The Drinking Motives Questionnaire-Revised (DMQ-R) was used to assess participants’ drinking motives or reasons for consuming alcohol. This measure is comprised of four subscales containing five items each, resulting in 20 overall items. Instructions read “Listed below are 20 reasons people might be inclined to drink alcoholic beverages. Using the five-point scale below, decide how frequently your own drinking is motivated by each of the reasons listed.” The 5-point Likert scale ranged from
1 (almost never/never) to 5 (almost always/always). Items from each subscale were summed and the drinking to cope and drinking to conform subscales were independently used as dependent variables. Higher scores indicate greater utilization of that drinking motive. Sample items from the coping motives subscale include: “To forget your worries,” “Because you feel more self-confident and sure of yourself,” and “Because it helps you when you feel depressed or nervous.” Sample items from the conformity subscale include: “To fit in with a group you like,” “To be liked,” and “So you won’t feel left out.” Reliability for this measure is well-established within the college population with Cronbach’s alpha levels ranging from .84–.88 (Cooper, 1994). When used within an international student sample, alphas have ranged from .85–.91 (Koyoma & Belli, 2011). Regarding the current analysis (English survey), reliability for both subscales was high. Cronbach’s alpha was .89 for the drinking to cope subscale and .91 for the drinking to conform subscale.

Translation. A translated version of the survey was provided in Chinese (Simplified) due to the possibility of English being a second language in the Asian international student population. Chinese (Simplified) was selected as the target language based on current Open Doors data, which indicate that the majority of international students studying in the U.S. relocate from mainland China (IIE, 2015) where Chinese (Simplified) is the most common written dialect (Lin, n.d.). The “back-translation” method is typically preferred in cross-cultural research (Sperber, 2004). Thus, the translation method for the current study included multiple rounds of forward and back translation, and was modeled after the process outlined by Sperber (2004). First, the survey was blindly translated into the target language (i.e., Simplified Chinese) by two
bilingual graduate students. Next, the Chinese survey was independently back-translated by two additional bilingual graduate students. Then the original survey was compared to the two back-translated versions and discrepancies were noted. The primary investigator met with the original forward translators and an additional bilingual graduate student to work through discrepancies resulting in an edited Chinese version. The edited survey was then sent to the original back-translators. This process continued until all discrepancies were resolved. The same process was used to translate the consent form and all survey modifications. When necessary, due to time constraints, only one forward and one back translator were utilized. The Chinese survey was then piloted to several Asian international students.

Eighty-one participants opted to complete the Chinese version of the survey; however, only 50 of these participants were included in the final analysis due to the deletion of cases containing partial data or not meeting eligibility requirements. Cronbach’s alpha for the Chinese survey measures were reported as follows: .94 (perceived language discrimination), .65 (need to belong), .92 (drinking motives – drinking to cope subscale), and .79 (drinking motives – drinking to conform subscale). Cronbach’s alphas for the perceived language discriminations scale and drinking to cope subscale indicated excellent reliability. Reliability for the drinking to conform subscale was adequate based on convention in the social sciences (Multon & Coleman, 2010). Observed reliability for the need to belong scale was low; however, lower alphas ranging from .60 to .80 are sometimes acceptable when exploring a somewhat dispositional characteristic such as need to belong (Multon & Coleman, 2010).
Procedures

The study was approved by the Arizona State University Institutional Review Board in August 2015. A survey questionnaire was created using the Qualtrics software program and distributed online. Participants were asked individually to complete the survey during Summer and Fall 2015 semester as well as the beginning of the Spring 2016 semester. No identifiable participant information was collected. Participants were asked to choose the language in which they preferred to take the survey [i.e., English or Chinese (Simplified)] then were provided with an electronic consent form. Participants declining consent were taken to the end of survey page. Upon completion of the survey, participants were provided the opportunity to enter a raffle for a chance to win one of seven Amazon gift cards.

Online and in-person recruitment strategies were utilized. Survey flyers and bulletins were distributed on U.S. college campuses. Online advertisements were posted on student listservs/websites, campus newsletters/publications, and social media sites (e.g., Facebook, Instagram). Requests to distribute the survey were sent to instructors, administrators, registrars, and colleagues at U.S. universities nation-wide. Numerous student organizations (e.g., Chinese Students and Scholars Association) across the nation were contacted and offered a fundraiser for member participation.

Design and Analysis

Hierarchical multiple regression in SPSS 23.0 was used to investigate if and how the predictor variables of social norm perception, perceived language discrimination, and need to belong independently predict or interact to predict drinking motives in an Asian international student population. As recommended by Frazier, Tix, and Barron (2004),
the predictor (Social Norm Perception) and moderator (Perceived Language Discrimination, Need to Belong) variables were standardized (i.e. z-scored) prior to computation of the interaction terms and data analysis. Next, product terms for each potential interaction were created (Social Norm Perception × Perceived Language Discrimination; Social Norm Perception × Need to Belong; Perceived Language Discrimination × Need to Belong; and Social Norm Perception × Perceived Language Discrimination × Need to Belong). The three predictor variables were entered into the first step of the regression. The second step involved the inclusion of the two-way interaction terms, Social Norm Perception × Perceived Language Discrimination, Social Norm Perception × Need to Belong, and Perceived Language Discrimination × Need to Belong. The third step included the three-way interaction term, Social Norm Perception × Perceived Language Discrimination × Need to Belong. The drinking to cope and drinking to conform subscales were entered as the dependent variable in two separate regressions.

To aid interpretation of significant interaction effects, the simple slopes method was used (Aiken & West, 1991). In this approach, the moderator variable is commonly divided into “low,” “moderate,” and “high” levels based on particular data points. Next, simple slopes in the X – Y relation are tested at differing levels of the moderator variable. Cohen and Cohen (1983) recommend testing simple slopes at +/- 1 standard deviations from the mean. Another option includes selecting data points based on percentiles (i.e., 10th, 25th, 50th, 75th, 90th; Hayes, 2013). An alternative, yet related approach entails splitting the moderating variable into thirds and testing for significance among the three groups (Keith, 2015). Regardless, points selected on the moderator and group division using these methods are arbitrary (Hayes, 2013). After attempting to probe the interaction
using each of these common conventions, the interaction effect remained unclear. For the current analysis, the moderator variable was split into data points $\geq$ the 60th percentile and $\leq$ the 40th percentile to represent high and low levels, respectively.
Prior to analysis, the data were examined for multivariate outliers among predictor variables and univariate outliers on each dependent variable. Multivariate outliers, or outliers resulting from a combination of extreme scores from one or more predictor variables, were assessed via observation of Mahalanobis values calculated in SPSS (Martin & Bridgmon, 2012). Thirteen cases were identified and removed due to the observation of Mahalanobis values exceeding the Chi-squared ($\chi^2$) critical value of 24.322. As recommended by Tabachnik and Fidell (2007), this $\chi^2$ cutoff was calculated on danielsoper.com using $df = 7$ (i.e., number of predictors) and $p = .001$. Next, the data were assessed for univariate outliers. Each dependent variable was standardized and assessed for values exceeding +/- 3.29 standard deviations from the mean (Tabachnik & Fidell, 2007). One univariate outlier was identified and removed on the drinking to conform subscale, and one case was identified and removed on the drinking to cope subscale.

**Descriptive Statistics and Correlations**

Regarding self-report of current alcohol use, 86 participants (44.3%) indicated that they drink alcohol, with 15 (17.4%) reporting drinking less than once a month, 14 (16.3%) drinking once a month, 26 (30.2%) drinking 2 – 3 times per month, 27 (31.4%) drinking once or twice a week, 3 (3.5%) drinking 3 – 4 times per week, and 1 (1.2%) drinking 5 – 6 times a week/nearly every day. Conversely, 108 (55.7%) participants reported no current alcohol use.
Table 1 provides correlations and descriptive statistics. Social norm perception and perceived language discrimination were positively related to need to belong. In other words, the more individuals believed heavy drinking was typical college student behavior or the more encounters with language discrimination they had, the greater their desire for belonging. Perceived language discrimination was positively related with drinking to cope suggesting that greater language discrimination was associated with more frequent use of alcohol as a coping mechanism (i.e., drinking to cope). Perceived language discrimination and need to belong were positively related with drinking to conform. Put another way, experiencing more language discrimination and possessing a greater desire for belonging were each related to drinking to fit in and/or avoid social rejection (i.e., drinking to conform). Lastly, drinking to cope and drinking to conform were positively related suggesting that increased drinking to cope was also associated with increased drinking to fit in. All significant correlations were small to moderate with the exception of the relation between drinking to cope and drinking to conform, which demonstrated a large correlational effect (Cohen, 1988).

Table 1

**Correlations and Descriptive Statistics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>M</th>
<th>SD</th>
<th>Possible range</th>
<th>Sample range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Drinking to cope</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.55</td>
<td>3.84</td>
<td>5 – 25.00</td>
<td>5 – 20.00</td>
</tr>
<tr>
<td>2. Drinking to conform</td>
<td>.65**</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td>7.35</td>
<td>3.72</td>
<td>5 – 25.00</td>
<td>5 – 20.00</td>
</tr>
<tr>
<td>3. Social norm perception</td>
<td>.09</td>
<td>.07</td>
<td>-</td>
<td></td>
<td></td>
<td>9.80</td>
<td>9.25</td>
<td>NA</td>
<td>0 – 73.00</td>
</tr>
<tr>
<td>4. Language discrimination</td>
<td>.23**</td>
<td>.30**</td>
<td>.09</td>
<td>-</td>
<td></td>
<td>14.64</td>
<td>7.02</td>
<td>5 – 35.00</td>
<td>7 – 34.00</td>
</tr>
<tr>
<td>5. Need to belong</td>
<td>.12</td>
<td>.29**</td>
<td>.20**</td>
<td>.22**</td>
<td>-</td>
<td>31.10</td>
<td>5.92</td>
<td>5 – 50.00</td>
<td>16 – 44.00</td>
</tr>
</tbody>
</table>

*Note.* **p < .01
Main Effects

Step one of the regression for drinking to cope included the three predictor variables of social norm perception, need to belong, and perceived language discrimination. This step of the regression was significant \([R^2 = 0.054, F(3, 190) = 4.689, p < .01]\) indicating that the predictor variables accounted for 5.4% of the variance in drinking to cope. Consistent with Pearson correlations, the only predictor significantly related to drinking to cope was perceived language discrimination \((\beta = .231, t = 3.185, p < .01)\). In other words, greater perceived language discrimination was positively related to increased motivation to drink to cope. The main effects of social norm perception \((\beta = .094, t = 1.308, p > .05)\) and need to belong \((\beta = .055, t = .746, p > .05)\) on drinking to cope were not statistically significant.

Step one of the regression for drinking to conform was statistically significant \([R^2 = 0.131, F(3, 190) = 10.702, p < .001]\) indicating that 13.1% of the variance in drinking to conform was accounted for by the predictor variables. Also congruous with Pearson correlations, main effects of perceived language discrimination \((\beta = .249, t = 3.588, p < .001)\) and need to belong \((\beta = .231, t = 3.269, p < .01)\) were statistically significant; however, the main effect of social norm perception on drinking to conform was not significant \((\beta = .045, t = .644, p > .05)\). Accordingly, greater language discrimination and a greater desire to belong were each associated with greater motivation to drink to conform.

Simple Interactions

The second step of the regression for drinking to cope involving the simple interactions between social norm perception and perceived language discrimination,
social norm perception and need to belong, and perceived language discrimination and need to belong was significant \( R^2 = .041, F (6, 187) = 2.358, p < .05 \); however, inclusion of interaction terms did not produce a significant increase in variation in drinking to cope \( \Delta R^2 = .001, \Delta F (3, 187) = .094, p > .05 \). The coefficients for the simple interactions between social norm perception and perceived language discrimination \( \beta = .011, t = .120, p > .05 \), social norm perception and need to belong \( \beta = .039, t = .479, p > .05 \), and perceived language discrimination and need to belong \( \beta = -.017, t = -.228, p > .05 \) were not statistically significant.

The second step of the regression involving the simple interactions in relation to drinking to conform was significant \( R^2 = .136, F (6, 193) = 6.042, p < .001 \); however, inclusion of the interaction terms did not result in significant variance in drinking to conform above and beyond predictor variables entered in step one \( \Delta R^2 = .018, \Delta F (3, 187) = 1.328, p > .05 \). A significant simple interaction between social norm perception and need to belong \( \beta = .151, t = 1.974, p < .05 \) qualified the main effect of need to belong on drinking to conform. Simple slopes were tested at high and low levels of social norm perception. Need to belong was significantly related to drinking to conform among individuals reporting perceptions that typical U.S. college students consume alcohol more heavily \( \beta = .377, t = 3.840, p < .001 \), but not among individuals reporting perceptions of alcohol use as less pervasive \( \beta = .175, t = 1.652, p > .05 \) (Please see Figure 2). In sum, possessing a stronger desire for belonging was related to greater drinking to conform only among participants who also believed that typical U.S. college students consume high amounts of alcohol and not among participants who perceived that typical U.S. college students drink less or not at all. This finding is in partial support of Hypothesis 2 as
discussed below. The simple interactions between social norm perception and perceived language discrimination ($\beta = .024, t = -.283, p > .05$) and perceived language discrimination and need to belong ($\beta = -.022, t = -.315, p > .05$) in relation to drinking to conform were not statistically significant.

![Graph](image)

*Figure 2. Social Norm Perception as a Moderator of Need to Belong and Drinking to Conform*

**Hypothesis 1**

The first hypothesis predicted a three-way interaction where reports of high social norm perception, high perceived language discrimination, and high need to belong would relate to greater motivation to drink to cope. This step in the regression was not significant [$R^2 = .035, F (7, 186) = 2.011, p > .05$]. Inclusion of the three-way interaction did not contribute significant variance on drinking to cope [$\Delta R^2 = .000, \Delta F (1, 186) =$]
The coefficient for the three-way interaction was not statistically significant ($\beta = .005, t = -.053, p > .05$). Therefore, Hypothesis 1 was not supported.

**Hypothesis 2**

Similarly, the second hypothesis predicted a three-way interaction of high social norm perception, high perceived language discrimination, and high need to belong resulting in greater drinking to conform. This step in the regression was significant [$R^2 = .132, F(7, 186) = 5.207, p < .001$]; however, inclusion of the three-way interaction did not contribute significant variance on drinking to conform [$\Delta R^2 = .001, \Delta F(1,186) = .324, p > .05$]. The coefficient for the three-way interaction was not statistically significant ($\beta = .050, t = .569, p > .05$). Therefore, Hypothesis 2 also was not supported.
CHAPTER 5

DISCUSSION

The current study extends the drinking motives literature in an understudied ethnic minority sample of Asian international students by exploring the relation between culturally-germane (i.e., perceived language discrimination) and underutilized (i.e., need to belong) factors in conjunction with well-established factors (i.e., social norm perception) related to college student alcohol consumption. Results show that perceived language discrimination may relate to Asian international students’ use of alcohol as a coping mechanism (i.e., drinking to cope) and as a way to fit in (i.e., drinking to conform). Additionally, findings suggest that Asian international students who have a strong need to belong and who perceive heavy alcohol use as common among domestic students may be at increased risk for drinking to conform.

Current findings extend the literature by linking perceived language discrimination to substance use among Asian international students. In particular, findings suggest that perceived language discrimination may be associated with both drinking alcohol to avoid negative feelings and drinking alcohol to avoid social rejection or to fit in with U.S. college peers. This finding is especially concerning as drinking to cope and drinking to conform have been linked to problematic outcomes (Cooper, 1994; Kuntsche et al., 2005; Martens et al., 2008; Neighbors et al., 2007). Limited existing research has linked experiences of language discrimination with decreased self-esteem and life satisfaction (Wei et al., 2012) as well as poor physical and mental health conditions above and beyond the effects of racial discrimination (Wei et al., 2012; Yoo et al., 2009). The current findings suggest that Asian international students may use alcohol
to mitigate the effects of language discrimination and ease adjustment into the U.S. college sociocultural climate. The possible use of alcohol as a coping mechanism or as a way to fit in may contribute to poor mental and physical health, thus compounding the effects of cross-cultural adjustment and leaving Asian international students in jeopardy for increased physical and mental health problems.

Results extend previous research suggesting that social norm perception may play a pivotal role in college student drinking behavior (e.g., Berkowitz, 2004; Neighbors, Larimer, & Lewis, 2004; Neighbors et al., 2007; Perkins, 2002). In the current study, social norm perception of alcohol use played a moderating role in the relation between needing to belong and drinking to conform. That is to say, participants who had a greater need to belong were more likely to drink to conform specifically when they also believed that the “typical” U.S. college student drinks heavily and frequently. This aligns with previous research suggesting that underrepresented minority students may drink to conform to the predominately White sociocultural climate of the U.S. college environment (Labrie et al., 2011; Martens et al., 2008). The inclusion of need to belong in the current moderation analysis is novel and may carry meaningful implications. Need to belong theory states that humans have an innate propensity to form and maintain meaningful relationships (Baumeister & Leary, 1995). Group membership and interdependence with others is emphasized in collectivist cultures (Sorenson & Oyserman, 2011), and, according to a meta-analysis, international students often want and expect interaction with domestic peers (Ward, 2000). Taken together, it seems plausible that international students from collectivist cultures may place great importance
on fitting in and engaging with a new social group once they arrive in the U.S., thus potentially putting Asian international students at increased risk for drinking to conform. Results from the current analyses did not support either hypotheses involving separate three-way interactions between social norm perception, perceived language discrimination, and need to belong in relation to drinking to cope or drinking to conform. In contemplating this null effect, it is notable that perceived language discrimination was the only variable in the current analyses to be associated with both types of potentially problematic drinking motives as a main effect in the regressions on drinking to cope and drinking to conform and as significant correlates with both drinking motives in Pearson correlational analyses. Thus, in spite of a null three-way interaction, the results together highlight the seriousness of perceived language discrimination in the lives of Asian international students. Previous research also provides evidence of the link between discrimination and poor mental health among Asian individuals (Lee & Ahn, 2011) and Asian international students (Wei, Ku, Russell, & Mallinckrodt, 2008). Language discrimination, in particular, has been linked to negative mental health outcomes for international students as well (Wei et al., 2012). It is possible that Asian international students may be employing problematic drinking behavior to reduce the negative emotional effects of perceived language discrimination and in an attempt to fit in with U.S. college peers. Asian international students who experience language discrimination may be at increased risk for problematic drinking. Both previous and current findings emphasize the importance of future research examining the effects of language discrimination in populations where English is spoken with an accent and/or as a second language.
Implications

Results from the present study provide unique information to aid in the development of efficacious prevention and intervention programs for international students entering the U.S. from Asian countries. For example, it may be beneficial for orientation programs to incorporate social norm feedback in their agenda. Labrie, Hummer, Grant, and Lac (2010) utilized a brief, live, interactive, normative group (BLING) intervention with at-risk college populations (i.e., student athletes, Greek members, and first-year students), which resulted in immediate norm reductions regardless of the initial degree of norm misperception. Similar interventions have also evidenced a reduction in norm misperception (Borsari & Carey, 2000; Neighbors et al., 2004; Perkins & Craig, 2006). This type of intervention could provide Asian international students with immediate feedback regarding actual consumption rates of U.S. college students compared to their perceptions in an attempt to reduce norm misperceptions. Among a sample of Asian and Caucasian college students, LaBrie et al. (2013) found that a web-based personalized normative feedback intervention reduced number of weekly drinks, peak drinks, days of drinking, and number of alcohol related problems compared to a control group. Moreover, reductions were greatest when the intervention targeted perceptions of a “typical student” versus a more proximal referent group (e.g., Asian men). Accordingly, normative intervention programs hold potential to reduce motivation to use alcohol for potentially problematic reasons such as drinking to conform to perceived norms of the typical U.S. college student. For Asian international students, participating in web-based interventions prior to entering the U.S. may prevent greater misperceptions from forming upon immersion into the U.S. college environment.
Additionally, this type of intervention is accessible and easily distributed. Regardless of format (i.e., in-person or online) or timing (i.e., pre or post-sojourn), programs targeting misperceptions may prevent or reduce drinking to fit in among Asian international students.

Findings also provide useful information for counselors and mental health clinicians to take into consideration when serving Asian international student clients. Findings suggest that it is important for mental health clinicians to understand motivation for drinking among Asian international students and which factors influence students’ decisions to drink alcohol. Although the 2014 National Survey on Drug Use and Health revealed that Asian individuals are less likely to drink heavily compared to White and Hispanic individuals (Center for Behavioral Health Statistics and Quality, 2015), other findings imply that Asian students are not exempt from heavy alcohol use and related concerns. So and Wong (2006) found higher prevalence of current and lifetime alcohol use for Asian American college students compared to the national average at the time. Moreover, Iwamoto, Corbin, and Fromme (2010) found use of frequent heavy episodic drinking in an Asian American college student sample. Findings have also identified at-risk subgroups within Asian populations. For example, Lum, Corliss, Mays, Cochran, & Lui (2009) found that Korean and Filipino students were more likely to report increased heavy alcohol consumption compared to Chinese students. Cumulatively, empirical evidence suggests that high-risk sub-groups exist even among this presumed low-risk population. The current analyses extend this body of literature by providing additional evidence that among Asian international college students, at-risk subgroups (i.e., those drinking to cope and/or conform) may exist. Even if clients report limited alcohol use, it
may be important for clinicians to explore reasons for use. Similarly, providing tools for coping with acculturative stress may be central in reducing drinking to avoid distress.

Lastly, to facilitate support and interaction, social support and awareness programs aimed at increasing cohesion between domestic and Asian international students are warranted as they may ease adjustment difficulties and prevent drinking to cope or conform. Other literature has suggested that stronger bonds between international and domestic students are important for reducing loneliness and easing adjustment for international students (Sawir et al., 2008; Yeh & Inose, 2003). Domestic students may be more supportive of Asian international students with increased awareness about the impact of language-based discrimination and common acculturative stressors experienced by these students [i.e., social support (Bertram et al., 2014; Yeh & Inose, 2003; language proficiency (Yeh & Inose, 2003); loneliness and academic concerns (Chavajay & Skowronek, 2008)]. Similarly, domestic students may also be more willing to socially engage with Asian international students when they better understand the cross-cultural experiences of these students.

Limitations

Several limitations must be acknowledged in the current study. One major limitation is the limited sample size obtained considering the statistical analyses utilized. According to an a priori power analysis, a sample size of 295 was estimated to reach statistical power of .80. A post hoc power analysis conducted with G*Power confirmed that the current sample size (N = 194) may not have resulted in adequate power to detect the three-way interaction(s) proposed (1 – β = 0.24).
Additionally, the majority of the sample reported being non-drinkers. Asian students have been found to abstain from alcohol more than White students (O’Hare, 1995). At the same time, including non-drinkers better approximates representativeness of the sample. Additionally, social norms theory suggests that norm misperceptions may influence non-drinkers to begin drinking (Berkowitz, 2005). Nevertheless, results may have looked different among a sample comprised solely of drinkers. Future research should investigate factors that relate to drinking motivation among a sample exclusively reporting current alcohol use. Furthermore, future studies should investigate if Asian international students begin drinking once they entered the U.S. in an attempt to better explore the role that social norm perceptions play in this population.

Another limitation lies within the general use of Asian race as inclusion criteria. Asian race is not homogenous and much sociocultural variability exists within this racial group. Even among Asian ethnic subgroups (e.g., Chinese, Taiwanese, Indian) many within-group differences are evident. Between- and within-group differences are also apparent in regard to alcohol use (Lum et al., 2009; Park, Anastas, Shibusawa, & Nguyen, 2014; Wong et al., 2008). In addition, the majority of the sample was comprised of Asian international students attending one southwestern public university. Accordingly, findings from the current study are not generalizable to all Asian international students or international students in general. Related, multiple translations were beyond the scope of this study, yet might have enhanced readability and comprehension of survey measures for some. Considering participants were recruited from a number of Asian countries whose first language may not be English or Chinese, it would have been beneficial to translate the survey into multiple other languages as well.
Future work can expand upon the current findings by utilizing a larger, nationally representative sample of international college students from a specific ethnic/racial background.

Lastly, there are drawbacks to utilizing self-report questionnaires. One self-report limitation relevant to the current study includes cultural considerations such as differing stylistic response patterns across cultural groups (Paulhus & Vazire, 2007). For example, Hamamura, Heine, and Paulhus (2008) found East Asian participants to be more prone to moderate and ambivalent response styles when compared to North American participants. Given the current sample, it is possible that results were influenced by culture-specific stylistic response patterns. Moreover, accuracy of self-reports may have been compromised for an additional reason. Participants were asked to denote their perception of the drinking behavior of a “typical U.S. college student” over a “typical academic semester.” Notably, many participants were freshman (approximately 42%) and were in their first semester (approximately 24%). Therefore, participants may have responded to this measure based on preconceptions of typical U.S. college student drinking behavior and/or perceptions that were not fully formed due to lack of exposure to the U.S. college social drinking environment.

**Future Directions**

One component of the Asian international student experience that was not integrated in these analyses, but may be influential to drinking behavior, is level of acculturation. Acculturation is defined as “a process of cultural and psychological changes that involve various forms of mutual accommodation, leading to some longer-term psychological and sociocultural adaptations between both groups” (Berry, 2005, p.
Some results of longer-term cross cultural contact, and thus acculturation, may include learning another language, adopting different food preferences, and adopting common social conventions to name a few (Berry, 2005). In general, acculturation has been found to relate to alcohol consumption among Asian Americans such that greater acculturation has been linked to increased alcohol use (Despues & Friedman, 2007; Hahm, Lahiff, & Guterman, 2003; Park et al., 2014). These findings suggest that greater exposure to U.S. drinking culture may relate to increased adaptation of American drinking norms and behavior for Asian Americans and Asian immigrants. However, the influence of acculturation on alcohol use behavior may differ across Asian ethnic subgroups. For example, acculturation has been found to serve as a protective factor for alcohol use among Korean American college students (Hendershot, Dillworth, Neighbors, & George, 2008), yet was found to serve as a risk factor for binge drinking among first generation South Asians and monolingual English-speaking Vietnamese women (Becerra, Herring, Marshak, & Banta, 2013). It is possible that level of acculturation is an influential factor in Asian international students’ motivation to drink. Students whose durations of stay in the U.S. are longer or who are more acculturated to U.S. culture (e.g., greater preference for speaking English, preference for American food, movies, and music) may be more prone to drinking to conform to cultural norms or drinking to cope with the accumulative effects of perceived discrimination. Accordingly, future research should consider this factor when exploring drinking behavior among Asian international student populations.

Future studies also may want to delineate differences in drinking behavior among Asian international students based on national origin. Considering that drinking culture
and laws tend to vary by country, drinking motivation and factors that may relate to reason for drinking may also vary based on nation of origin. For example, there is no enforced legal drinking age in China (World Health Organization, 2014). Furthermore, moderate drinking at social events with friends is condoned and encouraged in Chinese culture (Hao, Chen, & Su, 2005). Consequently, it may be that Chinese international students employ different reasons for drinking than international students from other Asian countries. Additionally, belonging to a new social group that adheres to heavy drinking norms may be less important for students who already endorse moderate social drinking. In sum, Asian international students who have established firm drinking habits based on cultural drinking norms in their home country may not be influenced by incongruent drinking norms of a the U.S. college environment. Furthermore, these students may not feel a strong desire to belong to a new social group that is perceived to participate in incongruent drinking norms. Therefore, the relevance of social norms and need to belong may vary depending on the specific cultural or national background that the Asian international student comes from.

In general, much research is needed to fill in the gaps in knowledge surrounding Asian international students and drinking behavior. Studies focusing on actual alcohol consumption, alcohol expectancies, and descriptive and injunctive in-group norm perceptions would add to the limited body of current research. For example, statistics involving college student drinking frequency and amount by race/ethnicity do not delineate international student status from Asian American students; however, the experiences and behavior of these students may be vastly different. Longitudinal work looking at drinking behavior in the transition from home to host country and across years
in college would also be beneficial. In particular, investigating Asian international students’ pre and post-sojourn social norm perceptions may inform ways to better address norm misperceptions and drinking to conform. Related, it would be beneficial to explore if need to belong changes over time and sociocultural context. Furthermore, longitudinal research could better inform the literature about the influence of acculturation on substance use behavior in temporarily migrant populations as this process may look different for students residing in the U.S. for a pre-determined amount of time. At present, there does not appear to be literature addressing these important issues.

Summary and Conclusion

It is important for clinicians, educators, and administrators to understand the experiences of Asian international students including the reasons that these students consume alcohol. The current study extends the limited knowledge base surrounding alcohol use among Asian international students. Links between perceived language discrimination and drinking to cope and conform were found. An additional association between an increased need for belonging and drinking to conform was found among students holding increased perceptions of heavy college drinking as normative. Findings highlight the need for prevention and intervention efforts aimed at mitigating the detrimental consequences of unhealthy consumption patterns.
REFERENCES


APPENDIX A

DESCRIPTIVE NORMS RATING FORM (DNRF)
INSTRUCTIONS: Please estimate how many **standard drinks** a **typical U.S. college student** consumes each day of the week, on average, taking into consideration perceived drinking behavior over a typical academic semester.

1 standard drink = 12 ounces of beer

1 standard drink = 5 ounces of wine

1 standard drink = 1.5 ounces of spirits or “hard liquor”

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of standard drinks consumed:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

STANDARD DRINK CHART
What is a Standard Drink?

1 standard drink is equal to:

- 12 ounces of beer
- 5 ounces of wine
- 1.5 ounces of spirits or “hard liquor”

Each of the images below represents ONE standard drink.

For example: If a student drank 3 ounces of liquor, then the student consumed 2 standard drinks.
APPENDIX C

PERCEIVED LANGUAGE DISCRIMINATION SCALE
INSTRUCTIONS: International students often encounter discrimination based on English as a second language. Below are some statements that may describe the experiences of international students. For each of the following statements, please click the number that BEST describes your experience. There are no right or wrong answers.

1. Strongly disagree
2. Disagree
3. Not Sure
4. Agree
5. Strongly Agree

1. Others ignore me because of my English.
2. Others avoid talking to me because of my English.
3. My opinions or ideas are not taken seriously because of my English.
4. Others treat me as if I don’t know anything because of my English.
5. Others look down on me because of my English.
6. I feel rejected by others because of my English.
7. Others are annoyed by my English
APPENDIX D

NEED TO BELONG SCALE (NTBS)
INSTRUCTIONS: Please indicate the degree to which each statement is true or characteristic of you using the following options:

1. Strongly disagree
2. Moderately disagree
3. Neither agree nor disagree
4. Moderately agree
5. Strongly agree

1. If other people don't seem to accept me, I don't let it bother me. (R)
2. I try hard not to do things that will make other people avoid or reject me.
3. I seldom worry about whether other people care about me. (R)
4. I need to feel that there are people I can turn to in times of need.
5. I want other people to accept me.
6. I do not like being alone.
7. Being apart from my friends for long periods of time does not bother me. (R)
8. I have a strong need to belong.
9. It bothers me a great deal when I am not included in other people's plans.
10. My feelings are easily hurt when I feel that others do not accept me.

Note: (R) = the item is reverse-scored.
APPENDIX E

DRINKING MOTIVES QUESTIONNAIRE – REVISED (DMQ-R)
INSTRUCTIONS: Listed below are 20 reasons people might be inclined to drink alcoholic beverages. Using the five-point scale below, decide how frequently your own drinking is motivated by each of the reasons listed.

<table>
<thead>
<tr>
<th>YOU DRINK…</th>
<th>Almost Never/Never</th>
<th>Some of the time</th>
<th>Half of the time</th>
<th>Most of the time</th>
<th>Almost Always/Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To forget your worries.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Because your friends pressure you to drink.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Because it helps you enjoy a party.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Because it helps you when you feel depressed or nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. To be sociable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. To cheer up when you are in a bad mood.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Because you like the feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. So that others won’t kid you about not drinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Because it’s exciting.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. To get high.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Because it makes social gatherings more fun.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. To fit in with a group you like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Because it gives you a pleasant feeling.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Because it improves parties and celebrations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Because you feel more self-confident and sure of yourself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. To celebrate a special occasion with friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. To forget about your problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Because it’s fun.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. To be liked.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. So you won’t feel left out.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX F

TRANSLATED QUESTIONNAIRE (CHINESE)
Drinking Norms Rating Form (DNFR)

指导语：基于你的认识，请估计一个典型美国大学生在一个学期内一周中平均每天的饮酒数量（请用标准单位的酒精量作为计量单位）。

1 标准单位的酒精量=1.5 盎司（43 克，约 0.85 两）白酒或烈酒

1 标准单位的酒精量=5 盎司（141 克，约 2.8 两）红酒

1 标准单位的酒精量=12 盎司（339 克，约 6.8 两）啤酒。

<table>
<thead>
<tr>
<th>星期</th>
<th>星期一</th>
<th>星期二</th>
<th>星期三</th>
<th>星期四</th>
<th>星期五</th>
<th>星期六</th>
<th>星期日</th>
</tr>
</thead>
<tbody>
<tr>
<td>饮酒量</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(摄入几标准单位的酒精量)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Perceived Language Discrimination Scale

指导语：国际学生经常因语言障碍而感受到歧视。以下为一些相关描述。请标注能够最佳表述您相关经验的选项。您的回答没有对错之分。

1. 严重否定
2. 否定
3. 不确定
4. 肯定
5. 非常肯定

1. 他人因为我的英语水平而无视我。
2. 他人因为我的英语能力而避免和我说话。
3. 因为我的英语水平，我的观点或想法无法得到重视。
4. 因为我的英语水平，他人对待我的感觉就像是我什么都不懂一样。
5. 他人因为我的英语水平而瞧不起我。
6. 我感觉因为我的英语水平而被他人拒之千里。
7. 我的英语水平令其他人感到反感。
Need to Belong Scale (NTBS)

指导语：请标明最适合您的选项

1. 强烈不同意
2. 中等不同意
3. 既不肯定也不否定
4. 中等同意
5. 强烈同意

1. 如果其他人表现得似乎不接受我，我不会介意。
2. 我很努力地不做那些被他人无视或拒绝我的事。
3. 我很少担心他人是否在意我。
4. 我需要感觉到有人可以在我需要依靠时出现。
5. 我想要他人的接受。
6. 我不喜欢独处。
7. 长时间不联络朋友并不会给我带来困扰。
8. 我对归属感有强烈需求。
9. 当我没有被列入他人的计划中时，我会感到困扰。
10. 当我感到他人不接受我时，我会很容易感到受伤。

Drinking Motives Questionnaire – Revised (DMQ-R)

指导语：以下为二十种不同饮酒动机，以五点量表形式列出。请依次选择适合您的选项。

<table>
<thead>
<tr>
<th>您饮酒...</th>
<th>几乎从不/绝不</th>
<th>有时候</th>
<th>一半时间</th>
<th>大多数</th>
<th>几乎总是/总是</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 忘记您的烦恼忧愁</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. 因为您的朋友怂恿您饮酒</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. 为了更享受聚会时光</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. 为缓解您的抑郁或焦虑</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. 为善于交际</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. 为改善坏心情</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. 因为喜欢那种感觉</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. 为避免不饮酒而被他人取笑</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. 因为饮酒很令人兴奋</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. 想饮醉</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. 因为这能给社交活动带来更多乐趣</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. 为了融入您喜欢的伙伴们</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. 为了愉悦的感觉</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. 为了增强聚会或庆祝活动的气氛</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. 为了更加自信以及肯定自我</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. 与朋友庆祝特殊时刻</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. 为了忘记您的困扰</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. 因为这很有趣</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td>19. 为了被人喜欢</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. 为了感觉不被排挤在外</td>
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</tbody>
</table>
请参考以下视觉图片作为"标准单位的酒精量"的定义:

什么是一标准单位的酒精量？

1 标准单位的酒精量相当于:

- 12 盎司（339 克，约 6.8 两）的啤酒
- 5 盎司（141 克，约 2.8 两）红酒
- 1.5 盎司(43 克, 约 0.85 两) 烈性酒

以下的每个图片代表 1 标准单位的酒精量

12 盎司（339 克，约 6.8 两）啤酒
5 盎司（141 克，约 2.8 两）红酒
1.5 盎司 (43 克, 约 0.85 两) 白酒或烈酒
APPENDIX H

IRB APPROVAL
EXEMPTION GRANTED

Giac-Thao Tran  
CLS - Counseling and Counseling Psychology  
480/727-4067  
alisia@asu.edu

Dear Giac-Thao Tran:

On 7/30/2015 the ASU IRB reviewed the following protocol:

<table>
<thead>
<tr>
<th>Type of Review</th>
<th>Initial Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>College Student Wellness Study</td>
</tr>
<tr>
<td>Investigator</td>
<td>Giac-Thao Tran</td>
</tr>
<tr>
<td>IRB ID</td>
<td>STUDY00002954</td>
</tr>
<tr>
<td>Funding</td>
<td>None</td>
</tr>
<tr>
<td>Grant Title</td>
<td>None</td>
</tr>
<tr>
<td>Grant ID</td>
<td>None</td>
</tr>
</tbody>
</table>

Documents Reviewed:
- Request letter for copyright use, Category: Other (to reflect anything not captured above);
- Research Participants Needed Flyer - updated.pdf, Category: Recruitment Materials;
- Translation certification form - Chi Li, Category: Translations;
- Permission to Use SAMSAQ email response.pdf, Category: Other (to reflect anything not captured above);
- Appendix - Chinese (Mandarin) version, Category: Translations;
- APPENDIX - ASIAN INTERNATIONAL STUDENT SURVEY.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
- APPENDIX - STUDENT ATHLETE SURVEY.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);
- IRB Protocol Application Final.docx, Category: IRB Protocol;
The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 7/30/2015.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Kristi Eustice
    Kristi Eustice
APPENDIX I

CONSENT FORM
College Student Wellness Study

We are researchers at Arizona State University. We are surveying college students about sociocultural aspects of college life, financial experiences and stressors, mental health, drinking behavior, and academic attitudes and experiences. The survey is expected to take 30 – 45 minutes. Your honest responses are appreciated. The Institutional Review Board has approved this study (IRB ID: STUDY00002954).

To participate, you must be between the ages of 18-28 years and be a current student at a 4-year U.S. university. You must currently be registered for and/or attending at least one on-campus/in-person class OR you must have previously attended at least one on-campus/in-person class during your current college/graduate training program. **Students who are exclusively attending their college/graduate training program online are not eligible to take this survey.** Your participation in this study is voluntary. If you choose not to participate, or to withdraw from the study at any time, there will be no penalty.

Your participation and responses will be held confidential. Upon completion of the survey, you will have the choice to be entered into a drawing to win one of seven Amazon gift cards (one $100 gift card, one $50 gift card, and five $20 gift cards will be raffled). If you chose to participate in the raffle, you will be prompted to click on a link that will take you to a separate survey page where you will be asked to enter your email address. This information will remain separate and no identifiable information will be connected to your survey responses.

If you have any questions concerning the research study, please contact the primary researcher (Alisia (Giac-Thao) Tran) at: alisia@asu.edu. If you have any questions about your rights as a subject/participant in this research, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Do you agree to the above terms? By choosing “Yes, I agree,” you are indicating your consent to participate in this study and confirming that you meet the participant criteria mentioned above.

Sincerely,

Alisia (Giac-Thao) Tran, Ph.D. (Assistant Professor) & Kristi Eustice, B.A. (Masters Student)
Counseling and Counseling Psychology
School of Letters and Sciences
Arizona State University
tempelab@gmail.com
APPENDIX J

CONSENT FORM (CHINESE)
大学生健康水平研究

我们是亚利桑那州立大学的研究人员。我们正在进行一项关于大学生社交和文化生活、财务状况和压力、心理健康水平、饮酒行为、学业态度和经历的研究。完成这份调查问卷可能会占用您 30 - 45 分钟。我们真诚感谢你诚实的反馈。机构审查委员会已经批准了这项研究。 ( 审查编号:STUDY00002954)

对于参与者，您的年龄必须在 18--28 岁之间，并且是美国四年制大学的现就读学生。您必须在目前就读的本科或研究生项目期间至少正在参加／已注册／已完成一门在校课程。只参加大学网上课程的学生不在这项研究调查范围之内。参加这个调查是自愿的。如果您选择不参与，或者在任何时间退出，不存在任何惩罚。

您的参与和反馈都是保密的。完成这个调查问卷后，您有机会赢得几张亚马逊礼品卡之一（$100一张，$50一张，$20五张）随机抽取）。如果您选择抽奖，您将会被告知点击一个链接，进入另一个需要输入您电子邮件地址的页面。这些信息是被分开处理的：您的问卷反馈不会被和这些可用来辨认您身份的信息相联系。

如果您对这项调查研究有任何问题，请联系主要研究人员 Alisia (Giac-Thao) Tran。邮箱地址为：alisia@asu.edu。如果您对于在研究中作为参与者的权利有任何疑问，请通过 ASU 实验伦理和担保办公室联系人类参与者审查委员会主席，电话是：(480)965-6788。

您同意以上条款吗？选择“是，我同意”，代表着您同意参加此项研究并且确认满足参与此项研究如上所述的所有条件。

此致敬礼

Alisia (Giac-Thao) Tran, Ph.D. (Assistant Professor) & Kristi Eustice, B.A. (Masters Student)
咨询与咨询心理学
文理学院
亚利桑那州立大学
tempelab@gmail.com
APPENDIX K

RECRUITMENT LETTER
To Whom It May Concern,

We are researchers at Arizona State University. We hope that you will consider participating in and/or helping disseminate the following survey opportunity. This study has been approved by the IRB (Approval ID: STUDY00002954).

- Would you like a chance to win one of SEVEN Amazon gift cards?
- Are you a current student at a U.S. university/college?
- Are you currently registered for and/or attending at least one on-campus/in-person class OR have you previously attended at least one on-campus/in-person class during your current college/graduate training program? Please note: Students who are attending their college/graduate training program exclusively online are not eligible to take this survey.
- Are you between the ages of 18 – 28 years?

If so, complete a survey about sociocultural aspects of college life, financial experiences and stressors, mental health, drinking behavior, and academic attitudes and experiences. The survey is expected to take approximately 30 – 45 minutes. Participation and responses will be held confidential. Participation in this survey opportunity is voluntary. Once you complete the survey, you will be given instructions for entering into a raffle to win one of SEVEN Amazon gift cards (one $100 gift card, one $50 gift card, and five $20 gift cards will be raffled). If you choose to participate in the raffle, you will be prompted to enter your email address in a separate survey. This information will remain separate and no identifiable information will be connected to your survey responses.

*Note: One line of this research is specifically aimed at better understanding the experiences of Asian international students studying in the U.S. This survey branch is offered in Chinese (Simplified).

To PARTICIPATE, complete the online survey by clicking on the link below;

[https://asu ccp.qualtrics.com/SE/?SID=SV_bf8UTv9LjXrG8ZL](https://asu ccp.qualtrics.com/SE/?SID=SV_bf8UTv9LjXrG8ZL)

Thank you in advance for your time and consideration.

For any questions, or for more information, please contact:

Alisia Tran, Ph.D. (Assistant professor) & Kristi Eustice, B.A. (Master’s student)
Counseling and Counseling Psychology
College of Letters and Sciences
Arizona State University
tempelab@gmail.com