

LIKELIHOOD OF USING MENTAL HEALTH SERVICES AMONG ASIANS  
AND LATINOS IN THE U.S.: AN ACCULTURATIVE APPROACH

by  
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## ABSTRACT

Prior research indicates that because of acculturation, racial minorities' use of mental health services increases with each subsequent generation. Yet little is known about how refining generational categories to include the 1.5 and 2.5 generations affects the association between acculturation and the perceived need for mental health resources. Using the National Latino and Asian American Study, the present study examined the interplay between generation status, acculturation, socioeconomic status (SES), and perceived need to seek mental health services among Asians ( $N = 2,095$ ) and Latinos ( $N = 2,554$ ) in the United States. The findings indicate that the interrelationships between these factors may be different for Asians and Latinos and that it is crucial to use more refined generational categories in intergenerational health mobility research. Specifically, the 1.5, 2.5 and third generations are associated with an increase in perception of needing to seek mental health resources among Asians. Furthermore, the findings highlight the importance of taking into consideration the implications of several acculturation measures on the association between generation status and the perception of mental health services. In particular, English proficiency accounts for the impact of generation status partially among Asians and completely among Latinos. Lastly, this study demonstrates that not only various acculturation measures, but also some SES factors (i.e., education and employment) might make a difference in the effect of generation status on access to mental health services.

*Keywords: Mental health, service use, acculturation, 1.5 generation, 2.5 generation*

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## INTRODUCTION

The underuse of mental health resources is a prevalent issue in the United States. On average, 30.5% of Americans will develop a mental health disorder in their lifetime. However, only 32.9% of them will receive treatment (Kessler et al. 2005). Extant literature suggests that there are racial/ethnic disparities in the use of mental health services in the United States (Harris et al. 2005). Specifically, data show that the prevalence of mental disorders is lower in Asians (14.5%), Hispanics (15.2%) and Blacks (16.2%) compared to Whites (20.4%) (NIMH 2019). However, additional data demonstrate that 46% of individuals of two or more races and 48% of non-Hispanic White people with a mental illness have used mental health services in the past compared to 31% of Latinos and 22% of Asians in the U.S. (APA 2015). Furthermore, some research highlights a discrepancy in the use of mental health resources between U.S. and foreign-born Latinos, with only 15.7% of immigrant Latinos having sought services compared to 37.5% of their U.S.-born counterparts (Vega et al. 1999). At the same time, even out of the small number of Asians and Latinos who do use mental health services, the majority obtain these services from their general health care provider instead of a mental health care specialist (Cabassa, Zayas, and Hasen 2006). This is problematic because it implies that there are underlying mechanisms that are the cause of minorities being underserved in the mental health field. In the long run, this can lead to these minorities having a higher prevalence of undiagnosed mental health disorders compared to non-Hispanic Whites.

### *Asians and Latinos in the U.S.*

As aforementioned, minority groups in the United States have lower rates of mental health service use compared to U.S. born non-Hispanic Whites. However, in this study I focus on

the mental health service use discrepancy of the two fastest growing racial groups in the United States, Asians and Latinos (U.S. Census Bureau 2012).

The 2010 Census defined an individual as Asian as “a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent” (U.S. Census Bureau 2012:2). Conversely, the categorization of the Latino population varies from other racial groups since society does not recognize Latinos as a racial group: Latinos are an ethnic group (Gonzalez and Gandara 2005). This has led to confusion in labeling of this population group. The terms Latino and Hispanic are often used interchangeably despite having different meanings. The Latino group is composed of individuals originating from a Latin American country, such as Mexico, Honduras, El Salvador, etc. (Gonzalez and Gandara 2005). In contrast, Hispanics are individuals who originated from Spain and/or individuals living in the United States who speak Spanish (Gonzalez and Gandara 2005).

The increasing numbers of Asians and Latinos in the U.S. demonstrate the importance of studying these population groups. The U.S Census Bureau predicts that by the year 2060, Latinos will comprise 28.6% of the U.S population. This is more than a 39% increase from the current figure of 17.4% (U.S. Census Bureau 2015). The Asian population comprised 4.8% (14.7 million) of the U.S. population in 2015. At the same time, Asians were the fastest-growing racial group between 2000 and 2015 with a 72% growth rate. Similarly, Latinos came in second with a 60% growth rate during this time period (U.S. Census Bureau 2012).

Most Asians and Latinos living in the United States are immigrants, meaning that they left their native country, in this case, one in Asia or Latin America, to live in the United States (Rumbaut 2004). Most research on generational differences among minorities focuses on the first, second and third generations. However, previous studies often use definitions of first- and

second-generation immigrants that group together individuals with different amounts of cultural capital within the same generation. Specifically, using the United States as an example, first generation is defined as all individuals who are foreign-born but are currently residing in the United States after migrating (Amado et al. 1985; Harker 2001; Rumbaut 1997). The second generation includes all individuals who have at least one foreign-born parent, whereas the third-generation label applies to individuals with two native-born parents and at least one foreign-born grandparent (Harker 2001; Rumbaut 1997).

Research indicates that foreign-born people might experience different levels of assimilation and acculturation and have differential access to various resources depending on the context of their arrival to the country of destination. In particular, it is important to take into account the age at which individuals immigrate which it can determine to what extent they are able to maintain their cultural identity or to get integrated into the new culture (Kim et al. 2003; Park 1999; Rumbaut and Gans 2000). Similarly, native-born people might also experience different levels of assimilation and acculturation depending on their parents' cultural capital (Ramakrishnan 2004). Specifically, it is important to take into consideration the nativity status of both parents as this can affect the extent to which the child is exposed to their racial group's cultural ideals.

An influx of Asian and Latino immigrants in the United States picked up in the second half of the 20<sup>th</sup> century. Legislation such as the Immigration and Nationality Act of 1965 eliminated race as a barrier to obtaining a visa to come to the United States. Instead, individuals could apply for a visa based on their skill set or if they were familial kin to someone already living in the United States (Chin 1996). This legislation lifted restrictions on immigration and increased the number of immigrants coming from Asia, Latin America, as well as Africa (Chin

1996). In addition, laws such as the *Bracero Agreement* and the *Immigration Reform and Control Act* (IRCA) served as incentives for Latinos to come to the United States and provided a pathway to legal status (Durand and Massey 2003).

In addition, my study will contribute to available literature in this area by using more refined categorizations for first and second generations on the basis of the research conducted by Harker (2001) and Rumbaut (1997). For the purposes of my analysis, individuals who are foreign-born and arrived to the United States when they were less than 12 years of age will be classified as the 1.5-generation immigrants, whereas persons who were older than 12 years of age upon arrival will be classified as first-generation immigrants (Kim et al. 2003; Park 1999). Individuals who are born in the United States and have two parents from a foreign country that immigrated to the United States are second-generation immigrants, whereas individuals who have one foreign-born and one native-born parent are categorized as part of the 2.5-generation (Ramakrishnan; Rumbaut 2004; Viruell Fuentes 2007). Lastly, individuals with origins from another country (at least one foreign-born grandparent) and two native-born parents are still labelled as third generation plus immigrants (Harker 2001; Rumbaut 1997).

#### *Importance of Cultural and Structural Factors*

In order to effectively promote mental health services to the Asian and Latino population in the U.S., it is imperative to look at the cultural and structural factors that make some subgroups of these minorities more reluctant to use these services. The Asian and Latino populations in the United States are not homogeneous. In particular, they can have within-group variability that can be attributed to their specific country of origin (Wynaden et al. 2005). The plentitude of countries that make up Asia and Latin America can contribute to the cultural differences within each of these two groups (Hmong 1996). Moreover, disparities in the use of

mental health services among Asians and Latinos can be associated with differences in generation status, English proficiency, family cohesion, comfort in religion, perceived discrimination, and importance of ethnic identity. Relatedly, negative perceptions towards individuals with mental illnesses are more prominent towards people in certain social groups, including persons with lower socioeconomic status (SES), males, racial/ethnic minorities, and people with limited social ties (Hmong 1996). Thus, minorities might be afflicted with culturally related stigma from their native country and existing structural factors in the host country.

Among minorities, the underuse of mental health services can be related to various cultural factors (i.e., generation, language, family cohesion, religion, racial discrimination, ethnic identification), and structural factors (i.e., education, income, employment). Structural factors contribute to the stratification of minorities in the United States, therefore making it harder for them to access mental health resources. However, the underutilization of mental health resources might not be attributed only to a lack of immediate access, because culture, family values, and stigma also play a large part in minorities' reluctance towards seeking mental health care. For example, the stigma that mental health disorders carry ultimately has an impact on the use of mental health services. Research defines mental health stigma as, "a collection of negative attitudes, beliefs, thoughts, and behaviors that influences the individual, or the general public, to fear, reject, avoid, be prejudiced, and discriminate against people with mental disorders (Gary 2006:980)." In the western world, a diagnosis of a mental health disorder indicates that the individual is unfit to be part of society, cannot be responsible for his/her actions, and, therefore, should be cared for by others (Corrigan and Penn 1999; Corrigan and Watson 2002). Moreover, research has found courtesy-stigma (stigma by association) and double stigma (multiple stigmatized identities) resulting from mental health diagnosis. In courtesy-stigma, the stigma of a

mental health illness can also affect the family (Corrigan and Penn 1999). The mental health illness can be perceived to be an indicator of a dysfunctional family, or a religiously affiliated punishment for immoral and sinful behavior (Hong Ng 1997). Additionally, in double stigma, Gary (2006) argues that minorities are subject to the stigma of being the “other” in society and are more likely to reject a mental health diagnosis in fear of adopting a second disadvantaged identity.

Even though previous studies on the use of mental health services have considered some of these factors, there is limited research using refined generational categories, cross-cultural comparisons and the intersection of cultural and sociodemographic factors.

Relatedly, review of the epidemiological literature demonstrates that the majority of prior research in this area has relied on Anderson’s Behavioral Service Use model (for more detail, see Cabassa, Zayas, and Hansen 2006) However, this model does not allow for the examination of how different factors intersect and their implications for the use of mental services. In particular, scholars use Anderson’s Behavioral Service Use model to examine factors that influence the use of healthcare services and to make predictions about healthcare service use from an individual to a societal level (Anderson 1995; Cairney et al. 2014). Namely, this model categorizes factors into three groups: predisposing, enabling, and need. Predisposing characteristics include sociodemographic, structure and health belief measures. Enabling resources include the community and family, whereas need factors include perceived or evaluative need of medical care (Anderson 1995). However, this framework fails to examine the impact of the intersection of these factors (e.g., predisposing and enabling ones) on the use of health services (Cairney et al. 2014).

### *Implications of Present Research*

In this study, I use the acculturation perspective in order to examine the interplay among generation status, various acculturation factors (English proficiency, family cohesion, comfort in religion, racial discrimination, and ethnic identification), SES measures (subethnic group, age, gender, marital status, and mental health status), and perceived need to seek mental health services within the Asian and Latino populations in the United States. I utilize data from the National Latino and Asian American Study (NLAAS) for this research. Specifically, I consider perceived need to seek mental health services among 2,095 Asians and 2,554 Latinos residing in the United States. Prior research on the implications of generational differences among immigrants (Abe-Kim et al. 2007; Alegria et al. 2007), family cohesion (Chang, Natsuki, and Chen 2013), and English proficiency (Bauer, Chen, and Alegria 2010) has already been conducted using this data. I expand on these previous studies by investigating whether and how acculturation and SES factors may make a difference in the association between generation status and individuals' perceived need to seek mental health services. Furthermore, I contribute to prior research on the impact of generational status on the perceived need to seek mental health services by recategorizing the sample into first, 1.5, second, 2.5, and third-generation groups. Previous studies that used this data distinguished only between the first, second and third generations (Abe-Kim et al. 2007; Alegria et al. 2007; Bauer et al. 2010; Chang et al. 2013). Recategorizing the generations into more groups facilitates a more in-depth analysis of the differences in acculturation strategies and SES disparities and provide a better understanding of factors associated with the use of mental health services among Asians and Latinos in the United States. Available research in this area mostly supports straight-line assimilation, suggesting that each subsequent generation will be more comparable to the host's/mainstream culture.



## THEORETICAL PERSPECTIVES

In this section, I will discuss five theoretical perspectives, including acculturation, acculturative stress, healthy migrant bias, Latino paradox, and the model minority myth, that provide some explanations for the development of mental health issues and the use of mental health services among Latinos and Asians in the United States.

### *Acculturation*

Research on acculturation and the onset of mental disorders in immigrants has produced mixed findings (Koneru et al. 2007). Some research suggests that acculturating to the host country might be associated with better mental health among immigrants (Thoman and Surís 2004). In contrast, other studies indicate that acculturation might lead to the onset of psychological distress (Cuellar, Bastida, and Braccio 2004). Researchers believe that the inconsistency in the findings can be attributed to the difference in how acculturation is defined and measured across studies (Koneru et al. 2007).

The concept of acculturation has gone through various transformations since its emergence in 1936 (Berry 1997). Berry was the first to introduce the idea that acculturation is segmented, meaning that the individual is simultaneously able to adopt aspects of the host culture and keep part of theirs (Miller 2007). Specifically, Berry defined acculturation as “the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (Berry 2005:698). In this model, acculturation is not seen as a unilinear process.

The unilinear acculturation process suggests that assimilation is the only end goal of acculturation. Essentially, over time, the individual will become absorbed into the host countries’ culture creating a melting pot (Berry 2006; Miller 2007). However, Berry’s framework of

acculturation implies that there is a mutual multidimensional relationship between the culture of the host country and the country of the immigrant. Immigrants are not expected to leave their culture behind and let themselves become absorbed into the host culture (Berry 2005). Berry's theory accepts that individuals have agency in choosing to keep certain aspects of their culture, adopting aspects of the host culture, and in return, adding to the culture that exists in the host country (Berry 2005).

Berry posits that there are four different pathways of acculturation: integration, assimilation, separation, and marginalization (Berry 1979, 2005). Integration refers to a migrant choosing to keep aspects of their native culture and simultaneously adapting to the cultural ideals of the host culture. In assimilation, the migrant sheds their culture and adapts to the host culture. The separation pathway involves the migrants choosing to keep their native culture and to forgo adopting the host country's cultural ideals. Lastly, in marginalization, the migrant sheds their native culture, but they do not embrace the host culture.

A unilinear acculturation model would suggest that all Asians and Latinos are heading towards assimilation. However, Berry's segmented model of acculturation argues that these two groups can be treated as heterogeneous instead of homogeneous entities. Relatedly, Graves (1967) suggested that acculturation can happen at two levels, group and psychological. As the name implies, at a group level, the focus is placed on the acculturation process of an entity. Conversely, at a psychological level, the focus is on the existing variation within a groups' acculturation process. Even though acculturation can happen at both a societal and an individual level, I will examine it in my study from an individual level to explain the differences in mental health use within each racial group.

*Acculturative stress.* Acculturative stress is the byproduct of inter-cultural conflict experienced during the acculturation process (Berry 2005; Jafar et al. 2008). The policies and societal expectations of the host country not only influence the individual's acculturative strategy but also contribute to a portion of the various physiological and psychological effects that accompany stress (Berry 1999). Using the Asian and Latino immigrant population as an example, acculturative stress would be the adverse consequences resulting from these immigrant groups having to learn English, face new customs, and adopting the norms of the host country.

Berry suggests that acculturative stress might take a U-shaped pattern (Berry 1997). Mainly, individuals experience some difficulties upon arrival that accumulate after a year, then the individual develops a more positive adaptation, and the problems level off (Berry 1997). This suggests that mental health services might be needed to help immigrants cope with the higher rates of depression and anxiety that can be caused by acculturative stress in the first few years of their arrival (Berry 1997; Jafar et al. 2008). At the same time, despite literature showing Latinos to be on average healthier than U.S-born Americans (Alegria et al. 2007), some research demonstrates that acculturative stress can lead to the development of mental illnesses among immigrants (Cuellar et al. 2004). Hence, while Latino immigrants might not need mental health services at the beginning of their stay in the United States, their need for services might increase over time due to acculturative stress.

#### *Healthy Migrant Bias and the Latino Paradox*

The healthy migrant hypothesis posits that, on average, first-generation immigrants living in the United States are healthier than non-Latino Whites. This phenomenon is mainly investigated in the Latino population and, therefore, it is also known as the Latino Paradox (Abraido-Lanza 1999). However, various studies indicate that this phenomenon applies to all

immigrants (Cunningham, Ruben, and Narayan 2008; Dey and Lucas 2006). Research maintains that the protective cultural factors of immigrants, such as lifestyle, diet, and a sense of community, often are associated with better health (Campbell 2012). Furthermore, research shows that foreign-born minorities have better self-reported health than U.S.-born minorities. For instance, a study found that on average, foreign-born Latinos have a 45% lower mortality rate than U.S.-born Latinos and foreign-born Asians have a 43% lower mortality rate than U.S.-born Asians (Acevedo-Garcia and Bates 2008:104). At the same time, research indicates that immigrants are more likely to develop ischemic heart disease and to become overweight compared to the general population in their native country (Cunningham et al. 2008). This suggests that while foreign-born migrants have better health outcomes than their U.S.-born counterparts, their health worsens after leaving their native country.

Although most studies on mental health among immigrants suggest that they have better mental health compared to Whites, some research indicates that the length of time in the United States and level of cultural retention plays a factor in the prevalence of mental disorders (Grant et al. 2004). Specifically, the likelihood of developing a mental disorder increases with the number of years spent in the United States, therefore establishing a notion of acculturation having an effect on mental health (Cabassa, Zayas, and Hansen 2006). In spite of the fact that immigrants have lower rates of mental health disorder than non-Hispanic Whites, the immigration process can contribute to psychological distress in the individual because of multiple factors (Kirmayer et al. 2011). Some of the relevant aspects that have been found to affect mental health include interruptions of social roles, separation from the family, violence, hardships during the migration route itself, and acculturative stress upon arrival (Kirmayer et al. 2011).

### *Model Minority Myth*

Whereas the Latino Paradox can help explain differences in health outcomes between immigrant Latinos, U.S.-born Latinos, and non-Hispanic Whites, the model minority perspective might be applicable for examining health status of individuals of Asian descent in the U.S. The model minority stereotype emerged before 1965 and was the start of a shift towards how the United States viewed Asians (Wong et al. 1998). This stereotype attributes meritocracy to Asians' seemingly successful integration into the United States. The model minority suggests that Asians' hard work orientated culture facilitates their upward social mobility. This stereotype is supported by the fact that Asians, on average, are on par or in some cases outperforming Whites in educational attainment, jobs, and income (Cheng et al. 2016; Wong et al. 1998). However, despite Asians outperformance over Whites in various domains, Asians are still behind Whites on certain outcomes (Gupta et al. 2011). For instance, because income inequality is greatest among Asian Americans, a higher percentage of Asians live in poverty, compared to non-Hispanic Whites (Pew Research 2018).

Although this stereotype can be perceived as positive, the internalization of positive stereotypes can also lead to psychological distress in the individual (Gupta, Szymanski, and Leong 2011). Asian Americans who accept the model minority stereotype have higher rates of anxiety, depression, and lower rates of self-esteem. For example, a study on Asian American college students found that if individuals felt pressure to fit into the model minority stereotype, they were more likely to experience emotional distress (Gupta et al. 2011). Furthermore, another study demonstrated that priming the participants with the model minority stereotype increased the likelihood of them rating Asians as having a high level of mental health functioning (Cheng et al. 2016). The model minority stereotype not only affects how Asians view themselves, it

shapes how society sees them. Therefore, the researchers of the latter study argue that the model minority stereotype leads to a lack of attention towards Asian Americans' mental health (Cheng et al. 2016). In short, the model minority myth might be linked to internalized racism in Asians which in effect increases their rates of psychological distress. In addition, this myth has encouraged society to view Asian Americans as mentally healthy and not in need of additional mental health resources.

In essence, existing research attributes the lower rates of mental health service use among Latinos and Asians to their immigrant status. Researchers often use concepts such as the Healthy Immigrant Paradox and the Model Minority in conjunction with acculturation to explain a deterioration in immigrants' health in subsequent generations. In the Healthy Migrant Paradox, the argument is that immigrants have better health upon arrival and that their health is largely attributed to health-related cultural practices (Campbell 2012). Therefore, researchers argue that as minorities integrate into the host culture, they let go of the cultural practices that gave them a health advantage (Cabassas et al. 2006). However, research on acculturative stress suggests that discrepancies in health between minorities and Whites may be due to the process of integrating into a new country (Cuellar et al. 2004). In addition, these health discrepancies could be intensified by the pull factors that led individuals to migrate (Kirmayer et al. 2011). Likewise, the Model Minority Myth asserts that Asian Americans have an honorary White status because of their successful economic assimilation (Cheng et al. 2016; Wong et al. 1998). Research indicates that Asians and outsiders associate Asian's economic success with health, therefore ignoring need for health services among Asian Americans. However, research often the mental health issues that can result from Asians' having to fulfill the expectations of the model minority (Cheng et al. 2016). In sum, although there are multiple theories that assert Asians and Latinos

lower use of health services is associated with their better mental health, there is evidence that these racial groups are experiencing psychological distress.

## **LITERATURE REVIEW**

### *Importance of Acculturation*

Previous studies have shown that multiple factors are associated with the onset of mental health issues and the use of mental health services among Latinos and Asians. Specifically, it is important to consider the implications of multiple indicators of acculturation, including generation status, English proficiency, family cohesion, comfort in religion, perceived discrimination, and importance of ethnic identification.

### *Generation Status*

Extant literature indicates that there is a relationship between generation status and the acculturation level of a minority, particularly among immigrants. While the healthy migrant hypothesis only applies to foreign-born migrants, Latinos and Asians currently make up about half of today's second- and 2.5-generation immigrants (Pew Research Center 2013). Additionally, national trends on second-generation immigrant growth predict a 126% increase rate between 2012 and 2050 (Pew Research Center 2013). The growing number of second-generation Asians and Latinos suggests that even if the healthy migrant bias is a valid explanation for better health outcomes among first-generation immigrants, the second generation might not enjoy the same protective factors prevalent among the foreign-born that can buffer them from the development of mental health disorders.

Rumbaut and Gans (2000) argue that migrants who arrived in the United States during childhood have different characteristics compared to those who arrived as adults and had made the decision themselves to leave their native country. Literature demonstrates that having an

earlier age at time of migration might be associated with some advantages in the country of destination. For example, individuals who migrate at younger age are more likely to develop a bicultural identity as opposed to first- and second-generation immigrants (Kim et al. 2003; Park 1999). Moreover, younger migrants spend more time enrolled in the educational system of the host country. In fact, the education system socializes and helps children integrate into the mainstream culture (Rumabut and Ima 1988). Thus, 1.5-generation immigrants might have a distinct bicultural identity due to early age of arrival to the host country.

Ramakrishnan (2004) asserts that parents' nativity status is a reliable indicator of generation status and might lead to differences in individuals' characteristics. For example, his study shows that parents of a 2.5-generation immigrant have, on average, higher educational attainment and income than the parents of a second-generation immigrant. This translates into higher cultural capital that allows 2.5-generation individuals to have higher rates of college education and higher incomes in their lifetime. Conversely, third-generation immigrants, even though they have two native-born parents, tend to have lower educational achievement compared to 2.5-generation individuals. The researcher suggests that this may be a result of closer cultural ties and a greater chance of intergenerational transmission of family values (e.g., emphasis on upward social mobility) in 2.5-generation individuals (Ramakrishnan 2004). These differences imply that parent nativity influences the life outcomes of a person. In essence, the original categorization of first- and second-generation immigrants combines together individuals with unequal cultural capital resources. Relatedly, the age of arrival and number of foreign-born parents can be associated with disparities in the use of mental health services among Asians and Latinos in the U.S.



Even so, there is not much literature on the acculturation of the 1.5 and 2.5 generations. At the same time, available studies do not support the contention of linear assimilation. For example, a study by Kim and colleagues (2004) found that 1.5-generation Koreans develop an increased sense of bicultural identity as opposed to the first-generation. Intriguingly, most do not fuse both identities. Instead, they switch back and forth depending on the situation (e.g., familial situation vs. work situation). This finding suggests that 1.5-generation Koreans choose the integrative acculturative strategy upon their arrival to the United States (Berry 2005). In contrast, research on children of immigrants living in the U.S. indicates that the 2.5 generation might outperform the second generation as well as the third generation in several domains, including higher income, lower high school dropout rate, and a higher college graduation rate (Ramakrishnan 2004). In essence, literature on these refined generational categories is scarce and it does not support straight-line assimilation across immigrant generations.

### *Language*

Language might be an indicator of both a structural and cultural barrier to mental health access. Research has found that individuals might perceive that they have limited access because of a lack of services in their native language. For instance, literature on Latinos suggests that individuals who visit healthcare facilities without services in their language are more likely to experience emotional distress and become discouraged from further seeking services (Keyes et al. 2011; Kim et al. 2011). In contrast, individuals who speak English proficiently do not have to worry about encountering healthcare settings that do not offer services in their language. Although English is the primary language in the United States, it is estimated that 51% of immigrants in the United States are not proficient in English (Kim et al. 2011). This is

problematic since research demonstrates that people who are fluent in English are more likely to seek mental health resources (Kim et al. 2011; Sentell et al. 2007).

Moreover, previous research argues that language might be a proxy of acculturative stress (Anderson and Finch 2017). Immigrants who know English experience substantially lower levels of acculturative stress. Learning English upon arrival to the United States facilitates acculturation because knowing the host country's language allows immigrants to experience more extensive integration into the country's culture and facilitates their use of resources. If learning the host country's language leads to greater cultural immersion, it can be assumed that knowing English helps Latinos adopt American values that will increase the probability of seeking mental health services if needed.

In addition, although the somatization of mental illnesses is a worldwide phenomenon, Western medicine allocates somatization to traditional societies (So 2008). Particularly, some research indicates that nonwestern societies have been found to experience and describe their psychological distress as physical symptoms, also known as somatization (Hong Ng 1997; Kleinman 1982). Research has attributed the somatization of mental disorders and psychological distress to multiple reasons, including languages being on the lower end in the number of words to describe emotions (Kleinman 1982), the emphasis of emotional regulation stipulated by some cultural institutions such as Confucianism (Hong Ng 1997), and distancing oneself from the stigmatization a mental illness label brings (Guarnacia et al. 1992).

Language, in particular, can facilitate the interpretation of psychological distress as a somatic ailment with the use of cultural idioms. For instance, Latinos often refer to *ataques de nervios* (attack of nerves) and *susto* (fright). Thus, in the study by Guarnacia and colleagues (1992), families associated *ataques de nervios* with "agitated behavior, the inability to sit still

and fast-talking.” (p. 193). Similarly, the Chinese use the phrase *shenjing shuairuo* (weakness of the nerves). *Shenjing shuairuo* is characterized by insomnia, forgetfulness, tiredness and the inability to pay attention (Hong Ng 1997). While this label does not necessarily indicate that a person is experiencing a mental disorder, it does demonstrate individuals' tendency to frame psychological distress as something other than a mental disorder. This helps families support their symptomatic family members without adopting the more burdensome stigma that mental disorders have. However, the labeling of psychological distress as somatic encourages individuals to use general doctors and to utilize religious approaches to solving the problem (Guarnacia et al. 1992; Hong Ng 1997). Thus, it can be argued that language can provide a cultural means for migrants to bring their perception of mental illness to the host country.

At the same time, in order to accommodate to the Spanish speaking Latino population, some mental facilities have interpreters for Latinos who are not proficient in English. However, while having interpreters allows Spanish speaking Latinos to obtain therapy, it also increases the number of misdiagnosis and dissatisfaction with treatment (Altarriba, Santiago-Rivera, and Delworth 1994). The Spanish language consists of idioms that lose their denotative meaning when translated to English (Rosales and Calvo 2017). This can lead to an inaccurate assessment of symptoms and result in a misdiagnosis of the patient. It can be argued that similar bad experiences when obtaining mental services can be blamed for reluctance to seek treatment in the future.

### *Familismo*

Asian and Latino culture is more collectivistic than the individualistic culture that is more prevalent in the United States. Collectivist individuals are “people who are interdependent within their in-groups, give priority to the goals of their in-groups” (Mills & Clark, 1982 p.909). In

effect, this leads to an emphasized importance on the family unit for Asians and Latinos. The importance of family is further strengthened by the supporting role that the family unit plays during the acculturation process (Triandis 2002).

Latino literature refers to family cohesion or cohesion as *familismo* and defines it as the attachment of personal identity to a family unit (Valdiveso et al. 2016; Villatoro et al. 2014). As with family cohesion, the individual will commit to the best interest of the family before themselves and establish reciprocity with other members of the familial unit (Villatoro et al. 2014). The reciprocity expected out of *familismo* can be equated to social capital because a favor done for a family member is expected to be returned in the future. *Familismo* establishes a social network and a sense of collectiveness that Latinos can depend on in times of need.

Despite the protective factors of family cohesion for Asians and Latinos, research indicates that individuals with a strong commitment to their family are less likely to seek professional mental health resources but more likely to use their family members, seek a religious figure or healer for help if the emotional problem gets out of hand (Bledsoe 2008; Hong Ng 1997; Villatoro 2014; Wynaden et al. 2005). This parallels to individuals who are part of a religious community because social support for them is a common denominator between family cohesion and religious involvement. When symptoms of an emotional disorder arise, Asians and Latinos use the people in their networks as support to help alleviate their symptoms instead of seeking professional mental services. Furthermore, mental illness carries a heavy stigma. Individuals who are very family-oriented are more likely to reject a mental health diagnosis because the stigma of a mental health disorder would not just affect the inflicted individual, it would be reflected upon the whole family (Hong Ng 1997).

Moreover, a study on Latino families demonstrated that perceived levels of family cohesiveness are related to the acculturation level of the individual. Low acculturated Latinos are more likely to have stronger family cohesiveness as opposed to highly acculturated and bicultural individuals (Koneru 2007). Therefore, it can be argued that even within the same ethnic group, there is a variety of pathways linking family cohesiveness, acculturation, and the use of mental health services. Similarly, a qualitative study on Asians living in Australia found familial shame to be a factor in the deterrence of mental health treatment (Wynaden et al. 2005). Individuals reported that it is not uncommon for families to keep the mentally ill family member hidden from anyone outside of the home to avoid being looked down upon by their community.

Even outside of a collectivistic community, having a family member who has a mental illness can tarnish the reputation of the family and ruin relationships with those in their social network. Specifically, the shame resulting from mental health illness is a product of stigma (Swaffer 2014). Moreover, despite having a genetic component, the cause of mental illness can be interpreted religiously, such as *karma*, or it can be attributed simply to familial issues (Lefley 1989; Wynaden et al. 2005). In addition, some studies report that help is only sought after the state of the mentally ill individual can no longer be managed discreetly (Guarnaccia et al. 1992; Wynaden et al. 2005). These findings are consistent with previous research asserting that a disproportionate number of socioeconomically disadvantaged Asians and Latinos are receiving mental health services from inpatient clinics compared to Whites (Chow et al. 2003). Furthermore, Chow and colleagues (2003) found that Asians and Latinos, regardless of their income, have higher rates of using emergency mental health services compared to Whites. This is an issue because it suggests that minorities are more likely to wait until their symptoms have become unmanageable to seek help. The higher interdependence levels among minority

communities and the stigma of mental illness impact how individuals conceptualize mental health disorders and the steps they decide to take when faced with psychological distress. Not only do they have to take into consideration how the stigma of a mental health disorder could impact their identity, but they also have to consider how a diagnosis would affect their relationship with their family and the relationship their family has with others.

### *Religion*

While Buddhism and Catholicism come to mind when thinking about Asians' and Latinos' religious attachments, these two minority groups are not monolithic within their religious affiliations. About 93% of Latinos in the United States identify as Christian; however, this is broken down into Roman Catholics, Protestants, and Pentecostals (De la Torre 2008 p.225). Asian countries also have a variety of religious affiliations: Buddhism, Taoism, Confucianism, and Islam (Hmong 1996). Research maintains that a fraction of Asian migrants converts to Christianity and Catholicism because of assistance the church provides upon arrival (Hirschman 2004). Furthermore, in addition to these main religious denominations, both Asians and Latinos have the option to use traditional healers. Latinos have *Santeria* and *Curanderismo* that originate from the African Slave trade in the Caribbean and the colonization of the natives in Mexico and Central America, respectively (De la Torre 2008 p.225). Similarly, Asians derive their traditional healing practices from their ethnic culture such as the Nat cult (Burmese) and Ayurvedic (Indian) traditions (Hong Ng 1997).

Religion serves multiple purposes for migrant groups here in the United States. Religious institutions are often the first social structures that migrants interact with upon arrival. Churches help migrants settle and integrate after arriving to the United States (Hirschman 2004). Often, the church has an extensive network and pool of resources that migrants can use to obtain

employment, housing, and food (Cadge and Ecklund 2007; Hagan and Ebaugh 2003; Hirschman 2004). Furthermore, the church helps migrants preserve their culture and maintain their relationship with their hometown. A study on Pentecostal Guatemalan migrants in Houston found that the Pentecostal churches attended by migrants in the U.S. could be connected to the churches back in their hometowns (Hagan and Ebaugh 2003). Research on migrants and religion revealed that migrants of various backgrounds were more likely to reconstruct and preserve their ethnic identities by combining their ethnic traditions with the religious traditions of their denomination (Cadge and Ecklund 2007).

In essence, religion prevents migrants from having to assimilate entirely into the host culture by providing a space in which they can maintain their cultural ties and ethnic identity. However, there is limited and mixed research on the role of religion in second- and third-generation immigrants. Some studies assert that religious involvement decreases in the second generation and picks up again in the third generation as a means to connect to their ancestral ethnic identity (Cadge and Ecklund 2007). Other research maintains that religious involvement increases in the second generation but that this generation has a preference towards more Americanized religious organizations as opposed to their parents strongly ethnically tied religious affiliation (Hirschman 2004). Thus, the support that the church provides to recently arrived migrants creates a different bond between first-generation migrants and the church as opposed to the subsequent generations.

In addition to helping migrants settle into the host country, religion provides an extended network to rely on which establishes a sense of community similar to the collectivistic aspects of Asian and Latino culture. This network can help offset a reduction in familial ties resulting from migration (Hirschman 2004). Some religions such as Catholicism and Protestantism promote the

feeling of an extended family with the use of godparents and by referring to other church members as brothers and sisters (De la Torre 2008 p.225).

While research shows that religious institutions provide migrants with resources and a support system, religion can also affect the framework under which mental health illness is understood and can affect the actions individuals take to alleviate psychological distress (Guarnacia et al. 1992). One qualitative study demonstrates that religious denomination has an impact on individuals' perceptions of the causes of mental illness. For instance, Buddhists and Taoists are more likely to view mental illness as *karma*, punishment for bad behavior in a past life (Wynaden et al. 2005). Nonconventional framing of psychological unwellness leads to the use of religion as a means to regain homeostasis. For instance, instead of immediately seeking medical help, individuals would first turn to visiting their place of worship, prayer, advice from religious figures/healers, and support from the other members in their religious community (Guarnacia et al. 1992; Wynaden et al. 2005).

#### *Racial Discrimination and Importance of Ethnic Identity*

Ethnic minorities constantly experience discrimination that can affect different aspects of their lives. For example, research on perceived discrimination of Chinese Americans shows that discrimination increases the use of informal services but not the use of formal health services (Spencer and Chen 2004). This suggests that discrimination may motivate individuals to seek help for mental health from religious leaders or traditional healers instead of mental health practitioners (Spencer and Chen 2004). Another study on discrimination of Latinos and Blacks demonstrates that immigrants report an increase in perceived discrimination as they acculturate into the United States (Gee et al. 2006). The authors acknowledge that this finding might contradict stipulation that perceived discrimination decreases as the immigrant integrates into the



host country. As an alternative explanation, research suggests that as immigrants start to integrate into the host culture, they begin to internalize their lower social status in their country of destination (Anderson and Finch 2017; Gee et al.2006). Consequently, this leads to an increase in perceived discrimination.

At the same time, some research highlights that having a strong ethnic identity can buffer psychological distress experienced during the acculturation process. In the study by Mossakowski (2003), Filipinos with a strong ethnic identity had lower rates of self-reported discrimination and better mental health. Therefore, relevant literature argues that segmented assimilation has a greater benefit for immigrants because it allows them to preserve more of their ethnic identity which can be beneficial for them in many ways.

#### *Socioeconomic Status*

Prior research indicates that when examining mental health issues and utilization of mental health services, it is important to take into consideration indicators of socioeconomic status (SES) such as educational attainment, poverty levels, employment status and availability of health insurance.

*Education.* Literature consistently demonstrates that lower educational attainment leads to a lower socioeconomic status (Bledsoe 2008). At the same time, there is a discrepancy in the high school graduation rates between Latinos, and non-Latino Whites and Asians. Statistics show that 66.7% of Latinos compared to 88.8% of adult Whites, and 89.1% of Asians have a high school degree (U.S. Department of Commerce 2016). While high school achievement among Asian Americans is comparable to that of non-Hispanic Whites, Asians have almost twice the rate of advanced degrees than Whites: 21.4% and 12.1%, respectively. In contrast, only 47 % of Latinos have an advanced degree (U.S. Department of Commerce 2016). Furthermore, lower

rates of educational attainment are correlated with a lower mental health rating (Jang et al. 2014). There might be several explanations for this trend. For example, education leads to more resources, including higher income and the availability of health insurance, and, therefore, it can be associated with disparities in individuals' stress levels as well as access to mental health services. In addition, there can be a socialization effect from education. Namely, individuals with greater educational attainment can have higher psychological well-being or can be more likely to turn to mental health professionals when needed because education can be related to better coping strategies and skills and more information on available mental health services and programs. Hence, it can be argued that individuals with less educational attainment can be at a predisposition of not using mental health services which can be particularly true for Latinos due to their lower average educational levels.

*Poverty.* Latinos tend to have lower socioeconomic status than non-Latino Whites and Asians. The median annual earnings for Latinos in 2016 was \$47,675 as compared to \$65,041 for non-Latino Whites and \$81,431 for Asians (U.S. Department of Commerce 2017:). Despite Latinos making up a smaller proportion of the population than Whites, there is a higher percentage of Latinos living under the poverty line in the United States (Bledsoe 2008). As of 2016, statistics show that Latinos, on average, are at an economic disadvantage compared to other racial groups: 21% of Latinos vs. 9.1% of non-Latino Whites and 11.4% of Asians are living beneath the poverty line (U.S. Department of Commerce 2017). While Asians' high socioeconomic achievement seems to support the model minority stereotype, the average income of each race does not demonstrate the existing economic inequality within the racial group. Specifically, data from Pew Research (2018) indicate that Asians are the racial group with the highest economic inequality. Namely, Asians earning in the top 10% earn 10.7 times more than

Asians in the bottom 10% whereas Hispanics earning in the top 10% earn 7.8 times more than their counterparts in the bottom 10%.

Asides from helping individuals cover the expenses of mental health care, SES can affect how society feels towards individuals with mental health illnesses and how individuals feel towards mental health illness. For instance, individuals from a lower SES bracket are more likely to be seen as unfavorable when diagnosed with a mental health illness (Hmong 1996). At the same time, individuals that are from a high SES bracket might feel more apprehensive towards seeking help in an attempt to preserve their reputation (Hmong 1996).

*Employment.* Employment status is linked to income by providing individuals with a source of money (Honkonen et al. 2007). Subsequently, employment can be associated with the availability of health insurance. Data show that in 2002, 76.2% of employed individuals obtained insurance from their employer (U.S. Census Bureau 2013). In addition, research suggests that being employed provides individuals with a sense of accomplishment and therefore, leads to better mental health. For instance, Bush and colleagues (2009) found that individuals who had steady employment experienced a decrease in the use of mental health services. The researchers argue that this might be due to a reported decrease in mental disorder symptoms and higher levels of motivation (Bush et al. 2009). Relatedly, another study found that unemployed individuals tend to have higher rates of depression, anxiety and alcohol use than their employed counterparts (Honkonen et al. 2007). In short, employment can make seeking mental health services a possibility by providing financial resources needed to afford it or by providing insurance coverage. Moreover, research has shown that employment can mitigate psychological distress (Bush et al. 2009).

*Health insurance.* Research shows that having insurance increases the likelihood of obtaining health treatment (Sentell, Shumway, and Snowden 2007). At the same time, health insurance coverage varies by race/ethnicity. One of the components of the *Affordable Care Act* (ACA) was the individual mandate, which made insurance coverage mandatory unless a tax fee was paid (Chandra, Gruber, and McKnight 2011). Although the ACA did increase the number of people with health insurance, it excluded undocumented individuals from coverage. This exclusion could account for the fact that Latinos are still trailing behind other racial groups in health insurance coverage. In particular, statistics show that 93.7% of Whites and 92.4% of Asians compared to 84% of Hispanics have some form of insurance (U.S. Department of Commerce 2017). Furthermore, 73.9% of non-Hispanic Whites and 74.2% of Asians compared to 52.4% of Latinos have private insurance (U.S. Department of Commerce 2017). While Asians are on par with Whites regarding insurance coverage and private insurance ownership, Latinos have lower rates of coverage.

#### *Implications of Additional Factors*

Prior research also demonstrates that it is important to examine several additional factors, including subethnic group, age, gender, and mental health status, that might be associated with psychological well-being and use of mental health services.

#### *Subethnic Groups*

Oftentimes, research on racial and ethnic minorities and health does not control for individuals' subethnic group. As a result, studies end up lumping together Asians and Latinos into a single group. This is problematic because research indicates that country of origin may contribute to differences in cultural practices (Hong Ng 1997), reasons for migration to the U.S (Kirmayer et al. 2011), educational attainment and income (Pew Research 2018).

For instance, for decades the U.S. had a refugee policy that favored Cubans. The U.S. would grant Cubans residency and gave them eligibility for citizenship as long as the individual had already set foot in the United States (Barrios 2011). In addition, Cubans have a higher average income and are more educated than the average Hispanic population living in the United States (Pew Research 2015). However, although Puerto Ricans are citizens of the United States who can legally travel to and from Puerto Rico, they have one of the highest poverty rates in the U.S (Ramos 2005).

In contrast to Latinos, Asian countries have a plethora of languages and religious denominations. Hong Ng (1997) demonstrated that country of origin may lead to different ways of framing mental health disorders among Asians. Moreover, as mentioned previously, although Asians have the highest income and educational attainment in the United States, Asians are the highest economically stratified racial group with the highest economic stratification. For example, Filipinos earn an average of \$80,000, Chinese an average of \$70,000, and Vietnamese an average of \$60,000 (Pew Research 2019). Research suggests that the lower income of Vietnamese people may be attributed to the implications of the Vietnam war on Vietnamese refugee migrants post 1975 (Ngo 2006; Ngo and Lee 2007).

### *Age*

Studies on the effect of age on the use of mental health services have mixed findings. On average, older individuals have lower rates of mental health service use (Park et al. 2015). At the same time, one study shows that older Canadian adults are more open towards using mental health services (Mackenzie et al. 2006). Interestingly, the latter trend is more pronounced in the older adults aged 65+ that have never been married (Mackenzie et al. 2006). The researchers suggest that this may be due to the lack of immediate spousal support. However, a study on native

Koreans shows that older Koreans have a stronger stigma towards mental illnesses than younger ones. Moreover, this stigma can be associated with a greater reduction in the use of mental health resources in later life (Park et al 2015). In previous sections, I discussed that mental illness can be stigmatized among Asians and Latinos. It is possible that stronger ties to the ethnic culture are related to a greater reluctance to use mental health resources among older adults compared to younger individuals. Jang and colleagues (2009) argue that older Korean Americans have higher cultural misconceptions (i.e., familial shame and personal weakness) of mental health, and that these misconceptions are associated with a lower use of mental health services.

#### *Gender and Machismo*

Prior research shows some gender disparities in mental health utilization. Women are more likely to use mental health resources than men, whereas men have higher suicide rates than women (Ojeda and McGuire 2006). Research suggests that men might experience mental health disorders but do not receive adequate care (Bret et al. 2017). This is attributed to the higher rates of somatization of mental disorders in men and differences in the externalization of symptoms. For instance, men are more likely to exhibit outbursts of anger instead of sadness in a depressive episode (Brett et al. 2017).

Gender socialization produces differences in the way men and women behave. Women are encouraged to be expressive and emotional while men are taught to be stoic and strong. This is further emphasized in countries with stronger patriarchal cultures such as in Mexico, where hypermasculinity is a norm (Fragosos et al. 2000). Similarly, traditional gender roles are prominent in Asian culture. In the study by Pho and Mulvey (2003), immigrant Southeastern Asian participants reported that women should be loyal, obedient, respectful, and nurturing, whereas men should be breadwinners and key decision makers in the family . In essence, the

socialization of gender sets expectations to how men should act and, therefore, produces negative sentiments towards men that deviate from that norm. In particular, research maintains that men with a mental illness are viewed more negatively than women (Gary 2005). It is probable that this negativity increases for minority men, particularly from cultural groups with more traditional gender values, due to their status as a minority and male.

### *Marital Status*

Research on marital status indicates that marital status may impact the use of mental health services and mental health. For instance, widowed individuals might be more likely to experience depression, whereas separated and divorced persons might be more likely to seek mental health services (Prieger et al. 1999). In addition, research suggests that marriage may mitigate the effects of acculturative stress on mental health in women. In particular, different types of support available in satisfactory marriages may help migrant women in the acculturation process (Im et al. 2013).

## **PRESENT RESEARCH**

As discussed above, the Latino population in the U.S. is socially disadvantaged compared to non-Hispanic Whites and Asian Americans. With the data from the National Asian and Latino Study (NLAAS), I examine a nationally representative sample of Latino and Asian Americans. In this study, I expand upon research of Margarita Alegría and colleagues (2007) by creating more refined generational categories. Even though there is some literature examining the implications of generation status on having perceived the need to use mental health services, researchers have not investigated this issue in the 1.5 and 2.5 generations. Refining these categories could potentially demonstrate a different pattern in the role acculturation plays in individuals' perception of having needed to use mental health services.

In this study, I conduct similar analysis for three groups: 1) only Asians, 2) only Latinos, and 3) a combined sample of Asians and Latinos. These three samples vary on measures of subethnic groups and race. More specifically, the Asian sample includes four subethnic groups: Filipinos (reference), Chinese, Vietnamese, and other Asians. The Latino sample also includes four subethnic groups: Cubans (reference), Mexicans, Puerto Ricans, and other Latinos. Lastly, the analysis for the combined sample of Asians and Latinos includes a measure for race “Asian” in order to examine differences between Asians and Latinos.

In this study, I test the following hypotheses.

*Hypothesis 1:* Compared to the first generation, other generations (i.e., 1.5, second, 2.5, and third) might have different implications for individuals’ perception of the need for mental health services.

*Hypothesis 2:* Measures of acculturation (i.e., English proficiency, family cohesion, comfort in religion, perceived discrimination, and ethnic identification) and SES (educational attainment, income, employment status, and availability of health insurance) might predict perception of the need for mental health services.

*Hypothesis 3:* Measures of acculturation might explain, at least to some extent the relationship between generation status and perception of the need for mental health services.

I also investigate the moderating effects of acculturative measures on the relationship between generation status and the use of mental health services. Hypothesis 4 is applicable to all three samples: only Asians, only Latinos and the combined sample (Asians and Latinos).

*Hypothesis 4:* Measures of acculturation might moderate the implications between generation status and perception of the need for mental health services.



In this study, the combined sample consists of both Asians and Latinos in order to examine effects that may not be discernable when analyzing Asians and Latinos separately. To further compare Asians and Latinos, I included interaction terms between racial group and generation status. Specifically, I tested Hypothesis 5 that is only applicable to the combined sample:

*Hypothesis 5:* Race (i.e., being Asian or Latino) will moderate the implications of generation status on perception of the need for mental health services.

## **METHODS**

### *Data*

For this study, I utilize data from the National Latino and Asian American Study (NLAAS). This survey has a nationally representative sample of Asians and Latinos in the U.S. and provides information on their mental health service use, sociodemographic characteristics, and the prevalence of mental disorders (ICPSR 2003). The researchers used stratified probability sampling techniques to obtain a representative sample of the Latino and Asian population. The NLAAS collected data from May 2002 to November 2003. To be eligible to participate in the study, the individual had to be 18 years of age and of Latino or Asian descent. The researchers recruited participants from all 50 states, including Washington, D.C. Individuals who were in the military or institutionalized were excluded from the sample. The NLAAS also includes non-English speaking respondents who were offered the option to be interviewed in Tagalog, Vietnamese, Chinese, Spanish or English.

This survey is appropriate for my research because it includes questions on the use of mental health services and the prevalence of mental illness disorders among Latinos and Asians over the last twelve months and during their lifetime. In addition, the NLAAS gathers

information on social and psychosocial factors that contribute to the use of mental health resources.

The NLAAS surveyed a total of 4,649 participants: 2,554 participants of Latino descent, 2,095 participants of Asian descent, and a control group of 215 individuals who were non-Latino Whites. The researchers categorized the participants into subethnic groups based on their country of origin. Latino participants were divided into Puerto Ricans, Cubans, Mexicans, or Other Latinos. Similarly, Asian participants were categorized into Chinese, Vietnamese, Filipino, or other Asians. Since the goal of my study is to examine the factors that might have implications for the use of mental health services in Asian and Latino population groups, I did not use the information from non-Latino White individuals in my analyses.

### *Measures*

#### *Dependent Variable*

*Perception of mental health needs.* The NLAAS includes the following question: “At any time in your life did you think that you should talk to a medical doctor or other health professional about problems with your emotions, nerves, mental health, or your use of alcohol or drugs?” (0 = *no* and 5 = *yes*). I constructed a dichotomous measure of *perception of mental health needs* on the basis of this question (0 = *no* and 1 = *yes*).

#### *Independent Variables*

*Generation status.* I have five variables measuring generation status: first generation (reference category), 1.5 generation, second generation, 2.5 generation and third generation. To construct these variables, I used two questions from the survey: 1) on the age of immigration (0 = *U.S.-born*, 1 = *less than 12 years*, 2 = *13-17 years*, 3 = *18-34 years*, and 4 = *35+ years*), and 2) on the number of parents born in the U.S (1 = *none*, 2 = *one*, and 3 = *two*). I define individuals

who migrated when they were older than 13 years of age and with zero parents born in the U.S. as the *first generation*. The *1.5 generation* includes individuals who migrated when they were 12 years or younger and have zero parents who were born in the U.S. The *second generation* consists of individuals who were born in the U.S. and have zero U.S.-born parents. The *2.5 generation* comprises of individuals who were born in the U.S. and have one U.S.-born parent. Lastly, the *third generation* consists of individuals who are U.S.-born and have two U.S.-born parents.

*English proficiency.* I created a variable for *English proficiency* by using three questions from the NLAAS: 1) “How well do you speak English?,” 2) “How well do you read English?,” and 3) “How well do you write English?.” These survey questions have response categories ranging from 1 = *poor* to 4 = *excellent*. I recoded the response categories from 0 = *poor* to 3 = *excellent* and conducted a factor analysis ( $\alpha = 0.97$ ) to ensure that all three questions captured the same underlying concept.

*Family cohesion.* I constructed a measure of family cohesion on the basis of ten relevant survey questions: 1) “Family members respect one another,” 2) “Family shares values,” 3) “Things work well as a family,” 4) “Family trusts and confides in each other,” 5) “Family loyal to family,” 6) “Proud of family,” 7) “Express feelings with family,” 8) “Family likes to spend time with each other,” 9) “Family feels close to each other,” and 10) “Family cohesion is essential.” These survey questions have the following response categories: 1 = *mostly every day*, 2 = *a few times a week*, 3 = *a few times a month*, 4 = *once a month*, 5 = *less than once a month*. To create this measure, I first recoded original response categories into 0 = *less than once a month*, 1 = *once a month*, 2 = *a few times a month*, 3 = *a few times a week*, and 4 = *mostly every*

day. I then ran a factor analysis ( $\alpha = 0.93$ ) to ensure that all ten questions measured the same underlying concept.

*Comfort in religion* I created a measure of the importance of relying on religion using the following question from the NLAAS: “When you have problems or difficulties in your family, work, or personal life, how often do you seek comfort through religious or spiritual means?” (1 = *often* to 4 = *never*). I recoded the original response (0 = *often* to 3 = *never*).

*Discrimination.* I created a measure of perceived racial *discrimination* on the basis of four survey questions: 1) “Frequency that people act like you are dishonest,” 2) “Frequency that people act better than you,” 3) “Frequency that you are called names,” and 4) “Frequency that you are harassed.” The original response categories for these questions range from 1 = *almost every day* to 6 = *never*. I reverse coded these response categories to range from 0 = *never* to 5 = *every day*. I then conducted a factor analysis ( $\alpha = 0.83$ ) to determine that all four questions reflect the same underlying concept.

*Ethnic identification.* To measure the importance of ethnic identification for the respondents, I used the following survey question “How closely do you identify with other people who are of the same racial and ethnic descent as yourself?” (1 = *very closely* to 4 = *not at all*). I recoded the original response categories to range from 0 = *very closely* to 3 = *not at all*.

I used five indicators of SES. I created a set of four dummy variables (0 = *no*, 1 = *yes*) to measure educational attainment: *less than high school* (reference category), *high school*, *some college*, and *BA degree+*. The original response categories for the question on education in the NLAAS are as follows: 1 = *0-11 years*, 2 = *12 years*, 3 = *13-15 years*, and 4 = *greater than or equal to 16*. *Income*, ranging from \$0 to \$200,000, is used as a continuous variable based on respondents’ reports. I created a logged measure of income to correct for skewed distribution of

this variable. To measure *employment status*, I created dichotomous variable (0 = *no*, 1 = *yes*). The NLAAS has a question on work status with three response categories (1 = *employed*, 2 = *unemployed*, and 3 = *not in labor force*). I combined ‘unemployed’ with ‘not in labor force’ because of the relatively small sample size for the former response category (n = 327). In addition, I created a dichotomous variable to capture whether respondents have *insurance* (0 = *no* and 1 = *yes*). This measure was constructed on the basis of six survey questions on the availability of different types of health insurance: 1) “Do you have health insurance obtained through your employer/union?,” 2) “Are you covered by health insurance plan purchased from an insurance company?,” 3) “Are you covered by Medicare?,” 4) “Are you covered by a government assistance program for people in need?,” 5) “Are you covered by state health insurance for uninsured people?,” and 6) “Are you covered by other health insurances not mentioned?.”

#### *Control variables.*

*Ethnic subgroups.* To control for potential differences among Asian and Latino ethnic subgroups, I created a set of dummy variables for different ethnic subgroups (0 = *no* and 1 = *yes*) using the survey question on the respondent’s ancestry. I constructed four subgroups for Asian Americans: *Filipino* (reference category) *Chinese*, *Vietnamese*, and *Other Asian* (0 = *other* and 1 = *otherasian*). Filipinos are the reference category for Asians because of Filipinos’ higher income than their Chinese and Vietnamese counterparts. These Asian ethnic subgroups are used in the analysis conducted for Asian Americans. I also included four subgroups for Latinos: *Cuban* (reference category), *Mexican*, *Puerto Rican*, and *other Latinos*. These Latino ethnic subgroups are used in the analysis conducted for Latinos in the U.S. Cubans are the reference category for Latinos because of Cubans’ higher income than their Mexican and Puerto Rican

counterparts. In addition, I created one dichotomous variable, *Asian* (0 = *no* and 1 = *yes*) in order to examine differences between Asians and Latinos in the U.S. Similarly, this racial group is used in the analysis conducted for Asians and Latinos.

The NLASS coded the participants age as a continuous variable, ranging from 18-97. To control for possible effects resulting from differences in the stage of life at the time of survey, I created a set of four dummy variables (0 = *no*, 1 = *yes*) to measure age: *18-34 years* (reference), *35-49 years*, *50-64 years*, and *greater than or equal to 65 years*. I created this set of variables for age based on a cross national study of mental health disorders by Sedat and colleagues (2009). *Female* measured sex of the respondent (0 = *no*, 1 = *yes*).

I also created a set of three dummy variables (0 = *no*, 1 = *yes*) to measure marital status: 1) *married*, including cohabiters, 2) *unpartnered*, which include divorced, separated, and widowed, and 3) *never married* (reference). Marital status was constructed on the basis of the survey question on marital status with three response categories: (1 = *married/cohabitating*, 2 = *divorced/separated/widowed*, and 3 = *never married*).

Lastly, I controlled for the individuals' self-reported mental health measured with the following survey question: "How would you rate your overall mental health?" (1 = *excellent*, 2 = *very good*, 3 = *good*, 4 = *fair*, 5 = *poor*). I reversed the original response categories to range from 0 = *poor* to 4 = *excellent*.

### *Analytical Approach*

Tables 1–3 present the descriptive statistics for Asians (Table 1), Latinos (Table 2), and Asians and Latinos (Table 3) in the United States, respectively. Moreover, I examined generation status differences for all the variables by conducting  $\chi^2$ -tests for the nominal and ordinal variables and two-sample *t*-tests for the continuous variable "income." Since I am interested in

investigating the implications of acculturation factors across subsequent generation status groups for the likelihood of using mental health services, I used the first generation as the reference category.

I conducted separate binary logistic regression models for each indicator of acculturation (i.e., English proficiency, family cohesion, comfort in religion, perceived discrimination and ethnic identification). In Model 1, I only included measures of generation status. In Models 2-6, I added measures of acculturation one by one (i.e., Model 2 included English proficiency, in Model 3 I added family cohesion etc.) in order to examine the implications of these measures for perceived need of mental health services and for the association between generation status groups and perceived need of mental health services. All six models also include measures of SES and control for such factors as subethnic groups, age, gender, marital status, and mental health rating. I tested for specification error by conducting a linktest and checking that the model does not find any other statistically significant predictors by chance, or any omitted variables. I also tested for multicollinearity by using the collin command to check that the VIF for my predictors in the regression analyses is less than 4. I followed the same steps for 3 samples: only Asians (Table 4), only Latinos (Table 5), and Asians and Latinos combined (Table 6).

I also created interaction terms between generation status groups and indicators of acculturation (i.e., English proficiency, family cohesion, comfort in religion, perceived racial discrimination, and ethnic identification). I follow the same steps for all of the three samples: only Asians (Table 7) and Asians and Latinos (Table 8). The analysis did not demonstrate any significant interactions for the Latino sample.

Finally, I created interaction terms between the measure for race “Asian” and generation status groups to be included in the analysis of the combined sample (Table 8). Despite some of

the similarities that Asians and Latinos have (i.e., strong emphasis on family relations and religious ties) research indicates that the expectations set by the model minority have an effect on the acculturative path of Asians. Because of this, it is imperative to test the differences of the implications of generation status groups between Asians and Latinos in the U.S. Only statistically significant interaction terms are presented in Tables 7 and 8.

## **RESULTS**

### *Descriptive Results*

Tables 1–3 present the descriptive statistics for Asians, Latinos, and Asians and Latinos in the United States, respectively. Each table provides the mean and standard deviation of each variable in the study, stratified by generation status. Notably, the first generation in all three samples is substantially larger than the other generational categories. Similarly, the 2.5 generation is the smallest generation category across the three samples.

I conducted a series of  $\chi^2$ -tests and two tailed *t*-tests to examine whether there are any statistically significant differences between the first generation (reference category) and each of the other generational categories (i.e., 1.5 to third generation). In Tables 1 and 2, the analyses reveal that all of the acculturative factors (i.e., English proficiency, family cohesion, perceived discrimination, and ethnic identification) except *comfort in religion*, are significantly different across the 1.5, second, 2.5 and third generations in comparison to the first generation.

However, the differences between the first generation and the 1.5 generation are not limited to only acculturative factors. For instance, Table 1 shows that Asians in the 1.5 generation have significantly higher levels of educational attainment than Asians in the first generation. Specifically, only for 5% of Asians in the 1.5 generation, a high school degree is the highest educational attainment, compared to 19% of the first generation. Furthermore, Asians in



the 1.5 generation have a significantly higher percentage of individuals who obtained at least two years of college than their first-generation counterparts (30% vs. 21%), and a significantly higher percentage of individuals with a bachelor's degree or higher (52% vs. 43%).

Table 2 suggests that similar trends to those among Asian Americans (Table 1) are present among Latinos in the U.S. In addition to the four acculturative factors, there are significant differences in three out of the four categories of educational attainment: less than a high school degree, at least two years of college, and a bachelor's degree or higher. Specifically, only 25% of the 1.5 generation has a high school degree as the highest educational attainment in comparison to 51% of the first generation. Moreover, Latinos in the 1.5 generation have a significantly higher percentage of individuals who obtained at least two years of college (28% vs. 15%) and a bachelor's degree or higher (21% vs. 12%) than their first-generation counterparts.

It is important to note the differences between and within both racial groups. In particular, Asians in the first generation (Table 1) have substantially higher levels of education than Latinos (Table 2). For example, only 19% of first-generation Asians do not have a high school degree compared to 51% of first-generation Latinos. In contrast, only 2% of Asians in the third generation do not have a high school degree compared to 28% of third-generation Latinos. Moreover, 43% of first-generation Asians have a bachelor's degree or higher compared to 12% of their Latino counterparts. Interestingly, the percentage of Asians with bachelor's degrees or higher is significantly lower in the third generation compared to the first (43% vs. 35%), although it is significantly higher for 1.5 generation Asians (52%). In contrast, the percentage of Latinos who have a bachelor's degree or higher in the first and third generations is the same

(12%). At the same time, Latinos in the 1.5 and second generations are significantly more likely to have at least a BA degree (21% and 17%, respectively) than their first-generation counterparts.

Lastly, I conducted  $\chi^2$ -tests and *t*-tests to compare the second generation to the 2.5 generation and analyze potential differences between these two generational-status groups among Asians and Latinos. I found few significant differences between the second and 2.5 generation in both racial groups. Table 1 reveals that among Asians, the 2.5 generation reports significantly lower levels of ethnic identification than second generation. This suggests that 2.5 generation Asians identify less closely to other individuals of the same racial background compared to their second-generation counterparts.

In Table 2, Latinos in the 2.5 generation are significantly different to their second-generation counterparts in two acculturative factors: likelihood of seeking comfort in religion and perceived racial discrimination. Specifically, Latinos in the 2.5 generation report a higher rate of seeking comfort in religion and of experiencing racial discrimination in their lives.

### *Binary Logistic Regressions Results*

*Asian Americans.* In Table 4, Models 1 – 6 present the results of logistic regressions that examine the effects of generation status and several acculturation factors (i.e., English proficiency, family cohesion, comfort in religion, discrimination, and ethnic identification) on whether Asians have at some point within the last year thought that they should talk to a professional about their mental health. All six models also include measures of SES and control for such factors as subethnic groups, age, gender, marital status, and mental health rating. I assess the association between my independent and dependent variables by interpreting odds ratios. Specifically, an odds ratio less than 1.00 means that a unit increase in the independent results in a decrease in the odds of having perceived the need for mental health resources. To

calculate the odds ratio as a percent, I subtracted the odds ratio coefficient from 1.00 and multiplied the difference by 100. Likewise, an odds ratio greater than one means that a unit increase in the independent variable results in an increase in the odds of having perceived the need to seek mental health resources. To calculate the odds ratio as a percent I subtracted 1.00 from the odds ratio and multiplied the difference by 100 (for a similar approach, see Crosnoe et al. 2002).

In Model 1, I investigate the implications of generational status with the first generation serving as a reference group. Model 1 reveals that generation status is a significant predictor of whether Asians have considered seeking mental health services. Specifically, 1.5 generation Asians have an increase in the odds of having considered talking to a mental health professional compared to their first-generation counterparts. Similarly, the rest of the generational status groups were more likely to consider seeking mental health services compared to the first generation.

In addition, Model 1 indicates that greater educational attainment is associated with having considered talking to a mental health professional. Specifically, Asians who have obtained some college education or who have at least a bachelor's degree have an increase in the odds of having considered talking to a mental health professional compared to their counterparts who have less than a high school degree.

In Model 2, I examine the implications of *English proficiency* on the relationship between generation status and having perceived the need to seek mental health services. First, the results suggest that a unit increase in English proficiency (on a scale of 1 to 3) increases the odds of Asians having considered talking to a mental health professional by 70% ( $OR = 1.70, p < .001$ ). This means that Asians who speak, write, and read English well are more likely to have

perceived the need to seek mental health services. Furthermore, the inclusion of *English proficiency* results in decreased estimates for generational-status groups. Specifically, after considering *English proficiency*, the estimate for the 1.5 generation was reduced by 29% (from 1.13 to 0.80), for the second generation by 38% (from 1.04 to 0.64), for the 2.5 generation by 22% (from 1.95 to 1.52), and for the third generation by 23% (1.80 to 1.39).

Model 3 adds *family cohesion* to the previous model to examine whether this acculturative factor can make a difference in the implications of generation status. The model shows that reporting greater importance of family cohesion is associated with a lower likelihood of whether Asians have considered talking to a mental health professional. A unit increase in *family cohesion* (on a scale of 0-3) decreases the odds of Asians having considered talking to a mental health professional by 48% (OR = 0.52,  $p < .001$ ). Similar to *English proficiency*, the inclusion of *family cohesion* further reduces the estimates for the 1.5 generation by 13% (from 0.80 to 0.70), and for the second generation by 20% (from 0.64 to 0.51). Moreover, the association between second-generation Asians and having previously perceived the need to seek mental health service becomes non-significant.

Models 4 and 6 introduce *comfort in religion* and *ethnic identification*, respectively. Both of these variables are not predictive of whether respondents have considered talking to a mental health professional. Conversely, Model 5 demonstrates that perceived racial *discrimination* is associated with having previously felt the need to talk to a mental health professional. In particular, a unit increase in perceived racial discrimination (on a scale 0-5) increases the odds of Asians having perceived the need to talk to a mental health professional by 37% (OR = 1.37,  $p < .01$ ). Namely, Asians who report having experienced racial discrimination are more likely to

acknowledge that at some point within the last year they should have talked to a mental health professional about their emotional problems.

Lastly, the results in Model 6 indicate that some covariates (subethnic group, age, gender, and self-rated mental health) are associated with Asians having considered talking to a mental health professional. For instance, being Vietnamese is associated with a decrease in having perceived the need to seek mental health resources in contrast to their Filipino counterparts. Subsequently, Model 6 reveals Asians who are 35-49 years of age have a decrease in the odds of having considered talking to a mental health professional compared to their counterparts aged from 18 to 34. Furthermore, Model 6 suggests that Asian females have an increase in the odds of having considered talking to a mental health professional compared to their male counterparts. In addition, better mental health is associated with a lower likelihood of perceiving the need for mental health services. In particular, a unit increase in reporting better mental health (on a scale 0-4) decreases the odds of Asians having considered perceived the need to talk to a mental health professional by 59% (OR = 0.41,  $p < .001$ ).

*Latinos.* In Table 5, Models 1 – 6 present the results of logistic regressions that examine the effects of generation status and several acculturation factors (i.e., English proficiency, family cohesion, comfort in religion, discrimination, and ethnic identification) on whether Latinos have at some point within the last year thought that they should talk to a professional about their mental health. Model 1 indicates a significant association between generation status and having perceived the need for mental services. For example, 1.5-generation Latinos have an increase in the odds of having considered talking to a mental health professional compared to their first-generation counterparts. Similarly, the rest of the generational status groups were more likely to consider seeking mental health services compared to the first generation.

Model 1 also reveals that two measures of SES, *employment* and *education*, are predictive of having perceived the need for mental health services. Specifically, compared to their counterparts with less than a high school degree, Latinos with at least a bachelor's degree have an increase in the odds of having considered talking to a mental health professional by 49% (OR = 1.49,  $p < .05$ ). In contrast to the results for Asians, having some college education is not a statistically significant predictor among Latinos. However, among Latinos, being employed results in a decrease in the odds of having considered talking to a mental health professional by 34% (OR = 0.66,  $p < .01$ ). The implications of employment status among Latinos do not change after acculturative factors are introduced in Models 2 – 6.

Model 2 includes *English proficiency*. Consistent with the results for Asian Americans, *English proficiency* is a statistically significant predictor among Latinos. A unit increase in *English proficiency* (on a scale of 1 to 3) increases the odds of Latinos having considered talking to a mental health professional by 40% (OR = 1.40,  $p < .001$ ). Moreover, after the inclusion of *English proficiency*, all the estimates for generational status groups become non-significant. This indicates that generational status is not an independent predictor of perceived need of mental health services among Latinos which is in contrast to the results for Asian Americans.

Models 3 – 6 add one by one the remaining measures of acculturation: *family cohesion*, *comfort in religion*, *discrimination* and *ethnic identification*. All these factors, except for ethnic identification, are predictive of perceived need of mental health services. In Table 5, Models 3 and 5 indicate similar trends among Latinos as among Asian Americans. For example, reporting greater importance of family cohesion is associated with a lower likelihood of whether Latinos have considered talking to a mental health professional (Model 3). A unit increase in *family cohesion* (on a scale of 0 to 3) decreases the odds of Latinos having considered talking to a

mental health professional by 34% (OR = 0.66,  $p < .001$ ). Subsequently perceived racial *discrimination* is associated with having previously felt the need to talk to a mental health professional (Model 5). In particular, a unit increase in perceived racial discrimination (on a scale 0-5) increases the odds of Latinos having considered perceived the need to talk to a mental health professional by 38% (OR = 1.38,  $p < .001$ ).

However, in contrast to the results for Asian Americans, seeking *comfort in religion* during difficult times is related to perceived need of mental health services among Latinos. Specifically, in Model 4, a unit increase in the likelihood of seeking comfort in religion during difficult times increases the odds of Latinos' having considered talking to a mental health professional by 17% (OR = 1.17,  $p < .01$ ).

Lastly, the results in Model 6 suggest that among Latinos, being Mexican, other Latino, 35-49 years old, or 65 + years old, and self-reported health is associated with perceived need for mental health resources. For instance, being Mexican or other Latino, is associated with a lower likelihood of perceiving the need to use mental health services in comparison to their Cuban counterparts. Furthermore, being 35-49 years of age is associated with the perceived need to talk to a mental health professional. However, among Latinos, being between the ages of 35 and 49 is related to an increase in the odds of having considered talking to a mental health professional compared to being between the ages of 18 and 34, which is in contrast to the results for Asian Americans for whom the age group of 35 to 49 is associated with a lower likelihood of perceiving the need for mental health services (Table 4). At the same time, Latinos who are 65 + years of age have a decrease in the odds of having considered talking to a mental health professional compared to their counterparts aged between 18 and 34. In addition, a unit increase

in self-perceived mental health (on a scale 0-4) decreases the odds of Latinos' having considered perceived the need to talk to a mental health professional by 54% ( $OR = 0.46, p < .001$ ).

*Total Sample.* Table 6 presents the results of the logistic regressions for the entire sample (i.e., Asians and Latinos in the U.S.) Table 6 suggests similar trends to Table 4. For example, all of the generation-status measures are associated with having considered talking to a mental health professional in Model 1. Moreover, excepting the second generation, they remain statistically significant predictors in Model 6 (the full model). The inclusion of English proficiency partially mediates the association between generation status and having considered the need to talk to a mental health professional. After family cohesion was added in Model 3, the estimate for the second generation becomes non-significant.

Moreover, Model 1 in Table 6 shows that in the total sample Asians and Latinos with *some college* and at least a *bachelor's degree* are significantly more likely to have considered the need to talk to a mental health professional compared to those individuals whose educational attainment is less than high school. In addition, Table 6 demonstrates that employment status is related to having considered talking to a mental health professional even after all the measures of acculturation are taken into account.

Table 6 replaces the measures for subethnic groups with a single measure for race (i.e., Asian). Compared to Latinos, Asians have a decrease in the odds of having considered talking to a mental health professional by 51% ( $OR = 0.49, p < .001$ ) This association remains statistically significant across models.

In Model 6 (full model), the only two control variables that are predictive of having perceived the need for mental health resources in the combined sample are gender and self-perceived mental health. Thus, Asian and Latino females have an increase in the odds of having



considered talking to a mental health professional compared to their male counterparts. Also, similar to the results in Tables 4 (only Asians) and 5 (only Latinos), a unit increase in self-perceived mental health (on a scale 0-4) decreases the odds of having considered perceived the need to talk to a mental health professional by 54% (OR = 0.46,  $p < .001$ ).

### *Interactions*

*Asian Americans.* Table 7 presents the results of logistic regressions with statistically significant interaction terms between generational-status groups and measures of acculturation. Namely, the moderating effect of English proficiency on the implications of the third-generation status for whether Asians have at some point thought that they should talk to a professional about their mental health are presented in Model 1. Specifically, Model 1 reveals that higher English proficiency among third-generation Asian Americans is related to a greater likelihood of having considered talking to a mental health professional. Subsequently the moderating effects of seeking comfort in religion and ethnic identification on the implications of the 1.5-generation status for whether Asians have at some point thought that they should talk to a professional about their mental health are presented in Models 2 and 3, respectively. Model 2 shows that seeking comfort in religion during difficult times among 1.5-generation Asian Americans is related to being more likely to have perceived the need to talk to a mental health professional. However, Model 3 indicates a trend in the opposite direction for 1.5-generation Asians who identify more closely with their ethnic group. Specifically, 1.5-generation Asians with a higher ethnic identification are less likely to have perceived the need to talk to a mental health professional.

*Latinos.* No interactions between generation status and acculturation measures were found for Latinos.

*Total Sample.* Table 8 presents the results of the logistic regressions for the entire sample (i.e., Asians and Latinos in the U.S.). Similar to Table 7 (only Asians), Table 8 demonstrates that higher *English proficiency* (Model 1) among third-generation individuals is associated with a greater likelihood of having perceived the need for mental health resources, whereas higher *ethnic identification* (Model 3) among 1.5-generation individuals is predictive of a lower likelihood of having perceived this need. In contrast to the results for Asian Americans (Table 7), Model 2 in Table 8 shows that higher reported family cohesion among the second-generation individuals in the combined sample is related to a lower likelihood of having perceived the need for mental health services

Lastly, Model 4 examines whether race moderates the relationship between generation status and having considered at some point talking to a mental health professional. The model indicates that in all generation categories, Asians are more likely than first-generation Latinos to have perceived the need to talk to a mental health professional.

## **DISCUSSION**

In this study, I examined the interplay between generation status, acculturation, and SES on perception of needing to seek mental health services among Asians and Latinos in the United States. More specifically, I first assessed whether generation status is directly associated with perceived need for mental health services in these population groups. I then investigated the effect of several acculturative factors (i.e., English proficiency, family cohesion, comfort in religion, perceived racial discrimination, and ethnic identification) on their perception for the need of mental health services. Lastly, I explored whether and how measures of acculturation and race moderate the implications of generation status on individuals' perception of mental health needs. This study contributed to a growing body of literature in this area by further

refining generation status categories (i.e., by taking into account not only the first, second, and third generations but also 1.5 and 2.5 generations), by considering an extended number of acculturation measures, and by taking into account how different factors of acculturation and socioeconomic status can shape the association between different generation status groups and perceived need for mental health services in two minority groups in the U.S.

In this study, I examined the interplay between generation status, acculturation, and SES on perception of needing to seek mental health services among Asians and Latinos in the United States. It is important to note that the perception of needing to seek mental health services measures whether the individual has previously considered speaking to a mental health professional about problems with their emotions, nerves, mental health, or use of alcohol or drugs. This measure cannot indicate whether the individual actually sought mental health services. However, studies indicate that perception of health may be associated with the use of healthcare services (Jang, Kim and Chiriboga 2005; Krakau 1991). Specifically, individuals who perceived themselves to be in poor health were more likely to have sought health care services. At the same time, research indicates a strong stigma towards mental health disorders in Asian and Latino culture (Guarnaccia et al. 1992; Hong Ng 1997; Kouyoumdjian et al. 2003; Wynaden et al. 2005). Although perception is not a proxy of stigma, subjective evaluations of needing to use mental health services can possibly reveal individuals' openness towards utilizing mental health resources. In conclusion, individuals' perception of previous need for mental health services provides a unique angle to examine the underutilization of mental health resources among Asians and Latinos in the U.S.

Below, I discuss my findings in more detail.

### *Generation Status and Perception of Need in Mental Health Services*

The results for Asians only and for Asians and Latinos combined provided support for Hypothesis 1 stating that generational status might predict perceptions of needing mental health services. Among Asians, the 1.5, 2.5 and the third generation were significantly associated with having considered seeking mental health services, even after controlling for multiple factors of acculturation. These findings are in line with existing literature on the association between generation status and mental health service use among racial/ethnic minorities in the U.S. (Bauldry and Szaflarski 2017; Georgiades et al. 2018; Perreira and Ornelas 2011). For example, using the same dataset as the present study, Abe-Kim and colleagues (2007) found that among Asians, there are no differences between the second and first generations in terms of use of mental health services. Similarly, the findings of the present study suggest that the second generation is not significantly associated with ever perceiving the need for mental health services among Asian Americans. At the same time, my study highlights three important findings. First, migrant's age of arrival (child vs. adult) makes a difference in individuals' perceptions of needing mental health services and, therefore, it is important to differentiate between the first and 1.5 generations. More specifically, 1.5-generation Asians (i.e., foreign-born Asians who came to the U.S. when they were 13 years old or younger) are more likely to have perceived the need for mental health services than first-generation Asians (i.e., foreign-born Asians who came to the U.S. when they were older than 13 years of age). These findings are consistent with research by Rumabut and Ima (1988) suggesting that the earlier age of arrival among child migrants facilitates integration to the host country and internalization of the mainstream values and norms.

At the same time, the results of the present study indicate that Asian Americans with two U.S.-born parents (i.e., the second generation) are different from those with one foreign-born and

one native-born parent (i.e., the 2.5 generation). Specifically, compared to the first generation, only the 2.5 generation, but not the second generation, is more likely to have experienced the need for mental health services among Asian Americans. According to Ramakrishan (2004), differences between the second and 2.5 generations may be attributed to differences in racial identification resulting from having one foreign-born parent or two foreign-born parents. Namely, because individuals from the 2.5 generation are more likely to have parents of different racial groups, they tend to report a mixed racial identity. It is also possible that because individuals from the 2.5 generation have at least one native-born parent, they might be more integrated into the mainstream culture and, as a result, more accepting of American norms, values, and beliefs, including open-mindedness towards mental health issues. In addition, Ramakrishan (2004) contends that native-born parent may have a higher level of social network participation with other native-born persons than the foreign-born parent. In either case, 2.5-generation Asians have an increased likelihood of being exposed to individuals from different backgrounds, compared to their second-generation counterparts. Alternatively, exposure to individuals of different backgrounds could result in a weaker effect of the model minority myth and the Asian achievement paradox on 2.5-generation Asians compared to their second-generation counterparts. Specifically, the actions of second-generation Asians are highly contingent on the expectations set forth by their parents and society (Lee and Kye 2016; Lee and Zhou 2015).

Moreover, the present study indicates the presence of segmented assimilation among Asians. Existing literature contends that U.S.-born Asians have better health than their foreign-born counterparts (Breslau 2006). However, the present findings suggest that unlike the 1.5 generation, the second generation is not significantly different from the first. Yet, the present

study does not provide an explanation for this difference between the first and 1.5 generations. Additional research is needed to uncover the mechanisms behind this trend.

### *Acculturative Factors and Perception of Need in Mental Health Services*

The results of the present study reveal moderate support for Hypothesis 2 that *English proficiency, family cohesion, and perceived discrimination* can predict the previous need for mental health services for Asians, Latinos, and Asians and Latinos combined. The present study demonstrates that better English skills are related to a greater likelihood of having perceived the need to talk to a mental health professional for Asians and Latinos. This aligns with research on the role of English in enabling access to resources. Being proficient in English eliminates the language barrier that makes seeking mental health resources a challenge (Keyes et al. 2011; Kim et al. 2011).

However, after controlling for *English proficiency*, the association between the generational status groups and the need for mental health services became non-significant for Latinos. In other words, the findings indicate that *English proficiency* mediates the relationship between generation status and the need for mental health services. Similarly, a study by Xi and colleagues (2010) suggests that English proficiency is a key mediator in the relationship between structural factors (i.e., group size, segregation of ethnic group, linguistic heterogeneity, and earning inequality) and the economic assimilation of immigrants because knowing English facilitates intergroup interactions between immigrants and U.S.-born individuals. As a result, immigrants get easier access to resources and are able to integrate faster into the host country. Relatedly, better English skills could possibly help Latinos overcome structural barriers to mental health access and make it more plausible for them to seek mental health resources.

In addition, among Asians and Latinos in the U.S., greater emphasis on family cohesion was associated with a decreased perceived need for mental health resources in the present study. Similarly, Diaz and Nino (2019) found that one dimension of familism (familial support) may mitigate feelings of depression and anxiety and, therefore, be related to a decreased likelihood of seeking professional services for these two disorders. Relatedly, various studies suggest that foreign-born Latino immigrants can be suffering from emotional distress and they tend to turn to their family or religious community for support (Bledsoe 2008; Hong Ng 1997; Villatoro 2014; Wynaden et al. 2005). Therefore, it is possible that although immigrants are likely to experience psychological distress, their greater emphasis on family cohesion encourages them to use their familial network to mitigate severe symptoms of some mental health disorders, such as depression and anxiety. Those immigrants who are able to keep their symptoms controlled within the context of the family may feel less inclined to seek formal mental health services.

Furthermore, among Asians and Latinos living in the U.S., a greater likelihood of perceiving racial discrimination is associated with an increase in the perceived need for mental health services in the present study. This is in line with existing research on discrimination and health. For instance, research indicates that repeated exposure to discrimination may lead to psychological distress and physiological and chronic illnesses (Brown et al. 2000; Spencer and Chen 2004). In short, perceived racial discrimination may lead to psychological distress among Asians and Latinos in the U.S. and, as a result, it may increase the likelihood of them perceiving the need to talk to a mental health professional.

Although the present study reveals several trends that are consistent with existing literature, it also demonstrates some contradictory findings. For instance, the act of seeking comfort in religion during difficult times was only predictive of having needed mental resources

among Latinos but not among Asian Americans. These findings are inconsistent to the results of some prior research (Guarnacia et al. 1992; Wynaden et al. 2005). Specifically, religion, similar to family cohesion, serves as a support system during times of need. Therefore, individuals are more likely to utilize the religious or family network when problems arise rather than consider seeking formal help outside of their community (Guarnacia et al. 1992; Wynaden et al. 2005).

Furthermore, the findings of the present study reveal that two SES factors – educational attainment and employment status – may predict whether an individual has perceived the need to talk to a mental health professional. Specifically, having at least a bachelor’s degree is associated with having perceived the need to talk to a mental health professional for Asians, Latinos, and Asians and Latinos combined. Prior research provides two potential explanations for this finding. First, greater educational attainment leads to higher-paying jobs and, therefore, more economic resources for taking care of health (Ross and Mirowsky 2017). Second, higher education institutions teach individuals how to think critically and gain the skills needed to be proactive about their health (Ross and Mirowsky 2017).

In the present study, employed Latinos reported a lower likelihood of perceived need to seek mental health services, compared to their unemployed counterparts. This was also found to be true for the combined analysis of both Asians and Latinos in the U.S. These findings corroborate prior research on the linkages between employment and mental health. In particular, previous studies suggest that in addition to providing individuals with an income, being employed may be associated with decreased feelings of depression and greater self-esteem (Bush et al. 2007; Honkonen et al. 2007).



### *Mediating Effects of Acculturative Factors*

In support of Hypothesis 4, the results of the present study indicate that English proficiency partially explains the association between generation status and perceived need for mental health services in Asians, and fully in Latinos. Furthermore, after controlling for family cohesion, the second generation is no longer a predictor of having perceived the need for mental health resources. These findings of the present study support prior research. Namely, Asian immigration to the U.S is highly selective: Asian immigrants to the U.S. tend to have greater educational attainment and wealth than their counterparts who stay in their countries of origin (Zhou and Lee 2014). At the same time, although some Asian immigrants may already speak English at the time of arrival, Asians, as a group, still have a low mental health service utilization rate in the U.S (Pew 2015). Notably, even though Asians may be able to speak English, a noticeable accent may make integration into the American mainstream more difficult (Wang et al. 2011). Furthermore, research on segmented assimilation contends that Asians are more focused on success and upward social mobility than other immigrant groups in the U.S. For instance, Mouw and Xie (1999) indicate that some Asians actively reject those aspects of American culture that might lead to downward assimilation. In fact, the family of second-generation Asians might reinforce cultural expectations associated with the model minority image, making it difficult for second generation Asians to fully accept different American values (Lee and Kye 2016; Lee and Zhou 2015), including acceptance of being open about mental health issues

Additionally, the overall socioeconomic disadvantages that Latino immigrants face may push them towards a more integrative acculturation path than their Asian American counterparts. Research indicates that English proficiency mediates the relationship between structural factors

and economic assimilation (Xi et al. 2011). Perhaps, an increase in English proficiency allows Latinos not just to afford mental health services and have easier interactions within healthcare centers, but also to adopt less stigmatized views about mental health. In sum, the results of the present study indicate that generation status might be an independent predictor of perceiving the need for mental health services among Asians. These findings also suggest that future research should consider additional factors, such as the importance of maintaining the model minority image, because they might be responsible for the association between generation status and perceiving the need to seek mental health services among Asian Americans. Conversely, generation status is not an independent predictor for Latinos. Namely, the results suggest that English proficiency might be a stronger predictor of Latinos' perception of the need for mental health services than generation status.

#### *Moderating Effects of Acculturative Factors*

*Asian Americans.* Overall, the results of the present study provide partial support for the contention that measures of acculturation may moderate the relationship between generational status groups and perceptions of mental health needs (Hypothesis 4). Specifically, I found that English proficiency, seeking comfort in religion and ethnic identification might moderate this relationship. Namely, third-generation Asians with a high English proficiency are more likely to have perceived the need to seek mental health resources compared to third-generation Asians with a low English proficiency. This association corroborates with existing research on the role of English proficiency and acculturation. In particular, research indicates that it is not enough to know English in order for Asians to assimilate. Wang and colleagues (2011) found that Asians with an accented English are more likely to report feeling stereotyped as the foreign other. Therefore, an increase in English proficiency for third-generation Asians could be associated

with a facilitated integration into the United States culture, and thus, with an increase in the likelihood of choosing to seek mental health services.

This moderating effect of English proficiency also holds for the combined sample. Specifically, in the combined sample, degree of English Proficiency moderated the relationship between being the third-generation status and individuals' perceived need to speak to a mental health professional.

In addition, the present study indicates that seeking comfort in religion during difficult times could be associated with an increase in the likelihood of perceiving the need to seek mental health services among 1.5-generation Asians. The finding of the present study contradicts the contention that higher religious involvement leads to stigmatized views on mental health (Hong Ng 1997). However, the type of religious denomination may contribute to this inconsistency. Some research indicates that Asian immigrants often convert to a Christian based denomination upon arrival to the U.S (Hirschman 2004). Furthermore, studies on religion and the preservation ethnic identity among Koreans indicate that the transmission of Korean culture through religion is hindered by a lack of ethnic cultural traditions in worship services conducted in the English language (Min and Kim 2005; Park 2013). Therefore, 1.5-generation Asians who actively seek comfort in religion during difficult times may be more likely to seek mental health services because they are more likely to have integrated themselves into a more Americanized religious subculture (Min and Kim 2005).

Conversely, an increase in ethnic identity among 1.5-generation Asians leads to a decreased likelihood of having perceived the need to talk to a mental health professional. The findings of the present study support existing research. Namely, research indicates that 1.5-generation immigrants are more likely to develop a bicultural identity as a consequence of their

early age of arrival to the U.S. (Rumabut and Ima 1988). This suggests that 1.5-generation Asians may view themselves as both Asian and American, thereby suggesting a weaker ethnic identity than their first-generation counterparts. Furthermore, research on Asians and stigma indicates that in some Asian cultures, Asians may perceive seeking mental health services as a weakness and something that is shameful for both the individual and their family (Hong Ng 1997; Wynaden et al. 2005). Therefore, 1.5-generation Asians with a high ethnic identity may be less likely to have perceived the need for mental health services because of the stronger adherence to the traditional values of their culture.

The moderating effect of ethnic identification also holds for the combined sample. Particularly, 1.5-generation Asians and Latinos that have a higher ethnic identification are less likely to have perceived the need to seek mental health services.

*Asians and Latinos.* In addition to English proficiency and ethnic identification, the present study indicates that an increase in family cohesion results in a decreased likelihood of having perceived the need to seek mental health services among Asians and Latinos in the second generation. This finding supports research on intergenerational conflict among immigrants. Specifically, research suggests that intergenerational conflict between the first- and second-generation Asians could be the result of differences in cultural values (Gim Chung 2011). At the same time, another study found that less acculturated Latinos are more likely to have higher family cohesion than more acculturated Latinos (Koneru 2007). Therefore, it is possible that higher family cohesion among second generation immigrants results in retained cultural stigma on mental health.

### *Moderating Effects of Race*

In support of Hypothesis 5, the present study revealed generational status differences between Asians and Latinos in the U.S. Specifically, all generation status categories (1.5-, second-, 2.5-, and third-generation) Asians were found to be more likely to have perceived the need to talk to a mental health professional, compared to 2.5- and third-generation Latinos, respectively. This finding contradicts statistics showing that Latinos have higher rates of mental health service use than Asian Americans, 31% vs. 22% (APA 2015). However, this contradiction can be explained by the differences in educational attainment and income between Asians and Latinos. Research indicates that Asian immigration to the U.S. is more selective than Latino immigration (Zhou and Lee 2014). At the same time, the finding of the present study supports the contention that later generations of immigrants are more likely to use mental health services (Breslau and Chang 2006; Hamilton et al. 2011). Therefore, it is possible that first-generation Latinos' lower economic resources and lower acculturation in comparison to Asians in the 1.5 generation or higher contributes to their lower likelihood of considering seeking mental health services.

### *Covariates and Perception of Need in Mental Health Service*

*Subethnic groups.* The results of the present study indicate that Asians who are Vietnamese are more likely to perceive the need to seek mental health services in comparison to their Filipino counterparts. This finding supports research on Vietnamese immigrants living in the United States. Because of the Vietnam war, many Vietnamese came to the United States as refugees. Note that Vietnamese refugees who fled to the United States post 1975, have lower educational attainment than prior Vietnamese immigrants.

Even though society affiliates the model minority image to Vietnamese Americans, society also at times generalizes Vietnamese immigrants as “high school drop-outs, gangsters and welfare recipients” (Ngo and Lee 2007 p.416) This second generalization could be a consequence of the refugee status of Vietnamese immigrants post 1975 (Ngo 2006; Ngo and Lee 2007). On average, refugee Southeastern Asians had lower rates of educational attainment and income than prior waves of Asian immigrants (Ngo and Lee 2007). Therefore, Vietnamese individual’s higher likelihood of talking to a mental health professional could be a result of the negative generalizations towards them interfering with the social pressures of the model minority image.

Subsequently, the present study indicates that being Mexican or other Latino is associated with a lower likelihood of perceiving the need to seek mental health resources than their Cuban counterparts. This finding supports the contention that because of structural barriers, citizenship increases the likelihood that individuals seek mental health services. This is because citizenship provides access to public and private health insurance to individuals (Chen and Vargas-Bustamante 2011). Specifically, Cuban immigrants are more likely to be U.S. citizens than Mexican immigrants and immigrants from other Latino countries. Therefore, Mexicans’ and other Latinos’ lower likelihood of having perceived the need to seek mental health services may be attributed to possible lower rates of American citizenship than Cubans.

*Age.* The findings of this study also suggest that being a 35-49-year-old Asian or Latino might be associated with having perceived the need to talk to a mental health professional about their emotional problems. However, this association did not go in the same direction for each racial group. More specifically, being between the ages of 35 and 49 was related to a greater perceived need for mental health services among Latinos but to a lower perceived need among

Asians. Research indicates that willingness to seek mental health services increases with age as individuals gain knowledge about mental health (Gonzalez et al. 2005). Although research does not support the findings for 35-49-year-old Asians, their lower perceived need for mental health services could be explained by the mental health stigma that is more prevalent in earlier generations.

In the present study, Latinos who are 65 years or older were less likely to have perceived the need to talk to a mental health professional compared to their counterparts between ages 18 and 34. This association is supported by Barrio and colleagues (2008). Specifically, the researchers reported that older Latinos are less likely to want to engage with mental health service facilities because of language barriers, lack of transportation, and fear that they may not be treated with respect because of their minority status (Barrio et al. 2008).

However, the differences between these two racial groups may be attributed to their different paths of acculturation. For instance, Latinos may improve their English proficiency with age and, therefore, have fewer structural barriers to accessing mental health services in middle adulthood. Similarly, the present study indicates that later generations of Asians are more likely to use mental health services. Therefore, younger Asians may be from younger generations and, as a result, be more willing to talk to a mental health professional if needed.

*Gender.* Literature on gender and use of mental health services contends that women have higher rates of mental health service use compared to men (Ojeda and McGuire 2006). Researchers assert that these differences in the use of mental health services may stem from differences in gender socialization and gender roles. Furthermore, Asian and Latino culture is heavily characterized with hypermasculinity (Fragosos et al. 2000; Pho and Mulvey 2003). In particular, visits to doctors vary by gender: women are more likely than men to turn to health

care professionals if needed. Therefore, it is possible that hypermasculinity might explain higher rates of perceived need of mental health services among women in the present study among Asian Americans and Asians and Latinos combined. Interestingly, gender was not predictive of the perceived need to use mental health services among Latinos in the present study.

*Self-reported mental health.* The results of the present study indicate that Asians and Latinos with a higher self-reported mental health are less likely to have perceived the need to seek mental health resources. This finding corroborates with existing research on the association between self-reported health and health service use. Zuvekas and Fleishman (2008) found that individuals with a lower self-reported mental health have higher rates of mental health treatment visits and higher rates of medication purchases. Reporting better mental health signifies that the individual does not perceive any pressing emotional issues that interfere with their everyday life and, therefore, does not have the need to seek mental health services.

#### *Limitations of the Present Study*

The main contribution of my study was to use more refined categories of the generational status. However, due to data limitations (i.e., small sample sizes), I was not able to consider additional generational-status groups (i.e., beyond the third generation). Future research might benefit from taking into account immigrant generations beyond the third one in order to examine whether they are independently associated with individuals' perception of needing to see a mental health professional among Asians and Latinos in the U.S.

A second limitation of this study is related to reverse causality due to the cross-sectional nature of the dataset. To mitigate this limitation, future research would benefit from using longitudinal data in order to investigate how the different pathways of acculturation affect mental health service over several generations.



## *Conclusion*

Despite the limitations, this study advances current research on acculturation and mental health service use among Asians and Latinos in the U.S. Specifically, this study highlights that it is important to use more refined generational categories in intergenerational health mobility research. This is especially evident for Asian Americans because the relevant results indicate a significant association between multiple generation categories (1.5, 2.5, and third generation) and having perceived the need to talk to a mental health professional. Moreover, this study points out that it is crucial to investigate the implications of acculturative factors for generational status differences in individuals' perceptions of mental health service needs among Asians and Latinos in the U.S. For instance, although generational status is an independent predictor among Asian Americans, the analysis reveals that English proficiency explains away the association between generation status and mental health service needs among Latinos. Most importantly, the present study suggests that multiple cultural factors are significantly associated with the perceived need for mental health services. Specifically, such factors as English proficiency, family cohesion, seeking comfort in religion and ethnic identification might make a difference in individuals' use of mental health resources among Asians and Latinos in the U.S. across generations. Public policies should focus on providing affordable English as Second Language programs for adult immigrants. Knowing English would increase the pool of resources available to immigrants and facilitate their access to mental health resources. Moreover, Asian and Latino communities in the U.S. would benefit from additional educational resources. Extra funding could increase the percentage of individuals who obtain a bachelors' degree or higher which might facilitate access to relevant health information and skills among Asians and Latinos in the United States.

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**Table 1.** Means (Standard Deviations) for Study Variables by Generation Status among Asian Americans (N = 1,923).

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
n	1,285	207	177	78	176	
Dependent variables						
Should seek services	0.06 (0.23)	0.15 <sup>a</sup> (0.36)	0.14 <sup>a</sup> (0.34)	0.23 <sup>a</sup> (0.42)	0.20 <sup>a</sup> (0.40)	0 = <i>no</i> ; 1 = <i>yes</i>
Independent variables						
English proficiency	1.45 (0.98)	2.42 <sup>a</sup> (0.72)	2.62 <sup>a</sup> (0.60)	2.73 <sup>a</sup> (0.49)	2.62 <sup>a</sup> (0.54)	0 = <i>poor</i> ; 3 = <i>excellent</i>
Family cohesion	2.76 (0.39)	2.54 <sup>a</sup> (0.56)	2.52 <sup>a</sup> (0.51)	2.51 <sup>a</sup> (0.64)	2.57 <sup>a</sup> (0.56)	0 = <i>not at all important</i> ; 3 = <i>very important</i>
Comfort in religion	1.44 (1.23)	1.41 (1.19)	1.60 (1.22)	1.33 (1.19)	1.55 (1.24)	0 = <i>never</i> ; 3 = <i>often</i>
Discrimination	0.48 (0.64)	0.77 <sup>a</sup> (0.62)	0.92 <sup>a</sup> (0.75)	0.91 <sup>a</sup> (0.83)	0.94 <sup>a</sup> (0.78)	0 = <i>never</i> ; 5 = <i>almost every day</i>
Ethnic identification	2.56 (0.67)	2.35 <sup>a</sup> (0.72)	2.28 <sup>a</sup> (0.68)	2.00 <sup>ab</sup> (0.77)	2.12 <sup>a</sup> (0.78)	0 = <i>very closely</i> ; 3 = <i>not at all</i>
SES						
Education						
Less than high school (reference)	0.19 (0.39)	0.05 <sup>a</sup> (0.22)	0.05 <sup>a</sup> (0.22)	0.03 <sup>a</sup> (0.16)	0.02 <sup>a</sup> (0.15)	0 = <i>no</i> ; 1 = <i>yes</i>
High school	0.17 (0.37)	0.12 (0.33)	0.18 (0.39)	0.19 (0.40)	0.24 <sup>a</sup> (0.43)	0 = <i>no</i> ; 1 = <i>yes</i>
Some college	0.21 (0.41)	0.30 <sup>a</sup> (0.46)	0.32 <sup>a</sup> (0.47)	0.40 <sup>a</sup> (0.49)	0.39 <sup>a</sup> (0.49)	0 = <i>no</i> ; 1 = <i>yes</i>
BA +	0.43 (0.50)	0.52 <sup>a</sup> (0.50)	0.45 (0.50)	0.38 (0.49)	0.35 <sup>a</sup> (0.48)	0 = <i>no</i> ; 1 = <i>yes</i>
Income (logged)	10.41 (2.35)	10.18 (2.93)	10.22 (2.75)	10.41 (2.65)	10.57 (2.13)	0-12.21
Employed	0.67 (0.47)	0.69 (0.47)	0.61 (0.49)	0.65 (0.48)	0.76 <sup>a</sup> (0.43)	0 = <i>no</i> ; 1 = <i>yes</i>
Health insurance	0.85 (0.35)	0.85 (0.36)	0.86 (0.34)	0.88 (0.32)	0.92 <sup>a</sup> (0.27)	0 = <i>no</i> ; 1 = <i>yes</i>

(continued)

Table 1. (continued)

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
Control variables						
Subethnic group						
Filipino (reference)	0.21 (0.41)	0.25 (0.43)	0.43 <sup>a</sup> (0.50)	0.38 <sup>a</sup> (0.49)	0.26 (0.44)	0 = <i>no</i> ; 1 = <i>yes</i>
Chinese	0.29 (0.46)	0.29 (0.46)	0.27 (0.45)	0.27 (0.45)	0.27 (0.45)	0 = <i>no</i> ; 1 = <i>yes</i>
Vietnamese	0.30 (0.46)	0.29 (0.45)	0.10 <sup>a</sup> (0.30)	0.01 <sup>ab</sup> (0.11)	0.00 <sup>a</sup> (0.00)	0 = <i>no</i> ; 1 = <i>yes</i>
Other Asian	0.20 (0.40)	0.17 (0.38)	0.20 (0.40)	0.33 <sup>ab</sup> (0.47)	0.47 <sup>a</sup> (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
18-34 (reference)	0.27 (0.44)	0.74 <sup>a</sup> (0.44)	0.71 <sup>a</sup> (0.46)	0.55 <sup>ab</sup> (0.50)	0.42 <sup>a</sup> (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
35-49	0.40 (0.49)	0.21 <sup>a</sup> (0.41)	0.11 <sup>a</sup> (0.32)	0.21 <sup>a</sup> (0.41)	0.37 (0.48)	0 = <i>no</i> ; 1 = <i>yes</i>
50-64	0.25 (0.43)	0.03 <sup>a</sup> (0.18)	0.11 <sup>a</sup> (0.31)	0.13 <sup>a</sup> (0.34)	0.19 (0.40)	0 = <i>no</i> ; 1 = <i>yes</i>
65 and older	0.09 (0.29)	0.01 <sup>a</sup> (0.10)	0.07 (0.26)	0.12 (0.32)	0.02 <sup>a</sup> (0.13)	0 = <i>no</i> ; 1 = <i>yes</i>
Female	0.53 (0.50)	0.50 (0.50)	0.50 (0.50)	0.54 (0.50)	0.49 (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
Marital status						
Married	0.81 (0.40)	0.47 <sup>a</sup> (0.50)	0.41 <sup>a</sup> (0.49)	0.58 <sup>ab</sup> (0.50)	0.59 <sup>a</sup> (0.49)	0 = <i>no</i> ; 1 = <i>yes</i>
Unpartnered <sup>c</sup>	0.09 (0.28)	0.03 <sup>a</sup> (0.17)	0.07 (0.26)	0.13 (0.34)	0.14 <sup>a</sup> (0.35)	0 = <i>no</i> ; 1 = <i>yes</i>
Never married (reference)	0.11 (0.31)	0.50 <sup>a</sup> (0.50)	0.52 <sup>a</sup> (0.50)	0.29 <sup>ab</sup> (0.46)	0.27 <sup>a</sup> (0.45)	0 = <i>no</i> ; 1 = <i>yes</i>
Mental health rating	2.75 (1.04)	3.02 <sup>a</sup> (0.91)	3.02 <sup>a</sup> (0.87)	3.14 <sup>a</sup> (0.94)	2.98 <sup>a</sup> (0.89)	0 = <i>poor</i> ; 4 = <i>excellent</i>

*Note:* Means for dichotomous variables can be interpreted as the proportion of the observations coded 1 on a specific variable.

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> Statistically significant difference between a certain generation-status group and the first generation (reference category) at least at the .05 level.

<sup>b</sup> Statistically significant difference between the second generation and the 2.5 generation (reference category) at least at the .05 level.

<sup>c</sup> Unpartnered includes divorced/separated/widowed.

**Table 2.** Means (Standard Deviations) for Study Variables by Generation Status among Latinos (N = 2,415).

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
n	1194	320	351	159	391	
Dependent variables						
Should seek services	0.13 (0.34)	0.18 <sup>a</sup> (0.39)	0.20 <sup>a</sup> (0.40)	0.24 <sup>a</sup> (0.43)	0.26 <sup>a</sup> (0.44)	0 = <i>no</i> ; 1 = <i>yes</i>
Independent variables						
English proficiency	0.58 (0.79)	2.05 <sup>a</sup> (0.93)	2.38 <sup>a</sup> (0.84)	2.50 <sup>a</sup> (0.63)	2.44 <sup>a</sup> (0.77)	0 = <i>poor</i> ; 3 = <i>excellent</i>
Family cohesion	2.74 (0.43)	2.58 <sup>a</sup> (0.56)	2.52 <sup>a</sup> (0.56)	2.44 <sup>a</sup> (0.63)	2.49 <sup>a</sup> (0.58)	0 = <i>not at all important</i> ; 3 = <i>very important</i>
Comfort in religion	1.63 (1.21)	1.65 (1.18)	1.66 (1.15)	1.87 <sup>ab</sup> (1.18)	1.64 (1.17)	0 = <i>never</i> ; 3 = <i>often</i>
Discrimination	0.32 (0.60)	0.58 <sup>a</sup> (0.71)	0.68 <sup>a</sup> (0.75)	0.89 <sup>ab</sup> (0.85)	0.92 <sup>a</sup> (0.92)	0 = <i>never</i> ; 5 = <i>almost every day</i>
Ethnic identification	2.59 (0.73)	2.53 <sup>a</sup> (0.69)	2.49 <sup>a</sup> (0.72)	2.42 <sup>a</sup> (0.71)	2.45 <sup>a</sup> (0.70)	0 = <i>very closely</i> ; 3 = <i>not at all</i>
SES						
Education						
Less than high school (reference)	0.51 (0.50)	0.25 <sup>a</sup> (0.43)	0.24 <sup>a</sup> (0.43)	0.26 <sup>a</sup> (0.44)	0.28 <sup>a</sup> (0.45)	0 = <i>no</i> ; 1 = <i>yes</i>
High school	0.22 (0.41)	0.26 (0.44)	0.27 <sup>a</sup> (0.45)	0.23 (0.42)	0.34 <sup>a</sup> (0.47)	0 = <i>no</i> ; 1 = <i>yes</i>
Some college	0.15 (0.36)	0.28 <sup>a</sup> (0.45)	0.31 <sup>a</sup> (0.46)	0.34 <sup>a</sup> (0.48)	0.26 <sup>a</sup> (0.44)	0 = <i>no</i> ; 1 = <i>yes</i>
BA +	0.12 (0.32)	0.21 <sup>a</sup> (0.41)	0.17 <sup>a</sup> (0.38)	0.17 (0.38)	0.12 (0.32)	0 = <i>no</i> ; 1 = <i>yes</i>
Income (logged)	9.63 (2.26)	10.09 <sup>a</sup> (2.36)	10.13 <sup>a</sup> (1.98)	10.00 (2.30)	10.22 <sup>a</sup> (2.05)	0-12.21
Employed	0.58 (0.49)	0.68 <sup>a</sup> (0.47)	0.66 <sup>a</sup> (0.48)	0.66 <sup>a</sup> (0.48)	0.65 <sup>a</sup> (0.48)	0 = <i>no</i> ; 1 = <i>yes</i>
Health insurance	0.62 (0.49)	0.77 <sup>a</sup> (0.42)	0.75 <sup>a</sup> (0.43)	0.75 <sup>a</sup> (0.44)	0.81 <sup>a</sup> (0.39)	0 = <i>no</i> ; 1 = <i>yes</i>

(continued)

Table 2. (continued)

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
Control variables						
Subethnic group						
Cuban (reference)	0.33 (0.47)	0.30 (0.46)	0.18 <sup>a</sup> (0.38)	0.06 <sup>a</sup> (0.24)	0.01 <sup>a</sup> (0.10)	0 = <i>no</i> ; 1 = <i>yes</i>
Mexican	0.30 (0.46)	0.26 (0.44)	0.32 (0.47)	0.46 <sup>a</sup> (0.50)	0.47 <sup>a</sup> (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
Puerto Rican	0.09 (0.29)	0.22 <sup>a</sup> (0.41)	0.32 <sup>a</sup> (0.47)	0.29 <sup>a</sup> (0.45)	0.28 <sup>a</sup> (0.45)	0 = <i>no</i> ; 1 = <i>yes</i>
Other Latino	0.28 (0.45)	0.23 (0.42)	0.17 <sup>a</sup> (0.38)	0.19 <sup>a</sup> (0.39)	0.24 (0.43)	0 = <i>no</i> ; 1 = <i>yes</i>
18-34 (reference)	0.31 (0.46)	0.52 <sup>a</sup> (0.50)	0.60 <sup>a</sup> (0.49)	0.53 <sup>a</sup> (0.50)	0.47 <sup>a</sup> (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
35-49	0.32 (0.47)	0.34 (0.47)	0.25 <sup>a</sup> (0.43)	0.33 (0.47)	0.36 (0.48)	0 = <i>no</i> ; 1 = <i>yes</i>
50-64	0.23 (0.42)	0.13 <sup>a</sup> (0.33)	0.09 <sup>a</sup> (0.29)	0.11 <sup>a</sup> (0.32)	0.14 <sup>a</sup> (0.35)	0 = <i>no</i> ; 1 = <i>yes</i>
65 and older	0.14 (0.35)	0.01 <sup>a</sup> (0.10)	0.06 <sup>a</sup> (0.24)	0.03 <sup>a</sup> (0.16)	0.03 <sup>a</sup> (0.18)	0 = <i>no</i> ; 1 = <i>yes</i>
Female	0.56 (0.50)	0.55 (0.50)	0.55 (0.50)	0.60 (0.49)	0.57 (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
Marital status						
Married	0.68 (0.47)	0.62 <sup>a</sup> (0.49)	0.53 <sup>a</sup> (0.50)	0.57 <sup>a</sup> (0.50)	0.59 <sup>a</sup> (0.49)	0 = <i>no</i> ; 1 = <i>yes</i>
Unpartnered <sup>c</sup>	0.21 (0.41)	0.16 <sup>a</sup> (0.36)	0.15 <sup>a</sup> (0.36)	0.16 (0.37)	0.18 (0.38)	0 = <i>no</i> ; 1 = <i>yes</i>
Never married (reference)	0.11 (0.31)	0.23 <sup>a</sup> (0.42)	0.32 <sup>a</sup> (0.47)	0.28 <sup>a</sup> (0.45)	0.23 <sup>a</sup> (0.42)	0 = <i>no</i> ; 1 = <i>yes</i>
Mental health rating	2.68 (1.09)	2.95 <sup>a</sup> (1.01)	2.97 <sup>a</sup> (0.95)	2.94 <sup>a</sup> (0.94)	2.78 <sup>a</sup> (0.98)	0 = <i>poor</i> ; 4 = <i>excellent</i>

*Note:* Means for dichotomous variables can be interpreted as the proportion of the observations coded 1 on a specific variable.

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> Statistically significant difference between a certain generation-status group and the first generation (reference category) at least at the .05 level.

<sup>b</sup> Statistically significant difference between the second generation and the 2.5 generation (reference category) at least at the .05 level.

<sup>c</sup> Unpartnered includes divorced/separated/widowed.

**Table 3.** Means (Standard Deviations) for Study Variables by Generation Status among Asian Americans and Latinos (N = 4,338).

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
n	2,479	527	528	237	567	
Dependent variables						
Should seek services	0.09 (0.29)	0.17 <sup>a</sup> (0.38)	0.18 <sup>a</sup> (0.38)	0.24 <sup>a</sup> (0.43)	0.24 <sup>a</sup> (0.43)	0 = <i>no</i> ; 1 = <i>yes</i>
Independent variables						
English proficiency	1.03 (0.99)	2.20 <sup>a</sup> (0.87)	2.46 <sup>a</sup> (0.78)	2.58 <sup>a</sup> (0.60)	2.49 <sup>a</sup> (0.71)	0 = <i>poor</i> ; 3 = <i>excellent</i>
Family cohesion	2.75 (0.41)	2.56 <sup>a</sup> (0.56)	2.52 <sup>a</sup> (0.54)	2.46 <sup>a</sup> (0.63)	2.51 <sup>a</sup> (0.57)	0 = <i>not at all important</i> ; 3 = <i>very important</i>
Comfort in religion	1.53 (1.22)	1.56 (1.19)	1.64 <sup>a</sup> (1.18)	1.69 <sup>b</sup> (1.20)	1.61 (1.19)	0 = <i>never</i> ; 3 = <i>often</i>
Discrimination	0.40 (0.63)	0.65 <sup>a</sup> (0.68)	0.76 <sup>a</sup> (0.76)	0.90 <sup>ab</sup> (0.84)	0.93 <sup>a</sup> (0.88)	0 = <i>never</i> ; 5 = <i>almost every day</i>
Ethnic identification	2.57 (0.70)	2.46 <sup>a</sup> (0.71)	2.42 <sup>a</sup> (0.72)	2.28 <sup>a</sup> (0.75)	2.34 <sup>a</sup> (0.74)	0 = <i>very closely</i> ; 3 = <i>not at all</i>
SES						
Education						
Less than high school (reference)	0.34 (0.48)	0.17 <sup>a</sup> (0.38)	0.18 <sup>a</sup> (0.38)	0.18 <sup>a</sup> (0.39)	0.20 <sup>a</sup> (0.40)	0 = <i>no</i> ; 1 = <i>yes</i>
High school	0.19 (0.39)	0.20 (0.40)	0.24 <sup>a</sup> (0.43)	0.22 (0.41)	0.31 <sup>a</sup> (0.46)	0 = <i>no</i> ; 1 = <i>yes</i>
Some college	0.18 (0.39)	0.29 <sup>a</sup> (0.45)	0.31 <sup>a</sup> (0.46)	0.36 <sup>a</sup> (0.48)	0.30 <sup>a</sup> (0.46)	0 = <i>no</i> ; 1 = <i>yes</i>
BA +	0.28 (0.45)	0.33 <sup>a</sup> (0.47)	0.27 (0.44)	0.24 (0.43)	0.19 <sup>a</sup> (0.39)	0 = <i>no</i> ; 1 = <i>yes</i>
Income (logged)	10.03 (2.34)	10.13 (2.60)	10.16 (2.26)	10.13 (2.42)	10.33 <sup>a</sup> (2.08)	0-12.21
Employed	0.62 (0.48)	0.68 <sup>a</sup> (0.47)	0.64 (0.48)	0.66 (0.48)	0.68 <sup>a</sup> (0.47)	0 = <i>no</i> ; 1 = <i>yes</i>
Health insurance	0.74 (0.44)	0.80 <sup>a</sup> (0.40)	0.79 <sup>a</sup> (0.41)	0.79 (0.41)	0.84 <sup>a</sup> (0.36)	0 = <i>no</i> ; 1 = <i>yes</i>

(continued)

Table 3. (continued)

Generation status	First (reference category)	1.5	Second	2.5	Third	Range
Variables						
Control variables						
Race						
Asian	0.52 (0.50)	0.39 <sup>a</sup> (0.49)	0.34 <sup>a</sup> (0.47)	0.31 <sup>ab</sup> (0.47)	0.31 <sup>a</sup> (0.46)	0 = <i>no</i> ; 1 = <i>yes</i>
Age						
18-34 (reference)	0.29 (0.45)	0.61 <sup>a</sup> (0.49)	0.64 <sup>a</sup> (0.48)	0.54 <sup>a</sup> (0.50)	0.45 <sup>a</sup> (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
35-49	0.36 (0.48)	0.29 <sup>a</sup> (0.45)	0.20 <sup>a</sup> (0.40)	0.29 <sup>a</sup> (0.45)	0.36 (0.48)	0 = <i>no</i> ; 1 = <i>yes</i>
50-64	0.24 (0.43)	0.09 <sup>a</sup> (0.29)	0.10 <sup>a</sup> (0.30)	0.12 <sup>a</sup> (0.32)	0.15 <sup>a</sup> (0.36)	0 = <i>no</i> ; 1 = <i>yes</i>
65 and older	0.11 (0.32)	0.01 <sup>a</sup> (0.10)	0.06 <sup>a</sup> (0.25)	0.05 <sup>a</sup> (0.23)	0.03 <sup>a</sup> (0.17)	0 = <i>no</i> ; 1 = <i>yes</i>
Female	0.54 (0.50)	0.53 (0.50)	0.53 (0.50)	0.58 (0.49)	0.54 (0.50)	0 = <i>no</i> ; 1 = <i>yes</i>
Marital status						
Married	0.75 (0.44)	0.56 <sup>a</sup> (0.50)	0.49 <sup>a</sup> (0.50)	0.57 <sup>a</sup> (0.50)	0.59 <sup>a</sup> (0.49)	0 = <i>no</i> ; 1 = <i>yes</i>
Unpartnered <sup>c</sup>	0.15 (0.35)	0.11 <sup>a</sup> (0.31)	0.13 (0.33)	0.15 (0.36)	0.17 (0.37)	0 = <i>no</i> ; 1 = <i>yes</i>
Never married (reference)	0.11 (0.31)	0.33 <sup>a</sup> (0.47)	0.38 <sup>a</sup> (0.49)	0.28 <sup>a</sup> (0.45)	0.25 <sup>a</sup> (0.43)	0 = <i>no</i> ; 1 = <i>yes</i>
Mental health rating	2.72 (1.06)	2.98 <sup>a</sup> (0.97)	2.98 <sup>a</sup> (0.92)	3.01 <sup>a</sup> (0.94)	2.84 <sup>a</sup> (0.96)	0 = <i>poor</i> ; 4 = <i>excellent</i>

*Note:* Means for dichotomous variables can be interpreted as the proportion of the observations coded 1 on a specific variable.

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> Statistically significant difference between a certain generation-status group and the first generation (reference category) at least at the .05 level.

<sup>b</sup> Statistically significant difference between the second generation and the 2.5 generation (reference category) at least at the .05 level.

<sup>c</sup> Unpartnered includes divorced/separated/widowed.

**Table 4.** Summary of Logistic Regression Analysis for Variables Predicting Perceived Need to Seek Health Services within the Last Year among Asian Americans ( $N = 1,923$ ).

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR
Independent variables												
Generation status (reference: first)												
1.5	1.13*** (0.26)	3.10	0.80** (0.28)	2.23	0.70* (0.28)	2.01	0.69* (0.28)	1.99	0.66* (0.28)	1.93	0.64* (0.28)	1.90
Second	1.04*** (0.29)	2.82	0.64* (0.31)	1.90	0.51 (0.31)	1.67	0.50 (0.31)	1.65	0.43 (0.31)	1.53	0.40 (0.31)	1.49
2.5	1.95*** (0.34)	7.03	1.52*** (0.35)	4.57	1.40*** (0.36)	4.07	1.43*** (0.36)	4.18	1.35*** (0.36)	3.84	1.28*** (0.37)	3.60
Third	1.80*** (0.26)	6.04	1.39*** (0.28)	4.03	1.32*** (0.28)	3.73	1.31*** (0.28)	3.70	1.21*** (0.29)	3.37	1.16*** (0.29)	3.19
English proficiency			0.53*** (0.14)	1.70	0.50*** (0.14)	1.65	0.49*** (0.14)	1.64	0.49*** (0.14)	1.63	0.48*** (0.14)	1.62
Family cohesion					-0.66*** (0.16)	0.52	-0.68*** (0.16)	0.51	-0.64*** (0.16)	0.53	-0.59*** (0.16)	0.55
Comfort in religion							0.11 (0.07)	1.12	0.10 (0.07)	1.11	0.10 (0.08)	1.11
Discrimination									0.32** (0.12)	1.37	0.33** (0.12)	1.39
Ethnic identification											-0.19 (0.12)	0.83
SES												
Education <sup>a</sup>												
High school	0.47 (0.38)	1.59	0.29 (0.39)	1.34	0.22 (0.39)	1.24	0.21 (0.39)	1.23	0.20 (0.39)	1.22	0.20 (0.39)	1.22
Some college	0.88* (0.36)	2.41	0.56 (0.37)	1.74	0.49 (0.37)	1.63	0.47 (0.37)	1.60	0.47 (0.37)	1.59	0.48 (0.38)	1.62
BA +	1.35*** (0.35)	3.87	0.94* (0.37)	2.56	0.88* (0.37)	2.41	0.85* (0.37)	2.35	0.87* (0.37)	2.38	0.91* (0.38)	2.48
Income (logged)	0.03 (0.04)	1.03	0.02 (0.04)	1.02	0.03 (0.04)	1.03	0.03 (0.04)	1.03	0.02 (0.04)	1.02	0.02 (0.04)	1.02

(continued)

Table 4. (continued)

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>
Employed	-0.23 (0.19)	0.80	-0.24 (0.19)	0.79	-0.26 (0.20)	0.77	-0.23 (0.20)	0.80	-0.23 (0.20)	0.79	-0.24 (0.20)	0.78
Health insurance	-0.06 (0.25)	0.94	-0.12 (0.25)	0.89	-0.09 (0.26)	0.92	-0.08 (0.26)	0.93	-0.10 (0.26)	0.90	-0.09 (0.26)	0.92
Control variables												
Subethnic group (reference: Filipino)												
Chinese	-0.01 (0.23)	0.99	0.22 (0.24)	1.24	0.11 (0.24)	1.12	0.19 (0.25)	1.21	0.23 (0.25)	1.26	0.21 (0.25)	1.24
Vietnamese	0.27 (0.27)	1.30	0.61* (0.28)	1.83	0.63* (0.29)	1.88	0.66* (0.29)	1.94	0.75** (0.29)	2.12	0.79** (0.29)	2.20
Other Asian	-0.02 (0.25)	0.98	0.04 (0.25)	1.04	0.04 (0.25)	1.04	0.06 (0.25)	1.07	0.09 (0.25)	1.10	0.09 (0.25)	1.10
Age (reference: 18-34)												
35-49	-0.53* (0.22)	0.59	-0.47* (0.23)	0.63	-0.52* (0.23)	0.59	-0.56* (0.23)	0.57	-0.54* (0.23)	0.58	-0.54* (0.23)	0.58
50-64	-0.55* (0.28)	0.58	-0.46 (0.28)	0.63	-0.45 (0.28)	0.64	-0.49 (0.28)	0.61	-0.42 (0.28)	0.66	-0.41 (0.28)	0.66
65 and older	-0.29 (0.37)	0.75	-0.11 (0.37)	0.90	-0.04 (0.37)	0.96	-0.08 (0.37)	0.92	0.02 (0.38)	1.02	0.00 (0.38)	1.00
Female	0.55** (0.18)	1.73	0.53** (0.18)	1.70	0.52** (0.18)	1.68	0.48** (0.18)	1.62	0.54** (0.18)	1.72	0.52** (0.18)	1.69
Marital status <sup>b</sup>												
Married	0.03 (0.22)	1.03	-0.10 (0.23)	1.10	0.23 (0.23)	1.25	0.22 (0.23)	1.24	0.25 (0.23)	1.29	0.27 (0.23)	1.31
Unpartnered <sup>c</sup>	0.50 (0.33)	1.65	0.55 (0.34)	1.74	0.51 (0.34)	1.67	0.47 (0.34)	1.60	0.57 (0.35)	1.78	0.62 (0.35)	1.86
Mental health rating	-0.85*** (0.09)	0.43	-0.95*** (0.10)	0.39	-0.89*** (0.10)	0.41	-0.90*** (0.10)	0.41	-0.88*** (0.10)	0.41	-0.89*** (0.10)	0.41
<i>df</i>	20		21		22		23		24		25	
$\chi^2$	202.06***		216.90***		234.17***		236.37***		243.31***		245.79***	

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> less than high school education (reference). <sup>b</sup> never married (reference). <sup>c</sup> Unpartnered includes divorced/separated/widowed.\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



**Table 5.** Summary of Logistic Regression Analysis for Variables Predicting Perceived Need to Seek Health Services within the Last Year among Latinos ( $N = 2,415$ ).

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR
Independent variables												
Generation status (reference: first)												
1.5	0.40* (0.19)	1.50	0.02 (0.21)	1.02	-0.03 (0.22)	0.97	-0.04 (0.22)	0.96	-0.05 (0.22)	0.95	-0.04 (0.22)	0.95
Second	0.58** (0.19)	1.79	0.09 (0.23)	1.09	0.03 (0.23)	1.01	0.04 (0.23)	1.04	0.00 (0.23)	1.00	0.00 (0.23)	1.00
2.5	0.87*** (0.23)	2.39	0.32 (0.27)	1.37	0.24 (0.27)	1.06	0.22 (0.27)	1.24	0.14 (0.27)	1.15	0.15 (0.27)	1.16
Third	0.87*** (0.17)	2.38	0.32 (0.22)	1.38	0.25 (0.22)	1.10	0.27 (0.22)	1.30	0.16 (0.22)	1.17	0.16 (0.22)	1.17
English proficiency			0.34*** (0.08)	1.40	0.32*** (0.09)	1.38	0.32*** (0.09)	1.37	0.29*** (0.09)	1.34	0.29*** (0.09)	1.34
Family cohesion					-0.41*** (0.10)	0.66	-0.44*** (0.10)	0.64	-0.37*** (0.11)	0.69	-0.37*** (0.11)	0.69
Comfort in religion							0.16** (0.05)	1.17	0.14** (0.05)	1.15	0.14** (0.05)	1.15
Discrimination									0.32*** (0.08)	1.38	0.33*** (0.08)	1.38
Ethnic identification											0.07 (0.08)	1.07
SES												
Education <sup>a</sup>												
High school	-0.00 (0.16)	1.00	-0.11 (0.16)	0.89	-0.10 (0.16)	0.90	-0.11 (0.16)	0.89	-0.11 (0.16)	0.90	-0.11 (0.16)	0.90
Some college	0.19 (0.17)	1.21	0.01 (0.18)	1.01	0.02 (0.18)	1.02	0.01 (0.18)	1.01	0.00 (0.18)	1.00	0.00 (0.18)	1.00
BA +	0.40* (0.20)	1.49	0.17 (0.21)	1.19	0.17 (0.21)	1.18	0.15 (0.21)	1.16	0.14 (0.21)	1.16	0.14 (0.21)	1.16
Income (logged)	0.03 (0.03)	1.04	0.02 (0.03)	1.02	0.02 (0.03)	1.02	0.02 (0.03)	1.02	0.01 (0.03)	1.01	0.01 (0.03)	1.01

(continued)

Table 5 (continued)

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR
Employed	-0.41** (0.13)	0.66	-0.42*** (0.13)	0.66	-0.38** (0.13)	0.68	-0.38** (0.13)	0.69	-0.35** (0.13)	0.70	-0.35** (0.13)	0.70
Health insurance	0.31* (0.14)	1.37	0.26 (0.14)	1.30	0.29* (0.14)	1.34	0.28 (0.14)	1.32	0.27 (0.14)	1.31	0.28 (0.14)	1.32
Control variables												
Subethnic group (reference: Cuban)												
Mexican	-0.35* (0.18)	0.70	-0.32 (0.18)	0.73	-0.36* (0.18)	0.70	-0.40* (0.18)	0.67	-0.44* (0.18)	0.64	-0.43* (0.18)	0.65
Puerto Rican	0.09 (0.19)	1.09	0.12 (0.19)	1.12	0.04 (0.19)	1.04	0.02 (0.19)	1.02	-0.02 (0.19)	0.98	-0.01 (0.19)	0.99
Other Latino	-0.30 (0.18)	0.74	-0.29 (0.18)	0.75	-0.33 (0.18)	0.72	-0.36 (0.18)	0.70	-0.32* (0.19)	0.68	-0.38* (0.19)	0.68
Age (reference: 18-34)												
35-49	0.35 (0.14)	1.42	0.37** (0.14)	1.45	0.41** (0.14)	1.50	0.38** (0.15)	1.46	0.43** (0.15)	1.54	0.42** (0.15)	1.53
50-64	-0.09 (0.19)	0.91	-0.03 (0.19)	0.97	-0.01 (0.19)	1.00	-0.05 (0.19)	0.95	0.05 (0.19)	1.05	0.04 (0.19)	1.04
65 and older	-0.83 (0.29)	0.43	-0.79** (0.29)	0.45	-0.74* (0.29)	0.48	-0.84** (0.30)	0.43	-0.69* (0.30)	0.50	-0.70* (0.30)	0.50
Female	0.30 (0.12)	1.35	0.30* (0.12)	1.35	0.29* (0.12)	1.33	0.21 (0.13)	1.24	0.27* (0.13)	1.31	0.27 (0.13)	1.31
Marital status <sup>b</sup>												
Married	-0.23 (0.16)	0.80	-0.15 (0.16)	0.86	-0.08 (0.16)	0.92	-0.09 (0.16)	0.92	-0.07 (0.17)	0.93	-0.07 (0.17)	0.94
Unpartnered <sup>c</sup>	-0.03 (0.20)	0.97	0.05 (0.20)	1.05	0.07 (0.20)	1.07	0.05 (0.20)	1.05	0.05 (0.20)	1.05	0.05 (0.20)	1.05
Mental health rating	-0.75*** (0.06)	0.47	-0.80*** (0.06)	0.45	-0.77*** (0.06)	0.46	-0.77*** (0.06)	0.46	-0.76*** (0.06)	0.47	-0.77*** (0.07)	0.46
<i>df</i>	20		21		22		23		24		25	
$\chi^2$	286.74***		302.72***		318.35***		327.36***		344.45***		345.25***	

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> less than high school education (reference). <sup>b</sup> never married (reference). <sup>c</sup> Unpartnered includes divorced/separated/widowed.\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 6.** Summary of Logistic Regression Analysis for Variables Predicting Perceived Need to Seek Health Services within the Last Year among Asian Americans and Latinos ( $N = 4,338$ ).

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR	<i>b</i> (SE)	OR
Independent variables												
Generation status (reference: first)												
1.5	0.75*** (0.15)	2.11	0.46** (0.16)	1.59	0.40* (0.17)	1.49	0.39* (0.17)	1.48	0.38* (0.17)	1.46	0.38* (0.17)	1.46
Second	0.80*** (0.15)	2.22	0.41* (0.17)	1.51	0.34 (0.18)	1.40	0.33 (0.18)	1.39	0.29 (0.18)	1.34	0.29 (0.18)	1.33
2.5	1.22*** (0.19)	3.37	0.79*** (0.21)	2.20	0.68*** (0.21)	1.97	0.67** (0.21)	1.95	0.59** (0.21)	1.80	0.59** (0.21)	1.80
Third	1.13*** (0.14)	3.09	0.71*** (0.17)	2.02	0.61*** (0.17)	1.85	0.61*** (0.17)	1.84	0.51** (0.17)	1.67	0.51** (0.17)	1.67
Race												
Asian	-0.70*** (0.11)	0.49	-0.77*** (0.11)	0.46	-0.77*** (0.11)	0.46	-0.74*** (0.12)	0.48	-0.77*** (0.12)	0.47	-0.77*** (0.12)	0.46
English proficiency			0.31*** (0.07)	1.36	0.29*** (0.07)	1.34	0.29*** (0.07)	1.33	0.26*** (0.07)	1.30	0.26*** (0.07)	1.30
Family cohesion					-0.47*** (0.08)	0.62	-0.50*** (0.09)	0.61	-0.44*** (0.09)	0.65	-0.43*** (0.09)	0.65
Comfort in religion							0.13** (0.04)	1.14	0.12** (0.04)	1.12	0.12** (0.04)	1.12
Discrimination									0.29*** (0.06)	1.33	0.29*** (0.06)	1.33
Ethnic identification											-0.01 (0.06)	0.99
SES												
Education <sup>a</sup>												
High school	0.05 (0.14)	1.05	-0.06 (0.14)	0.94	-0.05 (0.15)	0.95	-0.05 (0.15)	0.95	-0.05 (0.15)	0.95	-0.05 (0.15)	0.95

(continued)

Table 6 (continued)

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>
Some college	0.31* (0.14)	1.37	0.13 (0.15)	1.14	0.14 (0.15)	1.15	0.13 (0.15)	1.14	0.14 (0.15)	1.15	0.14 (0.15)	1.15
BA +	0.66*** (0.15)	1.92	0.41** (0.16)	1.51	0.42** (0.16)	1.52	0.41* (0.16)	1.50	0.42** (0.16)	1.53	0.42** (0.16)	1.53
Income (logged)	0.03 (0.02)	1.03	0.02 (0.02)	1.02	0.02 (0.02)	1.02	0.02 (0.02)	1.02	0.01 (0.02)	1.01	0.01 (0.02)	1.01
Employed	-0.38*** (0.11)	0.68	-0.39*** (0.11)	0.68	-0.37*** (0.11)	0.69	-0.35*** (0.11)	0.70	-0.33** (0.11)	0.72	-0.33* (0.11)	0.72
Health insurance	0.23 (0.12)	1.25	0.16 (0.12)	1.18	0.19 (0.12)	1.22	0.19 (0.12)	1.21	0.18 (0.12)	1.20	0.18 (0.12)	1.20
Control variables												
Age (reference: 18-34)												
35-49	0.10 (0.12)	1.11	0.13 (0.12)	1.14	0.15 (0.12)	1.16	0.12 (0.12)	1.13	0.16 (0.12)	1.17	0.16 (0.12)	1.17
50-64	-0.16 (0.15)	0.85	-0.10 (0.15)	0.91	-0.07 (0.15)	0.93	-0.11 (0.15)	0.90	-0.02 (0.15)	0.98	-0.02 (0.15)	0.98
65 and older	-0.55* (0.22)	0.58	-0.48* (0.22)	0.62	-0.40 (0.23)	0.67	-0.47 (0.23)	0.62	-0.34 (0.23)	0.71	-0.34 (0.23)	0.71
Female	0.36*** (0.10)	1.43	0.35*** (0.10)	1.42	0.34*** (0.10)	1.40	0.28** (0.10)	1.33	0.34*** (0.10)	1.40	0.34*** (0.10)	1.40
Marital status <sup>b</sup>												
Married	-0.20 (0.13)	0.82	-0.15 (0.13)	0.86	-0.06 (0.13)	0.94	-0.07 (0.13)	0.93	-0.05 (0.13)	0.95	-0.05 (0.13)	0.95
Unpartnered <sup>c</sup>	0.10 (0.17)	1.11	0.16 (0.17)	1.17	0.17 (0.17)	1.19	0.15 (0.17)	1.16	0.17 (0.17)	1.19	0.17 (0.17)	1.19
Mental health rating	-0.77*** (0.05)	0.46	-0.83*** (0.05)	0.44	-0.78*** (0.05)	0.46	-0.79*** (0.05)	0.45	-0.78*** (0.05)	0.46	-0.78*** (0.05)	0.46
<i>df</i>	18		19		20		21		22		23	
$\chi^2$	493.34***		514.06***		544.21***		553.73***		573.79***		573.84***	

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> less than high school education (reference). <sup>b</sup> never married (reference). <sup>c</sup> Unpartnered includes divorced/separated/widowed.\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 7.** Moderating Effects of Acculturative Factors on the Implications of Generation Status for Perceived Need to Seek Health Services within the Last Year among Asian Americans (N = 1,923).

Variables	Model 1			Model 2			Model 3		
	<i>b</i>	( <i>SE</i> )	<i>OR</i>	<i>b</i>	( <i>SE</i> )	<i>OR</i>	<i>b</i>	( <i>SE</i> )	<i>OR</i>
Independent variables									
Generation status (reference: first)									
1.5	0.42	(0.83)	1.52	0.01	(0.44)	1.01	2.18**	(0.79)	8.90
Second	0.43	(1.16)	1.53	-0.05	(0.49)	0.95	0.70	(0.94)	2.01
2.5	0.14	(1.87)	1.15	0.90	(0.56)	2.46	2.75**	(0.96)	15.68
Third	-2.35	(1.52)	0.10	0.88*	(0.44)	2.42	1.37	(0.76)	3.93
English proficiency	0.35*	(0.17)	1.41	0.49***	(0.14)	1.64	0.49***	(0.14)	1.63
Family togetherness	-0.61***	(0.16)	0.54	-0.59***	(0.16)	0.55	-0.59***	(0.16)	0.55
Comfort in religion	0.11	(0.08)	1.11	-0.05	(0.11)	0.95	0.10	(0.08)	1.11
Discrimination	0.34**	(0.12)	1.40	0.33**	(0.12)	1.39	0.34**	(0.12)	1.40
Ethnic identification	-0.20	(0.12)	0.82	-0.20	(0.12)	0.82	0.01	(0.18)	1.01
SES									
Education <sup>a</sup>									
High school	0.29	(0.40)	1.34	0.22	(0.40)	1.25	0.18	(0.40)	1.20
Some college	0.58	(0.38)	1.78	0.53	(0.38)	1.70	0.50	(0.38)	1.65
BA +	1.03**	(0.38)	2.79	0.95*	(0.38)	2.58	0.89*	(0.38)	2.44
Income (logged)	0.02	(0.04)	1.02	0.02	(0.04)	1.02	0.01	(0.04)	1.01
Employed	-0.25	(0.20)	0.78	-0.25	(0.20)	0.78	-0.25	(0.20)	0.78
Health insurance	-0.07	(0.26)	0.93	-0.06	(0.26)	0.94	-0.10	(0.26)	0.91
Interaction terms									
Third generation x English proficiency	1.34*	(0.55)	3.81						
1.5 generation x Comfort in religion				0.41*	(0.21)	1.50			
1.5 generation x Ethnic identification+							-0.67*	(0.32)	0.51
Control variables									
Subethnic group (reference: Filipino)									
Chinese	0.16	(0.25)	1.17	0.17	(0.26)	1.19	0.21	(0.25)	1.24

(continued)

Table 7. (continued)

Variables	Model 1			Model 2			Model 3		
	<i>b</i>	( <i>SE</i> )	<i>OR</i>	<i>b</i>	( <i>SE</i> )	<i>OR</i>	<i>b</i>	( <i>SE</i> )	<i>OR</i>
Vietnamese	0.70*	(0.30)	2.02	0.80**	(0.30)	2.23	0.76**	(0.29)	2.13
Other Asian	0.09	(0.26)	1.09	0.08	(0.25)	1.08	0.10	(0.25)	1.10
Age (18-34 reference)									
35-49	-0.54*	(0.23)	0.58	-0.56*	(0.23)	0.57	-0.51*	(0.23)	0.60
50-64	-0.38	(0.29)	0.68	-0.41	(0.28)	0.66	-0.41	(0.29)	0.66
65 and older	-0.01	(0.38)	0.99	0.05	(0.38)	1.05	0.01	(0.38)	1.01
Female	0.51**	(0.19)	1.67	0.52**	(0.19)	1.68	0.53**	(0.19)	1.69
Marital status <sup>b</sup>									
Married	0.29	(0.23)	1.34	0.25	(0.23)	1.29	0.29	(0.23)	1.33
Unpartnered <sup>c</sup>	0.64	(0.35)	1.89	0.62	(0.35)	1.86	0.63	(0.35)	1.88
Mental health rating	-0.90***	(0.10)	0.41	-0.89***	(0.10)	0.41	-0.90***	(0.10)	0.40
<i>df</i>	29			29			29		
$\chi^2$	253.19***			250.52***			251.95		

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> less than high school education (reference). <sup>b</sup> never married (reference). <sup>c</sup> Unpartnered includes divorced/separated/widowed.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

**Table 8.** Moderating Effects of Acculturative Factors and Race on the Implications of Generation Status for Perceived Need to Seek Health Services within the Last Year among Asian Americans and Latinos ( $N = 4,338$ ).

Variables	Model 1		Model 2		Model 3		Model 4	
	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>
Independent variables								
Generation status (reference: first)								
1.5	0.43 (0.34)	1.53	1.49* (0.65)	4.45	1.51** (0.50)	4.54	-0.04 (0.20)	0.96
Second	0.76 (0.41)	2.14	1.62* (0.66)	5.05	0.68 (0.52)	1.98	-0.04 (0.21)	0.96
2.5	-0.23 (0.82)	0.80	1.54* (0.75)	4.68	1.56** (0.59)	4.76	0.05 (0.25)	1.05
Third	-0.65 (0.47)	0.52	0.25 (0.61)	1.28	0.97* (0.45)	2.64	0.06 (0.20)	1.06
English proficiency	0.20* (0.09)	1.23	0.27*** (0.07)	1.31	0.27*** (0.07)	1.31	0.33*** (0.07)	1.39
Family cohesion	-0.44*** (0.09)	0.65	-0.26 (0.15)	0.77	-0.43*** (0.09)	0.65	-0.44*** (0.09)	0.64
Comfort in religion	0.11** (0.04)	1.12	0.12** (0.04)	1.13	0.12** (0.04)	1.12	0.11** (0.04)	1.12
Discrimination	0.29*** (0.06)	1.34	0.29*** (0.06)	1.33	0.29*** (0.06)	1.34	0.29*** (0.06)	1.34
Ethnic identification	-0.02 (0.06)	0.98	-0.02 (0.07)	0.98	0.15 (0.10)	1.16	0.01 (0.07)	1.01
SES								
Education <sup>a</sup>								
High school	-0.03 (0.15)	0.97	-0.06 (0.15)	0.95	-0.06 (0.15)	0.94	-0.03 (0.15)	0.97
Some college	0.15 (0.15)	1.16	0.14 (0.15)	1.15	0.14 (0.15)	1.15	0.12 (0.15)	1.13
BA +	0.46** (0.17)	1.58	0.41* (0.16)	1.51	0.41* (0.16)	1.51	0.42* (0.17)	1.52
Income (logged)	0.01 (0.02)	1.01	0.02 (0.02)	1.02	0.01 (0.02)	1.01	0.01 (0.02)	1.02

(continued)

Table 8. (continued)

Variables	Model 1		Model 2		Model 3		Model 4	
	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>
Employed	-0.34** (0.11)	0.71	-0.35*** (0.11)	0.70	-0.35** (0.11)	0.71	-0.34** (0.11)	0.71
Health insurance	0.19 (0.12)	1.21	0.19 (0.12)	1.21	0.17 (0.12)	1.19	0.21 (0.12)	1.23
Interaction terms								
Third generation x English proficiency	0.50** (0.19)	1.65						
Second generation x Family cohesion			-0.54* (0.26)	0.58				
1.5 generation x Ethnic identification					-0.46* (0.20)	0.63		
1.5 generation x Asian							0.93** (0.31)	2.55
Second generation x Asian							0.66* (0.32)	1.93
2.5 generation x Asian							1.39*** (0.40)	4.01
Third generation x Asian							1.08*** (0.29)	2.96
Race								
Asian	-0.76*** (0.12)	0.47	-0.78*** (0.12)	0.46	-0.78*** (0.12)	0.46	-1.32*** (0.17)	0.27
Control Variables								
Age (18-34 reference)								
35-49	0.18 (0.12)	1.20	0.17 (0.12)	1.19	0.17 (0.12)	1.18	0.18 (0.12)	1.20
50-64	-0.00 (0.15)	1.00	-0.02 (0.15)	0.98	-0.02 (0.15)	0.98	-0.02 (0.15)	0.98
65 and older	-0.33 (0.23)	0.72	-0.35 (0.23)	0.70	-0.36 (0.23)	0.70	-0.38 (0.23)	0.69

(continued)



Table 8. (continued)

Variables	Model 1		Model 2		Model 3		Model 4	
	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>	<i>b</i> ( <i>SE</i> )	<i>OR</i>
Female	0.33*** (0.10)	1.39	0.33*** (0.10)	1.39	0.34*** (0.10)	1.41	0.35*** (0.10)	1.41
Marital status								
Married	-0.05 (0.13)	0.95	-0.05 (0.13)	0.95	-0.05 (0.13)	0.95	-0.01 (0.13)	0.99
Unpartnered <sup>c</sup>	0.19 (0.17)	1.21	0.19 (0.17)	1.21	0.18 (0.17)	1.20	0.18 (0.17)	1.20
Mental health rating	-0.78*** (0.05)	0.46	-0.78*** (0.05)	0.46	-0.79*** (0.05)	0.46	-0.80*** (0.05)	0.45
<i>df</i>	27		27		27		27	
$\chi^2$	584.42		583.37***		581.02***		597.91***	

Data: 2002-2003 National Latino and Asian American Study.

<sup>a</sup> less than high school education (reference). <sup>b</sup> never married (reference). <sup>c</sup> Unpartnered includes divorced/separated/widowed.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .