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**Author**

Wong, Michele J.

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Culture-Bound Syndromes:  
Racial/Ethnic Differences in the Experience and Expression of  
Ataques de nervios

A thesis submitted in partial satisfaction  
of the requirements for the degree Master of Science  
in Community Health Sciences

by

Michele Josephine Wong

2017



## ABSTRACT OF THE THESIS

Culture-Bound Syndromes:  
Racial/Ethnic Differences in the Experience and Expression of  
Ataques de nervios

by

Michele Josephine Wong

Master of Science in Community Health Sciences

University of California, Los Angeles, 2017

Professor Gilbert Chee-Leung Gee, Chair

### ABSTRACT

Culture-bound syndromes have proven to be significant indicators for social and psychiatric vulnerability for specific racial/ethnic minorities. However, the diagnostic criteria for these syndromes often fail to adequately address important historical and social circumstances that influence immigrant health. While culture plays a significant role in influencing the etiology and the symptom expression of certain disorders, the immigrant context is also an important indicator of mental health outcomes. In particular, factors such as English proficiency, generational status, and age at time of immigration can influence how they experience and express mental

illness. The present study used logistic regression to assess the relationships among ethnicity and immigration-integration characteristics on the outcome of culture-bound syndromes from the National Latino and Asian American Study (NLAAS, n = 4528). Differences in racial/ethnic groups and immigration-integration factors were found. Compared to Filipinos and other Asians, Latinos had higher odds of reporting *ataques de nervios*. There were associations between *ataques de nervios* with age of immigration, generation, and English proficiency. Further, there was effect modification between English proficiency and ethnicity: Filipinos with limited English proficiency were associated with greater odds of reporting *ataques de nervios* as compared to Latinos and other Asians. Filipinos with excellent or good English proficiency were associated with decreased odds of reporting *ataques de nervios* as compared to Latinos and other Asians. The Latinos in our sample demonstrated an inverse relationship to Filipinos in their reports of *ataques de nervios*, while all other Asians reported similar levels of *ataques de nervios* at both levels of English proficiency. Culture-bound syndromes can serve as helpful indicators for identifying mental health needs in marginalized populations, but should be considered in the context of important historical, cultural, and social factors.

The thesis of Michele Josephine Wong is approved.

Courtney S. Thomas

Steven P. Wallace

Gilbert Chee-Leung Gee, Committee Chair

University of California, Los Angeles

2017

## **DEDICATION**

This thesis is dedicated to my grandmother, Mary Mei-yuk Lee, for her infinite strength, and sharing with me her passion for food and cooking as a way to nourish the soul and communicate in ways that our words cannot. This thesis is also dedicated to my parents for always encouraging me to find my own way.

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## Introduction

Increasing globalization has contributed to the spread of Anglo-American concepts and categories common in western psychiatric nosology, providing an international framework and language for addressing mental distress and disorders. However, cultural variability in the experiences, expression, and understanding of mental disorders influences the social and psychiatric vulnerabilities of different racial/ethnic groups. For example, the World Health Organization (WHO) Collaborative Study on the Assessment of Depressive Disorders examined depressive symptoms in patients from Canada, Switzerland, Iran, and Japan. Although symptoms of sadness, anxiety, and lack of energy were common across sites, feelings of guilt and self-reproach varied across cities, with 58% in Montreal, 41% in Nagasaki, and 32% in Teheran.<sup>1-3</sup> In an attempt to address the cultural variations in the experiences and expression of mental disorders, indicators of culturally variant conditions, like Culture-Bound Syndromes (CBS), have been incorporated into the Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition (DSM-IV).

The DSM-IV provides a selection of 25 CBSs listed under Appendix I as part of the “Glossary of Culture Bound Syndromes.” Often described as folk conceptualizations, CBS are commonly described as “patterned, pathologically exaggerated behavioral responses to culturally structured stress points, vulnerabilities, conflicts, or other sociocultural features (e.g. dominant social values) of a given person’s environment”.<sup>4</sup> It is also suggested in the DSM-IV, that CBSs occur within immigrant, refugee, student, and sojourner populations in the United States at a higher frequency.<sup>5</sup> An epidemiological survey of neurasthenia, a CBS that has been commonly linked to Asians and characterized by physical and mental fatigue, found a prevalence rate of 3.6% without co-morbidity in a sample of 1,747 Chinese-Americans in Los Angeles County.<sup>6</sup>

Although there is important utility in CBSs, they are often crude, minimizing the range of culture specific symptoms and syndromes, and the ability to identify critical markers of risk.<sup>3</sup> To understand both the benefits and potential drawbacks of CBSs, this study will investigate the prevalence of *ataques de nervios*, a purported CBS that has been commonly linked to Latino groups.

Previous literature has suggested that *ataques de nervios* is culture bound to Latino cultures. For example, approximately 15% of adults reported the syndrome in a representative sample of Puerto Ricans in an epidemiological study of *ataques de nervios*.<sup>7</sup> The strongest associations were found among women of low socioeconomic status who experienced marital disruption, with many of them also meeting the criteria for anxiety and affective disorders. In a recent study that took place in mainland United States, 7-15% of Latino groups reported *ataques de nervios*.<sup>8</sup> However, a common limitation of previous studies that have examined *ataques de nervios* is the lack of comparison among other racial/ethnic groups other than Latinos. As a socially shaped illness, *ataques de nervios* may have proven utility for other racial/ethnic groups that share similar social and historical contexts. This study will seek to identify other racial/ethnic groups where *ataques* may be common, particularly among groups that are known to differ on a number of sociocultural factors.

This study will build upon previous findings to develop a more nuanced understanding of the relationship between *ataques de nervios* and the social and psychiatric vulnerabilities of different racial/ethnic groups. In order to extend my understanding, I will examine *ataques de nervios* among Asian Americans, with a closer look at Filipino Americans, who similar to Puerto Ricans, have also experienced strong Spanish and U.S. colonial influences.<sup>9</sup> The long history of Spanish colonization in the Philippines suggests that Filipinos may have a stronger alignment

with Latino cultural characteristics, as opposed to the characteristics associated with their assigned Asian identity.<sup>9</sup> Therefore, this study will examine the prevalence of *ataques de nervios* among Filipinos, other Asian Americans, and Latino Americans.

### ***Ataques de nervios***

Commonly recognized as a cultural idiom of distress among Latinos from the Caribbean, as well as many other Latino groups, *ataques de nervios* allows for the expression of suffering and provides a form of social action for dealing with social threats.<sup>10</sup> In the DSM-IV, *ataques de nervios* is listed under the “Glossary of Culture Bound Syndromes,” and is characterized by symptoms of intense emotional upset (e.g. anxiety, grief, uncontrollable shouting, crying, trembling, and verbal/physical aggression). A central feature of *ataques de nervios* is a sense of being out of control, which is often the direct result of stressful events relating to family or other social situations (e.g. death of a close relative, conflicts with family, divorce). Some *ataques* may be followed by dissociative experiences such as seizure-like or fainting episodes and suicidal gestures. Additionally, individuals often experience amnesia after an *ataque*, but resume normal functioning shortly after.<sup>8,11</sup> For a portion of those affected by *ataques de nervios*, it may not be related to any specific social event, but instead be the result of an accumulation of suffering that is tied to a series of social losses and economic deprivation.<sup>10</sup>

Early reports of *ataques de nervios* first surfaced in literature in the late 1950s and early 1960s. The focus was primarily on young Puerto Rican men who were receiving treatment at Veteran’s Administration Hospitals in Puerto Rico after being inducted into the Armed Services and being exposed to basic training, weapons familiarization, and receiving overseas assignments.<sup>12</sup> Army psychiatrists characterized these young men as having a variety of responses: psychopathologic reaction patterns, hysterical personality, acute dissociative

response, acute schizophrenic turmoil, malingering, acute conversion symptom, and suicidal fits.<sup>12-15</sup> Instead of looking at the current social context to understand what these young men were facing, the onset of *ataques de nervios* was often attributed to child-rearing patterns, with a focus on strong maternal attachments and absent fathers.<sup>13,16</sup> As a result, many of the earlier reports emphasize supposed deficits in the Puerto Rican men, leading several authors to use the Anglo medical label “Puerto Rican Syndrome,” instead of considering the military as an important social context within which “*ataques*” occur.<sup>14,16,17</sup> The label was an attempt to describe the “bizarre” phenomena that did not fit within the medical culture categories at the time, it also marked the particular power relationship of the American army psychiatrists over the Puerto Rican inductees during a particular historical period.<sup>16</sup>

As demonstrated in the past, it can be problematic to rely solely upon the discrete categories of mental disorders found within Western psychiatric nosology. Alongside the tendency to decontextualize and internalize individual experiences, Western psychiatric nosology also reflects the persistent mind-body dualism found in Western medicine, as seen in the separation of affective, dissociative, and somatic symptoms.<sup>18</sup> In a study that sought to contribute to the development of a Puerto Rican popular nosology, Guarnaccia et al. (2003), emphasize the importance of distinguishing between different nosological systems.<sup>12</sup> While some diagnoses focus on the internal experiences of the individual, other systems examine the interactions between the individual and important persons in society or with the spiritual world. “*Ataques de nervios* can be better understood by looking at the social circumstances that provoke them and the relationships which make certain individuals vulnerable”.<sup>16</sup> Therefore, *ataques* cannot be understood solely through a collection of symptoms, rather a broader discussion of both current and historical context must be developed as part of the cultural understanding of *ataques de*

*nervios* in order to provide an appropriate diagnoses.<sup>19</sup> Although Army psychiatrists may have been quick to place issues of anger and aggression within the individual, Rothenberg (1964) situated the expression of their emotions within the context of colonialism and oppression, contexts symbolized by the violence and presence of the Army.<sup>20</sup> This argument was further supported by Zavala (1981) who examined how the colonial experience shaped the forms of expression among Puerto Ricans, describing *ataques* as a culturally-specific form of conveying resistance and anger at oppression.<sup>21</sup> As noted, *ataques de nervios* is a syndrome that is better understood through Latino cultural models of mental health problems.<sup>12</sup> Otherwise, we run the risk of misdiagnoses, or worse, we perpetuate deleterious mischaracterizations of entire communities and cultures.

A limitation of previous studies that have examined *ataques de nervios* is the lack of comparison among other racial/ethnic groups beyond Latinos. A recent study in mainland United States found 7-15% of the sample reported *ataques de nervios*, although this was only examined among different Latino groups, with Puerto Ricans presenting the highest frequency.<sup>8</sup> Early studies that have contributed to our understanding of *ataques de nervios* and its significance for understanding social and psychiatric vulnerabilities, were also drawn from a Latino sample of Puerto Ricans.<sup>7,12</sup> As a socially shaped illness, *ataques de nervios* may have utility for other racial/ethnic groups that share similar social and historical contexts. This study will seek to identify other racial/ethnic groups where *ataques* may be common, particularly among groups that are known to differ on a number of sociocultural factors. To recognize the ways in which *ataques de nervios* may vary across different groups, it is necessary to first establish an understanding of some of the sociocultural factors commonly associated with Latinos, Asians, and Filipinos.



## ***Cultural Constructs***

Although cultural constructs associated with Latinos will be highlighted, it is important to note that there is no single “Latino culture.” Depending on their unique social and environmental contexts at particular points in time, Latino groups will have different cultural traditions and beliefs. Therefore, the term “Latino culture” and “cultural characteristics” will be used for heuristic purposes only. Cultural characteristics that have been associated with Latinos are vast and varied. However, some commonly identified cultural constructs emphasize loyalty and identification with family, religion, and personalization of interpersonal relationships.<sup>22</sup> For example, *familismo* (family orientation), which refers to family as the center of one’s experience and the importance of the collective over individual needs. The unique features that characterize *familismo* are family loyalty, reciprocity, and solidarity.<sup>23</sup> Another construct is *fatalismo* (fatalism), which is the belief that life’s outcomes may not be fully under one’s control, suggesting that fate, luck, or higher powers decide one’s outcomes. *Controlarse* (self-containment and conscious control of negative affect), *aguantarse* (ability to withstand stressful situations in the face of adversity), and *sobreponerse* (self-suppression) are constructs that emphasize emotional and physical inner strength when overcoming challenges.<sup>23</sup> As such, *ataques de nervios* may provide a culturally meaningful way for Latinos to deal with distress, where the sense of being out of control falls in line with fatalistic beliefs. Moreover, *ataques* that precipitate from stressful events relating to family provide further support regarding the central importance of family in Latino culture. Lastly, cultural constructs that value emotional inner strength and self-suppression, may contribute to the symptoms of intense emotional upset when Latinos are unable to regularly express emotions or feelings of distress.

Asian cultures also share a variety of tenets and belief systems (i.e. Confucianism, Taoism, Buddhism), however there are still significant cultural differences across Asian groups.<sup>24</sup> As such, there is also no single “Asian culture.” Rather, it is the dynamic and integrated process of balancing beliefs within different social and personal contexts that inform personal experiences of Asian culture.<sup>24</sup> However, maintaining harmony in relationships is emphasized among Asian cultural constructs that are thought to characterize most Asian American groups.<sup>24-26</sup> In order to maintain the harmony of the group, individuals will often withhold free expression of their feelings to avoid conflict and avoid divisive arguments and debates for more non-threatening conversations.<sup>24</sup> Alternatively, disapproval can be communicated nonverbally to promote harmonious relationships in a way that is not socially disruptive.<sup>24</sup> This has been evidenced in extant literature discussing the higher frequency of somatoform disorders, like neurasthenia, among Asians.<sup>27</sup> As it allows for a non-verbal manifestation of distress through physical complaints, providing a more culturally congruent form of expression to maintain the importance of group harmony within many Asian groups.

Similar to Latino cultural constructs of *familismo* and *controlarse*, which focus on maintaining harmony within the family, many Asian cultures also seek to maintain harmony through fulfilling family obligations and ensuring the precedence of group interests over individual interests.<sup>24-26,28-31</sup> Other behaviors that have been historically valued to promote the maintenance of interpersonal harmony include: social-sensitivity, patience, cooperative, accommodating, conciliatory, receptive, humble, and modesty.<sup>24</sup> Although Asians and Latinos may differ on a number of sociocultural factors, it is evident that both cultures value a more collective orientation, with a focus on maintaining family harmony. Both neurasthenia and *ataques de nervios* provide a more culturally aligned form of symptom manifestation through

somatic complaints, allowing for an expression of distress that can help maintain group harmony. Although neurasthenia is more commonly associated with Asian groups, a recent study of the prevalence of neurasthenia in a nationally representative sample found higher reports among non-Latino Whites, African Americans, and Latinos as compared to Asians.<sup>27</sup> Therefore, it may be illuminating to explore the potential utility of *ataques de nervios* among Asians who also tend to express somatic symptoms, and particularly among Filipinos who share a similar colonial history to Latinos.

In efforts to extend current understanding of the significance of culturally-bound syndromes, and the role that culture may play in influencing the experiences of distress and disorder, this study also examines expression of distress among Filipino Americans'. A culturally heterogeneous group, Filipino Americans are the third largest Asian American/Pacific Island population, and the fourth-largest immigrant group in the U.S. after immigrants from Mexico, India and China.<sup>32-36</sup> According to a U.S. Census Bureau report on, "The Asian Population: 2010," Asians are defined as "a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam."<sup>37</sup> However, the Philippines have experienced strong influences from other countries and cultures due in large part to Spanish and American colonization.<sup>38,39</sup> From the 1560s to the 1890s, the Philippines were under the rule of the Spanish Empire and under American control for 50 years after that.<sup>35,38,40</sup> As a result, Filipino Americans historical and cultural experiences may be arguably more similar to Latino ethnic groups, increasing their likelihood of reporting more *ataques de nervios* than other Asian American groups.<sup>41-43</sup>

Furthermore, although Filipinos are commonly identified as an Asian American group, this was not always the case. Therefore, along with considering Filipino colonial history, it is also necessary to understand the racial formation of Filipinos in the U.S. Prior to 1934, Filipinos were considered U.S. nationals, and were granted the ability to migrate between both the Philippines and the U.S. without regulation.<sup>44</sup> However, as the U.S. experienced an influx of new immigrants, this challenged the current racial hierarchy, necessitating the creation of new social meanings to reinforce citizenship boundaries that protected the rights and status of white Americans and older immigrant groups. To maintain racial boundaries, efforts were made to enforce alien land laws that prevented “aliens ineligible for citizenship,” (i.e. Chinese, Japanese, Indian, and Korean immigrant farmers in California) to extend to Filipinos, legally forbidding them from owning land in California and nine other states by 1930.<sup>44</sup> The Tydings-McDuffie Act worked in concert with alien land laws to extend the Asian-exclusion policy of the Immigrant Act of 1924 to the Philippines, which further solidified Filipino racial formation in the U.S. as “Asian” in the legal sense.<sup>44</sup>

Given their background, we cannot assume that Filipino Americans still fit neatly under the current umbrella of “Asian American,” as neither their colonial history nor their racialization as Asians representative of the cultural characteristics that are uniquely Filipino. Commonly characterized as collectivistic in previous literature, Filipino culture also places a strong emphasis on maintaining harmonious relationships and prioritizing group interests over one’s personal goals.<sup>9,45,46</sup> Collectivistic tendencies of Filipinos can be seen through what many scholars consider to be typical Filipino constructs: *Hiya* (shame), *Utang na Loob* (sense of inner debt or gratitude), and *Pakikisama* (companionship). For example, certain behaviors may be regulated to avoid *Hiya*, or feelings of shame that might be brought to oneself or family. Similar

to reciprocity, *Utang na loob* is a feeling of gratitude or indebtedness after one is provided help or assistance in any way. *Pakikisama*, describes the desire maintain harmony within the group by prioritizing group goals or decisions although it may not fit with one's own goals. In addition, it has been argued that these characteristics are only surface-level constructs, and are in fact connected together by the core construct of *Kapwa*. *Kapwa*, has been considered the most important concept in Filipino worldview, and can be most accurately translated as “both” or “fellow being” (*Kapwa-Tao*), and signifies unity or oneness with others.<sup>9,47</sup> Individuals, who are guided by these core constructs, are recognized for their genuine people-centered orientation, as well as their service and commitment to their communities. Given the multiple factors that have influenced Filipino culture over time, Filipino Americans may provide an illuminating lens through which culture and culturally-bound syndromes can be better understood.<sup>38,40,48</sup>

### ***Immigration-Integration Characteristics***

Given the growing number of immigrants in the U.S., the associations between immigration and mental health have become an area of increasing concern as immigrants may be placed at an increased risk for psychiatric vulnerability from their migratory experiences and settlement within a new cultural context. It is important to gain a better understanding of the immigrant context as it may provide further insight into how the presentation of symptoms and course of illness may be shaped by varying immigration characteristics.<sup>49</sup> For example, English proficiency was associated with mental disorders for Asian men, with men who spoke English proficiently generally showing lower rates of lifetime and past year disorders compared with non-proficient speakers.<sup>50</sup> Previous research has also shown a strong relationship between limited English proficiency and access to health care, although it is important to note that English

proficiency is not a strong indicator of decreased quality of life.<sup>50,51</sup>

Others studies have examined the importance of generational status and age at time of immigration in influencing mental health outcomes. In a representative sample of Latinos, it was found that first-generation Latinos had lower rates of completed suicide compared to US-born generations across national and regional cohorts.<sup>52-54</sup> Compared to US-born generations, studies have also found lower rates of substance use and depressive disorders in first-generation Latino youth and adults.<sup>54-57</sup> Age of immigration has also been strongly associated with mental health outcomes. For example, Chinese immigrants are nearly 1.5 to 3.0 times more likely to experience major depression if they immigrate after 20 years of age, than those who immigrate before 20.<sup>58</sup> For Latino immigrants, research has also suggested a higher risk of illness for those who have resided in the United States longer.<sup>59-61</sup> In particular, as Latino immigrants acquire more U.S. cultural characteristics, family support networks may be disrupted and increase intergenerational conflict. Furthermore, potentially protective mental health factors in Latino culture that emphasize strong family ties may be weakened.<sup>60,62</sup> Previous studies that have examined the relationship of these immigration-integration characteristics with reports of *ataques de nervios* in a U.S. based sample of Latinos found significant associations for English proficiency, percentage of life in the U.S., nativity, and number of parents born in the U.S. Although it was hypothesized that reports of *ataques* would be more prominent among those who were more closely tied to Latino culture, suggesting low integration into U.S. culture, it appeared that those who lived in the US longer and spoke excellent or good English were in fact more likely to report *ataques de nervios*.<sup>8</sup>

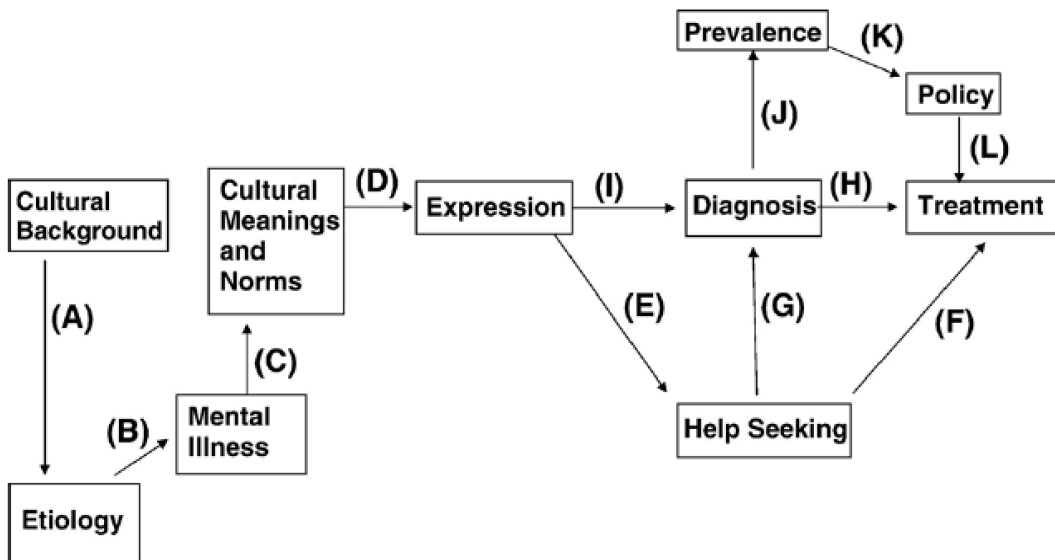
Given the understanding that immigration-integration characteristics can vary across racial/ethnic groups, it will be necessary to include these characteristics as controls to determine

whether ethnic group membership alone, explains the differences in their report of *ataques*. However, as previously discussed, immigration-integration characteristics have been linked to reports of *ataques*, and should be considered as potential moderating factors that can change the relationship between ethnicity and *ataques de nervios*. For example, given that language is also strongly tied to culture, the highest reports of *ataques* should be in groups with limited English proficiency, assuming that most respondents reporting *ataques* will be Latino and primarily speak Spanish. Likewise, *ataques* should be lowest among immigrants from countries where English is an official language or with groups that have excellent or good English (i.e. Filipinos). For generational status, *ataques* should be more prominent among recent immigrants (i.e. first generation) as opposed to second or third generation immigrants who are more assimilated into American culture. Similarly, for age at time of immigration, reports of *ataques* should be higher among recent immigrants (i.e. immigrated at an older age) as compared to those who immigrated as a child. As it may be less challenging for children to learn a new language or adopt new customs, than it would be for an adult. Therefore, this study will examine immigration-integration characteristics as a means of explaining potential increases or decreases in the report of *ataques de nervios* across different racial/ethnic groups.<sup>8</sup>

### ***Conceptual Framework***

As reviewed earlier, there is reason to believe that ethnicity may differentially impact the development of culture-bound syndromes. Although ethnicity will be used as a proxy for culture in this current study, it is important to note that the two terms do not equate. The *Cultural Influences on Mental Health* (CIMH) model (Figure 1) is a useful tool for understanding how culture influences the development, progression, and treatment of mental illness.<sup>63</sup> In particular,

this model seeks to provide a guiding framework to address the growing racial and ethnic health disparities evidenced by the disproportionate burden of illness on minority and immigrant communities, and how culture makes a difference.<sup>63-65</sup> According to Hwang (2008) culture has a direct effect on the etiology of disease and the resulting mental illness. Although there are a number of other factors that affect mental health and the subsequent diagnosis in the CIMH model, for the purposes of the current study, we will be focusing on the direct effect of cultural background on mental illness. Using the conceptual framework guided by the CIMH model, the present study seeks to address the following research aims and hypothesis using the National Latino and Asian American Study (NLAAS).



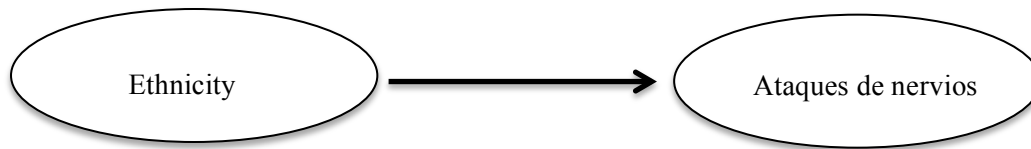
**Figure 1. The Cultural Influences on Mental Health (CIMH) Model**



Another way that we can extend our understanding of the differences we see in culture-bound syndromes, is to use the Public Health Critical Race Praxis (PHCR) model, which integrates more conventional scientific methods for studying racialized risk factors and populations with Critical Race Theory (CRT).<sup>66</sup> A decentralized movement among researchers, scholars and activists, “CRT coheres around a set of tenets regarding racialization, marginalization and the role of critical race theorists in producing knowledge about societal inequities.” As such, PHCR provides tools for a racially equitable approach to knowledge production, by illuminating how disciplinary conventions that study contemporary racial phenomena may inadvertently reinforce social hierarchies.<sup>66</sup> Used in conjunction with the CIMH model, PCHR can help guide efforts to understand how the differential racialization for minority populations in the U.S. may influence conventions surrounding the tendency to perceive them from a deficit perspective. Additionally, it may help elucidate the ways in which culture-bound syndromes may inadvertently reinforce inequities when viewed from a deficits perspective.<sup>66,67</sup>

### ***Research Aims and Hypothesis***

The CIMH model will be adapted to guide the current framework, which will focus specifically on “cultural background” as measured through ethnicity and how it influences the development of “mental illness” as measured through reports of the culture-bound syndrome, *ataques de nervios*. Although the etiology of mental illness is also important to understand, we are unable to examine this relationship within the current dataset used for this study.



**Figure 2. Conceptual Framework 1 of Relationship Among Ethnicity and *ataques de nervios***

*AIM 1. Estimate the ethnic differences in the prevalence of *ataques de nervios* among Filipinos, Latinos and all Other Asian American populations in the National Latino and Asian American Study (NLAAS).*

**Hypothesis 1a:** When compared to Filipinos, Latinos will experience and report greater prevalence of *ataques de nervios*.

**Hypothesis 1b:** When compared to Filipinos, Other Asians will experience and report lower prevalence of *ataques de nervios*.

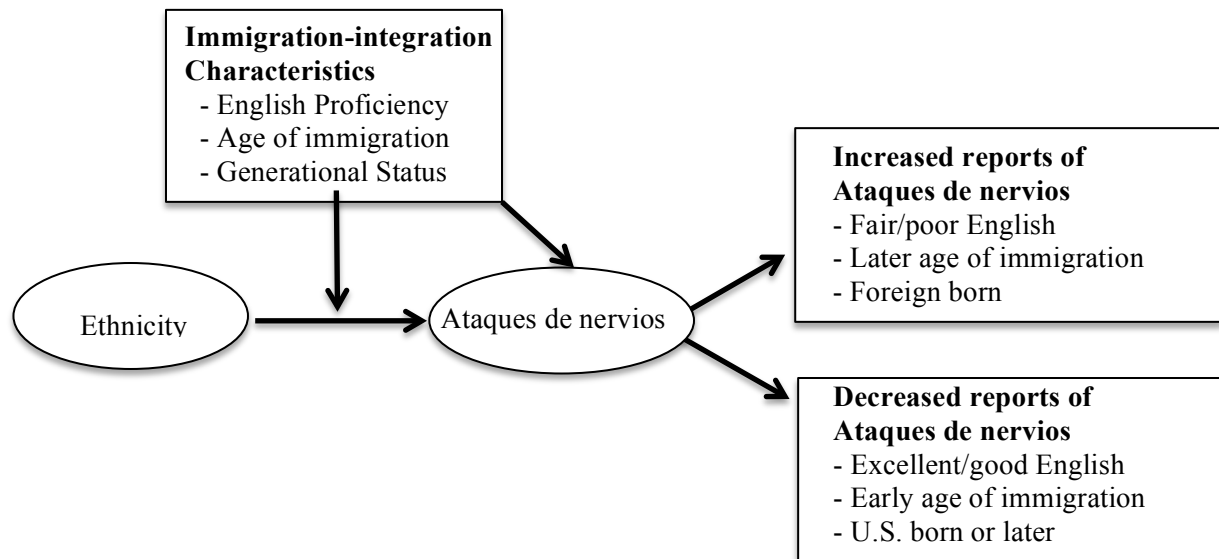
*AIM 2. Assess the relationship between ethnicity and *ataques de nervios* in Filipinos, Latinos, and all Other Asians adjusting for sociodemographic factors.*

**Hypothesis 2a:** When compared to Filipinos, Other Asians will have a smaller likelihood of reporting *ataques de nervios* after controlling for sociodemographic factors.

**Hypothesis 2b:** When compared to Filipino Americans, Latinos will have a greater likelihood of reporting *ataques de nervios* after controlling for sociodemographic factors.

Building upon Conceptual Framework 1, that shows the relationship between ethnicity and *ataques*, Conceptual Framework 2 includes the effect of immigration-integration characteristics on the relationship between ethnicity and reports of *ataques de nervios*. The strength and form of the relationship between ethnicity and the reports of *ataques de nervios* will now depend upon

the value of the immigration-integration characteristics. The inclusion of these moderating factors is necessary to understand the generalizability of the findings to the study groups.



**Figure 3. Conceptual Framework 2 of Relationships Among Ethnicity, Immigration-Integration Characteristics and *ataques de nervios***

**AIM 3.** Evaluate whether immigration-integration characteristics (i.e. English proficiency, generational status, and age of immigration) moderate the association between ethnicity (i.e. Filipinos, Latinos, and all Other Asians) and *ataques de nervios*.

**Hypothesis 3a:** Immigration-integration characteristics will interact with ethnicity. For low immigrant integration (i.e. 1st generation, foreign-born, poor English), ethnicity will have a significant effect on the likelihood of experiencing and reporting more *ataques de nervios*.

**Hypothesis 3b:** For higher immigrant integration (i.e. excellent/good English proficiency, 2 or 3rd generation, U.S.-born), the effect of ethnicity on the likelihood of reporting *ataques de nervios* will be insignificant; that is, the more assimilated Asians and Latinos are to U.S. culture, the less likely they will be to experience and report symptoms of *ataques de nervios*.

## Methods

### *Dataset and Data Collection*

Data for this study are drawn from the National Latino and Asian American Study (NLAAS), which is one of three nationally representative epidemiological surveys that are part of the Collaborative Psychiatric Epidemiology Surveys (CPES).<sup>68</sup> The National Comorbidity Survey-Replication (NCS-R) and the National Survey of American Life (NSAL) are also included as a part of the CPES.<sup>69</sup> The other surveys were not included as part of the analysis, as the focus of this study is on the relationship between culture-bound syndromes for Asians and Latinos. These surveys included comprehensive epidemiological data on lifetime and 12-month prevalence of psychiatric disorders for a large number of racial and ethnic minority groups in the U.S., as well as their rates of mental health service use. Data collection was conducted by the University of Michigan's Institute for Social Research (ISR) and took place between May 2002 and November 2003.<sup>68</sup> After obtaining informed consent, data was primarily collected through in-person interviews by 275 trained bilingual/bicultural interviewers using computer assisted software in the respondent's home or by phone. The median interview time to complete the NLAAS battery was 2.4 hours. To validate the data for quality control purposes, a random sample of respondents was re-contacted. Respondents received monetary compensation for their participation. The NLAAS dataset was selected for the current study because it focuses on psychiatric conditions of a nationally representative sample of Asian Americans and Latino Americans, and is the first to include data regarding culture-bound syndromes. Further details regarding the rationale, procedures, and development of the NLAAS have been described in previous studies.<sup>70</sup>

### ***Sample Design***

The sample design for the NLAAS used a four-stage stratified area probability sampling procedure (i.e. high-density sampling, oversampling, and second respondent sampling) to recruit and survey Asian Americans and Latino Americans. The first stage of sampling included the US Metropolitan Statistical Areas (MSAs) and counties. A sampling of area segments was employed for the second stage, followed by a sampling of housing units for the third stage. In the final stage, eligible respondents were randomly selected from the housing units. Due to a low density of the populations of interest in the NLAAS core sampling procedure, supplemental samples of area segments (i.e. stage two) with high residential densities (5% or more) were included for the following national origin groups: Puerto Rican, Cuban, Chinese, Filipino and Vietnamese. Detailed description of the sample design and survey are reported in several published articles.<sup>68-70</sup>

### ***Participants***

The sample for this study included all non-institutionalized Latino and Asian American individuals residing in any of the 50 states or the District of Columbia, 18 years or older, and whose primary language was English, Spanish, or one of four Asian languages. The Latino American sample includes a total of 2554 individuals of Puerto Rican, Cuban, Mexican, and “other” Latino origin. A total of 2095 Chinese, Vietnamese, Filipino, and “other” Asians were drawn from NLAAS for the Asian American sample. The weighted response rate for the main respondents in the NLAAS was 77.6% for Latinos and 69% for Asians.<sup>27</sup> The weighted sample is similar in sex, age, education, marital status and geographic distribution of the 2000 Census, but differs in nativity and household income.<sup>8</sup> This analysis focuses on Asian American and Latino individuals who met the criteria for a diagnosis of neurasthenia or *ataques de nervios*.

## *Measures*

The instruments for NLAAS were adapted and translated for non-English speaking respondents allowing participants to choose their language of interview (e.g. Spanish, Vietnamese, Tagalog, Cantonese, and Mandarin) using standard translation and back-translation techniques. The development of NLAAS instruments included new culturally relevant measures and adaptations of existing measures.<sup>70</sup> The questionnaire for the NLAAS includes the NLAAS Core, the NLAAS Non-Core and the NLAAS Study Specific section. Designed to be comparable to the NCS-R and NSAL, the NLAAS Core battery includes identical measures of psychiatric illness, service use and impairment. Although not identical, the NLAAS Non-Core battery shares some constructs with NSAL and others with NCS-R, limiting the study specific sections to just the NLAAS.<sup>70</sup>

### *Dependent Variables: Culture-bound syndromes*

The outcomes of interest are the prevalence rates of *ataques de nervios*. Disorders were assessed using the core CPES questionnaire, based off the *World Mental Health Composite International Diagnostic Interview* (WMH-CIDI), which is a fully-structured psychiatric diagnostic instrument that includes a screening section, and different sections that focus on diagnoses (22), socio-demographic correlates (7), risk factors (4), functioning (4), treatment (2), and methodological factors.<sup>71</sup> Along with the NCS-R and NSAL, the NLAAS is the first major general population survey that includes questions that are designed to operationalize DSM-IV criteria using the WMH-CIDI, which also allows for disorders based on ICD-10.<sup>71,72</sup> Although concordance is not perfect, previous studies of CIDI diagnostic validity have shown that independent clinical diagnoses are related to CIDI diagnoses.<sup>71,73</sup>

*Ataques de nervios*. To assess prevalence of *ataques de nervios*, a question in the

screening portion of the CIDI was included. The screening question incorporated information from previous epidemiological and clinical research that has defined *ataques de nervios*.<sup>10,74,75</sup>

*Have you ever had an episode or nervous attack where you felt totally out of control?*

If a positive response was given for the *ataques de nervios* screener, people were then asked if they had experienced a range of 14 different symptoms during an episode (see Appendix I for a complete list of symptoms and questions). If the response was positive to the screener questions, and four or more of the symptoms were reported, respondents were considered to meet the criteria for *ataques de nervios*. Based on the distribution of the responses derived in previous statistical analyses and symptom reports in clinical studies, a cut-off of four or more symptoms was used.<sup>8</sup>

#### *Independent variables*

The main independent variables of interest for this study are *ethnicity* and *immigration-integration characteristics*. The immigration-integration characteristics have been found to be associated with mental disorders among immigrants, although associations are complex.<sup>50</sup>

Among Asian Americans, generational status has been shown to be a fairly stable indicator of mental disorders among women, with second-generation women at increased risk for lifetime and 12-month disorders.<sup>50</sup> The immigration-integration characteristics selected for the current study include: English-language proficiency, generational status, and age of immigration to examine their impact on the association of ethnicity to culture-bound syndromes.

*Ethnicity*. Participants self-reported their ethnicity, and were divided into 3 categories for the current study: Filipinos (n=508), all other Asians (e.g. Chinese, Vietnamese, Japanese, Korean, and Asian Indian, and Other Asian) (n=1586), and Latino Americans (i.e. Mexican,

Cubans, Puerto Ricans, and Other Latinos) (n=2553). The sample is not broken down further into specific race/ethnic groups due to small sample sizes. Ethnicity in this study is used as a proxy for culture to examine the linkages of specific culture-bound syndromes to racial/ethnic groups, as no direct measures for culture were included within the NLAAS dataset.

*Generational status.* Respondents answered questions based on how they became a U.S. citizen (i.e. U.S.-born citizen, naturalized) and the number of parents born in the U.S. These questions were used to construct three categories for generational status: first generation (i.e. born outside of U.S., immigrant), second generation (i.e. born in the U.S., at least one parent born abroad), and third generation or later (i.e. born in the U.S., and both parents are born in the U.S.).

*English-language proficiency* was assessed for all respondents regardless of language of interview with the following item: “How well do you [speak/write/read] English?” Respondents assessed how proficient they were using a 4-point ordinal scale ranging from *poor* (1) to *excellent* (4). Based on the distribution of the responses, responses were recoded into a dichotomous variable, where *poor* and *fair* were coded as “non-proficient” and *good* and *excellent* were coded as “proficient.”

*Age at time of immigration.* Respondents were asked at what age they immigrated to the United States. Responses for the current study were divided into 4 categories and were selected to represent life cycle differences across infancy through adulthood: reference group (U.S.-born), infancy and childhood (0 - 12 years), adolescence (aged 13 - 17 years), and early to late adulthood (18 + years).<sup>76</sup>

#### *Covariates*

Sociodemographic characteristics that were controlled for in the current study are the



self-reported continuous measures of: age in years. Categorical measures included gender, years of education, and income.

*Age.* Respondent's age (in years) was based on date of birth information. In a recent review that examines the literature of age of onset of mental disorders, data suggest that half of all lifetime mental disorders start by mid-teens and three-fourths by the mid-20s, while later onsets are mostly secondary conditions.<sup>77</sup>

*Gender.* Gender was measured as a dichotomous variable (*female* = 0, *male* = 1)

*Education.* Education was based on self-reported number of years of education based on cut-points that are relevant to markers of credentials (< 12 years or less than high school; 12 years or high school; 13-15 years or some college; 16+ years of college or more). Less than high school was treated as the reference group. Education is a commonly used indicator for socioeconomic status in health studies.<sup>78</sup> For example, individuals who achieve higher levels of education tend to gain better employment with higher incomes that afford greater access to material resources (e.g. housing, health care, nutritious food) that can affect their health.

*Income.* Income was collected from respondent self-reports and was assessed using the following item: “Which letter best represents *your own* personal earnings income in the past 12 months, before taxes? Count only wages and other stipends from your own employment, not pensions, investments, or other financial assistance or income.” For the current study, income was divided into 4 categories that provide relevant markers of socioeconomic position: *less than \$14,999 a year or low income, between \$15,000 and \$34,999 a year low-middle income, between 35,000 and 74,099 a year middle-high income, and \$75,000 or more a year or high income.*<sup>27</sup> Previous research studies have shown that individuals of low socioeconomic position generally have poor health outcomes compared to individuals with higher socioeconomic position. As

such, this pattern will often be demonstrated through different socioeconomic cut-off criteria or indicators.<sup>79,80</sup>

### *Analyses*

Of the NLAAS sample, only respondents who endorsed experiences for *ataques de nervios* in the screening question and continued to report relevant symptoms were coded as having *ataques* in the analyses. All analyses were done using the STATA/IC 13.1 Statistical Software program, to control for the complex sample design and conducted weighted analyses.<sup>81</sup> Specific CPES sample weights for NLAAS were applied in all analyses using the *svy* command to adjust for unequal selection probabilities. The *subpop* command was used in the binary logistic regression analyses to analyze only the respondents that met the criteria for *ataques de nervios*. An alpha of .05 was used to evaluate the significance of all analyses.

#### *Descriptive Statistics.*

Cross-tabulations were conducted to obtain the distribution of sociodemographic characteristics and prevalence rates of *ataques de nervios* for the total sample and by racial/ethnic groups and by immigration-integration characteristics (i.e. English-language proficiency, generational status, and age at time of immigration). Frequencies of study variables were also generated to assess the characteristics of the sample population, the quality of the data, and proportion of missing cases (Table 1). To allow for a more meaningful interpretation of the outcome, age was centered at the mean ( $m = 38$ ) for all analysis. Years of education and income were not centered, as they were included in the study as categorical variables based on relevant markers (i.e. years of education and markers of credentials, income and markers of socioeconomic position). Responses of “don’t know” and “refused” were recoding as missing. Of the variables used in the following analysis, only age of immigration had any missing cases (n

= 11). To assess the relationship between each independent and outcome variable, design-based F-tests were used. Significance was determined at the alpha = .05 level.

*Logistic Regression.*

Logistic regression was conducted to evaluate the relationship between the independent variables of ethnicity and immigration-integration characteristics and the outcome of *ataques de nervios*. Logistic regression was selected for analysis because *ataques de nervios* is a binary outcome, and it allowed for theoretically significant covariates to be adjusted for within the final model.

For the final model, odds ratios, confidence intervals, and p-values are presented to show the relationship between the independent variables and the dependent variable, *ataques de nervios*. To analyze the first and second hypotheses the logistic regression equation is:

$$\hat{y}(\text{ataque de nervios}) = b_0 + b_1(\text{ethnicity}) + b_k(\text{controls}) + e.$$

To test for potential joint effects between ethnicity and immigration-integration characteristics on the relationship to *ataques de nervios*, an interaction term of *ethnicity x immigration-integration characteristics* will be added to the model. The logistic regression equation used to test hypothesis 3 is:

$$\hat{y}(\text{ataque de nervios}) = b_0 + b_1(\text{ethnicity}) + b_2(\text{immigration integration factors}) + b_3(\text{ethnicity x immigration related factors}) + b_k(\text{controls}) + e.$$

In both of these equations, ethnicity will represent Asians, Latinos, and Filipinos. These

ethnicities will be included in the regression as dummy variables (i.e., 0=Filipinos, 1=All Other Asians, and 2=Latinos). The immigration-integration characteristics (i.e. English-language proficiency, generational status, age of immigration) will be included in the model one at a time. The p-value of the interaction term was used to determine the significance of the effect of immigration-integration characteristics on the relationship of ethnicity and *ataques de nervios*. In addition, predicted probabilities from the full logistic regression model were computed for each of the models including the interaction terms. The graphs associated with these predicted probabilities are presented in the results. The goal of these analyses is to assess the role of *ataques de nervios* and its “culture-bound” relationship to their purported racial/ethnic group of Latinos because of the associated behavioral and cultural traits that place them at an increased risk for social and psychiatric vulnerability as compared to Asians and/or Filipinos.

## **Results**

### *Sociodemographic and immigration-integration characteristics*

Table 1 presents sociodemographic characteristics of the total sample ( $n = 4528$ ) and across the racial/ethnic groups (Filipinos,  $n = 500$ ; all other Asians,  $n = 1537$ ; Latinos,  $n = 2491$ ). Both the Filipino sample (56%) and the all other Asians sample (52%) had more females, whereas the Latino sample had slightly more males (51%). Overall, the average age for survey respondents ranged from 18 to 97, with an average age of 38.8 years. The majority of the sample had either 12 years of education (23.0%) or 13 – 15 years of education or some college (22.1%), although about one third of the sample had 11 years of education or some high school or less (36.3%). The majority of the Filipino sample had either 13 – 15 years of education or some college (33.0%) or 16 years of education or more (35.0%). Other Asians and Filipinos were

most likely to have 16 years of education or more (44.1%, 35.0%), while the most common category for the Latino sample was 11 years of education or less (44.0%). Filipinos and all other Asians had a higher proportion of respondents in the high-income bracket (i.e. \$75,000 or more; 46.7% and 38.6% respectively). Latinos had a greater proportion of respondents in the low-middle income bracket (i.e. \$15,000-34,999; 28.7%), as well as similar proportions in the low and middle-high income brackets (i.e. \$0 - 14,999 and \$35,000-74,999; 27.4% and 27.4% respectively).

About two-fifths of the respondents reported their English proficiency as fair or poor (39.9%), with a majority of the respondents rating their English proficiency as excellent or good (60.1%). Respondents that reported their English proficiency as excellent or good were the Filipinos with the highest proportion (89.0%), compared to other Asians (69.3%), and Latinos who reported the lowest proportion (55.2%). The total sample included a higher proportion of respondents who were first generation (57.8%), indicating that most were foreign-born. The Filipino sample also had a high proportion of first generation respondents (66.5%), as well as all other Asians (76.1%). Approximately half of the Latino sample included respondents that are first generation (52.0%) and about a quarter of respondents are second generation (25.1%). Finally, the overall sample was 18 years or older at the time of immigration (41.4%). For the Filipino sample, a higher proportion of respondents immigrated when they were 18 years or older (53.6%), similarly the sample of all other Asians also had a higher proportion that were 18 years or older at their age of immigration (60.2%). However, Latinos had slightly higher proportion of respondents who were US born (41.9%) as compared to those who were 18 years or older at the time of immigration (35.2%).

### *Prevalence rates of ataques de nervios by ethnicity*

Table 2 shows the unadjusted and adjusted prevalence rates of *ataques de nervios* in the total sample, and by racial/ethnic group. Among the total sample, the unadjusted prevalence rate was 5.1% in the total sample population. For Filipinos, the prevalence of *ataques de nervios* is 2.4%, compared to 2.8% for all other Asians, and 5.9 for Latinos. Adjusted for age and gender, the prevalence of *ataques de nervios* for the total sample was 3.79%. The age and gender adjusted prevalence of *ataques de nervios* by ethnicity are 2.0% in Filipinos, 1.9% in all other Asians, and 4.5% in Latinos. Results from the Design-Based F-tests found significant associations for *ataques de nervios* and ethnicity ( $p < 0.001$ ).

### *Bivariate Analyses of Key Independent and Outcome Variables*

Among the respondents, ethnicity, sex, English proficiency, generational status, and age at time of immigration were all significantly associated with reports of *ataques de nervios* at the bivariate level (Table 3). Results from the Design-Based F-tests found significant difference in ethnicity ( $p < .05$ ), such that among the respondents, Latino Americans had the highest odds of reporting *ataques de nervios* as compared to Filipinos (crude OR = 2.48,  $p < 0.05$ ). Significant differences were also found for reports of *ataques* by sex, such that women had higher odd of reporting *ataques* as compared to men (crude OR = 1.55,  $p < 0.01$ ). Additionally, there were significant differences in immigration-integration characteristics. For respondents that had fair or poor English proficiency, there was a 38% reduction in reporting *ataques* as compared to those that had excellent or good English proficiency. For generational status, respondents that were second generation were 1.81 times ( $p < 0.01$ ) more likely to report *ataques* as compared to first generation respondents. Similarly, third generation respondents were 2.45 times ( $p < 0.001$ )

more likely to report *ataques* as compared to first generation respondents. Lastly, significant associations were found for age at time of immigration, such that respondents who immigrated between the ages of 13-17 years and 18 years or older were less likely to report *ataques* as compared to those who are born in the U.S. (crude OR = .41,  $p < 0.01$ ; crude OR = .51,  $p < 0.01$ ). These findings suggest that immigrant respondents are less likely than US-born respondents to report *ataques de nervios*.

#### *Multivariate Analyses of Key Independent and Outcome Variables*

Logistic regression was used to test racial/ethnic differences in relationship to *ataques de nervios*, while controlling for sociodemographic and immigration-integration characteristics (Table 4). For this analysis, the outcome was 1 = *yes, respondent meets criteria for ataques de nervios*, 0 = *no, respondent does not meet criteria for ataques de nervios*. Results from the multivariate associations showed that among the respondents, ethnicity, sex, generational status, and age at time of immigration were the only significant predictors of *ataques de nervios* (Table 3). Compared to Filipinos, Latinos had significantly higher odds of reporting *ataques de nervios* (adjusted OR = 2.33,  $p < .05$ ). These findings are consistent with previous research that has shown higher rates of *ataques de nervios* among nationally representative Latino populations than other groups.<sup>8</sup> Compared to men, women had greater odds of reporting *ataques de nervios* (adjusted OR = 1.59,  $p = < 0.05$ ). Among the immigration-integration characteristics, only generational status and age at time of immigration were significantly associated with predicting *ataques de nervios*. Results of the Designed-Based F-tests found that as generational status increased, so did the odds of reporting *ataques de nervios*. Specifically, second generation respondents were 2.11 times ( $p < 0.05$ ) more likely to report *ataques* as compared to first generation. Similarly, third

generation respondents were 2.89 times ( $p < 0.01$ ) more likely to report *ataques* as compared to first generation respondents. Additionally, there were significant differences in *ataques de nervios* by age at time of immigration, with respondents who were less than 12 years of age at the time of immigration reporting higher odds of *ataques* as compared to U.S. born respondents (adjusted OR = 1.95,  $p < 0.05$ ). Although we observed similar associations in reporting *ataques* at the bivariate and multivariate level for ethnicity and sex, the associations did not hold true for immigration-integration characteristics after adjusting for sociodemographic characteristics. English proficiency was no longer significantly associated with *ataques* when adjusting for covariates. Generational status remained significant, such that second and third generation respondents are more likely to report *ataques* than their first generation counterparts. However, when controls were added, only respondents less than 12 years of age showed a significant association, reporting higher odds of *ataques de nervios* as compared to U.S. born respondents. This finding suggest that immigrant respondents are *more* likely than U.S. born respondents to report *ataques de nervios*. With all of the variables included in the multivariate model, it is possible that generational status and age at time of immigration may account for English proficiency not showing an independent effect.

#### *Interaction Effects of Key Independent Variables*

In this analysis, we also explored the joint effects between ethnicity and immigration-integration characteristics (Table 5). There was a significant association for the joint effect of ethnicity and English proficiency (Model 1). As shown in figure 4 the relationship between *ataques de nervios* and ethnicity depends on English proficiency. In particular, we can see that for Filipino respondents, the predicted probability of *ataques de nervios*, with covariates set at



the mean, is greater for those who are non-proficient (i.e. fair/poor English proficiency) (6.1%) as compared to those who are proficient (i.e. excellent/good English proficiency) (2.0%). In comparison, Latinos show the opposite pattern, with a lower probability of *ataques de nervios* for respondents who rate themselves as non-proficient (4.0%), as compared to those who rate themselves as proficient (5.6%). All Other Asians show only a marginal difference in the probability of *ataques de nervios*, with respondents who are non-proficient reporting slightly less *ataques de nervios* (2.6%) as compared to respondents who are proficient (3.0%). Additionally, there were no significant associations examining the joint effects of ethnicity and age at time of immigration (Model 2) or ethnicity and generational status (Model 3).

**Table 1. Sample Characteristics by Ethnicity, National Latino and Asian American Study (2002-2003)**

	Total sample <sup>1</sup> ( <i>n</i> = 4528)		Filipinos ( <i>n</i> = 500)		Other Asians ( <i>n</i> = 1537)		Latinos ( <i>n</i> = 2491)		<i>p</i> -value <sup>2</sup>
	<i>m</i>	<i>SE</i>	<i>m</i>	<i>SE</i>	<i>m</i>	<i>SE</i>	<i>m</i>	<i>SE</i>	
<i>Age (years)</i>									
Years	38.8	0.53	43.0	1.24	40.9	0.84	37.9	0.58	.0004
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
<i>Sex</i>									
Male	2063	50.3	230	44.3	739	48.5	1094	51.3	.0343
Female	2465	49.7	270	55.7	798	51.5	1397	48.7	
<i>Education (years)</i>									
11 or less	1266	36.3	53	11.8	253	15.6	960	44.0	<0.001
12	985	23.0	97	20.1	263	17.0	625	24.7	
13 – 15	1073	22.1	165	33.0	352	23.3	556	20.9	
16 or more	1204	18.7	185	35.0	669	44.1	350	10.3	
<i>Income</i>									
\$0-14,999	1054	25.0	63	13.9	302	19.4	689	27.4	<0.001
\$15,000-34,999	977	24.6	59	12.0	245	13.7	673	28.7	
\$35,000-74,999	1212	27.6	135	27.4	409	28.4	668	27.4	
\$75,000 and more	1285	22.8	243	46.7	581	38.6	461	16.5	
<i>English-language proficiency</i>									
Excellent/Good	2790	60.1	450	89.0	983	69.3	1357	55.2	<0.001
Fair/Poor	1738	39.9	50	11.0	554	30.7	1134	44.8	
<i>Generational Status</i>									
1st Generation	2895	57.8	323	66.5	1217	76.1	1355	52.0	<0.001
2nd Generation	976	22.2	121	24.2	159	11.6	696	25.1	
3rd Generation	675	20.0	56	9.3	161	12.3	440	23.0	
<i>Age at time of immigration</i>									
US-Born	1359	36.9	157	29.9	292	21.5	910	41.8	<0.001
Less than 12 years	592	12.4	58	11.6	175	13.1	359	12.3	
13-17 years	335	9.3	28	4.9	99	5.2	208	10.8	
18 years or more	2242	41.4	257	53.6	971	60.2	1014	35.2	

Notes: <sup>1</sup>Unweighted *N* = 4,649. Statistics weighted to national level using NLAAS sample weights

<sup>2</sup>The *p* value is from the Design-Based *F*-test; *n* = number; *m* = mean; *SE* = standard error

**Table 2. Prevalence of *ataques de nervios* by Ethnicity, National Latino and Asian American Study (2002-2003)**

	Total sample ( <i>n</i> = 4528) % (SE)	Filipinos ( <i>n</i> = 500) % (SE)	All other Asians ( <i>n</i> = 1537) % (SE)	Latinos ( <i>n</i> = 2491) % (SE)	<i>p</i> -value
Unadjusted DSM-VI Ataques	5.10 (0.006)	2.39 (0.009)	2.82 (0.004)	5.93 (0.007)	<0.001
<i>Age and gender adjusted</i> DSM-VI Ataques	3.79 (0.006)	2.01 (0.009)	1.87 (0.005)	4.47 (0.008)	0.004

*Note: The p value is from the Design-Based F-test.*

**Table 3. Bivariate Associations Between Ataques de Nervios and Sociodemographic and Immigration-Integration Characteristics, National Latino and Asian American Study, (2002-2003; N=4528)**

	<b>OR</b>	<b>95% CI</b>
<b>Ethnicity</b>		
Filipino	Ref.	
Other Asians	1.18	(0.53, 2.64)
Latinos	2.48*	(1.17, 5.28)
<b>Sex</b>		
Male	Ref.	
Female	1.55**	(1.13, 2.12)
<b>Age</b>		
Years	0.99	(.98, 1.00)
<b>Education</b>		
11 years or less	Ref.	
12 years	1.07	(0.68, 1.68)
13 - 15 years	0.91	(0.63, 1.31)
16 years or more	0.78	(0.52, 1.17)
<b>Household income</b>		
\$0 - 14,999	Ref.	
\$15,000 - 34,999	1.22	(0.77, 1.91)
\$35,000 - 74,999	0.85	(0.46, 1.55)
\$75,000 or more	1.00	(0.52, 1.90)
<b>English-language proficiency</b>		
Excellent/Good	Ref.	
Fair/Poor	0.62*	(0.41, 0.94)
<b>Generational status</b>		
First Generation	Ref.	
Second Generation	1.81**	(1.29, 2.54)
Third Generation	2.45***	(1.62, 3.72)
<b>Age at time of immigration, Year</b>		
US-Born	Ref.	
Less than 12 years	0.96	(0.57, 1.61)
13-17 years	0.41**	(0.25, 0.68)
More than 18 years	0.51**	(0.35, 0.74)

Notes: \*\*\*p<0.001; \*\*<0.01; \*0.05; OR = odds ratio; CI = confidence interval; Ref. = reference group

**Table 4. Odds of Ataques de Nervios, National Latino and Asian American Study, (2002-2003; N = 4528)**

	<b>OR</b>	<b>95% CI</b>
<b>Ethnicity</b>		
Filipino	Ref.	
Other Asians	1.27	(0.58, 2.77)
Latinos	2.33*	(1.03, 5.27)
<b>Sex</b>		
Male	Ref.	
Female	1.59*	(1.11, 2.27)
<b>Age</b>		
Years	0.99	(0.98, 1.00)
<b>Education</b>		
11 years or less	Ref.	
12 years	0.87	(0.52, 1.45)
13 - 15 years	0.74	(0.48, 1.14)
16 years or more	0.83	(0.46, 1.52)
<b>Household income</b>		
\$0 - 14,999	Ref.	
\$15,000 - 34,999	1.21	(0.76, 1.92)
\$35,000 - 74,999	0.88	(0.48, 1.60)
\$75,000 or more	1.14	(0.51, 2.55)
<b>English-language proficiency</b>		
Excellent/Good	Ref.	
Fair/Poor	0.72	(0.35, 1.51)
<b>Generational status</b>		
First Generation	Ref.	
Second Generation	2.11*	(1.18, 3.79)
Third Generation	2.89**	(1.51, 5.53)
<b>Age at time of immigration, Year</b>		
US-Born	Ref.	
Less than 12 years	1.95*	(1.11, 3.41)
13-17 years	1.01	(0.49, 2.10)
More than 18 years	1.62	(0.90, 2.94)

Notes: \*\*\*p<0.001; \*\*<0.01; \*<0.05; OR = odds ratio; CI = Confidence interval; Ref. = reference group.

**Table 5. Interactions Between Immigration-Integration Characteristics and Ethnicity, National Latino and Asian American Study, (2002-2003; N=4528)**

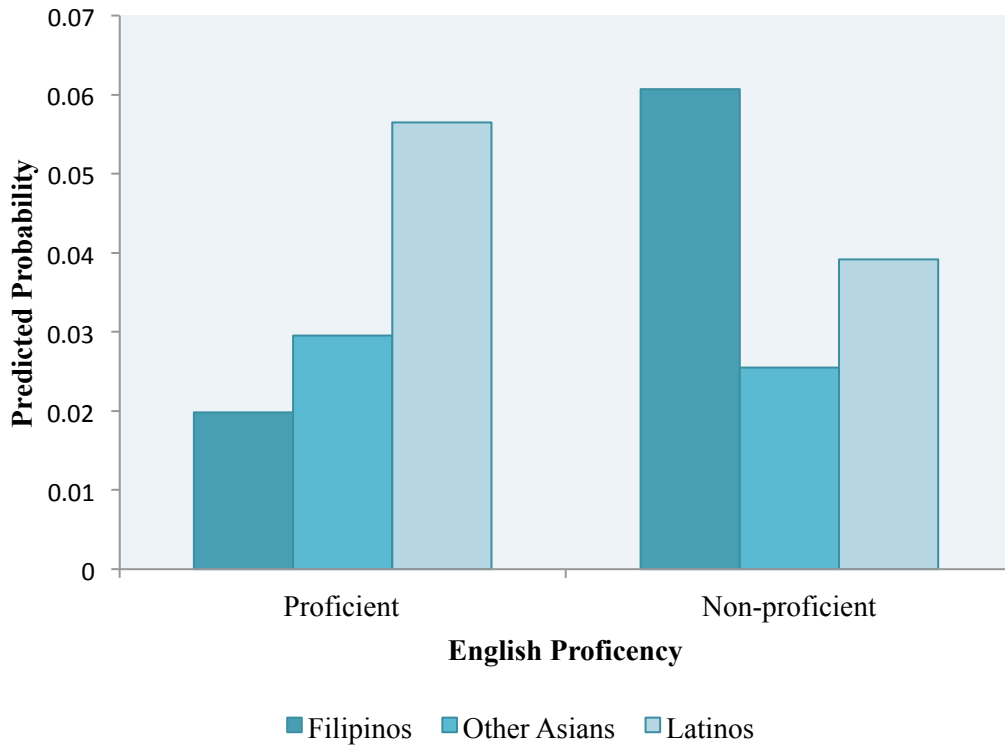
	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Ethnicity</b>						
Filipino (ref.)	Ref.		Ref.		Ref.	
Other Asians	1.50	(0.71, 3.19)	0.68	(0.22, 2.10)	2.42	(0.66, 8.85)
Latinos	2.96*	(1.25, 7.00)	2.01	(0.63, 6.45)	2.81	(0.78, 10.17)
<b>Sex</b>						
Male	Ref.		Ref.		Ref.	
Female	1.59*	(1.11, 2.28)	1.60*	(1.12, 2.28)	1.60*	(1.12, 2.28)
<b>Age</b>						
Years	0.99	(.98, 1.00)	0.99	(.98, 1.00)	0.99	(.98, 1.00)
<b>Education</b>						
11 years or less	Ref.		Ref.		Ref.	
12 years	0.86	(0.52, 1.44)	0.87	(0.52, 1.45)	0.87	(0.52, 1.45)
13 - 15 years	0.74	(0.48, 1.14)	0.73	(0.47, 1.13)	0.73	(0.47, 1.13)
16 years or more	0.84	(0.46, 1.53)	0.83	(0.46, 1.52)	0.82	(0.45, 1.51)
<b>Household income</b>						
\$0 - 14,999	Ref.		Ref.		Ref.	
\$15,000 - 34,999	1.20	(0.75, 1.92)	1.20	(0.75, 1.90)	1.20	(0.75, 1.92)
\$35,000 - 74,999	0.88	(0.48, 1.59)	0.88	(0.48, 1.59)	0.88	(0.49, 1.61)
\$75,000 or more	1.14	(0.51, 2.54)	1.14	(0.51, 2.55)	1.13	(0.51, 2.52)
<b>English-language proficiency</b>						
Excellent/Good	Ref.		Ref.		Ref.	
Fair/Poor	3.20	(0.71, 14.32)	0.68	(0.31, 1.45)	0.72	(0.34, 1.55)
<b>Generational Status</b>						
First Generation	Ref.		Ref.		Ref.	
Second Generation	2.10*	(1.17, 3.76)	0.86	(0.14, 5.39)	2.09*	(1.14, 3.80)
Third Generation	2.85**	(1.50, 5.41)	2.17	(0.33, 14.06)	2.87*	(1.48, 5.55)
<b>Age at time of immigration</b>						
US-Born	Ref.		Ref.		Ref.	
< 12 years	1.95*	(1.11, 3.43)	1.94*	(1.12, 3.34)	2.23	(0.22, 23.17)
13-17 years	1.04	(0.50, 2.17)	1.03	(0.50, 2.11)	3.99	(0.30, 52.62)
> 18 years	1.64	(0.89, 2.99)	1.73	(0.96, 3.11)	2.16	(0.28, 16.45)
<b>English proficiency*</b>						
<b>Ethnicity</b>						
Excellent/Good*Filipinos	Ref.					
Fair/Poor*Other Asians	0.27	(0.07, 1.04)				
Fair/Poor*Latinos	0.21*	(0.05, 0.84)				

(Continued)

**Table 5. (Continued)**

	Model 1		Model 2		Model 3	
	OR	95% CI	OR	95% CI	OR	95% CI
<b>Generational status*</b>						
<b>Ethnicity</b>						
First Gen.* Filipinos			Ref.			
Second Gen.* Other Asians			6.85	(0.77, 61.25)		
Second Gen.* Latinos			2.22	(0.31, 15.95)		
Third Gen.* Other Asians			2.96	(0.42, 21.14)		
Third Gen.* Latinos			1.20	(0.16, 9.17)		
<b>Age at time of immigration*</b>						
<b>Ethnicity</b>						
US-Born*Filipinos					Ref.	
< 12 years* Other Asians					0.24	(0.02, 3.75)
< 12 years* Latinos					0.99	(0.10, 9.42)
13-17 years* Other Asians					0.56	(0.04, 8.79)
13-17 years* Latinos					0.21	(0.02, 2.65)
> 18 years* Other Asians					0.38	(0.05, 2.79)
> 18 years* Latinos					0.82	(0.12, 5.71)

Notes: Age centered at 38 years. OR = Odds ratio. CI = Confidence interval. Ref. = Reference group.  
 Gen. = Generation Adjusted for age and sex. \*\*\*p<0.001; \*\*<0.01; \*<0.05.



**Figure 4.** The association between English-language proficiency and Ataques de Nervios is moderated by ethnicity, National Latino and Asian American Study (2002-2003; N=4,528). Note: Calculation of predicted probabilities (at the means) are estimated from the odds ratios of the logistic regression.



## Discussion

Understanding the associations among ethnicity, immigration-integration characteristics and *ataques de nervios*, holds important significance for certain racial/ethnic groups in providing a culturally meaningful indicator for social stressors and mental health needs. This analysis contributes to the growing literature on Filipino and Latino American mental health by exploring the relationship between ethnicity and *ataques de nervios*, and how reports of this particular syndrome can vary depending on specific immigration-integration characteristics.

### *Racial/ethnic patterning of ataques de nervios*

To understand whether culturally bound syndromes have significant utility in addressing cultural variations in the experiences and expression of mental disorders, it was necessary to first look at whether there were ethnic differences in the prevalence of *ataques de nervios*. If the diagnostic criteria for *ataques de nervios* are effective in addressing the cultural variations in Latino mental health, then it is expected that Latinos would show the highest prevalence of *ataques* as compared to Filipinos and all other Asians. Given this understanding, our first hypothesis predicted that Latinos would report a greater prevalence of *ataques de nervios* as compared to Filipinos and all Other Asians after controlling for sociodemographic and immigration-integration characteristics. This hypothesis was supported.

Due to Filipino history of Spanish colonization that suggests greater alignment with Latino culture as compared to Asian culture, it was also predicted that Filipinos would have a greater prevalence of *ataques de nervios* as compared to all other Asians. However, this hypothesis was not supported by the findings. Instead, the prevalence of *ataques* for Filipinos was more similar to the prevalence found among all Other Asians.

Consistent with the idea that *ataques de nervios* is a culture-bound syndrome common among Latinos; we found that Latinos did in fact report higher rates of *ataques de nervios* when compared to Filipinos and all other Asians. Unique to this study, was the examination of *ataques de nervios* among non-Latino groups. However, one thing that our study did not do was disaggregate the reports of *ataques de nervios* within groups, as prior studies have suggested differences in the prevalence of *ataques de nervios* among various Latino populations.<sup>8,12</sup> Regardless, *ataques de nervios*, as assessed by the WMH-CIDI screener, was supported within the data as a marker for social and psychiatric distress among Latino groups in the U.S. Although the results for Filipinos and all other Asians were not significant, this may be indicative of the small sample sizes of the Filipinos and other Asians that made it difficult to detect any differences. It may also suggest that the diagnostic criteria selected for *ataques* more appropriately taps into Latino cultural constructs than the constructs or experiences shared by Filipinos or other Asians, making *ataques* a critical indicator of mental health need among Latinos. However, it is important to note that *ataques* may still only provide a crude indicator for mental health need among Latinos, as previous studies have found significant differences in the frequency of *ataques de nervios* reported by Latino subgroups (i.e. Puerto Rican, Cuban, Mexican, and Other Latino), with Puerto Ricans reporting the highest frequency at 15%.<sup>8</sup> These higher reports may allude to early characterizations of *ataques de nervios*, unique to the Puerto Rican army inductees at the Veteran's Hospitals in Puerto Rico in the late 1950s, than of Latinos as a whole.<sup>12</sup> Therefore, more comprehensive investigations of the variations in the experiences and reporting of *ataques de nervios* for other Latino groups (e.g. Mexicans, Cubans) may provide a broader range of symptoms and contexts that can capture multiple dimensions of *ataques*.

### *Variations in ataques de nervios by immigration-integration characteristics*

It was also hypothesized that immigration factors would be relevant, with the general idea that persons who might appear more integrated into a new society and culture would have lower rates of *ataques* than those who were less integrated. For English-language proficiency, the associations were not statistically significant for individuals that spoke fair or poor English (i.e. less integrated) as compared to those who spoke excellent or good English (i.e. more integrated). This lack of association appears consistent with previous literature that distinguishes English proficiency as a weak indicator of decreased quality of life.<sup>50,51</sup> As such, English proficiency may also be a poor indicator of *ataques de nervios*. In addition, English proficiency tends to vary widely across groups, and is seemingly unrelated to time spent in the United States (i.e. English as an official language in Philippines and India). For example, South Asians who are more recent immigrants to the U.S. are less likely to report limited English proficiency as compared to Vietnamese who have lived in the U.S. for a longer time.<sup>51</sup> Other factors associated with immigration that were examined for the current study were generational status and age at time of immigration. Both factors had significant associations that indicated higher odds of reporting *ataques de nervios* across all groups, although the reports of *ataques* did not occur in the predicted direction.

For generational status, it was predicted that later generations that have spent more time in the U.S. (i.e. second generation and above) would report less *ataques* as compared to first generation immigrants who may be less accustomed to American norms and culture. However our findings demonstrated that older generations were *more* likely to report *ataques* as compared to first generation immigrants. These results were consistent with previous literature that found first-generation Latinos to have lower rates of depressive disorders compared to US-born

generations.<sup>52-54</sup> Another study looking at immigration factors and mental disorders among Asian Americans, found that second-generation Asian American women had an increased risk for lifetime and 12-month disorders.<sup>50</sup> The higher reports of *ataques* among the higher numbered generations may be associated with increased exposures to stress (i.e. discrimination) over a longer period of time living in the U.S.<sup>82</sup> As recent immigrants may have resources that can temporarily ameliorate the effects of discrimination. However, these group differences may dissolve over time as their exposure to discrimination accumulates and their protective resources diminish.<sup>82</sup>

Lastly, it was predicted that those who immigrated at an early age, would report less *ataques*, as they would have spent more time in the U.S., and would presumably be more integrated into U.S. society. Conversely, those who immigrated at a later age would report more *ataques*, as they would have spent less time in the U.S., and would be less integrated into U.S. society. However, contrary to what was expected, there were increased odds of reporting *ataques* for those who were less than 12 years of age at the time of their immigration. These findings go against the belief that immigrants that arrive as children have an easier time learning English, socializing, and developing relationships outside of their families.<sup>50</sup> Similar to our previous finding with generational status, this association may indicate increased exposure to stressors like discrimination for immigrants in the U.S., thereby increasing their reports of *ataques*. Although immigration is associated with *ataques*, the direction of association appears to be inconsistent. Future research should consider interactive influences between ethnicity, immigration factors, and potential stressors for immigrants that place them at an increased risk for *ataques de nervios*.

This current study contributes novel information that demonstrates how the distribution of *ataques de nervios* can vary depending on the level of English proficiency reported. To understand the implications of these results within the broader context of immigration-integration characteristics and their effect on culture-bound syndromes, it is necessary to clarify that each immigration-integration characteristic provides unique insight into the variations seen in the report of *ataques*. For example, while generational status and age at time of immigration can provide different indicators for how time may shape the immigrant experience, English proficiency provides a fundamentally different indicator that is strongly related to cultural and historical context, and can signify immigrant ability to move beyond immediate social circles (i.e. family) and increase opportunities for jobs and access to social and economic resources.<sup>50,51,82-86</sup> Given this understanding, the third hypothesis predicted that immigration-integration characteristics would interact with ethnicity.

However, this hypothesis was only partially supported by the findings, as ethnicity was moderated by English proficiency, but was not moderated by generational status or age at time of immigration. Significant associations were found for Latinos who spoke fair or poor English compared to Filipinos who spoke excellent or good English. However, the direction of the relationship was counter to what was expected. Latinos who spoke fair or poor English were less likely to report *ataques* as compared to Filipinos who spoke excellent or good English. Further examination of the predicted probabilities for reporting *ataques*, found that Latinos who spoke excellent or good English reported more *ataques*, suggesting that Latinos who are more integrated into U.S. society are at a greater risk for social and psychiatric vulnerabilities. By contrast, Filipinos who spoke fair or poor English showed a higher probability of reporting *ataques* as compared to Filipinos that spoke excellent or good English. As such, the findings for

Filipinos support initial predictions that low immigrant integration would result in a higher likelihood of reporting *ataques* as compared to high immigrant integration. The differential impact of English proficiency on ethnicity and reports of *ataques* demonstrates the complex nature of these associations.

The null associations regarding generational status and age at time of immigration may have been due to chance alone. However, these findings contrast with previous research that has examined immigration-related factors and Latino health, and have found associations between longer residence in the US and increased distress for Latinos due to social stressors like the loss of family supports and increasing levels of discrimination (e.g. Latino paradox).<sup>8,87-89</sup> It is also possible that the null findings for the current study resulted from the analyses incorporating all groups (i.e. Asians), including those that do not hold any current associations with reporting *ataques de nervios*. Although it is unclear what the reasons for the null findings are, there may have been other unobserved factors that influenced how generational status and age at time of immigration operate across immigrant groups.

The associations found between English proficiency and the differential reports of *ataques* by ethnicity suggest that English proficiency may offer different dimensions to how immigrants experience mental health in the U.S. Some of the variation may be due to differences in sociohistorical context, but a more important reason may be in how language shapes perceptions of mental health.

First, we examine differences in sociohistorical context that may influence English proficiency across groups. As a consequence of U.S. colonial occupation, English is one of the official languages of the Philippines, and was systematically introduced into their education system.<sup>90,91</sup> However, English does not carry the same historical legacy for other countries like

Vietnam or Mexico. The Philippines also shares a long history of Spanish colonization that has allowed for aspects of Spanish culture to bleed into Filipino culture (e.g. language, religion). As such, it was predicted that *ataques* would also be useful for Filipinos who may express their distress using shared Latino cultural constructs. Therefore, higher rates of *ataques* should be reported for recent immigrants with limited English proficiency. The current study appears to follow this predicted pattern, with higher reports of *ataques* for Filipinos with limited English proficiency, and lower reports for those who are English proficient. The latter trend of reporting also fits with the general idea that Filipinos who are English proficient may use different idioms or words to understand and describe their symptoms, which may no longer be congruent with how *ataques* is conceptualized as a recent immigrant.

Latinos showed a different pattern from that of Filipinos. English-language proficiency was significantly associated with reports of *ataques*, but not in the predicted direction. Latinos who spoke English proficiently compared with non-proficient speakers, had higher rates of *ataques*. These findings may be attributed to the integral role that language plays in influencing the experience of symptoms, emotions, and perceptions of mental health across different groups. The high rates of *ataques* among English proficient Latinos may indicate that *ataques* still holds meaning for Latinos because it reflects familiar cultural traits. However, increased English proficiency may negatively influence their conceptualization of self as separate from others. This may diminish their connection to protective resources found in their social networks, which can ameliorate the effects of stressors like discrimination. For example, research that looked at the psychological effects of function words found that first person singular pronouns like “I,” are a better marker of depression than the use of negative emotion words.<sup>92</sup> In addition, an analysis of suicidal versus non-suicidal poets, found that suicidal poets

who eventually completed suicide tended to focus more on self, using first person pronouns at a much higher rate, and were less socially integrated than the non-suicidal poets.<sup>93</sup> The conceptualization of self can also differ between English and Spanish. In a book that explores language as a window into multiple levels of identity construction, author Norma Gonzalez reflects upon her own awareness of the role emotion played in speaking a particular language.<sup>94</sup>

“I learned that the world was not carved into discrete and knowable chunks that were simply labeled differently in different languages. When Yaya spoke of the sierra, of the smoky campsites of Mexican miners on their treks to mining camps, the images that she conjured could not be mapped onto any English equivalents. Ineffably, I knew that the dimensions of Spanish were far different from the dimensions of English. They did not feel the same, taste the same, or sound the same. Spanish was the language of family, of food, of music, of ritual -- in short, of identity...English was for arithmetic, for the doctor’s office, for the teacher...Even though in my family, we mixed languages effortlessly, the underlying symbolism was correspondingly parallel: home and hearth were woven with Spanish; “out there” was constructed with English.” (Gonzales, 50)

Given the ways in which language is so intricately tied to our emotions and perceptions of mental illness, future research should provide a more comprehensive investigation of how certain emotions and symptoms are tied to *ataques*, and how that can vary by language and level of proficiency.

### *Limitations to the study*

As with any research study, there are limitations that should be acknowledged. In order to examine the association of culture-bound syndromes with Filipinos, we had to break down the Asian-American sample further, which may have limited the ability to detect weaker associations than if we had kept the Asian American sample together. The data for this study is also cross-sectional; therefore causal relationships cannot be drawn from the findings. This study suggests that increased English proficiency for Filipinos contributes to decreased reports of poor mental



health, however it is also likely that poor mental health may deter Filipinos from improving their English proficiency. To verify these findings, longitudinal studies should be conducted to include data regarding English proficiency and mental health at different time points before and after immigration to the US. This information would support further assessment of the focal variables and their appropriate temporal ordering.

Additionally, this study only included diagnostic criteria from the DSM-IV for *ataques de nervios*, which limits the comparability of prevalence estimates using different diagnostic systems like the CCMD-2 as mentioned earlier. Given the variability in how symptoms manifest across cultures, there may be key symptoms that are more prevalent among certain groups than others.<sup>95</sup> In this particular case, Latinos may have endorsed *ataques de nervios* at a greater rate simply because the wording of the disorder is more recognizable for Latinos than it is for Asians. Future research will require that we examine the concordance of *ataques de nervios* across population-based samples among various cultural contexts. Lastly, it is unclear what findings may be generalizable to present time, as this data come from 2002 to 2003. However, as the data is still within the last 10-15 years, changes relevant to *ataques* should be minimal. Although, given recent changes in administration and the higher anti-immigrant sentiment we may expect an overall increase in the prevalence due to higher levels of distress overall.

Lastly, while English proficiency has been identified in previous studies as an important step in the larger process of immigrant integration explained primarily to be a function of the duration of time living in the U.S., this study does not measure respondents English proficiency prior to immigration.<sup>96</sup> This is important, as English acquisition for some groups begins prior to immigration. English language education was introduced to the Philippines in 1898 with the arrival of American colonizers. As part of the American colonial project, English was

systematically promoted through the heavy use of English from literary greats such as Emerson and Shakespeare, with the assumption that by introducing English, American colonizers could create a civilized citizenry.<sup>90,91</sup> By comparison, Mexicans who represent a large proportion of the Latino sample population did not experience the same historical legacy. Although English instruction is included in the public schooling systems in Mexico, the instruction may be very limited, focusing primarily on vocabulary and simple phrases.<sup>97</sup> Due to the lack of teachers who have sufficient proficiency in English, the English curriculum remains limited in introducing more complex communicative aspects that can allow for a more successful integration into the U.S. labor market.<sup>97</sup> Although the measure for English proficiency lacks important temporal considerations and historical contexts, it is still deemed an important measure in assessing immigrant assimilation, particularly with regard to influencing one's success into the labor market and a fuller integration into U.S. society. Future research should consider including measures that assess English proficiency at different time points both pre-immigration and post-immigration.<sup>98</sup>

### ***Conclusion***

In closing, the present study provides a unique examination of the differences in the experience of culture-bound syndromes by ethnicity and immigration-integration characteristics among a nationally representative sample of Filipinos, Asians, and Latinos. Some of these differences may be related to the greater cultural significance *ataques de nervios* holds for Latinos as compared to Filipinos and Asians. However, it may be more likely that these differences are associated with varied reports in English proficiency, which may be due to differences in sociohistorical contexts and differential experiences of symptoms, emotions, and perceptions of mental health based on language.

Previous research has indicated a strong connection between *ataques de nervios* and psychiatric vulnerability for Latinos. These particular vulnerabilities have been linked to dissociative tendencies, as well as higher rates of suicidal symptoms.<sup>8</sup> The need for culturally tailored assessments that can highlight mental health needs among specific racial/ethnic groups that would otherwise not be captured by western conceptualizations of mental disorders is evident. However, it is of equal import that we focus our attention on important contextual factors such as one's employment status, level of education, and socioeconomic status. Even so, our contemporary understanding of racial/ethnic health disparities has its limitations, and requires a broader framework like PHCRP that can highlight important structural and institutional powers that produce differential health outcomes for various racial/ethnic groups over time. As discussed earlier, much of the current phenomena can be linked to distinct sociocultural histories. Therefore we must be cautious not to decontextualize entities from their social circumstances and critical histories, by placing psychological problems within the individual or their communities.<sup>99</sup>

In addition, although the DSM seeks to provide a sense of cultural sensitivity in describing culture-specific experiences and expressions of mental distress, the conceptualization of mental health is still being constructed through a western psychology; limiting an authentic understanding of distress based on views that are centered in the margins rather than in the mainstream.<sup>66,100</sup> Even if concerted efforts are made to acknowledge the important influence of culture on mental health, the conceptualization of culture-bound syndromes like *ataques de nervios* is still created based on western conceptions of "aberrant behavior." As a result, this reinforces the social hierarchy of western dominance over ethnic minorities, which inadvertently forces minority groups to express and conceptualize their distress through a westernized clinical

lens, which may often times be the lens of their oppressor. Therefore, we should consider the ways in which the English language itself is a form of linguistic imperialism that reinforces colonial powers through the use of English as a way to shape both the conceptualization of the disorder and experiences of distress.<sup>51</sup>

If we continue to use the DSM and its diagnostic criteria to determine social and psychiatric vulnerabilities within ethnic minority populations, it is necessary that we imagine new ways in which these diagnoses can be centered in the perspectives of those in the margins. More importantly, once a diagnosis has been made, what are the treatments that are currently in place? Although it is important to accurately diagnosis mental health distress, it is of greater import to know what treatments are currently available to address the underlying issues at hand; otherwise all of this effort will have been in vain. As such, it would be helpful for future research to look beyond psychologizing the individual, and see what treatments are effective in addressing the structural and institutional inequities that produce mental health issues.

## **APPENDIX I. List of Ataque de Nervios Symptoms**

SCAT1. Ataque screener question

AT2INTRO. shout a lot

AT2b. have crying attacks

AT2c. break things or become aggressive

AT2d. get very angry or in a rage

AT2e. feel very scared or frightened

AT2f. become hysterical

AT2g. tremble a lot

AT2h. feel strange like it was not you who was doing this

AT2i. amnesia

AT2j. get dizzy

AT2k. fall to the floor with a 'seizure'

AT2l. have heart palpitations your heart beat hard

AT2m. have chest tightness or heat in your chest

AT2n. faint or feel on the verge of fainting

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