

**Travel and Travail: Mental health consequences of
immigration related factors, acculturative stress, and social
support among Asian American immigrants**

By

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To Dad and Mom

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Abstract

Travel and Travail: Mental health consequences of immigration related factors, acculturative stress, and social support among Asian American immigrants

By

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Chair: Harold W. Neighbors

The experience of immigration is not uniform for all immigrants. This diversity with its accompanying acculturative stressors has a differential impact on the mental health of immigrants. Limited research has been done to understand the effect of acculturative stress and social support on the mental health of Asian Americans. This study investigates the relationship of three acculturative stresses (legal stress, language barriers, discrimination) to psychological distress and major depressive episode lifetime. In addition, it examines the moderating effect of two immigration-related factors, age at immigration, and years spent in the United States (U.S.) on the relationship between acculturative stress and major depressive episode. This study also examines the moderating impact of kin and non-kin social support on the relationship of acculturative stress to psychological distress. Using data from the 2002-2003 National Latino and Asian American Study (NLAAS), 1,639 foreign-born Asian immigrant respondents were included in the sample.

Results show that legal stress and language barriers were significantly related to major depressive episode. Age at immigration moderated the association between legal stress and major depressive episode. Specifically, immigrants who came to the U.S. as adults were protected from the effects of high legal stress on major depressive episode in comparison to immigrants who came as children to the U.S. Years spent in the U.S. moderated the association between discrimination and major depressive episode such that living in the U.S. for more than 10 years was protective against the effect of language barriers on major depressive episode in comparison to living in the U.S. less than 10 years. Results also show that language barriers and discrimination were significantly related to psychological distress. Non-kin social support moderates the association of discrimination and psychological distress; the effect of any discrimination on psychological distress is weaker among immigrants with high non-kin social support than it is for immigrants who have low non-kin social support. In summary, this research highlights the importance of understanding the impact of immigration process and social resources that are available to the immigrants in examining the relationship of stress and mental health, specifically among Asian American immigrants.

Chapter I

Travel and Travail: Mental Health Consequences of Immigration and Acculturation among Asian American Immigrants

The nation is becoming more racially and ethnically diverse according to projections released by the U.S. Census Bureau, where minorities now are roughly one-third of the total U.S. population, and are expected to become 54% majority by 2050 (2008). Although, minority groups have experienced substantial improvements in their social and economic well being during the second half of this century, mental health disparities between groups persist and, in some cases, have widened (Blank, 2001). Minorities have shown to have decreased access and availability to mental health care, receive poorer quality of mental health care services, and are also underrepresented in mental health research (Smedley, Stith, & Nelson, 2003; USDHHS, 1999). Mental health is among the ten Leading Health Indicators (LHIs) according to the *Healthy People 2010* report that outlines the nation's public health objectives for the current decade (USDHHS, 2001). Similarly, the President's New Freedom Commission on Mental Health reported that minority groups are significantly underrepresented in mental health research and mental health service delivery and so, one of their main goals recommends developing and increasing the knowledge base in mental health disparities (2003).

Standard procedures by the health institutes and government to address disparities have failed to bridge the widening gap between racial and ethnic groups. Therefore, it is important to investigate the burden of mental illness experienced by different minority

groups. Focusing on their unique social, cultural, political, and historical context in the U.S. may help clarify the reasons of these persisting mental health disparities. Hence, this research will focus on the Asian American immigrant population¹², and investigate the contribution of immigration related factors and acculturative stress, along with the availability of social support on mental health indicators, depression and psychological distress.

The Asian American population is a rapidly growing minority group in the United States. Census 2000 showed that about 12 million or 4.2% of the total U.S. population reported being Asian; this population grew in size by 72% from 1990 to 2000, in comparison to the total U.S. population that grew by 13% in the same decade (U.S. Census Bureau, 2004). Latest census projections report that the Asian population is expected to rise to about 41 million or 9.2% by 2050 (U. S. Census Bureau, 2008). Asian-born residents in the U.S. comprise one-fourth of the nation's total foreign-born population and about 68.9% of all Asians in the U.S. are foreign-born (U.S. Census Bureau, 2004). So, a large component of the total Asian American population is born outside the U.S. and immigrates later in life to this country.

Most of the research has examined the Asian American population as an undifferentiated group, concealing the heterogeneity that exists in their immigration characteristics and experiences, reception in the receiving country, socioeconomic characteristics, cultural norms and traditions, languages, and nationalities. To address this

¹ Because the Office of Management and Budget has separated Asian Americans from Native Hawaiians and Other Pacific Islanders (OMB, 2000), Census 2000 lists "Asian" and "Native Hawaiian and Other Pacific Islander" as separate racial categories.

² "Asian" refers to people having origins in any of the original peoples of the Far East, South East Asia, or the Indian Subcontinent (for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam) (U.S. Census, 2000).

drawback in research, this study will focus on Asian immigrants coming from those Asian countries that send a higher number of immigrants to the U.S. This will enable us to understand the unique immigration factors, stressors and mental health issues faced by the different ethnic Asian groups settled in the U.S. instead of getting an overall and inclusive result for all Asian Americans grouped together.

The United States accepts the highest number of immigrants officially each year among all the countries (Martin & Widgren, 2002). The structure of the contemporary immigration policies was established in 1965 when “The U.S. Immigration and Nationality Act” created a preferential system for family members and highly skilled workers. Recently, the Immigration Act of 1990 has reframed immigration policies and created four avenues to obtain permanent residence status the United States (Park & Park, 2005). These four avenues include: Family-Sponsored³, Employment-Based⁴, Diversity⁵, and Refugee⁶/ Asylee⁷ immigrants. Besides the above-mentioned immigration categories

³ 480,000 visas per year are given in four preference categories: unmarried sons and daughters of U.S. citizens, spouses and unmarried children of lawful permanent residents, married sons and daughters of U.S. citizens, and brothers and sisters of U.S. citizens.

⁴ 140,000 visas per year are given in five preference categories, including: "Priority workers", like professors and researchers, executives and managers of multinational corporations; "Professionals with advanced degrees"; like person with degrees in art, science or business; "Skilled workers", like person with no advanced degree but skilled in some field; "Special immigrants," such as ministers of religion, foreign medical graduates, etc.; and "Investors", person whose investment efforts can create at least ten full time jobs in the United States.

⁵ 55,000 visas per year are given to promote immigration from those countries that are not currently the principal sources of immigration to the United States. A list of countries that cannot participate in this visa process are listed and include, mainland China, India, Philippines, South Korea, and Vietnam.

⁶ A person who flees his country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion and is granted citizenship in the United States.

⁷ A person who first reached the United States, usually as a visitor or on other non-immigrant status and makes a formal application for asylum / citizenship based on fear of persecution on returning to homeland.

by which an immigrant can gain entry into the United States, people also enter as undocumented or illegal immigrants⁸ (Massey & Malone, 2002).

Each incoming Asian community has faced a different socio-political environment in the U.S. and each change has had a noticeable impact on their settlement and adjustment. Over the decades many restrictive laws were passed to curb migration from the Asian countries. It was only in 1965 that the U.S. congress allowed an increase in immigration that favored family reunification and occupational skill workers and refugees and erased per country quota system. Finally in the 1970s, the congress further reformed the immigration laws and established a uniform preference system for all nations. The most dramatic impact of these laws was on the Asians, as it opened avenues for increased immigration from Asia. In the years after 1965, Asians accounted for over 40 percent of incoming immigrants, and about 6 million arrived between 1970 and 1995 (Ong & Hee, 1993).

The United States is also the largest resettlement country for refugees in the world and refugees from Southeast Asia are the largest refugee group ever to enter the United States (Bureau of Population Refugee and Migration, 2001). Therefore, post-1965 Asian immigration consists of two distinct groups, one that is highly educated with professional backgrounds entering under the employment based or family sponsored category, and the other that has limited education and entered as refugees and asylum seekers; entering either legally by family sponsored category or by illegal means (Liu & Cheng, 1994).

⁸ Two groups account for most undocumented immigrants: (a) those who entered the country without valid documents, including people crossing the Southwestern border clandestinely; and (b) those who entered with valid visas but overstayed their visas' expiration or otherwise violated the terms of their admission.

In the last few decades, Asian women from many countries have dominated the migration flow to the U.S. (Park & Park, 2005; Pedraza, 1991; Pedraza & Rumbaut, 1996). This trend has been facilitated by post-1965 family sponsored preference category. In 2003, more than 60 percent immigrants who came to the U.S. through the family sponsored by U.S citizen category were women (Yearbook of Immigration Statistics, 2003).

Different rights and privileges are accorded to immigrants, based on whether they are citizens, permanent residents, non-immigrants, or undocumented/ illegal immigrants (Park & Park, 2005). For example, U.S. citizens may sponsor their spouses, children, and parents without limits to the U.S, but the same privilege is not available to permanent residents. Permanent residents can sponsor only their spouses and unmarried children below the age of 18years, not their parents and siblings, and have to wait for 2-5 years for the approval of the sponsorship (Martin & Widgren, 2002). Also, the immigrants' sponsors have to prove that they have an income of more than 125 percent above the poverty threshold, which will allow only high-income petitioners to sponsor their family members. Therefore, these rules have resulted in making family reunification a privilege that few immigrants can now afford.

Non-immigrant visa holders are allowed to stay and work in the U.S. for up to six years, which can be converted to permanent immigration status if they can find a U.S. employer to sponsor them, by showing that qualified U.S. residents are not available to fill their jobs (Martin & Widgren, 2002). Therefore, most of these visa holders are faced with living in the U.S. without their close family members until they become citizens and permanent residents, which is a long process (Park & Park, 2005). There is increased

exploitation of the Asian workforce that are more likely to work for lower salaries and longer hours than the U.S. citizens in hope of being sponsored for an immigration visa (Xiang, 2001).

The Immigration Reform Act of 1996, has increased enforcement against illegal immigration, and revised the deportation and exclusion proceedings. Deportation proceedings can be initiated against immigrants who violate any state laws and local ordinances (Park & Park, 2005). For example, even a single conviction of domestic abuse can lead to the deportation of both husband and wife, especially if the women's immigration status is dependent on the husband's. Therefore, the prospect of deportation may prevent reporting of domestic violence. This has led many immigrants to be hesitant to interact with the social, health and the legal system for fear of being found out and deported.

Migration, in and of itself, does not precipitate the development of mental illness (Vega & Rumbaut, 1991). However, it does involve changes in environment that imply adjustments on the part of the migrant that may affect mental health. These conditions depend on the characteristics of the sending and the receiving communities, characteristics of migrants, and circumstances that motivate migration (Kantor, 1969). The immigration policies have an impact on the migration process by controlling the entry of migrants; through setting quotas on the number of immigrants entering the U.S. (historically, Immigration Exclusion Acts have blocked the migration of many Asian groups), setting age limits on who can be sponsored to come to the U.S., selecting the social class of immigrants allowed to immigrate (visa approved favorably to skilled workers and professional), and making the immigration application process complex and

lengthy to enter the United States. As it is difficult to directly ask visa status in surveys and measure the direct effect of these policies on the mental health of immigrants, indirect measures are used. These indirect measures included in this study are- reasons for immigration, age at immigration, and proportion of life spent the U.S.

Acculturation is another important concept to include in studies of Asian Americans because they are either immigrants or descendants of immigrants. Research on acculturation has been dominant in the anthropological and sociological fields to better understand the changes induced by cross-cultural societies. Acculturation and assimilation terms have been used synonymously to explore this research area. However, the use of the term assimilation by sociologists was mostly to explain a linear adaptation of cultural habits and norms by the immigrants. This did not pay attention to exchange that happens between cultures or resistance that may develop to adaption by the immigrants. Therefore, in this study we use the term acculturation in examining the process of cultural changes.

A formal definition of acculturation was first proposed by Redfield, Linton and Herskovits as “ those phenomena which results when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups” (1936). Later, Berry expanded the concept of acculturation process and proposed that it happens at two levels-group and individual (2003). At group-level, changes may be in the social structure of the group or its political organization. At individual-level, changes may be taking place in attitudes, behaviors or identity.

Debates on acculturation process have focused on two fundamental issues: direction of change and dimensions of change (Berry, 2005). Unidirectional acculturation process is identical to assimilation, where one group or individual moves towards another group or individual and adapts all the norms of that group. Bidirectional acculturation process is based on the concept of reciprocal change between groups or individuals. As suggested by current psychological researchers, in this study we maintain that acculturation is a more bidirectional process rather than unidirectional.

The issue of dimensions is closely related to the direction of change issue. Unidimensional process is assumed to be occurring when individual lose their cultural identity and adapt the new cultural identity. This is similar to assimilation concept, where an individual is either unchanged or completely assimilated. In contrast, the bidimensional process suggests that an individual may adapt the new culture without losing one's own culture. So, changes are occurring in two independent dimensions, maintaining or losing one's culture and adapting or not participating in the new culture. Moreover, recent literature suggests that acculturation is multidimensional not only in terms of heritage-culture and receiving-culture, but also includes language use, media preferences, social affiliations, and ethnic identity (Schwartz et al., 2010). So in this study, we concur that multidimensional framework of understanding acculturation best explains the complexity of changes encountered by immigrants in a new environment.

Furthermore, negotiating and undergoing acculturation process is quite a challenge. Although the acculturation process may not be necessarily stressful to all immigrants, most immigrants are generally confronted by an array of stressors. The difficulties originating during the process of acculturation have been defined as

acculturative stress (Berry & Annis, 1974). This concept of acculturative stress is similar to investigations on cultural shock (Ward, Bochner, & Furnham, 2001). However, acculturative stress is a more appropriate term to examine the dynamic changes that are due to the interaction between cultures rather than in one culture or the other. Also, stress research is based on the theoretical framework how individuals deal with negative experiences or stressors by engaging in various coping strategies, leading to some form of adaptation (Lazarus & Folkman, 1984). So, acculturative stress is a stress reaction in response to great levels of conflict experienced during the process of immigration and settlement in a new culture.

There is no consensus in the literature about the measurement of acculturative stress. Conflating and using the constructs of acculturation and acculturative stress, as proxies for each other is a common practice in previous research studies. In the last decade particular effort has been made in concept analysis in this field, and specific measurements have been developed to evaluate acculturative stress. Initial studies used difficulty in both verbal and nonverbal communication (Berry & Kim, 1988; Harvey & Chung, 1980), and employment difficulties and underemployment (Light & Bonacich, 1988; Noh & Avison, 1996; Padilla, 1985) as measures of acculturative stress. Later, acculturative stress scales were developed that addressed multiple domains of stressors faced by immigrants. These domains included racial and ethnic discrimination and prejudice (Gee, Chen, Spencer, & See, 2006; Kessler, Mickelson, & Williams, 1999; Pavalko, Mossakowski, & Hamilton, 2003; Rogler, Malgady, & Rodriguez, 1989), lack of social network and social isolation (Kim & McKenry, 1998; Noh & Avison, 1996), homesickness and guilt of leaving family behind (Sandhu & Asrabadi, 1998) in addition

to language conflict and employment difficulties. Recently, it is recommended that legal worries are an important concern of immigrants due to constant changes in immigration policies of the receiving country, and severe legal consequences such as deportation (Park, & Park, 2005). Therefore, current research on acculturative stress needs to incorporate legal worries and fears in its measurement. This study includes three domains in the measurement of acculturative stress- legal stress, discrimination, and language difficulties.

Acculturative stress has been shown to increase the risk of physical and psychological disorders among many immigrant groups (Berry, 1970, 1980; Padilla, 1980; Sue & Chu, 2003; Ward, 1997; Williams & Berry, 1991; Yasuda & Duan, 2002). Contradictory research findings in the relationship between acculturation, acculturative stress, and mental health have been identified among the Asian American population (LaVeist, 2005; Shen & Takeuchi, 2001). Some research has shown that immigrants, who are more acculturated into the American culture, have better mental health outcomes as they can more effectively utilize the health care services and better communicate with the health clinicians (Beiser, 1988; Sue, Sue, Sue, & Takeuchi, 1995; Yi, 1996). On the other hand, according to the theory of positive selection of immigrants, which suggests that healthier people migrate, imply that those immigrants who are less acculturated have better mental health as they maintain their own cultural practices and values (Frisbie, Cho, Hummer, & LaVeist, 2002).

Similarly, research among Chinese Americans shows that higher acculturation is associated with higher acculturative stress, which is associated with increased depressive symptoms (Shen & Takeuchi, 2001). But a study conducted with Asian immigrants living

in the mid-western United States found that those more highly acculturated felt relatively at ease in both cultures and thus exhibited lower levels of acculturative stress and lower psychological distress (Krishnan & Berry, 1992). Therefore, more clarity and research is required to understand the relationships between acculturation, acculturative stress and mental disorders.

Social support shows a beneficial effect on mental health by decreasing life stressors, by directly reducing distress, and also by buffering the impact of stress associated with traumatic experience (Norris & Kaniasty, 1996; Thoits, 1995). Studies have suggested that when faced by stressors, people respond by mobilizing social resources, such as, assistance from friends, family, and extended community networks (Baillie, Norbeck, & Barnes, 1988). It has been shown that strong identification with one's ethnic community can also act as a coping resource that buffers the impact of acculturative stress on psychological distress, depression, anxiety and low self-esteem in immigrants (Sharlin & Moin, 2001).

Asian American communities are significantly dependent upon ethnic community supports for successful adaptation (Balaji, et al., 2007; Ye, 2006; W. Zhang & Ta, 2009). Ethnic groups that have a larger community and neighborhoods tend to have a better support system available to them. Living within a community that offers a strong support system, and being among other families who are in a similar stage of immigration may facilitate the settlement of the migrant individual and families. Migrants who do not have that support available to them may show symptoms of acculturative stress. Thus, immigrants usually tend to migrate to neighborhoods and communities where they have pre-existing contact with family members or friends (Ahmed & Lemkau, 2000).

However, there are differences in the migrating patterns and experiences within ethnic groups migrating from different Asian countries. For example the Chinese immigrants have access to a larger support network, as there are large Chinese neighborhoods in the U.S. (Simich, Beiser, Stewart, & Mwakarimba, 2005; Wong, 2008; Yang, 1999). So immigrants coming from China mainland and Hong Kong tend to have a starting point in the U.S. where they can seek assistance and support. In comparison, immigrants from Southeast Asian countries, such as Vietnam, who are seeking political asylum or are refugees, have very sparse resources available to them due to limited Southeastern Asian communities (O'Hare, 1992; Simich, et al., 2005).

Furthermore, the role of support provided by different relationships may be differentially useful to reduce stress and its impact on health, but very few studies have investigated this phenomenon (Bertera, 2005; Cohen & McKay, 1984). Limited research shows that strong support from family and friends is instrumental in promoting better mental health. In Japanese immigrants (Kimura, 1994) and older Korean immigrants (Shin, Han, & Kim, 2007) lower depressive symptoms were seen in association with higher spousal support. Close relationships with spouse and partner also showed a significant reduction of postpartum depression in new mothers (Sheppard, 1994). The support of extended family has been shown to be an important predictor in decreasing relapses for patients with mental illness due to the presence of warmth and emotional support among Latino migrants (Lopez, et al., 2004; Mulvaney-Day, Alegria, & Sribney, 2007; Rivera, 2007). Similarly, emotional support and the quality of the relationship provided by the family members has shown to be more beneficial against acculturative stress than the amount of social contact with network members or availability of support

(De Snyder, 1987). Therefore, the relationships with spouses/partners, relatives, and friends may differentially help in reducing stress experienced by immigrants.

Most of the previous studies were done in only a specific Asian American ethnic group or was limited to immigrant population in college campuses. Limited research has investigated the connections among stressors, social support, and mental health in immigrant population, particularly Asian Americans (Gee, et al., 2006; Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Turner & Marino, 1994). The increasing diversity of the American population has challenged mental health professionals to expand their knowledge to include issues of race, culture and ethnicity. Few national studies have investigated the incidence and prevalence of mental disorders in the Asian American population (Takeuchi, et al., 1998; Zheng, et al., 1997).

Most papers published from the Epidemiological Catchment Area (ECA) study excluded Asian Americans in their ethnic comparisons due to small sample size issues. The only exception to this was the report by Zhang and Snowden (1999) that assessed the prevalence rates of major mental disorders in the Asian American population, and found very low prevalence rates of depression and mood disorders. However, this study was limited to English speaking respondents, thus excluding almost 25% of Asian American population that don't speak English language. This may be an important factor in the underestimation of mental disorders in research among Asian Americans (Sue & Morishima, 1982). The Chinese American Psychiatric Epidemiological Study (CAPES) conducted in mid-1990s found that Chinese Americans had a much lower rate of depression and anxiety disorders (Takeuchi, et al., 1998). However, the 12-month

prevalence rate of neurasthenia⁹ (mental disorder widely recognized in China and similar to depressive somatic symptoms) was very high, which reflects the need to investigate symptom expression of mental disorders among different ethnic groups that may have resulted in lower estimation of mental disorders (Zheng, et al., 1997).

Studies focused on the South East Asian refugees have shown extremely high levels of depression and other mental disorders (Kinzie, et al., 1990; Mollica, Wyshak, & Lavelle, 1987; Westermeyer, Tseng, & Streltzer, 2004). These elevated prevalence rates in these South East Asian refugee groups has been linked to repeated exposure to catastrophic environmental stressors such as war, torture, combat and death of family members and friends. Therefore, there is a lot of variance in the levels of prevalence rates of mental disorders among the Asian American population based on their pre-immigration and post-immigration experiences, and to the acculturative stressors they are exposed to in the new country. In summary, the current information about mental disorders does not adequately address the range of experiences of Asian American immigrant population.

Therefore, the main research objectives of this study are as follows:

- To examine the direct association of acculturative stresses (legal stress, discrimination and language difficulties) and mental disorders, psychological distress and depression, among Asian American immigrants.

⁹A disorder widely recognized in countries like China and Taiwan, characterized by physical or mental fatigue or weakness and is accompanied by a host of somatic, affective, and cognitive difficulties including muscular aches and pains, gastrointestinal problems, sleep disturbances, dizziness, irritability, and excitability (Takeuchi, et al., 1998).

- To examine the moderation effect of immigration related factors (reasons for immigration, age at immigration and proportion of life spent the U.S.) on the relationship between acculturative stresses (legal stress, discrimination and language difficulties) and mental disorder, depression among the Asian American immigrants.
- To examine the moderation effect of social support (kin and non-kin) on the relationship between acculturative stresses (legal stress, discrimination and language difficulties) and mental disorder, psychological distress among the Asian American immigrants.

Survey data on Asian immigrants from the 2004 National Latino and Asian American Study (NLAAS) will be used. The National Institute of Mental Health funded the National Latino and Asian American Study (NLAAS), with additional support from the Office of Behavioral and Social Science Research at the National Institute of Health and the Substance Abuse and Mental Health Services Administration. The NLAAS is the first survey of mental health, service utilization, immigration history and other social conditions among Asian Americans belonging to many ethnic groups (Takeuchi, Alegria, & Jackson, 2007). The NLAAS survey was administered to a sample of non-institutionalized Asian American adults' aged 18 or older residing in households located in the 48 coterminous U.S. States, Alaska, Hawaii, and Washington D.C. This survey has a total sample size of 2,095 Asian American adults, with four ethnic groups: 600 Chinese, 520 Vietnamese, 508 Filipinos, and 467 'Other Asians' (comprising of respondent from other Asian countries); and 78% of the respondents in the Asian sample are immigrants. To address the language barriers issue among Asian American research field, as many do

not speak English, or are not fluent in English, the NLAAS instrument was translated into three Asian languages: Chinese, Tagalog and Vietnamese. Each interview was conducted in the language the respondent preferred (Alegria, et al., 2004).

Structure of Dissertation

This dissertation explores the immigration experience of Asian to the United States. It addresses the significant gap in research in understanding the social and political pressures that are experienced in the process of immigration, and later in the process of adjusting and settling in a new environment among Asian Americans. Firstly, I investigate how the simultaneous influence of immigration policies that give different rights and privileges based on what age the immigrant came to the U.S., and how long a person has lived in the U.S., and on what immigration visa status they came to the U.S impacts the acculturation process and stressors experienced. Three types of acculturative stresses are examined; legal stress worries, discrimination and language difficulties during interaction with others. I argue that these constructs will help understand the mental health challenges faced by Asian immigrants and also, the difference between major Asian ethnic groups.

Chapter two presents a theoretical framework for approaching the simultaneous influences of immigration and acculturative stress on mental health. It explores the immigration history of dominant Asian groups to the U.S., and the different immigration policies in place that created barriers and challenges for the immigrants. Furthermore, it will also examine the different sociological and psychological acculturation theories that influence the settlement process of the immigrant and how it contributes to acculturative stress. Chapter three focuses on the impact of immigration related factors and

acculturative stress on Major Depression Episode (Lifetime) among Asian American immigrants. Chapter four focuses on the impact of social support and acculturative stress on psychological distress among Asian American immigrants. Finally, in Chapter five, research findings will be summarized, and implication of using psychological distress versus depression in understanding the mental health of the Asian American immigrant population will be examined. In addition, study limitations and policy implications of the research findings will be discussed.

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Chapter II

Meeting of Cultures: Theoretical Framework for Understanding Immigration and Acculturative Stress among Asian American immigrants

Addressing the mental health issues of the Asian American immigrants first requires the examination of the historical context of their immigration. The reasons why these immigrants came to the U.S. and the difficulties they face in their settling process in a new country enables health professionals to better understand the people that they see in their clinics and different health settings, and assists them in planning how best to communicate and develop health programs for this population. Next, a theoretical framework examining the acculturative stresses faced by the immigrant is presented based on theoretical models proposed in health research. Rooted on that theoretical foundation, connections between immigration and settling in a new environment and mental health are explored.

Brief History of Asian American Immigration

“International migration- people moving across national borders- is a global challenge for the 21st Century” (Martin & Widgren, 2002). There are at least 160 million people living outside their country of birth or citizenship in 2000, up from an estimated 120 million in 1990 (International Organization for Migration). 40% of the world’s international migrants live in a handful of industrialized countries, including the United States that accepts 800,000 immigrants officially each year (Martin & Widgren, 2002). The importance of migration within the U.S. is also reflected in the increased budget of

United States Citizenship and Immigration Services (USCIS), which increased from 1 billion in 1990 to 4 billion in 2000 (Martin & Widgren, 2002).

Immigration to the United States has occurred in multiple waves. The first wave was marked by an “open door” policy (1776-1882), in which laborers and cheap workers were actively recruited. The second wave was of a “selective exclusion” policy (1882-1921), in which workers that were needed in the U.S. economy were allowed to immigrate. The third wave was of a “numerical restriction” policy (1921-1965), in which the fear of increasing immigrants in the United States led to policies restricting the entry of immigrants (Yang, 1995).

The structure of the contemporary immigration policies was established in 1965, “The U.S. Immigration and Nationality Act” that created a preferential system for family members and highly skilled workers to limited immigrant visas (Park & Park, 2005). In the years after 1965, Asians accounted for over 40 percent of incoming immigrants, and about 6 million arrived between 1970 and 1995 (Ong & Hee, 1993). The United States is also the largest resettlement country for refugees in the world, with assistance programs that have an impact on millions of refugees, displaced persons, and victims of conflict. Each year 80,000 to 90,000 refugees enter the United States with the assistance of the United Nations High Commissioner on Refugees (Bureau of Population Refugee and Migration, 2001).

Each incoming Asian community has faced a different set of socio-political environments in the U.S. that has had an impact on their settlement and adjustment as shown in table 2.1.

Table 2.1: Major Congressional Acts and Judicial Rulings on Asian American Immigration and Naturalization (Chan, 1991)

1882	Chinese Exclusion Law suspends immigration of Chinese American laborers for 10 years
1898	Wong Kim Ark v. U.S. decides that Chinese born in U.S. cannot be stripped of their citizenship
1917	Asiatic Barred Zone Act defines a geographical “barred zone”; immigration from Asia ceases
1922	Takao Ozawa v. U.S. declares Japanese ineligible for naturalized citizenship
1923	U.S. v. Bhagat Singh Third declares Asian Indians ineligible for naturalized citizenship, after ruling Indians being Asian and non-white
1943	Magnuson Act repeals all Chinese exclusion laws, grant right of naturalization and a small quota to Chinese
1946	Luce-Celler Bill grant right of naturalization and small immigrant quotas to Asian Indians and Filipinos, allowing a quota of 100 Indians and 100 Filipinos to immigrate to the U.S.
1965	Immigration and Naturalization Services (INS) Act of 1965 abolishes “nation origins” as a basis for allocating immigration quotas to various countries

Historically a substantial increase in the Asian immigration started around 1850s, especially immigration from China, during the gold rush that encouraged many Chinese to migrate in hopes of finding their fortune. This was a time of great poverty, peasant rebellion and high taxes in China that prompted many to flee their country (McKeown, 1999). In addition to prospecting for gold, many Chinese also came as contract laborers to work in sugarcane plantations and railroad construction. During this time of increased labor market, the public opinion of the Chinese immigrants was of them being a good and hard working worker (McKeown, 1999). But as the gold rush came to an end and the railroad work finished, and the labor market has a surplus of workers, the slump in the economy reversed the opinions about the Chinese immigrants. They were accused of having low morals, increased prostitution and opium smoking behavior, and having corrupt practices (McKeown, 1999). They became targets for racial attacks, racial riots, and discriminating legislation (McKeown, 1999).

In 1982, legislation of the California State concluded that “these people had no souls and were inferior to any race God ever made” in his investigation of the Chinese immigrants (Dinnerstein & Reimers, 1999). All these anti-Chinese sentiments led to the

Chinese Exclusion Act of 1882 that closed down the immigration of Chinese Asians to the U.S. and made Chinese aliens ineligible for citizenship, and this Act remained in effect until 1943 (Dinnerstein & Reimers, 1999). To enforce this law, Angel Island Immigration Station was built near San Francisco, which served as a long-term detention center that controlled the entry of Chinese immigrants (Chang, 2003). Families of Chinese workers already in the U.S. were allowed to migrate but investigation and collecting the proof of relationship sometimes took longer than three years, and family members stayed in the detention center till then. Even after repealing the law in 1943, the quota of Chinese entering the U.S. was set at 105 (Kitano & Daniels, 1995).

The next Asian group that immigrated to the U.S. in large numbers was the Japanese in early 1900s. They were largely recruited as agricultural laborers, and were brought in to replace the Chinese as cheap labor. The Japanese government, due to the poor economic condition in Japan, actively supported this immigration process. Eventually, the Japanese also suffered the similar type of discriminatory treatment the Chinese had received earlier, and were subject to the 1907 Gentlemen's Agreement Act that closed the entry of immigrants from Japan to the U.S. (Lee, 2010). The attack of the Japanese navy on Pearl Harbor during World War II, led to an overwhelming wave of racism, prejudice and incarceration of these immigrants that was also experienced by other Asian groups (Chan, 1991). Similar restrictive laws were also passed to curb migration from other Asian countries.

Earlier in the 1900s, the South Asian Americans were racially classified as Caucasians. However in 1917, Asian Exclusion Act was passed that restricted the entry of Asian Indians, and eliminated their right to sponsor their own families (Hans, 2002).

During World War II as the U.S. looked to India to establish alliances against the Germans and Japanese, South Asian Americans rallied for the rights of naturalization (Kitano & Daniels, 1995). The Congress approved the naturalization of South Asian Americans in 1946, and allowed the immigration of wives and children previously denied. Since the 1965 Immigration Act, there has been a steady increase in migrants from South Asian countries to the U.S.

The United States colonized the Philippines in 1898, and as an official American colony the Filipinos were considered “nationals” of the U.S. They were not subjected to the same exclusionary laws as other Asian ethnic groups until the establishment of the Philippine Independence Act in 1934, which relabeled them as aliens (Sobredo, 1997). The changing legal status of the Filipinos has facilitated their immigration to the U.S in three waves (Aguilar-San Juan, 1994). The first wave that lasted from 1906-1934, was composed of mainly agricultural workers on contract and college students. These college students were invited and funded to study in America (Le Espiritu, 1992). The second wave was from 1930s-1964, composed of families of war veterans who fought along with U.S. servicemen during World War II. The third was post 1965, including professionals and working class, especially women in the medical field.

Refugees from Southeast Asia are the largest refugee group ever to enter the United States. After the U.S. military withdrawal from Vietnam in 1975, about 130,400 Southeast Asian refugees came to the U.S., of these 125,000 were Vietnamese (Hing, 1993). Later in 1978, civil war broke out in South East Asia due to the invasion of Cambodia, which caused Chinese ethnics, Vietnamese farmers and fishermen, Cambodians and Laotians to flee for their lives (Hing, 1993). These refugees arrived as

“boat people”, through the “Orderly Departure Program” created to bring refugees legally in the U.S. or through the family reunification program (Hing, 1993). Later waves of Vietnamese continued to come to the U.S. throughout the 1980s and 1990s, either under the Orderly Departure Program or through other immigration options like the family reunification channel. The immigrants from South East Asia that initially came were relatively wealthier and better educated, had usually worked in the Vietnamese government offices and the U.S. government at the end of the war facilitated their immigration (Hing, 1993). Later after the fall of Saigon, many surviving Vietnamese feared reprisal from the communist government taking control of the country and so were forced to flee to asylum camps (Hing, 1993). These groups of immigrants were more likely to be of a lower socio-economic status, and were usually fishermen and farmers.

Therefore, one of the most significant macro-social influences affecting the overall health of Asian Americans is the effect of the U.S. immigration policies. The heterogeneity that exists among the immigrant groups due to these policies and to the factors that lead to immigration have not yet been explored by researchers (Johnson, et al., 1995). After immigrating to the new country, immigrants encounter a new environment, culture and resources.

Acculturation

Acculturation is a process of psychosocial adjustment and adaptation undertaken by immigrants on arrival to a new country (Berry, 1980; Graves, 1967; Padilla, 1980; Redfield, Linton, & Herskowitz, 1936). When encountering another culture that challenges one's norms, behaviors, folkways, and other daily aspects of life, a process of acculturation takes place. This adaptation and acculturation process is mostly

dependent on the degree of harmony between the two cultures of the host country and the place of origin (Gauri & Susan, 2004; Landau-Stanton, 1990), the cause and circumstances of relocation (Beiser & Hou, 2006; Sluzki, 1979), and the immigrant's social support system (Berry, Holtzman, & Bornemann, 1990; Rivera, 2007; Zhang & Ta, 2009).

The term acculturation and assimilation have been used synonymously in previous studies, and also as subsets of each other. While anthropologists preferred to use the term acculturation, sociologists prefer to use the term assimilation. Anthropologist's use of the term acculturation was primarily for primitive or native societies that changed to become more "civilized" after coming in contact with the "sophisticated" world (Sam & Berry, 2006). On the other hand, sociologist's use of the term assimilation was more directed towards immigrants who, through contact with the "host nationals", gradually conformed to ways of the life of the host people (Sam & Berry, 2006). As research work in this field expanded, assimilation became more associated with being unidirectional and unidimensional, in contrast acculturation has moved towards exploring reciprocal exchange between cultures as a multidimensional construct.

Many models have been proposed to explain the concept of acculturation in previous studies. The earliest and most influential model of acculturation was developed by sociologist Gordon (1964). His model was called assimilation and was described as unidirectional, unilinear, nonreversible and continuous, where individuals were placed on a continuum of identities where different aspects of cultural self-identity could proceed along the continuum at different rates (Triandis, Kashima, Shiamda, & Villareal, 1986). Gordon's assimilation theory involves going through seven stages in a progressive

fashion. These stages were cultural assimilation, structural assimilation, marital assimilation, attitudinal reciprocal assimilation, behavioral reciprocal assimilation, civic assimilation and identification assimilation. According to this concept this process, “began with cultural assimilation, proceeded through structural assimilation and inter marriage and was accompanied by an absence of prejudice and discrimination in the core society” (Rumbaut & Portes, 2001). These changes are thought to be linear and uniform, or what has been termed “straight-line assimilation” (Gans & Sandberg, 1973). Though this model has widely been used, it did not recognize that individuals might have varying patterns of acculturation in different situations.

The concept of segmented acculturation was recently introduced as a refinement of the original concept of the assimilation (Portes & Rumbaut, 2001). Within this concept, it is argued that assimilation is contingent on a number of factors including social class differences among immigrants, the time of arrival, the context of their reception, which together may contribute to a non-linear, non-unidirectional assimilation outcome. Therefore, assimilation may result in a number of other possible outcomes where people and individuals may be assimilated into different segments of the society.

The multidimensional framework of Berry has received most attention in recent literature (Berry, 2001; Berry & Ward, 2006; Hunt, Schneider, & Comer, 2004; Roysircar, G., & Maestas, 2002; Safdar, Lay, & Struthers, 2003; Talya & Daine, 2003). According to this model, acculturation is a developmental process that has different phases and modes depending on the encounters between the ethnic group and the dominant culture (Berry, 1970). The hallmark of Berry’s work is the acculturation strategies, which are the various ways that acculturation process can take place.

The modes of acculturation were based on two dimensions, relative preference for maintaining one's heritage and culture and identity, and a relative preference for having contact with and participating in the larger society (Berry, 1995). Based on these dimensions four acculturation strategies at the individual level are used by immigrants during their settlement:

(1) Assimilation- when an individual seeks daily interaction with the dominant culture and avoids interaction with one's own culture

(2) Separation- when people value holding on to their original culture and avoid interaction with other cultures

(3) Integration- when the individual maintains one's own culture and has daily interactions with the other groups

(4) Marginalization- where there is little interest in cultural maintenance and having relationships with other groups

It is important to understand that these outcomes are not static but they are strategies that are fluid depending on situations and circumstances. As acculturation is a continuous process, an individual may adopt different strategies at different times, to deal with different life issues. Variation in mental health status is expected to occur as a function of modes of acculturation. It has been shown that there is less stress and conflict experienced in integration mode of acculturation when compared to other strategies (Berry, 2003).

Changes in mental health status of individuals are expected to vary across these modes of acculturation, both as a function of the mode itself and as a function of the congruence between the individual's preferred mode and the majority of his or her group

and the host group (Berry, 2003). Therefore, it is important not only to examine the attitudes and preferences of the immigrant culture, but also the attitudes of the dominant, host culture that may predict the acculturation strategies adopted by the migrating people. This is the third dimension of the Berry's model of acculturation process.

Based on this third dimension of constraints and freedom given by the dominant culture to the immigrant culture, there are four kinds of possible outcomes of interaction between cultures: (1) multiculturalism, when diversity is an accepted feature of the larger community as a whole and integration is promoted; (2) melting pot, when assimilation is demanded or pressured by the dominant community, (3) segregation, when separation is forced by the dominant community, and (4) exclusion, when marginalization is imposed by the dominant community (Berry, 2001; Kalin & Berry, 1995). Not many studies have looked at these constructs, as it is difficult to operationalize them. In this study the term acculturation is used to more appropriately represent the diverse experiences of immigrants based on their country of origin, differential acceptance by the host country, and finally settlement in the new environment.

Finally, when an individual or group decides to move to a new culture and settle there, they pass through different phases of resettlement (Berry & Kim, 1988). These phases explain the immigration journey and steps of cultural contact starting from pre-contact to adaptation. These steps are:

(1) Pre-contact- independent cultural groups with different customs and psychological characteristics exist. Here the concept of cultural distance is assessed, and the larger the distance between the attitudes, norms and traditions of the two cultures, the greater the conflict or stress is expected to be faced by immigrants.

(2) Contact- when the independent cultures meet and interact with each other.

(3) Conflict- acculturating group feels the pressure to change their ways of life to that of the host culture that may lead to increased stress.

(4) Crisis- when tension and conflict increases, such as, hate crime against ethnic groups.

(5) Adaptation- when conflict is reduced or stabilized, or pressure to change is decreased.

Based on these concepts of individual and group level acculturation process, “Pan-ethnic Asian American” outcome was proposed in the 1970s by Le Espiritu (1992). This outcome was a result of the acculturation process of immigrants from multiple Asian countries that were aggregated together as a single ethnic group in the U.S. Le Espiritu argued that pan movement involves a shift from small level group identification to larger level affiliations. As people with different histories, cultures, languages, and identities, of Asian origin are lumped together and viewed by other Americans simply as Asian Americans, so this common identity can be used to advocate for this group. This gives the ethnic group a stronger political voice and more political power in the community. This aggregated cultural group can be a strong resource for empowering the minority group. Therefore, these coalitions are not only an effective organizational strategy, but also a response to the institutionally imposed ethnic categories in the United States (Le Espiritu, 1992). Furthermore, Pan-ethnicity is not just a result of the political environment but can further lead to the development of a pan-ethnic culture and consciousness, due to increased interaction and communication between different subgroups in the Asian American population. As people of diverse background rally

together and discuss their experiences they develop a common views of themselves and of one another and a common interpretation of their experiences. This is an example of adaptation process by an ethnic community as a result of interaction between heritage and host culture. However, the process of these interactions is quite challenging to immigrants and so they are examined further in the next section.

Acculturative Stress

Difficulties originating during the process of acculturation have been defined as acculturative stress (Berry & Annis, 1974). These difficulties can be physical (e.g. new climatic conditions and search for housing), biological (changes in diet and diseases), social (formation of new relationships), cultural (changes in norms and values), and psychological (changes in attitudes). These difficulties leading to acculturative stress are usually observed in first generation immigrants, however among later generations the pull of maintaining ethnic ties has been reported as a main cause of stress (Roysircar & Maestas, 2002). Some of the studies have examined acculturative stresses faced by immigrants as conflict in maintaining religious and cultural traditions, academic achievement pressures, and language difficulties (Das & Kemp, 1997; Ibrahim, Ohnishi, & Sandhu, 1997).

It is likely that all immigrants are exposed to varying levels of acculturative stress, which is influenced by many factors, such as modes of acculturation, phases of acculturation, attitudes of the dominant group, type of acculturating group, and the socio-demographic characteristics of the individual. For example, immigrants who are in the initial phases of conflict and crisis in their acculturation process may face higher acculturative stress than those immigrants who are in the later phases of adaptation, due

to increased understanding and negotiating with the new culture (Beiser & Hou, 2006). However, it is important to note that psychological outcomes for immigrants are not necessarily always poor and for some it provides opportunities for healthier outcomes, due to better employment opportunities and better access to health services in the new country of settlement (Beiser & Hou, 2006).

Higher levels of acculturation have been found to be associated with higher levels of acculturative stress that is associated with increased depression symptoms among Asian American population (Shen & Takeuchi, 2001; Sue, Sue, Sue, & Takeuchi, 1995). Studies on Asian immigrants in England have shown that high level of acculturation and using integration strategies were related to better psychological adjustments (Cochrane & Stopes-Roe, 1981). Similarly, a study of Asian immigrants living in the mid-west found that those with higher integration attitudes felt relatively at ease in both cultures and thus exhibited lower levels of acculturative stress (Krishnan & Berry, 1992). Furthermore, a study among South Asian Americans report greater acculturative stress if separation, marginalization, and to a lesser extent, assimilation strategies were used instead of integration (Mehta, 1998). Integration strategy is more often used by the Asian community as they tend to hold on to the traditional ways of living at home and also adopt the ways of the host community at work (Pyke & Johnson, 2003). For Asian Americans who live within collective societies, the socialization process leaves very little room for individual decisions; therefore acculturation strategies that emphasize on individual centered ways of living may lead to increased psychological distress (Das & Kemp, 1997). Based on the background information of immigration, acculturation, and acculturative stress the following model is presented.

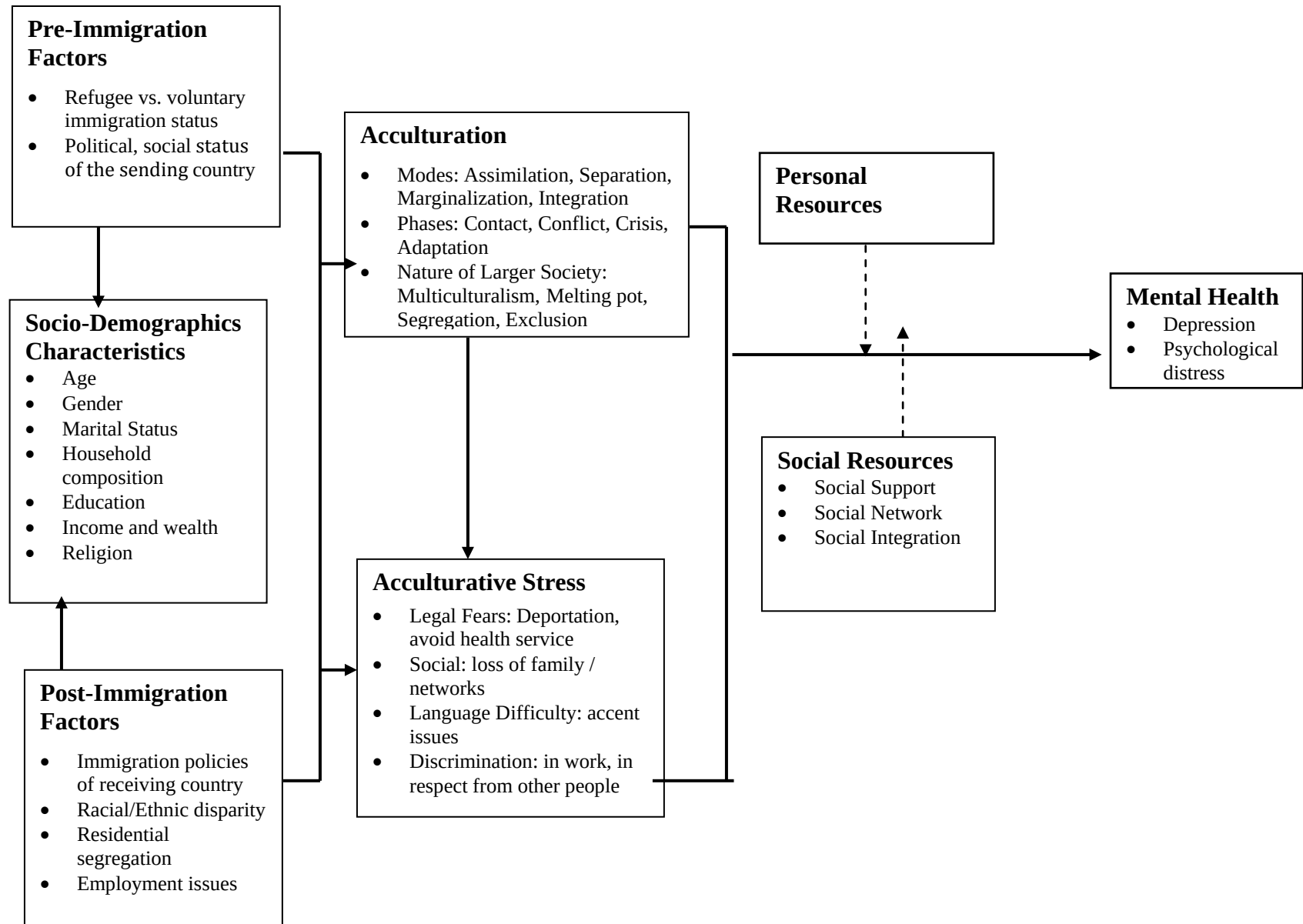
Theoretical framework

This theoretical framework of stress perspectives on understanding immigration, acculturative stress and mental health investigates the impact of immigration related factors that maybe pre-immigration or post-immigration factors, along with the role of acculturation and acculturative stress, and the availability of personal and social resources on mental disorders (Figure 2.1).

Fundamental factors contributing to mental disorders are immigration related factors that include conditions faced by potential immigrants in the sending country that creates the need for migration, different immigration policies of the receiving country, in this case the United States, racial and ethnic discrimination, residential segregation, and inequitable employment opportunities. These factors impact the acculturation and adaptation process and contribute to the acculturative stress experienced by migrants. The availability of personal resources, such as ethnic identity, hardiness or resilience, sense of coherence and dispositional coping styles of the immigrant; together with social resources, such as social support, network, sense of community and cohesion, and social integration, not only exert a beneficial effect on mental health, but may buffer the impact of stressful experience. Socio-demographic characteristics such as age, gender, marital status, education, employment, income and wealth, religion and household composition affect the chances of exposure to stressors, as well as the availability of personal and social resources. This model is based on the Transactional Model of Stress and Coping, and the Social Networks and Social Support Theory.

Transactional Model of Stress and Coping: Hans Selye proposed one of the earliest models of stress and illness (Selye & Ogilvie, 1956). He examined the non-

Figure 2.1: Stress perspectives in understanding immigration, acculturative stress and mental health



specific responses of the body to stressors, called General Adaptation Syndrome (GAS) that consisted of three stages: alarm reaction, resistance and exhaustion. During each stage, there are physiological and behavioral responses, and if they persist may lead to disease and illness (Levi, 1972). A number of different conditions have been associated with stress, including depression (Paykel, 1974), colds and flu (Gruchow, 1979), and headaches (Henryk-Gutt & Reese, 1973). While Selye's model emphasized the duration of a stressor can be harmful, Holmes and Rahe investigated the effect of the magnitude of the stressor or accumulation of stresses (Holmes & Rahe, 1967). Later, stress was defined as a transactional phenomenon that emphasized the meaning of the stressor as perceived by an individual (Antonovsky, 1979; Lazarus, 1966).

The Transactional Model of Stress and Coping was developed by Lazarus and his colleagues (Lazarus & Folkman, 1984; Lazarus, Kanner, & Folkman, 1980). This theory defines stress as a relationship between the person and the environment that is appraised by the person as relevant to his or her well-being, and in which the individual's resources are taxed or critically exceeded (Lazarus & Folkman, 1984). It further describes two processes, primary and secondary appraisal and coping efforts, as mediators of this stressful person-environment relationship and health outcomes. Cognitive appraisal is a process through which the person evaluates whether a particular encounter with the environment is relevant to his or her well-being, and if so, in what ways. During primary appraisal, the person evaluates the significance of the stressor in terms of its severity and susceptibility. During secondary appraisal, the person evaluates the controllability of the stressors, the options available to the person, and what one can do about it.

In this theoretical model, at the level of pre-immigration and post-immigration the immigrant is exposed to multiple psychosocial factors. At these stages of migration process, the immigrant appraises what they have gained (e.g. freedom, economic gains) and lost (e.g. close family ties) (Kuo, 2002; Rogler, Malgady, & Rodriguez, 1989). In other words, all immigrants might experience the same stress inducing socio-environmental conditions, but the effect of these conditions may vary for individuals or groups.

Coping efforts are strategies that are used to manage the demands of the stressor. Coping strategies involve efforts to alter the cause of the stress (problem-focused coping), and efforts to regulate emotional responses to the stressors (emotion-focused coping). The acculturation process has been described as a coping strategy, where the immigrant adopts different acculturating strategies based on their exposure to stressors in the migration process (Berry, 2005).

The moderators in the Transactional Model of Stress and Coping are dispositional coping styles and social support that influence the relationship of stress and health outcomes. Dispositional coping styles are included as personal resources in this model. Specific effect of a stressful event may depend on the stable dispositional coping style of the individual, which may lead to healthy or unhealthy outcomes. For example, if a person is an optimist or has positive expectancies from his migration process, he may engage in positive coping strategies and express lower psychological distress symptoms. Similarly, individuals with an internal locus of control are believed to be better insulated from stressors (Cohen & McKay, 1984). Finally, social support is also a part of the Transactional Model of Stress and Coping and included under social resources in this

model, and is discussed in more detail under the Social Networks and Social Support Theory.

Social Network and Social Support Theory: Three broad concepts are discussed in the literature under this theory: social network, social support and social integration.

Social Network. The concept of social network is rooted in Durkheim's seminal work on social condition and suicide, where he proposed that social integration and cohesion influences mortality (1897). Similar associations between social ties, social networks, social integration, and health have been elaborated by many researchers (Berkman, 2000; Berkman & Kawachi, 2003; Cohen, 2004; House, Landis, & Umbersson, 1988). Social Network has been defined as "a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole be used to interpret the social behavior of the person involved" (Mitchell, 1969). Social network is a broader approach to understanding the effects of social relationships on health. It incorporates investigating more than one relationship at a time, examining the effects of structural and interactional characteristics on the quality of social support, and includes characteristics of social relationships beyond social support, such as, trust, hassles, and criticism (Berkman, 2000; Heaney, Israel, Glanz, Rimer, & Lewis, 2002; Moreno, 2004).

Social network encompasses structural characteristics, interactional characteristics, and functional characteristics (Israel & Rounds, 1987). The structural characteristics include range, number of direct contacts of the individual; and density, proportion of people who could know each other to the people who actually know each other, i.e. the extent to which members are interconnected. Interactional characteristics

include: content, or the meaning the person assign to their relationships; directness, or the extent to which exchanges are reciprocal; durability, or the stability of the relationship; intensity, or the closeness between the person and his relationships; frequency of contact, or the amount of interaction; dispersion, or the ease of contacting their relationships; and homogeneity, or the extent to which individuals are similar to each other in the network. The functional characteristics are defined as social support and discussed below.

Social Support. This is the functional characteristic of social networks that stress the quality of the support received or perceived by the individual. Social support has been shown to serve as a “protective” factor to people’s vulnerability on the effects of stress on health (Crockett, et al., 2007; Gee, Chen, Spencer, & See, 2006; Mulvaney-Day, Alegria, & Sribney, 2007; Simich, Beiser, Stewart, & Mwakarimba, 2005; Thomas & Choi, 2006). Social support has been grouped into four main categories: emotional support is associated with sharing life experiences and involves the provision of empathy, love, trust and caring; instrumental support involves the provision of tangible aid and services that directly assist a person in need; informational support involves the provision of advice, suggestions, and information that a person can use to address problems; and appraisal support involves the provision of information that is useful for self-evaluation purposes, such as constructive feedback, affirmation and social comparison (House, 1981).

Social Integration. Social network and social support are “embedded within a broader set of macro-social exchanges” (Kawachi & Berkman, 2001). At the community level, participation and involvement within the community, such as going to temples or churches, being involved in voluntary organizations, provides a sense of belonging that promotes better mental health outcomes. The ‘sense of community’ addresses support

aspects, such as feelings of belonging, mutual influence, being important to each other, and emphasizing beliefs and expectations about the group (Lin, Ye, & Ensel, 1999; Newbrough & Chavis, 1986).

Excessive amount of social stress among immigrants resulting from social isolation, cultural conflicts, poor social integration, role changes and identity crisis, and racial discrimination increases the potential risk of psychological distress and disorders (Gee, et al., 2006; Oppedal, Roysamb, & Sam, 2004; Simich, Beiser, & Mawani, 2003; Wright, 2006). The main social resources that have been investigated in literature that affects a person's well being, physical and mental, are social support, social network and community cohesion (Berkman, Glass, Brissette, & Seeman, 2000; Heaney, et al., 2002; Thoits, 1995).

Two mechanisms, main effect models and stress buffering models have been examined to investigate the relationship of social resources and health. Main effect models suggests that social support directly predicts better physical and mental health among individuals (Barrera, 2000; Berkman, 2000; Israel & Rounds, 1987). Also, social networks provides "a positive experience and a set, stable socially, rewarded role in the community", therefore increased social integration in the community may lead to psychological well-being (Cohen & Wills, 1985). Stress-buffering models propose that people experiencing high level of stress are buffered from diseases and disorders as social resources contribute to coping with stressors (Cohen & Wills, 1985; Takizawa, et al., 2007). Furthermore, it is also suggested that the main effect utilizes the structural aspects of social networks and ties, whereas, stress-buffering model utilizes the functional aspect of social support in its relationship with health (Kawachi & Berkman, 2001).

Very limited research exists that has investigated connections between stress, social resources, and health in marginalized communities who have historically faced severe stressors (Takeuchi, Zane, & Hong, 2007; Zhang & Ta, 2009). The role of culture in explaining actual and perceived availability of social support has been done in many ethnicities, but very limited studies have investigated the cultural influences of the Asian community on social support. However, based on the differentiation of collectivistic and individualistic value orientations studies done in other ethnicities, which predicts that an individual in a collectivistic cultural community that emphasizes on sacrificing for the greater good of the family and community, will rely more on support from community members; compared to an individual in an individualistic cultural that emphasizes more on self reliance and independence (Leu, et al., 2008; Triandis, 1995). Asian American communities have shown to depend significantly on their ethnic community supports for successful adaptations (Kitano & Daniels, 1995). Asians belong to a collectivistic culture, where individuals are embedded within the extended family and have a strong sense of obligation to one's parent and other family members (Ahmed & Lemkau, 2000). In addition, immigrants usually tend to migrate in cities and neighborhoods where they have pre-existing contact with family members or friends. Therefore, it may be assumed that the immigrants will depend on their social relationships in the community to ease their adaptation process. For example, immigrants belonging to a smaller size of ethnic community settled in the U.S., such as Pakistani, may differ in available resources from immigrants belonging to a large size of ethnic community, such as Chinese. In a cross sectional study of Korean, Chinese, Japanese and Filipino immigrants, people in high density networks reported less depression than those with less density networks (Kuo &

Tsai, 1986). Similarly, in a study of Chinese migrants settled in Chinatown, where there is a large number of Chinese immigrant community in close proximity, and Chinese migrants outside Chinatown widely dispersed, showed that immigrants living in close proximity could easy access resources and scored higher on life satisfaction scale (King & Locke, 1987).

In summary, the current information about mental disorders does not reflect adequate information about the challenges faced by the Asian American immigrant population. Specifically, the impacts of immigration policies on acculturation and acculturative stress have not been examined. This dissertation will examine two important mental health issues, psychological distress and depression, which will enable us to understand the mental health of the Asian immigrant population in light of their immigration and settlement process to the U.S.

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Chapter III

Acculturative stress, Immigration Related factors and Depressive Episode lifetime among Asian American Immigrants

Immigration has been a phenomenon that has been taking place for centuries. However, the effects of moving to a new culture, country or environment on mental health are being examined empirically in limited research (Bhugra & Jones, 2001; Takeuchi, Alegria, & Jackson, 2007). The Diagnostic and Statistical Manual of Mental disorders, edition IV(1994) recognized the effects of immigration and a new diagnostic category titled, “Acculturation Problems.” This addition acknowledges the importance of understanding of the stresses faced by immigrants groups. Empirical research on acculturative stress and immigration experiences among different Asian American immigrants groups is lacking. To address these gaps, this research focuses on the impact of acculturative stress and immigration related factors on lifetime major depressive episode among Asian American immigrants as a whole as well as the variations among three major ethnic Asian groups.

Stress Research

Research on stress and health defines stress as “any environmental, social, or internal demand that requires the individual to readjust his/her usual behavior patterns” (Holmes & Rahe, 1967). In addition, there may also be physiological responses in response to exposure to stress that based on the perception by the individual may impact health (McEwen, 2002). As stress accumulate, individuals' abilities to cope or

readjust can be overtaxed, depleting their physical and psychological resources, often leading to an increase in the probability of injury, physical illness or mental disorder (Dohrenwend & Dohrenwend, 1974; Ensel & Lin, 2000; Pearlin, et al., 2005).

Three major forms of stress have been investigated in the literature: life events, chronic strains, and daily hassles and uplifts. Life events are acute changes that require major behavioral readjustments within a relatively short period of time (e.g., death, divorce). Chronic strains are persistent or recurrent demands that require readjustments over prolonged periods of time (e.g., disabling injury, marital problems). Daily hassles are mini-events that require small behavioral readjustments during the course of a day (e.g., traffic jams, unexpected visitors). While hassles are negative events that contribute to stress, identification of daily uplifts are positive events that have an impact on stress. Immigrants are exposed to all these types of stresses as they adapt to new social environments.

Stress research on life events has received the most attention. It is now well established that major and multiple life events predict subsequent physical morbidity, mortality, symptoms of psychological distress, and psychiatric disorder (Cohen & Williamson, 1991; Lantz, House, Mero, & Williams, 2005; Thoits, 1995). Negative life events precipitate more psychological distress, anxiety and depressive disorders than positive events (Thoits, 1995). However, life events research has not paid as much attention to subjective appraisal and interpretation of these stressful life events among Asian immigrants. For example, migration to the U.S. is examined as a major life event in research among immigrant. However, this life event approach is inadequate to explain completely the stresses experienced by immigrants during the immigration process unless

examinations of exposure to chronic strains are investigated too. Chronic strains that are experienced are acculturative stresses to which an immigrant is exposed during the settlement and adjustment process in a new culture. In particular, these acculturative stresses include factors such as discrimination in work places, difficulties in learning and speaking a new language and legal or visa process issues. Chronic strains such as acculturative stress have been less frequently examined in previous studies, even though literature consistently shows that chronic strains are damaging to both physical and mental health (Pearlin, et al., 2005; Wheaton, 1997).

Acculturative Stress

It is important to understand there is much diversity in the immigration experience that contributes to differential exposure to stresses and success in the settlement process. Immigrants face stresses above and beyond those faced by residents native to the United States. These stresses are unique and arise due to their decision to live in a new environment. In the last few years, immigration policies have become more stringent. The events of terrorism on September 11, 2001 signaled a major change in immigration policies and process (Sidhu & Gohil, 2009). The U.S. is now engaged in more policing of the northern and southern borders, and longer delays in the process of immigration visas. This has resulted in an increase in investigations of incoming immigrants and immigrants applying for permanent residency in the U.S. As a result of this U.S. immigration policy shift, there is more fear and stress among the immigrant population.

Fear of being questioned about their visa status or being reported about their undocumented or illegal status by the health services and social organizations prevents many immigrants from using these resources. For example, deportation proceedings can

be initiated against immigrants who violate any state laws and local ordinances (Park & Park, 2005). Even a single conviction of domestic abuse can lead to the deportation of both husband and wife i.e., the abuser and the victim. So, the women may hesitate to report the abuse if her immigration status is dependent on her husband. Therefore, the prospect of deportation may prevent reporting of domestic violence among immigrant population.

Immigrants also face a social and economic environment that includes greater exposure to discrimination and violence. Racism and discrimination are stressful events that adversely affect health and mental health (Noh & Kasper, 2003; Pavalko, Mossakowski, & Hamilton, 2003; Williams, Neighbors, & Jackson, 2003). In the days following the events of September 11th, 2001, discrimination against the Sikh Asian community in America escalated sharply, as they were often confused with the Muslim extremists responsible for the devastating terrorist attacks (Sidhu & Gohil, 2009). However, discrimination is not only triggered by racial phenotypes but also with respect to finding employment, accent issues, and feeling of loss of respect in the new country.

Decreased utilization of mental health services by Asian Americans has been attributed to poor language proficiency and lack of providers who speak the same languages as Asian immigrants (USDHHS, 1999). While most Asian immigrants do speak English, there is great variation in English language skills among the various Asian American immigrant groups. Immigrants from the Philippines and South Asia tend to have very good English speaking proficiency. Their difficulties do not usually lie in their language skills but in their language interactions with U.S. natives. For example, Filipino immigrants may not be familiar with the context in which certain words are used within

the United States that can make comprehension more difficult for them. This, in turn, may lead to even proficient speaking Asian Americans in having difficulties in their conversation with the health care providers.

Immigration Related Factors

Research shows that age at immigration has an effect on depression in small community studies (Elder Jr & Caspi, 1988). This may be attributed to the amount and type of social or economic resources that are available to individual at different ages. A study among Chinese immigrants living in the Los Angeles area shows that individuals who immigrated after 20 years of age were nearly 1.5-3.0 times more likely to experience major depression than those who immigrated before age 20 years (Takeuchi et al., 1998). In another community study among Filipino Americans conducted in 1998-1999 living on West coast area, immigrating during childhood predicted significantly higher levels of depressive symptoms in adulthood than immigrating after childhood, independent of the duration of residence in the U.S and other demographic variables (Mossakowski, 2007). On the other hand, in a recent report on mental disorders among all Asian Americans, respondents who immigrated as adults were less likely to have any lifetime depression, anxiety or other psychiatric disorders than those who came as children or were U.S. born (Takeuchi et al., 2007). Therefore, studies suggest that there is variability in the results among different ethnic Asian groups. Hence, more attention is needed in research to investigate age at immigration as a predictor of depression for various Asian American immigrants.

Immigration during childhood may be stressful since children may not be able to cope effectively with such a major life event. Stressful conditions during childhood in a

new environment can become chronic strains, such as, conflicting feeling about the culture of origin and the new American culture, and adapting to the American culture as a racial/ethnic minority. These chronic stresses may in turn lead to major mental health problems as an adult. On the other hand, older immigrants have also been found to have difficulty adjusting to their new host culture and report high depressive symptoms. This may be due to greater difficulty in learning a new language and finding jobs equivalent to those they held before immigration among these older immigrants (Choi, Miller, & Wilbur, 2009).

Proportion of life spent in the U.S. has been used a proxy measure of acculturative stress for ethnic immigrants (Vega, et al., 1998). It is assumed that as immigrants live longer in the new country, immigration visa processes are completed and they become more established (Park & Park, 2005). Immigration visa processes usually take 6-8 years depending on the visa status at the time of entry to the U.S. The appraisal of stress for an established immigrant is different from an immigrant who is still struggling to complete the visa formalities. On the other hand, some research report that immigrants in the earlier years of settlement report higher well-being in comparison to immigrants who have been living for a long time in the U.S. (Takeuchi et al., 2007). This maybe explained by the selective migration theory, which says that healthy people equipped with social and psychological resources such as “motivation to succeed” decide to migration (Landale et al., 2000). So, early immigrants are healthier and as they are exposed to stressors in the new culture and environment their health deteriorates (Bovier, et al., 2004).

The most prevalent reason for coming to the U.S. is financial, that is, primarily to find employment. Other popular reasons are to join family members or seek refuge as an asylee or refugee. When immigration happens due to refugee/asylee status, immigrants receive permanent residency and initial support from the U.S. government to find a job and living facilities. This support is provided usually from regional refugee offices and supporting church organization for a period of three months, after which it is expected that immigrants will be able to support themselves. Previous studies show that refugees are at high risk of mental disorders as they were exposed to significant trauma prior to immigration (Behnia, 2003; Simich et al., 2003). Even after the legal and financial support provided after their immigration to the U.S. they still report high rates of depression, anxiety, post-traumatic stress disorders (Fox et al., 2001; Gold, 1992; Mollica, et al., 2001). In contrast, immigrants who come to the U.S. to join their family members or to seek job, have to be sponsored and supported by their family or employment company. This entails that financial support has to be provided by the immigrant or the immigrant's family or the employing company. In addition, the immigrants have to complete the immigration visa processes to achieve permanent residency. Even though support from family enables these immigrants in their settlement process, but these families may have limited resources to begin with to help incoming immigrants. Also, there are reports of exploitation in work places and by employers that employ immigrants at lower wages and poor working conditions that add a big burden to their mental health (Orrenius & Zavodny, 2009).

Summary of Hypotheses

In summary, this review of the literature has shown that acculturative stress and immigration related factors are important to consider when investigating the mental health issues of Asian American immigrants. Therefore the following hypotheses are proposed:

1. Acculturative stresses (legal stress, language barrier, and discrimination) will have a main positive effect on depressive episode lifetime among Asian American immigrants. Specifically, higher odds of depressive episode lifetime will be seen in immigrants with higher acculturative stress. Immigrants who endorse fear of deportation or being questioned about their legal status will appraise their situation as being more stressful, which should be associated with higher odds of depression. Similarly, immigrants who are not fluent in English and as a result have difficulties with spoken interactions will have a harder time accessing resources and approaching health services. Such difficulties should be associated with higher odds of depression. Immigrants, who are exposed to work place discrimination, will be exposed to the stress of feeling disrespected in the new culture or being treated badly because of their Asian accent. These discriminatory exposures should be associated with higher odds of depression.
2. The effect of acculturative stress on major depressive episode will vary by two immigration related factors: a) age at immigration and b) years spent in the U.S.
 - a) Specifically, the positive relationship between all acculturative stresses and major depressive episode will be stronger among immigrants who came to the United States as adults in comparison to those who arrived as

children. This means that immigrants are exposed to more stresses when they immigrate as adults due to high competition in the labor markets (Pinka et al., 2007), learning a new language, and find social resources, that leads to increased impact of acculturative stressors on depression. On the other hand, immigrants who migrate as children, have family members that support them, go to school which gives them an opportunity to learn the culture and language better that leads to their decreased impact of acculturative stress on depression.

b) Similar prediction with respect to time spent in the United States will be seen. Specifically, the positive relationship between all acculturative stresses and major depressive episode will be stronger among immigrants who have spent more than 10 years in the U.S, compared to those have spent 10 years and less in the U.S. This means that immigrants are exposed to more stressful experiences in the initial years of living in the new country due to the process of adjusting to the new culture and finalizing their visa status. Later, immigrants are more established and understand the ways of life in the new culture that leads to decreased impact of acculturative stress on depression.

3. The main effect of acculturative stresses (legal stress, language barrier, and discrimination) on depressive episode will also be examined among the three Asian American immigrant ethnic groups: a) Vietnamese, b) Chinese, and c) Filipino. The hypotheses specific to each group are presented in detail below:

- a) Among Vietnamese respondents, language barrier and discrimination will be positively related to depression. English is not a primary language for this group and as a result, English is not spoken much among the Vietnamese. Therefore, language difficulty is expected to be a significant predictor of major depressive episode among the Vietnamese. Similarly among Vietnamese respondents, discrimination is expected to show a significant positive relationship to depression. As a result of their comparatively lower socio-economic position (i.e., employed in low wage earning positions) and their relatively diminished ethnic enclaves, Vietnamese immigrants who experience work place discrimination will show increased depression (Amason, et al., 1999). Finally, legal stress will have no relationship to depression among Vietnamese respondents. Vietnamese immigrants mostly came as refugees in comparison to other ethnic groups and were immediately given residency status in the U.S. as per the United Nations High Commissioner for Refugees (UNHCR) convention agreement in 1951 (Hing, 1993). Therefore, legal worries are not expected to be a significant predictor of major depressive episode among the Vietnamese ethnic group.
- b) Among Filipino respondents, legal stress and discrimination will have a positive relationship to depression. Alternatively, language barrier will have no relationship to depression. Filipinos migrating to the U.S. tend to have high levels of education and belong to a high socio-economic status. As a result, Filipinos possess many social resources available to them

when they migrate (Le Espiritu, 1992). However, Filipino immigrants face the long and complex process of visa process as they search for better job opportunities and are sponsored by their employers. Therefore, legal stress is expected to show a significant positive relationship to depression among Filipinos. In addition, workplace discrimination is a significant source of stress for the immigrants competing in the labor markets (Francis & Albert, 2007). Thus, discrimination will be positively related to depression among Filipino respondents. Finally among Filipino respondents, language barriers will show no relationship to depression. Filipinos are more likely to be fluent in English as it is a predominant language spoken in their country.

- c) Among Chinese respondents, language barrier, legal stress and discrimination will have a positively related to depression. Chinese Asian immigrants were among the first Asian immigrants to arrive in the U.S. and have established large ethnic enclaves and communities in many cities of the U.S. (Biing-Jiun & Takeuchi, 2001). Newer immigrants tend to live in these enclaves and communicate in their Chinese dialect mostly, which leads to poor English language skills. Therefore, language difficulty is expected to be a significant predictor of major depressive episode among the Chinese group. As Chinese immigrants move out of their communities for work, they may experience discrimination due to their accent issues that may lead to depression. So, discrimination will be positively related to depression. Similarly, Chinese immigrants migrating for better job

opportunities are sponsored by their employers and exposed to lengthy visa processes. Therefore, legal stress is expected to show a significant positive relationship to depression among Chinese.

Table 3.1 summarizes hypothesized the relationship of acculturative stresses, language barriers, discrimination, and legal stress and major depressive episode lifetime within the three Asian American immigrant groups, Vietnamese, Filipino and Chinese.

Research Methods

The Collaborative Psychiatric Epidemiology Surveys (CPES), with support from the National Institute of Mental Health (NIMH), initiated in recognition of the need for contemporary, comprehensive epidemiological data regarding the distributions, correlates, and risk factors of mental disorders among the general population with special emphasis on minority groups. The primary objective of the CPES was to collect data about the prevalence of mental disorders, impairments associated with these disorders, and their treatment patterns from representative samples of majority and minority adult populations in the United States. Secondary goals were to obtain information about language use and ethnic disparities, support systems, discrimination, and acculturation, in order to examine whether and how closely various mental health disorders are linked to social and cultural issues. To this end, CPES developed three nationally representative surveys: the National Comorbidity Study-Replication (NCS-R), National Survey of American Life (NSAL), and National Latino and Asian American Study (NLAAS).

This research project used The National Latino and Asian American Study (NLAAS), which is a nationally representative community household survey that estimates the prevalence of mental disorders and rates of mental health service utilization

by Latinos and Asian Americans in the United States. This is the first survey of mental health, service use, and social conditions among several ethnic Asian groups using a national sample frame to select interview respondents (Alegria, et al., 2004).

The NLAAS survey was administered to a sample of non-institutionalized Asian American adults' aged 18 or older residing in households located in the 48 coterminous U.S. States, Alaska, Hawaii, and Washington D.C. The NLAAS Asian sample comprises the NLAAS Core sample, designed with 63 PSU nationally representing the entire U.S. Asian American adult population and the NLAAS High-Density (HD) supplemental sample, which consists of geographic areas with greater than five percent residential density for three individual Asian national origins groups of interest, Vietnamese, Filipino, and Chinese. The interviews took place between May 2002 and December 2003.

The Asian American survey population was stratified based on eligible adults' ancestry or national origin. This stratification of the NLAAS survey populations relied on self-reports by household members at the time of the household screening. In cases where a member of the survey population reported belonging to more than one Asian American target population, the following order of priority was used to assign individuals to a single group for the purpose of the stratified sample selection: Vietnamese, Filipino, Chinese and Other Asian. Institutionalized persons including individuals in prisons, jails, nursing homes, and long-term medical or dependent care facilities were excluded from the study populations. When the NLAAS HD samples of targeted national origin groups were properly weighted for sample inclusion probabilities and pooled together with the NLAAS core sample, it provided a representative sample of the entire national Asian American adult population (Heeringa, et al., 2004).

The NLAAS has a total sample size of 2,095 Asian American adults, with four ethnic groups: 520 Vietnamese, 600 Chinese, 508 Filipino, and 467 Other Asians (comprising of respondent from other Asian countries). Recognizing that language barriers may discourage survey participation for minorities who do not speak English, or are not fluent in English, the NLAAS instrument was translated into three Asian languages: Chinese, Tagalog and Vietnamese. Each interview was conducted in the language the respondent preferred (Pennell, et al., 2004).

This research project includes only Asian American immigrant respondents in the sample. The total sample size is 1,639, with 502 Vietnamese, 349 Filipinos, 473 Chinese, and 315 Other Asians. In this study, immigrants¹⁰ are defined as the foreign-born population residing the United States, which include legal permanent residents, naturalized citizens, temporary immigrants, refugees and aslyees, and undocumented /illegal immigrants.

Dependent variable

Major Depressive Episode Lifetime

Major depressive episode is measured by the World Health Organization's Composite International Diagnostic Interview (WHO CIDI) (Kessler & Ustun, 2004). The CIDI is a highly structured questionnaire designed for use in community studies to estimate the prevalence of mental disorders according to diagnostic criteria published in

¹⁰ There is no commonly agreed framework for defining and categorizing immigrants. The legal definition of an immigrant is not necessarily the same as used by researchers. According to the U.S. Citizenship and Immigration Services, immigrant is usually classified as a permanent resident alien; in contrast the Immigration and Nationality Act broadly defines immigrant as any alien or foreign born non-citizen, and naturalized or native-born children of legal /illegal immigrants as citizen and not immigrants (Vernez et al., 1997). However, the researchers argue that these naturalized or native-born children should be included in the immigrant group as there are in the U.S. due to the federal immigration policies. As this study investigates the stressors faced by immigrants and the immigration related factors, I define immigrants as foreign-born population residing in the U.S. and included naturalized citizens but exclude the native-born children.

ICD-10 (International Classification of Diseases, Tenth Edition) and DSM-IV (Diagnostic and Statistical Manual of Mental disorders, Fourth Edition). The Asian versions of the CIDI went through an intensive process of translation and adaptation (Alegria, et al., 2004). “The model used to translate and adapt these diagnostic measures was based on cross-cultural equivalency in the following domains (Bravo, Canino, Rubio-Stipec, & Woodbury, 1991): semantic (ensures that instruments are accurately translated into different languages), content (ensures that content of instruments is relevant to the study population (Vega, et al., 1998), technical equivalence (ensures that similar layouts are used for instruments across cultures, and that the measuring strategies implemented obtain a similar effect across cultures) and criterion/conceptual equivalence (ensures that the same theoretical construct is evaluated in each culture, and that the interpretation of the results is similar when evaluated in accordance with the norms of each culture)” (Alegria, et al., 2004). The NLAAS CIDI measure of Major Depressive Episode (MDE) was coded as a dichotomous variable where respondents who did not meet criteria for MDE lifetime served as the reference group. Those respondents who did meet criteria were coded as 1.

Independent Variable

Acculturative stress

The questions of the Acculturative Stress scale in the data were taken from the Mexican American Prevalence and Services Survey (MAPSS) (Vega, et al., 1998). The acculturative scale in MAPSS was used to measure the stress of culture change that results from immigrating to the United States and has been tested mostly with Mexican American samples. A series of questions focus on respondent's experiences upon

stressors during acculturation: discrimination, fear of deportation, limited contact with family and friends, and difficulties with the English language. The MAPSS originally adapted these items from the Occupational/Emotional Stress subscale of the Hispanic Stress Inventory (HSI) (Cervantes, Padilla, & de Snyder, 1991).

The Acculturative Stress scale in NLAAS was measured with three individual sub-scales measuring legal stress, discrimination and language difficulties. Individual item responses were dichotomous (yes/no), where yes is coded as 1 and no responses coded as 0. Total possible scores range from 0-3 for legal stress (Cronbach's $\alpha = .63$), 0-3 discrimination (Cronbach's $\alpha = .65$), and 0-1 for language difficulties. Response scores were dichotomized as any versus none level of acculturative stress for each of the three scales. The reference group for each measure was the individuals who did not experience the specific acculturative stresses. Question for each sub-scale were as follows:

Legal stress:

- Have you been questioned about your legal status?
- Do you think you will be deported if you go to a social or government agency?
- Do you avoid seeking health services due to fear of immigration officials?

Discrimination:

- Do you find it difficult to find the work you want because you are of Asian descent?
- Do you feel that in the United States you have the respect you had in your country of origin?

- Do people treat you badly because they think you do not speak English well or speak with an accent?

Language Difficulties:

- Do you find it hard to interact with others because of difficulties you have with English language?

Immigration Related Factors

The several major immigration-related factors that are examined in this study are: reasons for immigration, age at immigration, and life spent the U.S. since immigration.

Reasons for immigration: In this section the following questions were asked that the respondent rated as: very important, somewhat important, or not important at all.

Three main groups were identified based on these questions.

- Seek refugee- you or your family was persecuted for political reasons.
- Job Opportunities- to find employment or a job.
- Join family- to join other family members.

Age at immigration: Age of coming to the U.S. was coded into five groups in the dataset, US born, less than 12 years, 13-17 years, 18-34 years and 35 years and above. In this study we are primarily interested in the understanding the implications of immigrating as a child or an adult. Therefore, the above groups were recoded into two categories: 0-17 years olds and 18 years and above.

Years spent in the U.S.: Years spent in the U.S. was coded into five groups in the dataset, US born, 0-5 years, 6-10 years, 11-20 years and 21 years and above. In this study we are primarily interested in understanding the difference in the immigrants who are still in the process of settling and negotiating the visa procedures versus those who have

hopefully resolved their visa issues. Therefore, the above groups were recoded into two categories, 0-10 years and 11 years and above.

Control variables

Social Support

This variable included information about support from kin and non-kin. The responses ranges from- most every day, a few times a week, a few times a month, about once a month, or less than once a month for the first question in kin and non-kin social support. The rest of the questions had response ranges from- a lot, some, a little, or not at all. This variable was coded as continuous where scores ranged from 0-20, 0 meant no support and 20 meant highest support with Cronbach's $\alpha = .59$ for kin social support and Cronbach's $\alpha = .71$ for non-kin social support.

Kin Social Support:

- How often do you talk on the phone or get together with family or relatives who do not live with you?
- How much can you rely on relatives who do not live with you for help if you have a serious problem?
- How much can you open up to relatives who do not live with you if you need to talk about your worries?
- How often do your relatives or children make too many demands on you?
- How often do your family or relatives argue with you?

Non-kin Social Support:

- How often do you talk on the phone or get together with friends?

- How much can you rely on your friends for help if you have a serious problem?
- How much can you open up to your friends if you need to talk about your worries?
- How often do your friends make too many demands on you?
- How often do your friends argue with you?

Age

Age reflects respondents' age at last birthday and is presented as continuous in the data.

Gender

This dichotomous variable based upon self-reported sex is coded as male or female, with males as the reference group.

Education

This variable is coded as a categorical variable according to the respondent's years of schooling and educational attainment. The variable has four categories: some high school (0-11 years), high school graduate (12 years), some college (13-15 years), and college graduate and above (16 years +).

Marital Status

Marital status is coded as categorical where married respondents serve as the reference group (0), and never married is coded as (1), and widowed or separated or divorced as (2).

Household Income

Household income is a continuous variable in the dataset. In this study it was recoded as a categorical variable based on self-reported data into the following groups- less than \$25000, between \$25001 - \$50000, between \$50001 - \$75000, and above \$75001.

Work status

Currently employed is coded as a categorical variable, where respondents has a job at the time of interview serve as the reference group (0), and unemployed is coded as (1) and not in the labor market as (2).

Analysis

The first step in analyses focuses on investigating the association of acculturative stress and major depressive episode lifetime. As the dependent variable is dichotomous, logistic regression techniques were used to assess the above association. Survey design effects (stratum, cluster, and individual weights) were taken into account throughout the analyses to make the weighted sample represent the target national population and the estimation of confidence intervals in the presence of stratification and clustering. I used $\alpha=.05$, without rounding for interpreting the results. All analyses were carried out using the statistical software STATA 10.

Three logistic regression models were run for the total Asian American adult immigrant population that show the main effects of acculturative stress, demographics, and select covariates on major depressive episode lifetime. Model 1 is a demographic model that shows the association between acculturative stresses, legal stress, discrimination and language barrier, along with age, gender, marital status, household income, education, and work status on major depressive episode lifetime. Model 2 accounts for both demographic factors and important covariates, immigration related

factors (reason to immigrate, age at immigration and years spent in U.S.), and social support (kin and non-kin) that have shown to buffer the negative effects of acculturative stress on depression (Vega et al., 1998). Finally, Model 3 represents the full model and introduces the interaction term between three acculturative stresses and two immigration related factors, age at immigration and years spent in the U.S. In addition, logistic regression models were run for three main Asian American immigrant ethnic groups, Vietnamese, Filipinos, and Chinese to show the main effects of acculturative stress, demographics, and select covariates on major depressive episode lifetime.

Results

Table 3.2 shows that the descriptive analyses for total Asian American immigrants and three major Asian ethnic groups in the NLAAS, Vietnamese, Filipino, and Chinese. Respondents who identified as belonging to other Asian ethnic groups were classified as ‘Others’ in NLAAS, and their results are also included. The study population was composed of fairly even proportions of men (46.7%) and women (53.3%) overall, as well as within each ethnic group. Among Vietnamese ethnic group 47.8% respondents were male and 52.2% were females, among Filipino ethnic group 45.1% respondents were male and 54.9% were females, among Chinese ethnic group 46.5% respondents were male and 53.5% were females and among Others ethnic group 47.2% respondents were male and 52.8% were females. Median age ranged between 37-43 years for the study population, suggesting that the sample consisted of relatively young respondents. All the Asian ethnic groups reported being settled in the West coast of the country predominantly, with Northeast being the next region with highest number of immigrants. Substantial Chinese, Filipinos, and Other Asians respondents reported

having some college education or being college graduates, whereas Vietnamese respondents reported lower levels of education. However, women uniformly reported having lower levels of education in comparison to men. Specifically, Vietnamese and Chinese women had lower levels of at least some college education in comparison to the Filipino and Other ethnic group women. Similarly, women uniformly reported lower rates of employment in comparison to men in all groups except Filipinos. Additionally, median income for all the ethnic groups ranged from \$50,000 - \$78,000, except Vietnamese who reported \$32,500 in females and \$39,598 in males. Overall, approximately 9.3% of the total study sample reported major depressive episode lifetime, where Chinese, Filipino and Other Asians immigrant women reported slightly higher rates of major depressive episode lifetime than men. In contrast, Vietnamese men reported higher rates of major depressive episode lifetime than women.

Table 3.3 reports percent distribution of key indicators acculturative stress and immigration related factors for the study population. All Asians groups reported language barriers and discrimination as an important stress. In addition, more Filipinos reported legal issues and discrimination as substantial source of stress in contrast to other ethnic groups. Among immigration related factors, in reason for immigration, most immigrants from all ethnicities came to the U.S. for better job opportunities. However, Vietnamese reported seeking refugee status also as a major reason to immigrate. Two-thirds (about 70-80%) of the total Asian immigrants came to U.S. after the age of 18 years and more than 60% have lived longer than 10 years in the U.S.

Bivariate analyses were done to examine the relationship between acculturative stress and immigration related factors and is reported in Table 3.4. Coming to the U.S. to

join family members was uniformly significantly associated to all the acculturative stresses, positively with language barriers and discrimination, and negatively with legal stress. Seeking refugee status was positively and significantly associated to acculturative stresses, language barriers and discrimination only. Similarly immigrating as an adult was positively and significantly associated with higher language barriers and discrimination, whereas years spent in the U.S. for more than 10 years is negatively associated with language barriers and discrimination.

Table 3.5 tests for the effect of acculturative stress, immigration related factors and demographics on major depressive episode lifetime. Model 1 included age, gender, marital status, household income, education, and work status. Results from Model 1 showed a positive, main effect ($p < .05$) for language barriers and legal stress on major depressive episode lifetime. Endorsement of any legal stress and any language barriers increased the probability of depressive episode lifetime. However, discrimination stress was not associated with major depressive episode lifetime. In addition, household income of \$25,001 – \$50,000 was negatively associated with depressive episode lifetime, which means that respondents with household income of \$25,001 – \$50,000 had a statistically lower probability of depressive episode lifetime than those who had household income less than \$25,000.

Model 2 included demographic covariates as well as immigration related factors (reason to immigrate, age at immigration, and years spent in U.S.) and social support (kin and non-kin). There was a significant ($p < .05$) positive association of language barriers and legal stress on depressive episode lifetime. Endorsement of any legal stress and any language barriers continued to increase the probability of depressive episode lifetime

even after controlling for the covariates. Again, discrimination was not associated with depressive episode lifetime. There was a significant ($p < .05$) negative association between age at immigration and depressive episode lifetime. So, immigration to U.S. as a child (0-17 years) had a statistically higher probability of depressive episode lifetime. Kin and non-kin social support was not related to depressive episode lifetime for all Asian American immigrant population.

Model 3 tests the moderating effect of two immigration related factors, age at immigration and years spent in the U.S, on the relationship of three acculturative stresses and depressive episode lifetime. A significant interaction ($p < .01$) between legal stress and age at immigration was found for total Asian American immigrants. Specifically, the effect of any legal stress on depressive episode lifetime was weaker among immigrants who came to the U.S. as adults than it is for immigrants who came as children (0-17 years). This moderating effect of age at immigration on the relationship of legal stress and depressive episode lifetime is illustrated in Figure 3.1.

Model 3 also showed a significant interaction ($p < .05$) between language barrier and years spent in the U.S. Specifically, the effect of any language barrier on depressive episode lifetime was weaker among immigrants who had spent more than 10 years in the U.S. than it was for recent immigrants (0-10 years). The moderating effects of years spent in the U.S. on the relationship of language barriers and depressive episode lifetime is illustrated in Figure 3.2. No other interactions between acculturative stress and years spent in the U.S. or age at immigration were significant.

Table 3.6 tests for the effect of acculturative stress, immigration related factors and demographics on major depressive episode lifetime separately for the three major

Asian ethnic immigrant groups, Vietnamese, Filipino, and Chinese. Each model for the different ethnic groups included demographics, age, gender, marital status, household income, education, and work status; covariates, immigration related factors- reason to immigrate, age at immigration, and years spent in U.S., and social support-kin and non-kin.

Results for Vietnamese immigrant group showed a positive, main effect ($p < .05$) of legal stress on depressive episode lifetime. Endorsement of any legal stress increases the probability of depressive episode lifetime. However, language barriers and discrimination stress were not associated with depressive episode lifetime. Also, being never married was found to be positively associated with depressive episode lifetime, which means that respondents who were never married had a statistically higher probability of depressive episode lifetime than those who were married. No significant relationships were observed for immigration related factors, reason to immigrate, age at immigration, and years spent in U.S., and depressive episode lifetime. Similarly, no relationship was observed between kin and non-kin social support and depressive episode lifetime among Vietnamese group.

Results for Filipino immigrant group showed a positive, main effect ($p < .01$) of legal stress and discrimination on depressive episode lifetime. Endorsement of any legal stress and any discrimination increases the probability of depressive episode lifetime. However, language barrier was not associated with depressive episode lifetime. In addition, being divorced/widowed/separated, and household income of \$25,001 - \$50,000 was found to be positively associated with depressive episode lifetime, and having some college education was negatively associated with depressive episode lifetime. This means

that respondents who were widowed/divorced/separated, and had household income of \$25,5001 - \$50,000 had a statistically higher probability of depressive episode lifetime than those who were married, and had household income of less than \$25,000. Also, respondents who had some college education had a statistically lower probability of depressive episode lifetime than those who had some high school education. There was a significant ($p < .01$) negative association between age at immigration and depressive episode lifetime. So, immigration to U.S. as a child (0-17 years) had a statistically higher probability of depressive episode lifetime. No relation was seen for years spent in the U.S. and depressive episode lifetime as well as no significant relationship was seen for kin and non-kin social support and depressive episode lifetime for the Filipinos group.

Results for the Chinese group showed a positive, main effect ($p < .05$) for legal stress and language barrier on depressive episode lifetime. Endorsement of any legal stress and any language barrier increased the probability of depressive episode lifetime. However, discrimination was not associated with depressive episode lifetime. Reporting any non-kin social support was negatively associated with depressive episode lifetime. This means that having social support from non-kin members decreases the probability of depressive episode lifetime for the Chinese immigrant group.

In summary, the acculturative stresses of legal stress and language barriers were significantly related to depressive episode lifetime. Increase in legal stress and language barriers increased the probability of depressive episode lifetime for Asian American adult immigrants overall. But discrimination stress was not related to depressive episode lifetime for the total immigrant population. Table 3.7 summarizes the results relevant to hypothesis three, indicating which hypotheses were supported and which were not.

Separate Asian ethnic groups analysis showed that among Vietnamese respondents a significant relationship between legal stress and depressive episode lifetime was seen. Filipino respondents results showed a significant association of legal stress and discrimination to depressive episode lifetime. Among Chinese respondents, results showed that legal stress and language barriers were significantly related to depressive episode lifetime. Moreover, for the total Asian immigrant sample, the relationship of legal stress and depressive episode lifetime was moderated by the effect of age of immigration. So, adults were buffered from the effects of high legal stress on depressive episode lifetime. Similarly for the total Asian immigrant sample, relationship of language barriers and depressive episode was moderated by years spent in the U.S. So, living in the U.S. for more than 10 years was protective against the effect of language barriers on depressive episode lifetime.

Discussion

This study explores the relationship of acculturative stress and depression among Asian American immigrants and specifically among three major ethnic groups, Vietnamese, Filipino, and Chinese. The analyses presents a complex picture of how the characteristics of immigrants coming to the U.S vary by socio-economic status, political circumstances of the country of origin and reception in the receiving country.

First of all, post-1965 immigration policies made it possible for Asian immigrants to enter the country through three major classes of admission-family reunification, job preferences, and refugee/asylee status. As a result, Asian immigration significantly increased and diverse immigration experiences were seen. First, Vietnamese are more likely than Filipino and Chinese to report that they immigrated to seek political refuge, as

a consequence of the U.S. involvement in the Vietnam War. Also, all groups are equally likely to report that they immigrated to join family members. This shows that primarily family reunification channel of admission has been given most preference by the U.S. immigration policies (Ong & Hee, 1993). All immigrants equally reported that they immigrate to the U.S. more as adults. The opening job markets and avenues in the U.S facilitated adult immigration. In the recent years, Information and Technical (IT) industry created a huge requirement for IT professional, and so the U.S. Immigration and National Services created special channels to increase immigration of professional to address the needs of the industry (Martin & Widgren, 2002). Similarly, all groups equally reported that years spent in the U.S. was 11 years and more except Vietnamese group that reported that they had almost same numbers of recent immigrants (0-10 years) and late immigrants (11 years and more). Immigration from Asian countries started post-1965 after significant changes were made in the immigration policies. There were large waves of immigrants from China mainland and Filipinos in the initial decades and recent immigration has been mostly from the South Asian countries (Park & Park, 2005).

Second, the three acculturative stresses also showed variation among the different ethnic groups. Legal stress was stated as a high concern for Filipino, Chinese and Other Asian groups. Fewer Vietnamese immigrants reported legal stress as an important source of stress. This is mostly due the special Refugee Act 1980 that facilitated the entry of Vietnamese group post Vietnam War (Bureau of Population Refugee and Migration, 2001). The other immigrant groups have to go through the regular immigration process, which is quite complex and takes a long time. Language barriers were also reported as a main source of stress for Chinese and Vietnamese immigrants. This is explained by the

dominance of English language in Philippines and South Asian countries in their school, institutions and everyday life. Discrimination was uniformly reported as an important source of stressors for all immigrants groups.

Third, there was variation in the socio-economic status among the groups. Chinese and Other Asian group had highest rates of graduate education; Filipinos had the lowest rate of high school drop outs; and Vietnamese had the highest rate of high school dropouts and lowest rate of college education. Similar results were also seen in the median household income, where Vietnamese had the lowest level of income in comparison with Chinese and Filipino groups. In addition gender differences were also reported the socio-economic status. Women in all groups reported lower rates of income, than men and Vietnamese women reported the least income in comparison to Vietnamese men among all subgroups. Women in all groups reported lower rates of graduate education than men except among the Filipino women versus Filipino men. These variations may be due to many reasons. Immigrants from Vietnam were usually agricultural farmers who had to flee their land and country of origin due to the war (Hing, 1993). They had lost family members in the war and many of their personal belongings had to be left behind as they flee to refugee camps. Whereas, immigrants from other countries made a conscious decision to come to U.S. and hence collected their personal and financial resources to settle in the new country. For example, we see that Filipino women in the medical field and IT professionals from South Asian countries predominant in numbers from their countries.

This study provides evidence in support of the idea that acculturative stress can increase risk of major depressive episode lifetime in Asian Americans. Based on that

assumption, I hypothesized that experience of more acculturative stress would increase the probability of depressive episode lifetime. Furthermore, immigration related factors would moderate the association of acculturative stress and depressive episode lifetime. Finally, the relationship of acculturative stress relationship and depressive episode lifetime will be examined for major ethnic groups.

Consistent with the primary hypothesis, this research showed that legal stress and language barrier acculturative stress were significantly and positively associated with depressive episode lifetime, however discrimination stress was not related. This association might have resulted because more proficient speakers of English may access social and health resources to support them when exposed to stress. This may also assist them in understanding the legal processes better and effectively communicate with the immigration officers to solve their visa issues. However, this hypothesis was partially supported, as discrimination did not show an association with depression. This may be due to the specific questions asked to assess discrimination for immigrants - loss of respect, accent issues and work issues.

Also, relationship of acculturative stress and depressive episode was different for different ethnic groups. Vietnamese showed a significant relationship between legal stress and depressive episode lifetime only. Filipino results showed a significant association of legal stress and discrimination to depressive episode lifetime. So language is not an important predictor of depressive episode for Filipinos as they tend to be quite fluent in English. Among Chinese group, results show legal stress and language barriers significantly related to depressive episode lifetime. Discrimination did not show significantly related to depressive episode, and this may be due to large numbers of

Chinese community and Chinatown in U.S. So maybe work and accent discrimination does not happen if they work mostly in a Chinese neighborhood or have Chinese colleagues. These findings highlight the importance of exploring specific immigrant stressors in mental health research among Asian Americans, while also paying attention to the variation that may exist between different ethnic groups.

While previous acculturation research and immigration studies among Asian Americans have focused mostly on physical health (Frisbie, Cho, & Hummer, 2001; Goel, McCarthy, Phillips, & Wee, 2004) relatively less is known about their mental health. Sporadic small sample studies have been done to understand the influence of age at immigration, reason to immigrate, and years spend in the U.S. on health and acculturation process. Therefore, the later hypothesis examined the moderating effect of these immigration factors on stress and depressive episode. This hypothesis was only partially supported as the relationship of legal stress and depressive episode lifetime was moderated by the effect of age of immigration. So, adults were buffered from the effects of high legal stress on depressive episode lifetime. Perhaps those who immigrated after childhood are mentally healthier as they were selected based on their strong psychological assets and determination to succeed (Landale et al., 1999). Maybe immigrants who came as children face intense pressure from their parents to achieve socioeconomic success (Wolf, 2002) or living in a culture as a racial/ethnic minority from such a young age leads to increased stress and mental disorders (Sue & Morishima, 1983).

Also, relationship of language barrier and depressive episode was moderated by years spend in the U.S. So living in the U.S. for 11 years and more was protective against the effect of language barriers on depressive episode lifetime. This may mean that as

immigrants live longer in the new culture, they were more able to comprehend the nuances of English language and hence were more comfortable in their interaction. In addition, even if they have language difficulties immigrants get more confident in their interaction and use other communication skills to effectively interact with others. Also, with longer residence in the U.S. immigrants may get more familiar with expressing their health needs that is more conducive with the American culture.

There are several limitations of the current research. First, this study used a cross-sectional survey and therefore does not allow us to make any causal inferences. Secondly, I focused on primarily on Western expressions of psychiatric disorder, major depressive episode lifetime, as defined by the DSM-IV. Although this allowed me to use and understand standardized measures of mental disorders among Asian, but there may have been underestimation of mental health rates due to the unique ways of expression of depression by immigrants that are not recognized by DSM-IV. Thirdly, this study looked at only a subset of many factors that affect immigration process. There are numerous issues to study that are related to immigrants and immigration along different immigration stages, for example, differences between immigrants coming to the U.S. in different decades, impact of different immigration and institutional policies on the socio-economic status of incoming immigrants, and labor market operations. Studies on any of the above-mentioned issues need to be aware of the varied historical, institutional and cultural context in which immigration is embedded. Many of these issues are interrelated to each other and further studies need to pay attention to their interactions. In addition, I was unable to incorporate many important immigration factors in this study, in particular, pre-immigration experiences. Variables related to pre-immigration circumstances would

help to develop a more comprehensive picture of the immigration process and adaptation, as well as immigrants' well being in the receiving country. Fourthly, in this study I looked at only a limited number of variables in examining acculturative stress. An important factor to consider would be goal striving stress and social mobility that is experienced by immigrants. Most immigrants come in search of better opportunities for themselves and their future generations, therefore it is important to study the impact of immigration success as defined by immigrants on mental health outcomes. Finally, only three main ethnic groups in the NLAAS were identified. Other major ethnic groups like Korean, Asian Indian, and Japanese were grouped together in the "Others" group. This made it difficult to do more detailed analyses of the Others Asian group.

In conclusion, this study provides a first hand look at immigration experiences, acculturative stress and depression among a nationally representative sample of Asian immigrants. This may be instrumental in understanding the diverse experiences of immigrants that may contribute in developing effective solution to address their mental health needs.

Table 3.1: Summary Table of the Relationship of three Measures of Acculturative Stress and Depression within three Asian Ethnic Groups

	Vietnamese	Filipino	Chinese
Acculturative Stress			
Language	Positive	No relationship	Positive
Discrimination	Positive	Positive	Positive
Legal	No relationship	Positive	Positive

Table 3.2: Demographic Characteristics of Asian American immigrants in the National Latino and Asian American Study (NLAAS) 2004, by gender and ethnicity

	All Asians		Vietnamese		Filipino		Chinese		Other	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Mean Age (years)	40.6	41.2	43.2	42.8	41.9	41.8	41.5	41.6	38.1	37.8
Region of Residence %										
Northeast	20.3	17.7	15.4	18.6	9.7	9.2	26.2	16.2	23.4	23.8
Midwest	9.2	8.5	2.8	1.8	7.9	6.6	5.8	10.6	16.2	11.0
South	7.2	9.9	21.2	15.6	5.8	9.3	2.1	4.8	5.7	12.1
West	63.2	63.9	60.6	64.0	76.6	74.8	65.9	68.4	54.7	53.1
Education %										
Some HS	15.6	19.6	23.9	41.0	11.7	15.6	19.5	22.1	10.3	9.5
HS Graduate	15.9	16.8	20.5	20.4	20.1	11.1	12.4	20.5	14.6	15.1
Some College	19.1	24.3	25.1	20.5	27.2	36.4	15.3	19.4	15.0	23.1
College Graduate	49.4	39.4	30.5	18.2	41.0	36.9	52.8	38.0	60.2	52.3
Marital Status %										
Married	73.4	74.3	68.8	77.1	84.2	74.0	72.1	69.9	70.8	77.0
Never Married	3.9	10.8	6.7	7.6	2.3	13.9	3.7	14.2	3.8	7.5
Widowed/Separated/Divorced	22.7	14.9	24.5	15.3	13.5	12.2	24.3	15.9	25.5	15.5
Household Income (annual) \$										
Mean	63,021	53,022	57,072	49,616	86,233	77,635	83,912	70,170	79,481	78,133
Median	47,500	35,499	39,598	32,500	78,699	62,500	75,249	49,249	65,000	64,999
Employment Status %										
Employed	72.7	55.0	73.4	53.8	67.9	66.6	71.3	57.1	76.4	46.7
Unemployed	5.6	7.3	8.1	8.5	6.5	4.1	4.5	6.7	4.7	9.1
Not in the labor force	21.7	37.7	18.5	37.7	25.6	29.3	24.2	36.2	18.9	44.2
Depression Episode Lifetime %										
	8.0	7.9	11.6	5.9	4.3	5.9	7.3	8.7	9.0	9.4
Total Sample (N=1,639)	771	869	236	266	154	195	221	252	160	155

Table 3.3: Demographic Characteristics of key variables by gender and ethnicity among Asian American immigrants, National Latino and Asian American Study (NLAAS) 2004

	All Asians		Vietnamese		Filipino		Chinese		Other	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Acculturative Stress										
Legal Stress %	19.6	17.0	6.2	3.2	24.7	23.6	17.8	12.9	25.0	23.2
Language Barriers %	35.1	33.8	46.9	53.3	10.6	12.0	51.5	48.0	28.8	24.8
Discrimination %	46.4	43.4	49.3	40.3	27.3	27.6	56.0	56.0	47.0	43.0
Immigration Related Factors										
Job Opportunities %	86.0	80.5	76.5	78.4	94.9	91.9	84.3	79.0	87.2	75.8
Join Family %	69.8	73.9	72.7	85.3	81.1	81.2	68.9	78.7	62.8	59.3
Seek Refugee %	28.2	26.1	63.9	61.5	10.3	8.5	30.6	25.4	18.5	20.7
Age at Immigration %										
0-17 years	26.8	20.5	28.6	19.6	29.8	20.4	29.9	18.2	21.6	23.1
18+ years	73.2	79.5	71.4	80.4	70.2	79.6	70.1	81.8	78.5	76.9
Years Spent in the U.S. %										
0-10 years	34.6	33.2	42.0	46.8	27.9	27.3	34.4	37.6	34.9	26.3
11+years	65.4	66.8	58.0	53.2	72.1	72.7	65.6	62.4	65.1	73.7

Table 3.4: Association of Acculturative stress and Immigration related factors for Asian American immigrants, National Latino and Asian American Study (NLAAS) 2004

	Legal Stress Coef. (S.E.) P-value	Language Barrier Coef. (S.E.) P-value	Discrimination Coef. (S.E.) P-value
Job Opportunities	-.018 (.254) 0.945	-.161 (.157) 0.311	-.002 (.136) 0.986
Join Family	-.457 (.175) 0.012	.562 (.205) 0.009	.403 (.181) 0.031
Seek Refugee	-.317 (.239) 0.191	.914 (.175) 0.000	.593 (.150) 0.000
Age at immigration	.034 (.195) 0.860	1.270 (.140) 0.000	.743 (.157) 0.000
Years Spent in the U.S.	.0001 (.193) 1.000	-.752 (.121) 0.000	-.403 (.124) 0.002

Table 3.5: Logistic Regression of Acculturative Stress on Major Depressive Episode Lifetime among Asian American immigrants, National Latino and Asian American Study (NLAAS) 2004

VARIABLES	Model 1 Odd Ratios (Confidence Interval)	Model 2 Odd Ratios (Confidence Interval)	Model 3 Odd Ratios (Confidence Interval)
Acculturative Stress			
Legal Stress			
No legal stress	Reference	Reference	Reference
High legal stress	1.699** (1.026 - 2.815)	1.688** (1.028 - 2.773)	10.95** (1.623 - 73.90)
Language Barrier			
No language barrier	Reference	Reference	Reference
High language barrier	2.074** (1.031 - 4.175)	2.339** (1.223 - 4.473)	4.151 (0.709 - 24.32)
Discrimination			
No discrimination	Reference	Reference	Reference
High discrimination	1.454 (0.931 - 2.272)	1.481 (0.910 - 2.410)	0.754 (0.217 - 2.621)
Age	0.99 (0.970 - 1.012)	1.004 (0.982 - 1.026)	1.001 (0.979 - 1.023)
Gender			
Male	Reference	Reference	Reference
Female	1.102 (0.639 - 1.902)	1.124 (0.670 - 1.886)	1.048 (0.600 - 1.833)
Marital Status			
Married	Reference	Reference	Reference
Never Married	1.758 (0.832 - 3.718)	1.648 (0.770 - 3.527)	1.686 (0.835 - 3.406)
Divorce/Widow/Separated	1.980 (0.936 - 4.189)	1.803 (0.756 - 4.300)	1.984 (0.850 - 4.633)
Household Income			
0-25,000	Reference	Reference	Reference
25,001-50,000	0.491** (0.251 - 0.961)	0.521** (0.273 - 0.993)	0.546 (0.282 - 1.055)
50,001-75,000	0.7 (0.266 - 1.843)	0.664 (0.253 - 1.746)	0.827 (0.292 - 2.338)
75,001+	0.545 (0.255 - 1.166)	0.543 (0.258 - 1.145)	0.595 (0.285 - 1.242)
Education			
Some HS	Reference	Reference	Reference
HS Graduate	1.065 (0.577 - 1.964)	1.172 (0.627 - 2.191)	1.231 (0.622 - 2.435)
Some College	1.731 (0.945 - 3.174)	1.923** (1.033 - 3.578)	1.740 (0.954 - 3.174)
College Graduate	1.537 (0.886 - 2.666)	1.855** (1.048 - 3.283)	1.837** (1.058 - 3.190)
Work Status			
Employed	Reference	Reference	Reference
Unemployed	1.674	1.581	1.436

Not in Labor Market	(0.631 - 4.445) 1.292 (0.497 - 3.363)	(0.586 - 4.270) 1.116 (0.457 - 2.729)	(0.540 - 3.818) 1.177 (0.499 - 2.776)
Reason to immigrate			
Job Opportunities		0.834 (0.480 - 1.450)	0.796 (0.462 - 1.370)
Join Family		0.853 (0.512 - 1.421)	0.817 (0.480 - 1.390)
Seek Refugee		1.519 (0.830 - 2.781)	1.64 (0.867 - 3.103)
Age at Immigration			
0-17 years		Reference	Reference
18+ years		0.392** (0.166 - 0.924)	0.519 (0.208 - 1.293)
Years Spent in the US			
0-10 years		Reference	Reference
11+ years		0.939 (0.510 - 1.728)	1.809 (0.841 - 3.888)
Kin social support		1.111 (0.701 - 1.759)	1.143 (0.701 - 1.866)
Non-kin social support		1.097 (0.617 - 1.952)	1.139 (0.642 - 2.018)
Interactions			
Legal Stress*Age at immigration			0.103*** (0.0274 - 0.384)
Legal Stress*Years Spent in US			0.507 (0.0807 - 3.186)
Language Barrier*Age at immigration			1.752 (0.307 - 9.992)
Language Barrier*Years Spent in US			0.239** (0.0642 - 0.891)
Discrimination*Age at immigration			1.506 (0.533 - 4.259)
Discrimination*Years Spent in US			1.762 (0.494 - 6.285)
Constant	0.0246*** (0.00723 - 0.0837)	0.0470*** (0.00913 - 0.242)	0.0217*** (0.00336 - 0.140)

Notes:

*** p<0.01, ** p<0.05

Table 3.6: Logistic Regression of Acculturative Stress on Major Depressive Episode Lifetime among Asian American immigrants by ethnicity, National Latino and Asian American Study (NLAAS) 2004

VARIABLES	Vietnamese Odd Ratios (Confidence Interval)	Filipino Odd Ratios (Confidence Interval)	Chinese Odd Ratios (Confidence Interval)
Acculturative Stress			
Legal Stress			
No legal stress	Reference	Reference	Reference
High legal stress	4.101** (1.168 - 14.39)	6.268*** (1.859 - 21.13)	2.400** (1.082 - 5.323)
Language Barrier			
No language barrier	Reference	Reference	Reference
High language barrier	1.385 (0.471 - 4.066)	3.532 (0.297 - 42.06)	3.162** (1.075 - 9.301)
Discrimination			
No discrimination	Reference	Reference	Reference
High discrimination	1.613 (0.720 - 3.616)	3.296*** (1.607 - 6.760)	1.178 (0.429 - 3.232)
Age	1 (0.964 - 1.037)	1.064 (0.998 - 1.134)	1.033 (0.977 - 1.091)
Gender			
Male	Reference	Reference	Reference
Female	0.611 (0.234 - 1.599)	1.46 (0.647 - 3.296)	1.685 (0.944 - 3.007)
Marital Status			
Married	Reference	Reference	Reference
Never Married	7.075*** (2.159 - 23.18)	3.085 (0.243 - 39.19)	1.077 (0.242 - 4.793)
Divorce/Widow/Separated	1.453 (0.459 - 4.598)	11.77*** (3.419 - 40.49)	2.397 (0.602 - 9.547)
Household Income			
0-25,000	Reference	Reference	Reference
25,001-50,000	0.392 (0.109 - 1.405)	5.669** (1.249 - 25.73)	1.241 (0.337 - 4.571)
50,001-75,000	0.558 (0.110 - 2.836)	4.809 (0.886 - 26.09)	1.161 (0.218 - 6.187)
75,001+	0.655 (0.144 - 2.987)	3.889 (0.606 - 24.96)	1.055 (0.386 - 2.887)
Education			
Some HS	Reference	Reference	Reference
HS Graduate	1.39 (0.409 - 4.719)	0.784 (0.202 - 3.038)	1.901 (0.265 - 13.66)
Some College	1.709 (0.419 - 6.973)	0.285** (0.0879 - 0.926)	2.127 (0.794 - 5.693)
College Graduate	2.662	1.164	1.667

Work Status	(0.559 - 12.69)	(0.333 - 4.067)	(0.327 - 8.503)
Employed	Reference	Reference	Reference
Unemployed	1.026 (0.320 - 3.290)	0.605 (0.0388 - 9.450)	2.04 (0.418 - 9.956)
Not in Labor Market	1.303 (0.274 - 6.199)	1.709 (0.116 - 25.25)	1.845 (0.327 - 10.41)
Reason to immigrate			
Job Opportunities	1.035 (0.312 - 3.435)	0.398 (0.0928 - 1.710)	1.034 (0.399 - 2.676)
Join Family	0.852 (0.331 - 2.193)	0.536 (0.174 - 1.655)	0.46 (0.163 - 1.299)
Seek Refugee	0.986 (0.394 - 2.465)	0.14 (0.00409 - 4.793)	1.887 (0.787 - 4.529)
Age at Immigration			
0-17 years	Reference	Reference	Reference
18+ years	1.347 (0.626 - 2.897)	0.0195*** (0.00237 - 0.160)	0.476 (0.141 - 1.610)
Years Spent in the US			
0-10 years	Reference	Reference	Reference
11+ years	1.3 (0.418 - 4.048)	1.376 (0.290 - 6.527)	0.499 (0.185 - 1.344)
Kin social support	0.926 (0.369 - 2.323)	.930 (.719-1.20)	0.754 (0.226 - 2.518)
Non-kin social support	0.874 (0.345 - 2.215)	0.894 (0.254 - 3.149)	.7351** (.618-.874)
Constant	0.0334*** (0.00413 - 0.270)	0.0214** (0.000695 - 0.659)	0.0134*** (0.000766 - 0.234)

Notes:

*** p<0.01, ** p<0.05

Table 3.7: Summary Table of the Relationship of three Measures of Acculturative Stress and Depression within three Asian Ethnic Groups

	Vietnamese	Filipino	Chinese
Acculturative Stress			
Language	Hypothesis: Positive (Hypothesis not supported)	No relationship (Hypothesis supported)	Positive (Hypothesis supported)
Discrimination	Hypothesis: Positive (Hypothesis not supported)	Positive (Hypothesis supported)	Positive (Hypothesis not supported)
Legal stress	Hypothesis: No relationship (Hypothesis not supported)	Positive (Hypothesis supported)	Positive (Hypothesis supported)

Figure 3.1: Depressive Episode lifetime by Legal Stress and Age at Immigration among Asian American Immigrants

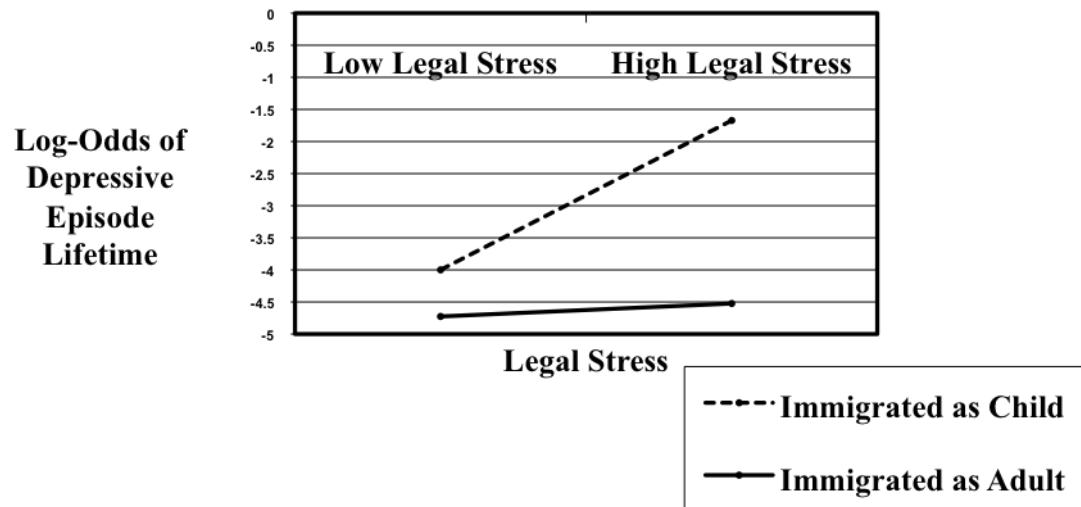
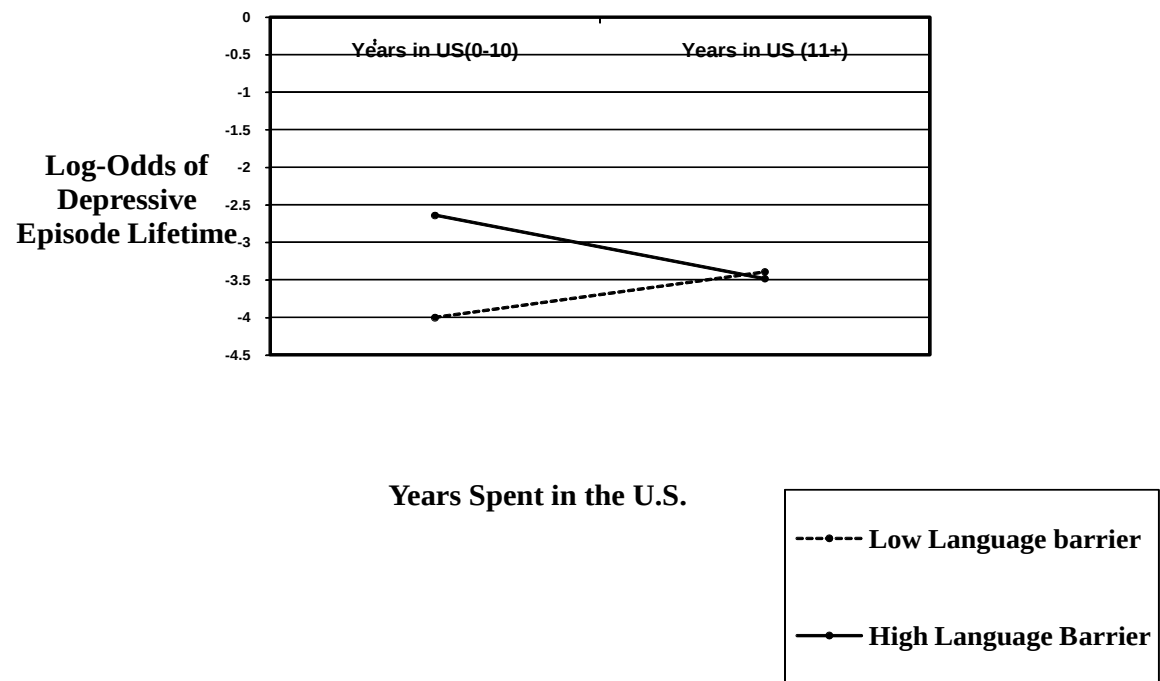


Figure 3.2: Depressive Episode lifetime by Language Barrier and Years spent in the US among Asian American immigrants



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Chapter IV

Acculturative stress, social support and psychological distress among Asian American Immigrants

Immigrating to a new country, culture, and environment poses a great challenge to the immigrants. As immigrants acculturate, risk for mental health might increase as a result of exposure to acculturative stress, and loss of culturally mediated and protective social resources, such as, strong family relations, cultural values, and social networks (Escobar, 1998; Escobar & Vega, 2000; Berry, 2005; Hwang et al., 2005; Hwang & Myers, 2007). Empirical research on the effect of social support on how acculturative stress affects mental health is lacking among Asian Americans. Therefore, the purpose of this study is to examine the impact of social support on the relationship of acculturative stress and psychological distress among Asian American immigrants. This investigation will also explore variation in the distribution of distress found among three Asian ethnic groups.

Psychological Distress

In 2008, the Substance Abuse and Mental Health Services Administration (SAMHSA) published a report on serious psychological distress (an overall indicator of past-year mental health problems such as anxiety and/or mood disorders) based on its 2007 National Survey on Drug Use and Health (NSDUH). This report found that 10.9% of adults aged 18 or older (24.3 million people) experienced serious psychological distress in the past year. The report also showed that 7.2% Asians had serious

psychological distress in comparison to 11.4% of Whites. For Asian Americans, the rate of psychological distress increases with lower levels of income (NSDUH, 2008).

However, Asian Americans have been noted to underreport their levels of psychological distress because of cultural values related to emotional restraint, which may explain the lower rates of psychological distress seen among this group (Okazaki, 2000; Sandhu, 1997; Sue & Sue, 2003).

Acculturative Stress

When the immigrant's adaptive resources are not sufficient to support the adjustment in a new culture, acculturative stress occurs (Williams & Berry, 1991). The concept of acculturative stress is rooted in the stress and coping theory, where people adapt to negative stressful life events by engaging in various coping strategies (Lazarus & Folkman, 1984). From this theoretical perspective, acculturation experiences can be either advantageous by providing opportunities to the immigrant, or deleterious, by exposure to stressful experiences like discrimination. When immigrants experience great levels of conflict and the experiences are appraised as problematic, acculturative stress results.

The most often reported stress by immigrants is fear surrounding legal status. In the current political environment, influenced by the terrorist attacks of September 11th, 2001, fear of deportation, being held and questioned about their legal status has lead immigrants to underuse health services (Park & Park, 2005). Another important stress experienced by immigrants is discrimination in finding employment, which includes feelings of loss of respect. Ethnic discrimination targeting immigrants has had a negative effect on physical and mental health (Noh & Kasper, 2003).

Immigrants also report difficulty in learning a new language and using it with proficiency, and understanding the use of U.S. slang in everyday life. There is great variation in English language skills among the Asian American immigrants. Immigrants from Philippines and South Asia tend to have very good English speaking proficiency. The difficulty does not usually lie in their language skills but in their language interactions with other Americans. The immigrants may not be familiar with the American accent, and moreover the context in which certain words are used in different cultures make comprehension difficult. This can lead to difficulties in conversations with the health care providers, even among those Asian Americans who possess proficient English-speaking skills.

Social Support Theory

Research on social relationships and health was first documented in the works of Durkheim, who demonstrated a link between social isolation and reduced psychological well-being (Durkheim, 1951). Since then, studies exploring the importance of social networks and social support on health have grown tremendously. Social networks refer to “person-centered web of relationships” and social support refers to the “important functions of the social relationship” (Israel & Rounds, 1987). Social support has been shown to be related to the mental health of individuals. Social support also provides a powerful resource for individuals experiencing stressful life changes, particularly the stress of adjusting in a new culture (Mirsky, 2009; Mallinckrodt & Leong, 1992). However, relatively little research has been done on social support in relation to acculturative stress among Asian American immigrant population.

There are various mechanisms through which social support may have an impact on health. First, there is a direct main effect of social support on health due to enhancing one's sense of belonging, companionship and reassurance of self worth regardless of stress levels (Heaney, 2002). This means that people who have high social support have better mental health than those who report low social support. For example, immigrants coming to U.S. to join family members have resources such as, initial financial support, help in looking for jobs and introduction into community networks, that may facilitate better access to health information and resources that ultimately leads to better health among the immigrants. In contrast, immigrants who come to U.S. as refugees are assisted by the federal services to settle in a new community, but no attention is paid to factor like similar ethnic density in the neighborhood, and furthermore support services are provided for only first three months to the refugees. These factors make it difficult for refugees to find social support and network with their ethnic community, which leads to poorer reports of mental health among this group (Simich et al., 2005).

Second, social support has shown an indirect impact on health as explained by the stress-buffering model of social support, which proposes that social support influences the health of individuals by buffering the adverse effects of stressful life events (Barrera, 2000; Cohen & Wills, 1985) According to this stress-buffering model (Cohen et al., 2000) adverse effects of the stressors on health can be reduced if an individual feels that others in their social network will provide support or resources necessary to cope with the stressor. For example, newly employed immigrants who have a supportive supervisor who ensures that these immigrants obtain adequate training to learn job related skills may reduce the impact of work related acculturative stress on the mental health. These

compares to increase family conflict within immigrant families due to reversal of gender roles in the new country where female might start working or are the sole bread earner in the family, and increase conflict between parents and their American –born children that may increase the stressors experienced by the individual and result in poorer mental health. Despite the theoretical centrality of social support to the acculturation process and multiple researches on the direct and buffering effects of social support, relatively little has been done to investigate the impact of social support in relation to acculturative stress and mental health.

The presence of social support at both individual and community level may decrease exposure to stressors and enhance mental health. Social support has potential beneficial effects on health behaviors where interpersonal exchanges influence the individual to make healthier choices, like getting flu shots or preventive screening from diseases (Takizawa, et al., 2007). Social support may assist immigrant access new contacts and information that help in identifying and solving problems in the settlement process. This increases sense of personal control over specific life situations and helps decrease the intensity of stress for the individual. Similarly, it is suggested that strengthening social support within community members may provide further resources to the community and increase their capacity for control (Minkler, 1985). This leads to a healthier community that can advocate for better health for its community members.

The beneficial effects of social support from the social networks of immigrants, including kin and non-kin networks, have also been examined in social epidemiology (Kawachi & Berkman, 2000). It has been theorized that better health indicators among immigrant populations are due to strong family and community support systems. Higher

kin support from spouse and other family members has shown to be positively associated with better self-rated mental health, after controlling for language, education, income, and other demographic measures among Latinos (Mulvaney-Day et al. 2007). Similarly among Asian Americans, kin support was shown to be significantly associated with self-rated poor/fair mental health, after controlling for gender, age, marital status, and national origin (Zhang & Ta, 2009). Furthermore, Zhang & Ta revealed that strong intimate ties with kin members might be particularly protective for immigrants with lower SES and fewer resources. Collectively, these findings indicate that although cohesion within families is essential for all Asians Americans, it may have a stronger role for specific Asian subpopulations like the refugee immigrants, by decreasing exposure to stressors (Zhang & Ta, 2009).

Studies show that Asian immigrants have adapted significantly to the new host community, but have retained their traditional values concerning home, children, religion and marriage (Dasgupta, 1998; Naidoo, 1985; Sodowsky & Carey, 1987). Asian Americans have strong attitudes and behaviors that are family centered, and are more likely to use kin for emotional or instrumental support compared to other ethnic groups. The health advantage of Asian Americans, therefore, may be partially attributed to the centrality of family relationships and responsibilities (Chung, 2001). For example, exchange of assistance amongst generations is one of the indicators of family solidarity and cohesion among Chinese Americans (Liu, 1995). In light of the strong effect of kin social support on stress and health, I hypothesize that the effect of acculturative stressors on psychological distress will vary by level of kin social support.

A strong relationship with non-kin members often increases access to economic opportunity (Portes, 1998). Being in close networks of people from similar background can be beneficial in getting jobs, learning how to function in a new environment and accessing legal and economic support for recent immigrants. On the other hand, it is proposed that if the neighborhood or the social networks have limited resources, dependence on such support may not lead to better opportunities. Asian Americans rely heavily on support from extended non-kin members, which reflects the importance of the collective orientation in the Asian culture (Slonim, 1991). For example, it is often seen that Asian Americans business groups and ethnic organizations tend to employ friends and people through social connections, that provide an important source of social support to one another (Kim & McKenry, 1998).

Few studies among Latinos show that social support from non-kin members is considered to have more beneficial impact on mental health than support from kin members (Myers et al., 2003; Vega et al., 1998). Similarly among Asian Americans, friend support was significantly associated with self-rated poor/fair mental health, after controlling for gender, age, marital status, and national origin (Gellis, 2003; Zhang & Ta, 2009). In light of the strong effect of non-kin social support on stress and health, I hypothesize that the effect of acculturative stressors on psychological distress will vary by level of non-kin social support.

Summary of Hypotheses

Based on the literature review and gaps observed, the following hypotheses are proposed to investigate the effect of acculturative stress and social support on psychological distress.

1. Acculturative stress (legal stress, language barrier, and discrimination) will have a main positive effect on psychological distress among Asian American immigrants. Specifically, higher psychological distress will be seen in immigrants with higher acculturative stress. Immigrants who endorse fear of deportation or being questioned about their legal status appraise their situation as being more stressful, which predicts higher psychological distress. Similarly, immigrants who are not fluent in English and as a result have difficulties with spoken interactions should have a harder time accessing resources and approaching health services. Such difficulties may in turn lead to higher psychological distress. Immigrants, who are exposed to discrimination at work places, feel loss of respect in the new culture or feel they are treated badly because of their Asian accent are exposed to more stress that results in higher psychological distress.
2. The effect of acculturative stress on psychological distress will vary as a function of by two types of social support. The effect of two types of social support, kin and non-kin, will be assessed.
 - a) Specifically, the positive relationship between all acculturative stresses and psychological distress will be stronger among immigrants who endorse low kin social support in comparison to those who have high kin social support. This hypothesis is based on the assumption that immigrants are exposed to more stress if they do not have support and resources from family members that buffers them from the impact of acculturative stress on psychological distress (Takizawa et al., 2007). On the other hand,

immigrants who have family members that can provide emotional, financial and informational support will find it easier to settle in a new environment.

- b) The same relationship with respect to non-kin social support is expected. Specifically, the positive relationship between all acculturative stresses and psychological distress will be stronger among immigrants who have less non-kin social support in contrast to immigrants who have high non-kin social support. This hypothesis is based on the assumption that immigrants are exposed to more stress if they do not have support and resources from friends and community members that buffers them from the impact of acculturative stress on psychological distress (Gellis, 2003). On the other hand, immigrants who have non-kin members that can provide informational and emotional support will be better able to negotiate their way in the new environment.

- 3. The main effect of acculturative stress (legal stress, language barrier, and discrimination) on psychological distress will be examined among the three Asian American immigrant ethnic groups: a) Vietnamese, b) Chinese, and c) Filipino and the following hypotheses are proposed:

- a) Among Vietnamese respondents, language barrier and discrimination will have a positively related to psychological distress. Alternatively, legal stress will have no relationship to psychological distress. English is not a primary language for this group and as a result, English is not spoken much among the Vietnamese. Therefore, language difficulty is expected to

be a significant predictor of major psychological distress among the Vietnamese. Similarly among Vietnamese respondents, discrimination is expected to show a significant positive relationship to psychological distress. As a result of their comparatively lower socio-economic position (i.e., employed in low wage earning positions) and their relatively diminished ethnic enclaves, Vietnamese immigrants who experience workplace discrimination will show increased mental health disorders (Amason, et al., 1999). Finally among Vietnamese respondents, the effect of acculturative stress, legal stress will not exert any influence on psychological distress. Vietnamese immigrants mostly came as refugees in comparison to other ethnic groups and were immediately given residency status in the U.S. as per the United Nations High Commissioner for Refugees (UNHCR) convention agreement in 1951 (Hing, 1993). Therefore, legal worries are not expected to be a significant predictor of psychological distress among the Vietnamese ethnic group.

- b) Among Filipino respondents, legal stress and discrimination will have a positively related to psychological distress. Alternatively, language barrier will have no relationship to psychological distress. Filipinos migrating to the U.S. tend to have high levels of education and belong to a high socio-economic status. As a result, Filipinos possess many social resources available to them when they migrate (Le Espiritu, 1992). But these Filipino immigrants face the long and complex process of visa process as they search for better job opportunities and are sponsored by their

employers. Therefore, legal stress is expected to show a significant positive relationship to psychological distress among Filipinos. In addition, workplace discrimination is a significant source of stress for the immigrants competing in the labor markets (Francis & Albert, 2007). So among Filipino respondents, discrimination will be positively related to psychological distress. Finally among Filipino respondents, language barriers will show no relationship to psychological distress. Filipinos are more likely to be fluent in English as it is a predominant language spoken in their country.

- c) Among Chinese respondents, language barrier, legal stress and discrimination will have a positively related to psychological distress. Chinese Asian immigrants were among the first Asian immigrants to arrive in the U.S. and have established large ethnic enclaves and communities in many cities of the U.S. (Biing-Jiun & Takeuchi, 2001). Newer immigrants tend to live in these enclaves and communicate in their Chinese dialect mostly, which leads to poor English language skills. Therefore, language difficulty is expected to be a significant predictor of psychological distress among the Chinese group. As Chinese immigrants move out of their communities for work, they may experience discrimination due to their accent issues or increased competition in the labor markets that may lead to psychological distress. So, discrimination will be positively related to psychological distress. Similarly Chinese immigrants mostly are migrating for better job opportunities, and so are

sponsored by their employers to come to U.S. and exposed to lengthy visa processes. Therefore, legal stress is expected to show a significant positive relationship to psychological distress among Chinese group.

Table 4.1 briefly summarizes the hypothesized relationship of acculturative stresses, language barriers, discrimination, and legal stress and psychological distress within the three Asian American immigrant groups, Vietnamese, Filipino and Chinese.

Research Methods

The Collaborative Psychiatric Epidemiology Surveys (CPES), with support from the National Institute of Mental Health (NIMH), were initiated in recognition of the need for contemporary, comprehensive epidemiological data regarding the distributions, correlates, and risk factors of mental disorders among the general population with special emphasis on minority groups. The primary objective of the CPES was to collect data about the prevalence of mental disorders; impairments associated with these disorders, and their treatment patterns from representative samples of majority and minority adult populations in the United States. Secondary goals were to obtain information about language use and ethnic disparities, support systems, discrimination, and assimilation, in order to examine whether and how closely various mental health disorders are linked to social and cultural issues. To this end, CPES developed three nationally representative surveys: the National Comorbidity Study-Replication (NCS-R), National Survey of American Life (NSAL), and National Latino and Asian American Study (NLAAS).

This research project used The National Latino and Asian American Study (NLAAS), which is a nationally representative community household survey that estimates the prevalence of mental disorders and rates of mental health service utilization

by Latinos and Asian Americans in the United States. This is the first survey of mental health, service use, and social conditions among several ethnic Asian groups using a nationally framing sample to select interview respondents (Alegria et al., 2004).

The NLAAS survey was administered to a sample of non-institutionalized Asian American adults' aged 18 or older residing in households located in the 48 coterminous U.S. States, Alaska, Hawaii, and Washington D.C. The NLAAS Asian sample comprises of the NLAAS Core sample, designed with 63 PSU nationally representing the entire U.S. Asian American adult population and the NLAAS High-Density (HD) supplemental sample, which consists of geographic areas with greater than five percent residential density for three individual Asian national origins groups of interest, Vietnamese, Filipino, and Chinese. The interviews took place between May 2002 and December 2003.

The Asian American survey population was stratified based on eligible adults' ancestry or national origin. This stratification of the NLAAS survey populations relied on self-reports by household members at the time of the household screening. In cases where a member of the survey population reported belonging to more than one Asian American target population, the following order of priority was used to assign individuals to a single group for the purpose of the stratified sample selection: Vietnamese, Filipino, Chinese and Other Asian. Institutionalized persons including individuals in prisons, jails, nursing homes, and long-term medical or dependent care facilities were excluded from the study populations. When the NLAAS HD samples of targeted national origin groups were properly weighted for sample inclusion probabilities and pooled together with the NLAAS core sample, it provided a representative sample of the entire national Asian American adult population (Heeringa et al., 2004).

The NLAAS has a total sample size of 2,095 Asian American adults, with four ethnic groups: 520 Vietnamese, 600 Chinese, 508 Filipino, and 467 Other Asians (comprising of respondent from other Asian countries). Recognizing that language barriers may discourage survey participation for minorities who do not speak English, or are not fluent in English, the NLAAS instrument was translated into three Asian languages: Chinese, Tagalog and Vietnamese. Each interview was conducted in the language the respondent preferred (Pennell et al., 2004).

This research project includes only Asian American immigrant respondents in the sample. The total sample size is 1,639, with 502 Vietnamese, 349 Filipinos, 473 Chinese, and 315 Other Asians. In this study, immigrants¹¹ are defined as the foreign-born population residing the United States, which include legal permanent residents, naturalized citizens, temporary immigrants, refugees and aslyees, and undocumented /illegal immigrants.

Dependent variable

Psychological distress

The Kessler Psychological Distress Scale (K10) to measure psychological distress was used (Furukawa et al., 2003). This scale measured the amount of distress experienced by responded during the last 30 days. Psychological distress scale was created from 10 questions that were rated on a 5-point Likert scale ranging from: all of the time, most of

¹¹There is no commonly agreed framework for defining and categorizing immigrants. The legal definition of an immigrant is not necessarily the same as used by researchers. According to the U.S. Citizenship and Immigration Services, immigrant is usually classified as a permanent resident alien; in contrast the Immigration and Nationality Act broadly defines immigrant as any alien or foreign born non-citizen, and naturalized or native-born children of legal /illegal immigrants as citizen and not immigrants (Vernez et al., 1997). However, the researchers argue that these naturalized or native-born children should be included in the immigrant group as there are in the U.S. due to the federal immigration policies. As this study investigates the stressors faced by immigrants and the immigration related factors, I define immigrants as foreign-born population residing in the U.S. and included naturalized citizens but exclude the native-born children.

the time, some of the time, a little of the time or none of the time. This variable was coded as a continuous variable, where scores ranged from 0 being the least distressed and 100 being the most distressed with Cronbach's $\alpha = .90$.

1. During the last 30 days, about how often did you feel depressed?
2. During the last 30 days, about how often did you feel so depressed that nothing could cheer you up?
3. During the last 30 days, about how often did you feel hopeless?
4. During the last 30 days, about how often did you feel restless or fidgety?
5. During the last 30 days, about how often did you feel so restless that you could not sit still?
6. During the last 30 days, about how often did you feel tired out for no good reason?
7. During the last 30 days, about how often did you feel that everything was an effort?
8. During the last 30 days, about how often did you feel worthless?
9. During the last 30 days, about how often did you feel nervous?
10. During the last 30 days, about how often did you feel so nervous that nothing could calm you down?

Independent Variable

Acculturative stress

The questions of the Acculturative Stress scale in the data were taken from the Mexican American Prevalence and Services Survey (MAPSS) (Vega, et al., 1998). The acculturative scale in MAPSS was used to measure the stress of culture change that results from immigrating to the United States and has been tested mostly with Mexican American samples. A series of questions focus on respondent's experiences upon

stressors during acculturation: discrimination, fear of deportation, limited contact with family and friends, and difficulties with the English language. The MAPSS originally adapted these items from the Occupational/Emotional Stress subscale of the Hispanic Stress Inventory (HSI) (Cervantes, Padilla, & de Snyder, 1991).

The Acculturative Stress scale in NLAAS was measured with three individual sub-scales measuring legal stress, discrimination and language difficulties. Individual item responses were dichotomous (yes/no), where yes is coded as 1 and no responses coded as 0. Total possible scores ranges from 0-3 for legal stress (Cronbach's $\alpha = .63$), for discrimination 0-3 (Cronbach's $\alpha = .65$), and 0-1 for language difficulties. Response scores were further dichotomized as any versus none level of acculturative stress for each of the three scales. The reference group for each measure was the individuals who did not experience the specific acculturative stress. Question for each sub-scale were as follows:

Legal stress:

- Have you been questioned about your legal status?
- Do you think you will be deported if you go to a social or government agency?
- Do you avoid seeking health services due to fear of immigration officials?

Discrimination:

- Do you find it difficult to find the work you want because you are of Asian descent?
- Do you feel that in the United States you have the respect you had in your country of origin?

- Do people treat you badly because they think you do not speak English well or speak with an accent?

Language Difficulties:

- Do you find it hard to interact with others because of difficulties you have with English language?

Social Support

This variable included information about support from kin and non-kin. The responses range from most every day, a few times a week, a few times a month, about once a month, or less than once a month for the first question in kin and non-kin social support. The rest of the questions had response ranges from- a lot, some, a little, or not at all. This variable was coded as continuous where scores ranged from 0-20, 0 meant no support and 20 meant highest support with Cronbach's $\alpha = .59$ for kin social support and Cronbach's $\alpha = .71$ for non-kin social support.

Kin Social Support:

- How often do you talk on the phone or get together with family or relatives who do not live with you?
- How much can you rely on relatives who do not live with you for help if you have a serious problem?
- How much can you open up to relatives who do not live with you if you need to talk about your worries?
- How often do your relatives or children make too many demands on you?
- How often do your family or relatives argue with you?

Non-kin Social Support:

- How often do you talk on the phone or get together with friends?
- How much can you rely on your friends for help if you have a serious problem?
- How much can you open up to your friends if you need to talk about your worries?
- How often do your friends make too many demands on you?
- How often do your friends argue with you?

Control variables

Immigration Related Factors

The several major immigration-related factors examined in this study are: reasons for immigration, age at immigration, and life spent the U.S. since immigration.

Reasons for immigration: In this section the following questions were asked. Respondents rated each as: very important, somewhat important, or not important at all. Three main groups were identified based on these questions.

- Seek refugee- you or your family was persecuted for political reasons.
- Job Opportunities- to find employment or a job.
- Join family- to join other family members.

Age at immigration: Age of coming to the U.S. was coded into five groups in the dataset, US born, less than 12 years, 13-17 years, 18-34 years and 35 years and above. In this study we are primarily interested in the understanding the implications of immigrating as a child or an adult. Therefore, the above groups were recoded into two categories: 0-17 years olds and 18 years and above.

Years spent in the U.S.: Years spent in the U.S. was coded into five groups in the dataset, US born, 0-5 years, 6-10 years, 11-20 years and 21 years and above. In this study we are primarily interested in the understanding the difference in the immigrants who are still in the process of settling and negotiating the visa procedures versus who have hopefully resolved their visa issues. Therefore, the above groups were recoded into two categories, 0-10 years and 11 years and above.

Age

Age reflects respondents' age at last birthday and is presented as continuous in the data.

Gender

This dichotomous variable based upon self-reported sex is coded as male or female, with males as the reference group.

Education

This variable is coded as a categorical variable according to the respondent's years of schooling and educational attainment. The variable has four categories: some high school (0-11 years), high school graduate (12 years), some college (13-15 years), and college graduate and above (16 years +).

Marital Status

Marital status is coded as categorical where married respondents serve as the reference group (0), and never married is coded as (1), and widowed or separated or divorced as (2).

Household Income

Household income is a continuous variable in the dataset. In this study it was recoded as a categorical variable based on self-reported data into the following groups- less than \$25000, between \$25001 - \$50000, between \$50001 - \$75000, and above \$75001.

Work status

Currently employed is coded as a categorical variable, where respondents has a job at the time of interview serve as the reference group (0), and unemployed is coded as (1) and not in the labor market as (2).

Analysis

The first step in analyses focuses on investigating the association of acculturative stress and psychological stress. As the dependent variable is continuous, regression techniques were used to assess the above association. Survey design effects (stratum, cluster, and individual weights) were taken into account throughout the analyses to make the weighted sample represent the target national population and the estimation of confidence intervals in the presence of stratification and clustering. I used $\alpha = .05$, without rounding for interpreting the results. All analyses were carried out using the statistical software STATA 10.

Three regression models were run for the total Asian American adult immigrant population that show the main effects of acculturative stress, demographics, and select covariates on psychological distress. Similar, regression models were run for three main Asian American immigrant ethnic groups, Vietnamese, Filipinos, and Chinese to show the main effects of acculturative stress, demographics, and select covariates on psychological distress. Model 1 is a demographic model that shows the association

between acculturative stress, legal stress, discrimination and language barrier, along with age, gender, marital status, household income, education, and work status on psychological distress. Model 2 accounts for both demographic factors and important covariates, immigration related factors (reason to immigrate, age at immigration and years spend in U.S.) and social support (kin and non-kin) that have shown to buffer the negative effects of acculturative stress on psychological distress (Vega et al., 1998). Finally, Model 3 represents the full model and introduces the interaction term between acculturative stress and social support (kin and non-kin). In addition, logistic regression models were run for three main Asian American immigrant ethnic groups, Vietnamese, Filipinos, and Chinese to show the main effects of acculturative stress, demographics, and select covariates on psychological distress.

Results

Tables 4.2 provide the descriptive statistics for key demographics and independent variables for the NLAAS adult Asian American immigrant sample. These characteristics were previously summarized in chapter 3. Table 4.3 describes the mean scores of the key variables of acculturative stress and social support in the study population. Bivariate analyses examined the relationship between acculturative stress and social support as shown in table 4.4. Here kin social support was significantly associated with higher language barriers and higher discrimination stress but was not related to legal stress. Non-kin social support was significantly associated with all the acculturative stresses: language barriers, legal stress and discrimination.

Table 4.5 shows results from tests of first and second hypotheses that assessed for the effect of acculturative stress, kin and non-kin social support, immigration related

factors and demographics on psychological distress for the total Asian American immigrant sample. Model 1 includes acculturative stress in addition to the demographic variables of age, gender, marital status, household income, education, and work status. Results from Model 1 show a positive, main effect ($p < .05$) for language barriers and discrimination on psychological distress. Endorsement of any language barriers and any discrimination stress increases the level of psychological distress. However, legal stress is not associated with psychological distress. Marital status is related significantly to psychological distress, respondents who are divorced or widowed or separated have higher levels of psychological distress than those who are married. In addition, women reported having statistically higher level of psychological distress than men in this study sample.

Model 2 includes other covariates of interest: kin and non-kin social support and three immigration related factors; reason to immigrate, age at immigration, and years spent in U.S. There is a significant ($p < .05$) negative association of kin social support on psychological distress. Increasing kin social support decreases the levels of psychological distress after controlling for the demographic and other covariates. Non-kin social support did not show any association with psychological distress. Language barriers and discrimination are significantly related to psychological distress, though legal stress did not show any association. Women continued to have significantly higher levels of psychological distress than men, as did the non-married (i.e., widowed, separated, or divorced) in comparison to the married. Immigration related factors are not significantly associated with psychological distress.

Model 3 tests the moderating effect of kin and non-kin social support on the relationship of the acculturative stress and psychological distress. Non-kin social support buffers the impact of discrimination on psychological distress. Specifically, the effect of any discrimination on psychological distress is buffered as kin support increases. This moderating effect of non-kin social support on the relationship of discrimination and psychological distress is illustrated in Figure 4.1. No other interactions were significant between other acculturative stresses and social support.

Table 4.6 shows results from test of the third hypothesis that assessed for the main effect of the acculturative stress on psychological distress separately for three major Asian ethnic immigrant groups: Vietnamese, Filipino, and Chinese. Results for Vietnamese ethnic group show a positive, main effect ($p < .05$) for language barriers on psychological distress. However, legal stress and discrimination stress were not associated with psychological distress. For marital status, being never married and divorced, widowed or separated was associated ($p < .01$) with psychological distress. There is a significant ($p < .05$) positive association between years spent in the U.S. and psychological distress for the Vietnamese. Vietnamese immigrants, who have lived longer than 10 years in the U.S., have statistically decreased levels of psychological distress. There is also a significant ($p < .01$) negative association of kin social support on psychological distress. As kin social support increases the level of psychological distress decreases net of all covariates for Vietnamese respondents. No association is noted for non-kin social support and psychological distress.

Results for Filipino ethnic group show positive, main effect ($p < .05$) for discrimination on psychological distress. Endorsement of any discrimination stress

increases the levels of psychological distress. However, no significant association of legal stress and language barriers on psychological distress is noted. Respondents who said that they were divorced, widowed or separated showed higher ($p < .01$) levels psychological distress than those who were married. There is a significant ($p < .05$) positive association between years spent in the U.S. and psychological distress for the Filipinos. Filipino immigrants, who have lived longer than 10 years in the U.S., have statistically decreased levels of psychological distress. No significant association is noted for kin and non-kin social support and psychological distress for the Filipino immigrants.

Results for the Chinese group show no significant association for legal stress and language barriers to psychological distress, except discrimination. Endorsement of any discrimination stress increases the levels of psychological distress. Similar to the other two ethnic groups, divorced, widowed or separated respondents show higher psychological distress than the married ($p < .05$). In addition, respondents who graduated from high school and who had some college degree reveal higher ($p < .05$) psychological distress than those who had only some high school experience. There is a significant positive association between seeking refugee status as a reason to immigrate and psychological distress for Chinese immigrants ($p < .05$). There is also a significant positive association between age at immigration and psychological distress ($p < .01$); those immigrating to U.S. as a child (0-17 years) have a statistically lower level of psychological distress in comparison to those who immigrated after the age of 18 years. There is also a significant ($p < .05$) negative association of kin social support on psychological distress. Increasing kin social support decreases the level of psychological distress. No association is noted for non-kin social support and psychological distress.

Finally, table 4.7 summarizes the results relevant to hypothesis three, indicating which hypotheses were supported and which were not among the three ethnic groups.

Discussion

In this chapter, the effect of kin and non-kin social support on the relationship of acculturative stress and psychological distress among Asian American immigrants was examined. The findings confirmed partially the primary and secondary hypotheses. Specifically, the results demonstrated significant positive association between two acculturative stresses, language barriers and discrimination stress, and psychological distress. However, legal stress was not related to psychological distress in this sample of Asian immigrants.

These findings are consistent with the stress perspective, where research has shown that discrimination stress is associated with a variety of physical and mental health outcomes (Gee, Chen, Spencer & See, 2006; Krieger, 1999; Williams, Neighbors & Jackson, 2003). However, in the current research it is noted that discrimination stress is significantly and positively associated with psychological distress, but not with depressive episode lifetime as tested in the chapter 3. This may be due to the specific questions that were asked to assess discrimination for immigrants - loss of respect, accent issues and work issues. These issues may be causing distress to Asian American immigrants but not severe enough to lead to a diagnostic mental disorder.

Similarly, language difficulties and language proficiency have been cited as an important factor in explaining underutilization of health services by Asian Americans (USDHHS, 1999). This study adds to the information that is available about the language skills measurement in research among Asian group. Emphasis was given to interaction

with others because of difficulties with English language, as there is great variation in English language skills among the Asian American immigrants. Immigrants from Philippines and South Asia tend to have very good English speaking proficiency. The difficulty does not usually lie in their language skills but in their language interactions with other Americans. These interaction difficulties may include: non-familiarity with the American accent and usage of terms and phrases that make it different to comprehend by individuals from other. This may lead to even proficient speaking Asian Americans in having difficulties in their conversation with the health care providers. Therefore, language barriers' positive association with psychological distress proves that interaction with others in English language is a significant source of distress for all Asian American immigrants.

In addition to the partial support found for the primary hypotheses, support for my secondary hypotheses also showed a lot of variability. The main effect of acculturative stress on psychological distress was different among the three ethnic groups. Among the Vietnamese Asian group, significant positive relationship of language barriers to psychological distress was seen. Thus a difficulty in language interaction is a strong predictor of psychological distress, which is explained by reports of lower level of education and English not being a primary language among Vietnamese group. Contrary to earlier prediction, legal stress and discrimination was not significantly associated with psychological distress, and further exploration is needed to understand this inconsistency. However, it may be explained by the facilitation by the immigration policies to give permanent residency status to incoming refugees. This would help Vietnamese immigrants who came mostly as refugees in experiencing decreased legal stress and

hence decreased impact on psychological distress. Similarly discrimination stress question may not be capturing the kinds of discrimination being experienced by these immigrants.

Among Filipino group, results showed a significant association of discrimination to psychological distress only. Filipino Asian tend to be highly educated and come to the U.S. with better job opportunities and other resources that make their settlement and immigration process more easier. However, it also exposes them to higher job placements, higher job expectation when they finish schooling in the U.S., and interactions on the daily basis with other American ethnicities that may explain their reporting of discrimination as a significant source of psychological distress. Among Chinese group, results show that only discrimination stress was associated with psychological stress. This may be partially explained by the large numbers of Chinese community and Chinatown in the U.S. where incoming immigrants tend to find work and live. So, a difficulty in interacting with others in English language does not happen if they work mostly in a Chinese neighborhood or have Chinese colleagues. Similarly, due to increased number of Chinese ethnic enclaves, there is a strong support network to assist new immigrants with legal issues. These findings highlight the importance of exploring specific acculturative stress in mental health research among Asian Americans, while also paying attention to the variation that may exist between different ethnic groups. However, further investigations in exploring the reasons of the reported variability need to be conducted.

The next hypotheses examined the moderating effect of kin and non-kin social support on the relationship of acculturative stress and psychological distress for all Asian

American immigrants. Counter to my assumptions, only non-kin social support buffered the association of discrimination stress and psychological distress. Kin social support did not moderate the impact of any of the acculturative stresses on psychological distress. Similarly non-kin social support did not moderate the impact of acculturative stresses, legal stress and language difficulties, on psychological distress.

These finding maybe explained based on the argument presented by several researchers that the social and physical resources of a neighborhood or a community may be health promoting or health damaging (Kawachi & Berkman, 2003; Macintyre & Ellaway, 2003). These resources include physical features of the environment shared by the residents, like the quality of air and water; services provided to support people in their daily lives, like transportation, street lighting etc.; socio-cultural features, like the degree of community integration. Usually immigrant families have a similar legal status situation, where the primary adult has filed for visa and the rest of the family is dependent on the success of the visa process of that adult. Similarly, language skills are similar in the family as far as immigrants born outside the U.S. are concerned. Asian Americans born in the U.S. have better language skills due to their schooling in American schools. Therefore, people from the same families share the same stresses and resources, and may be unable to provide support that may buffer them from the impact of these stresses on psychological stress. However, the buffering action of non-kin social support on the relationship of discrimination and psychological distress maybe explained by the informational and emotional support provided by friends and non-kin. These non-kin members who immigrated before the incoming immigrants may not be able to solve the visa process issues or language difficulties, but decrease the effect of discrimination

stress by listening and understanding the issues faced in a new culture and hence, make the settlement and adjustment process easier to negotiate.

There are several limitations of the current research. First, this study used a cross-sectional survey and therefore does not allow us to make any causal inferences.

Therefore, we cannot say that exposure to stress causes psychological distress, for it maybe true the immigrants who are distressed may experience be more exposed to the stress in a new environment and culture. Secondly, in this study only a limited number of issues and concerns were examined as acculturative stress. An important factor to consider would be goal striving stress and social mobility that is experienced by immigrants. Most immigrants come in search of better opportunities for themselves and their future generations, therefore it is important to study the impact of pre-immigration expectations and post immigration achievements as reported by immigrants on mental health outcomes.

Finally, only three main ethnic groups in the NLAAS were identified, Vietnamese, Filipinos and Chinese. Other major ethnic groups like Korean, Asian Indian, and Japanese were grouped together in the “Others” group. This made it difficult to do more detailed analyses of the Others Asian group. Based on these limitations, it is important to be careful when extrapolating the current study findings beyond the scope of the sample, since variations exist in the adaptation process of other immigrant groups.

In conclusion, this study provides a first hand look at acculturative stress, social support, and psychological distress among a nationally representative sample of Asian immigrants. This may be instrumental in understanding the diverse experiences of

immigrants that may contribute in developing effective intervention and culturally appropriate communications by health professionals to address their mental health needs.

Table 4.1: Summary Table of the Relationship of three Measures of Acculturative Stress and psychological distress within three Asian Ethnic Groups

	Vietnamese	Filipino	Chinese
Acculturative Stress			
Language	Positive	No relationship	Positive
Discrimination	Positive	Positive	Positive
Legal	No relationship	Positive	Positive

Table 4.2: Demographic Characteristics of Asian American immigrants in the National Latino and Asian American Study (NLAAS) 2004, by gender and ethnicity

	All Asians		Vietnamese		Filipino		Chinese		Other	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Mean Age (years)	40.6	41.2	43.2	42.8	41.9	41.8	41.5	41.6	38.1	37.8
Region of Residence %										
Northeast	20.3	17.7	15.4	18.6	9.7	9.2	26.2	16.2	23.4	23.8
Midwest	9.2	8.5	2.8	1.8	7.9	6.6	5.8	10.6	16.2	11.0
South	7.2	9.9	21.2	15.6	5.8	9.3	2.1	4.8	5.7	12.1
West	63.2	63.9	60.6	64.0	76.6	74.8	65.9	68.4	54.7	53.1
Education %										
Some HS	15.6	19.6	23.9	41.0	11.7	15.6	19.5	22.1	10.3	9.5
HS Graduate	15.9	16.8	20.5	20.4	20.1	11.1	12.4	20.5	14.6	15.1
Some College	19.1	24.3	25.1	20.5	27.2	36.4	15.3	19.4	15.0	23.1
College Graduate	49.4	39.4	30.5	18.2	41.0	36.9	52.8	38.0	60.2	52.3
Marital Status %										
Married	73.4	74.3	68.8	77.1	84.2	74.0	72.1	69.9	70.8	77.0
Never Married	3.9	10.8	6.7	7.6	2.3	13.9	3.7	14.2	3.8	7.5
Widowed/Separated/Divorced	22.7	14.9	24.5	15.3	13.5	12.2	24.3	15.9	25.5	15.5
Household Income (annual) \$										
Mean	63,021	53,022	57,072	49,616	86,233	77,635	83,912	70,170	79,481	78,133
Median	47,500	35,499	39,598	32,500	78,699	62,500	75,249	49,249	65,000	64,999
Employment Status %										
Employed	72.7	55.0	73.4	53.8	67.9	66.6	71.3	57.1	76.4	46.7
Unemployed	5.6	7.3	8.1	8.5	6.5	4.1	4.5	6.7	4.7	9.1
Not in the labor force	21.7	37.7	18.5	37.7	25.6	29.3	24.2	36.2	18.9	44.2
Total Sample (N=1,639)	771	869	236	266	154	195	221	252	160	155

Table 4.3: Mean scores of key variables among Asian American immigrants by ethnicity, National Latino and Asian American Study (NLAAS) 2004

	All Asians		Vietnamese		Filipino		Chinese		Other	
	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
Psychological distress	1.374	.0146	1.336	.0216	1.305	.0181	1.443	.0221	1.371	.0329
Kin Social support	13.90	.1052	13.29	.1084	14.27	.1640	13.60	.1493	14.26	.2131
Non-kin Social Support	14.44	.0753	13.92	.1151	14.19	.1821	14.44	.1281	14.84	.1551
Legal Stress	.1819	.0154	.0465	.0119	.2406	.0235	.1519	.0177	.2403	.0333
Language Barriers	.3433	.0206	.5023	.0301	.1136	.0142	.4959	.0340	.2666	.0367
Discrimination Stress	.4477	.0210	.4459	.0307	.2747	.0204	.5598	.0356	.4484	.0437

Table 4.4: Association of Acculturative Stress and Social Support for Asian American Immigrants, National Latino and Asian American Study (NLAAS) 2004

	Legal Stress Coef. (S.E.) P-value	Language Barrier Coef. (S.E.) P-value	Discrimination Coef. (S.E.) P-value
Kin Social Support	.002 (.005) .638	-.108 (.005) .001	-.046 (.037) .004
Non-kin Social Support	.008 (.005) 0.045	-.025 (.005) .000	-.018 (.006) .022

Table 4.5: Regression of Acculturative Stress on Psychological Distress among Asian American Immigrants, National Latino Asian American Study (NLAAS) 2004

VARIABLES	Model 1 Coef. S.E.	Model 2 Coef. S.E.	Model 3 Coef. S.E.
Acculturative Stress			
Legal Stress			
No legal stress	Reference	Reference	Reference
High legal stress	0.024 0.024	0.027 0.023	0.129 .248
Language Barrier			
No language barrier	Reference	Reference	Reference
High language barrier	0.098** 0.037	0.084** 0.035	0.138 0.119
Discrimination			
No discrimination	Reference	Reference	Reference
High discrimination	0.893*** 0.033	0.071** 0.032	0.519** .2225
Age	0.001 -0.001	0.001 -0.001	0.001 -0.001
Gender			
Male	Reference	Reference	Reference
Female	0.0471** -0.014	0.063** -0.016	0.061*** -0.016
Marital Status			
Married	Reference	Reference	Reference
Never Married	-0.000 -0.031	0.005 -0.030	0.010 -0.030
Divorce/Widow/Separated	0.097*** -0.033	0.189*** -0.034	0.105*** -0.035
Household Income			
0-25,000	Reference	Reference	Reference
25,001-50,000	-0.024 -0.025	-0.027 -0.045	-0.030 -0.046
50,001-75,000	0.012 -0.029	-0.014 -0.044	-0.008 -0.045
75,001+	-0.004 -0.049	-0.008 -0.046	-0.008 -0.047
Education			
Some HS	Reference	Reference	Reference
HS Graduate	0.023 -0.023	0.069 -0.051	0.080 -0.053
Some College	0.031 -0.024	0.081 -0.053	0.088 -0.055
College Graduate	0.033 -0.027	0.042 -0.049	0.050 -0.053
Work Status			
Employed	Reference	Reference	Reference
Unemployed	0.013 -0.027	0.049 -0.047	0.049 -0.048
Not in Labor Market	0.0053 -0.028	0.010 -0.054	0.010 -0.057

Reason to immigrate			
Job Opportunities		0.0043	-0.002
		-0.018	-0.029
Join Family		-0.015	-0.021
		-0.014	-0.026
Seek Refugee		0.019	0.043
		-0.026	-0.047
Age at Immigration			
0-17 years		Reference	Reference
18+ years		-0.004	0.002
		-0.033	-0.037
Years Spend in the US			
0-10 years		Reference	Reference
11+ years		-0.021	-0.023
		-0.033	-0.033
Kin social support			
		-0.021***	-.019**
		0.005	.008
Non-kin social support			
		-0.004	.005
		0.005	.006
Interactions			
Legal Stress*Kin Social Support			-0.009
			-0.008
Legal Stress*Non-kin Social Support			0.005
			-0.008
Language Barrier*Kin Social Support			0.007
			-0.007
Language Barrier*Non-kin Social Support			0.005
			-0.00
Discrimination*Kin Social Support			-0.001
			-0.005
Discrimination*Non-kin Social Support			-0.0196**
			-0.006
Constant			
	1.200***	1.541***	1.366***
	-0.038	-0.086	-0.092

Notes: *** p<0.01, ** p<0.05

Table 4.6: Regression of Acculturative Stress on Psychological Distress among Asian American Immigrants by Ethnicity, National Latino Asian American Study (NLAAS) 2004

VARIABLES	Vietnamese Coef. S.E.	Filipino Coef. S.E.	Chinese Coef. S.E.
Acculturative Stress			
Legal Stress			
No legal stress	Reference	Reference	Reference
High legal stress	0.080 0.097	0.016 0.039	.132 .072
Language Barrier			
No language barrier	Reference	Reference	Reference
High language barrier	0.142** 0.089	0.129 0.084	0.027 0.047
Discrimination			
No discrimination	Reference	Reference	Reference
High discrimination	0.078 0.058	0.128** 0.064	0.102** 0.426
Age	0.0021 -0.0021	0.002 -0.002	-0.0008 -0.002
Gender			
Male	Reference	Reference	Reference
Female	0.0087 -0.029	0.019 -0.047	0.087 -0.063
Marital Status			
Married	Reference	Reference	Reference
Never Married	0.541*** 0.145	0.0155 -0.045	0.0041 0.045
Divorce/Widow/Separated	0.245*** 0.067	0.213*** 0.054	0.208** 0.046
Household Income			
0-25,000	Reference	Reference	Reference
25,001-50,000	-0.031 -0.024	0.068 -0.102	0.032 -0.067
50,001-75,000	-0.006 -0.045	0.132 -0.083	0.041 -0.071
75,001+	0.035 -0.043	0.106 -0.082	0.113 -0.066
Education			
Some HS	Reference	Reference	Reference
HS Graduate	0.122 -0.092	0.009 -0.073	0.163 0.081
Some College	0.149 -0.081	-0.112 -0.096	0.181** 0.079
College Graduate	0.0745 -0.068	-0.156 -0.085	0.029 -0.063

Work Status			
Employed	Reference	Reference	Reference
Unemployed	0.039	0.0713	0.056
	-0.087	-0.064	-0.072
Not in Labor Market	0.059	0.087	0.054
	-0.109	-0.089	-0.088
Reason to immigrate			
Job Opportunities	-0.026	-0.026	0.003
	-0.022	0.0952	0.056
Join Family	0.028	-0.019	-0.016
	-0.029	0.054	0.0421
Seek Refugee	0.057	0.153	0.168**
	-0.027	-0.084	0.065
Age at Immigration			
0-17 years	Reference	Reference	Reference
18+ years	-0.052	-0.09	0.160***
	-0.044	-0.063	0.054
Years Spend in the US			
0-10 years	Reference	Reference	Reference
11+ years	-0.156**	-0.128***	0.068
	0.072	0.042	0.033
Kin social support			
	-0.027***	-0.002	-0.024**
	0.009	0.009	0.008
Non-kin social support			
	-0.014	-0.016	-0.006
	0.011	0.011	-0.012
Constant			
	1.509***	1.596***	1.185***
	0.225	0.223	0.129

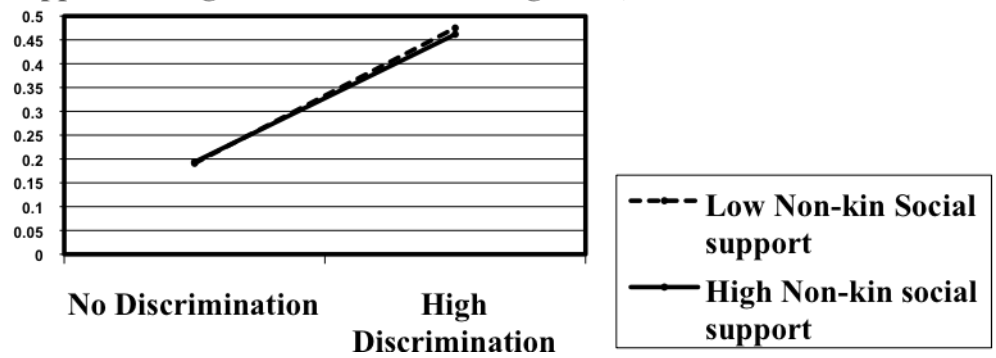
Notes:

*** p<0.01, ** p<0.05

Table 4.7: Summary Table of the Relationship of three Measures of Acculturative Stress and Psychological Distress within three Asian Ethnic Groups

	Vietnamese	Filipino	Chinese
Acculturative Stress			
Language	Hypothesis: Positive (Hypothesis supported)	No relationship (Hypothesis supported)	Positive (Hypothesis not supported)
Discrimination	Hypothesis: Positive (Hypothesis not supported)	Positive (Hypothesis supported)	Positive (Hypothesis supported)
Legal stress	Hypothesis: No relationship (Hypothesis supported)	Positive (Hypothesis not supported)	Positive (Hypothesis not supported)

Figure 4.1: Psychological Distress by Discrimination and Non-kin Social Support among Asian American Immigrants , NLAAS 2004



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Chapter V

Conclusion

This research focuses on the mental health effects of acculturative stress among adult Asian American immigrants. In addition, it centers on examining immigration policies that directly impact the characteristics of incoming immigrants and their resources, which significantly influences the relationship of stress experienced during their settlement phase to mental health. Although numerous studies on the association of immigration and physical health among Asian Americans have been done (Frisbie, Cho & Hummer, 2001; Marmot & Syme, 1976; Reed et al., 1982), relatively less is known about the relationship of immigration to mental health. Furthermore, not many have investigated immigration policies in the U.S. that determine the entry of immigrants and the level of difficulty with which they negotiate their immigration process. Also, most of these immigration studies have been done among the Latino population (Alegria, et al., 2004). So, the influences of immigration policies and acculturative stress on mental health among Asian Americans have remained indistinct and warrant more attention.

To understand the health of immigrants it is important to connect with their immigration histories, as this is not a one-time event. The success of this journey is determined by the reasons to immigrate and immigration policies of the receiving countries. There are many push and pull factors that influence the immigrant in deciding to move. These push factors can range from escaping from a region of political or social

conflict, dissolving communities or geographical countries, and failing economy in the country of origin. Pull factors may include reasons for economic growth, higher academic achievements, and joining family members who has immigrated before. Once the decision is made to immigrate, immigrants have to negotiate within the complex and stringent visa/immigration policies of the new country.

The contemporary structure of immigration to the U.S. was established in 1965, which erased limits set on immigration based on country of origin (Park & Park, 2005). It equalized immigration policies for immigrants from all countries that led to increased immigration from non-European countries. However, immigrant visas are now subjected to a per-country limit, set at 7% of the total annual number of incoming immigrants from that country, or 25,620 per country, divided proportionally among the preference categories (employment, family member, diversity, refugee and asylee) (Wasem, 2010). This has caused long backlogs in the immigration process and the only countries using up their 7% maximum each year are India, China, Philippines and Mexico. This means that immigrants from three major Asian countries have to wait about 6-8 years to achieve residency status (Park & Park, 2005).

In addition, with the passage of Antiterrorism and Effective Death Penalty Act (AEDPA) and the Illegal Immigration Reform and Immigrant Responsibility Act (IIRARA) in 1996, many categories of criminal activity, such as shoplifting, can lead to mandatory detention and deportation of immigrants and permanent residents (Wasem, 2010). Since the September 11th. terrorist attacks in New York, these laws applied more forcefully and created an environment of fear for the immigrants living in the U.S.

These issues highlights that all immigrants are not uniform in their immigration experiences and resources when coming to the new country. Rather, much diversity is seen not only at individual level of resources, but also at structural level of support given by the receiving country. Individual level resources examined in this study are age at immigration, time spent in the U.S., and social support from family and friends, and a structural level resource examined is reason for immigration that includes joining family members, job opportunities, and seeking refugee status.

The investigation of these processes is further examined in light of the theoretical perspective of acculturation. This process explores the changes that occur when cultures interact with each other. Current researchers have expanded the understanding of acculturation as a multidimensional process (Berry, 1997; Berry & Ward, 2006; Hunt, Schneider, & Comer, 2004). It is no longer understood to be a linear assimilation into the western culture by adopting its values, beliefs, and behaviors as the only outcome. Rather, it is a dynamic, multidimensional process that is influenced by the interactions between cultures and results in multiple outcomes or strategies that are adopted by the immigrants. These strategies are dependent on the context of situation; for example, immigrants may adopt western ways of clothing in their workplace but may adhere to their traditional norms at home. These strategies are also dependent on the reception of the host culture, which implies that if the host culture promotes a multicultural society then incoming immigrants are encouraged to adopt an integration approach versus an assimilation approach. This study is based on the premise that acculturation process is multidimensional, where Asians American immigrants choose to adopt the new culture to varying degree as well as maintain their cultural heritage (Sam & Berry, 2006). However

it is important to note that irrespective of the strategies adopted, immigrants still face stress in the new culture that may or may not impact mental health.

Building from Berry's theories of acculturation (1997), conflict arising during the adjustment process between the dominant and non-dominant cultures has been termed acculturative stress. These stresses have usually been examined in previous studies as an individual level construct, such as, employment difficulties, language proficiency, and food preferences of immigrants (Furukawa, 1994; Lu, 1996). In this research, acculturative stresses of more structural nature are explored, in particular, discrimination and legal stress. Furthermore, acculturative stress of language barrier is also examined in terms of interaction between immigrants and native English speaking Americans, not just as a personal characteristic of the immigrant. Hence examination of these micro and macro level acculturative stresses, lead to the identification of new sources of acculturative stress that help in expanding the current knowledge in the acculturation research field among Asian Americans.

Therefore, this research explores potentially new contributing factors to mental health disorders experienced by Asian American immigrants, that may explain the increasing mental health disparities between groups (Blank, 2001). The findings in this study have broader implications for understanding the struggle of achieving the "American dream" in the context of the immigration experiences and exposure to stress among a minority group. Furthermore, it also has implications for designing effective social service programs for Asian immigrants and further examination of government policies related to immigrants and immigration.

Summary of Research Findings

This research project used The National Latino and Asian American Study (NLAAS), which is a nationally representative community household survey that estimates the prevalence of mental disorders and rates of mental health service utilization by Latinos and Asian Americans in the United States (Alegria, et al., 2004). The primary research question this study investigated was whether having any acculturative stress that included legal stress, language barriers, and discrimination, increased the probability of major depressive episode lifetime and psychological distress among Asian American immigrants. Additional research question asked whether the relationship of acculturative stress to depressive episode lifetime varied as a function of immigration related factors, age of immigration and time spent in the U.S. The next research question examined if the relationship of acculturative stress to psychological distress varied as a function of kin and non-kin social support. Finally, the last research question tested the main effect of acculturative stress on depressive episode and psychological distress among three Asian ethnic groups, Vietnamese, Chinese, and Filipino.

Consistent with the primary research question, this research showed that acculturative stress, legal stress and language barrier were significantly and positively associated with major depressive episode lifetime, however discrimination stress showed no relation to depressive episode among Asian American immigrants. In addition, significant positive association between psychological distress and acculturative stress of language barriers and discrimination was seen, however legal stress failed to show a significant association to psychological distress among Asian American immigrants.

Very few studies have examined the relationship of legal stress to mental health, and the main reason for this gap in literature is high sensitivity of the legal status question. Reports of legal status are subject to response factors, such as social desirability bias, which is caused by the tendency of people to respond to surveys in ways that presents them in a favorable way (Pauls, Wacker & Crost, 2005). So, immigrants concerned about protecting their self-image or who do not want to expose themselves may underreport legal issues. Social desirability may also be related to a behavior that is especially relevant for Asian populations, i.e. "loss of face" (shaming of oneself or one's family) (Zane & Yeh, 2002). Therefore, this study did not directly ask respondents about their visa status, rather they were questioned about their fear of immigration officials that led to avoidance of utilizing health services, and fear of deportation if approaching social or government services. These concerns are shared not just by illegal or undocumented immigrants, but generally by all immigrants with other visa statuses too. This means that legal stress that included fear of deportation and being questioned about legal status is a significant predictor of depression assessed over lifetime, but not psychological distress that were assessed for the last 30 days. This difference may be explained by the differences between point prevalence, i.e. the prevalence of disorder at a more specific (a month or less) point in time, versus lifetime prevalence, i.e. number of individuals in a statistical population that at some point in their life (up to the time of assessment) have experienced a disorder. The above results provides support for the hypothesis that immigrants live with considerable fear about legal issues as a result of all the changes happening in the immigration policies.

Language barriers proved to be a significant predictor to depressive episode and psychological distress. This highlights the diversity of English speaking and interacting skills among Asian Americans and its impact on mental health. The findings shown in this study lend support to existing mental health literature that language difficulty is an important source of stress for all Asian American immigrants (Daniel & Shirley, 2007; Pippins, Alegria & Haas, 2007; Zhang & Ta, 2009).

While discrimination was not significantly associated with major depression, it was significantly associated with psychological distress. This suggests that discrimination, while clearly a serious concern that diminishes the emotional quality of life for Asian immigrants, does not lead to pathological levels of symptoms consistent with diagnosable mental disorder. Future research should address this issue in further detail, including whether instruments such as the CIDI are sensitive enough to identify community cases of mental illness. Additional research on how best to measure institutional discrimination may further clarify the differential findings for distress and major depression reported here.

Also reflected in the findings reported here, the moderating effect of immigration related factors on acculturative stress and depressive episode were only partially supported. Similar to previous reports in small communities studies (Elder Jr. & Caspi, 1988; Mossakowski, 2007; Takeuchi et al., 1998), this research also suggested that relationships between acculturative stress and depressive episode varied by age at immigration. Immigrants who came as adults were buffered from the effects of high legal stress on depression, in comparison to immigrants who came as children who experienced more negative mental health outcomes when exposed to high legal stress.

This may be attributed to the amount and type of social or economic resources that are available to individuals at different ages, which may put children at higher risk. This may also mean that when adults immigrate legally or illegal, it is an informed choice and they are prepared to face the challenges of immigration and resettlement. However, when a child is brought into the country illegally it is without their consent, and according to the immigration policies to achieve legal status they have to first leave the U.S. to apply for an immigration visa even though returning to their country of birth would not guarantee a path to a visa. Attempts to return legally are often difficult, with roadblocks such as 3-10 years ban on reentering the U.S. (Park & Park, 2005). Thus, children who came as dependents with their parents and experiencing legal stress are more prone to suffering depression in comparison to immigrants who came as adults. The other interactions were insignificant as discrimination and language barriers experienced are similar and do not alter in predicting depression when immigrating as a child or adult.

Similarly, consistent with few previous investigations, the moderating effect of years spent in the U.S. was significant only for the relationship of language barriers and depressive episode (Takeuchi, Zane & Hong, 2007; Yeh, 2003). Thus, immigrants who have been in the U.S. for 11 and more years are buffered from the effects of high language barriers on depression, in comparison to immigrants in the initial 0-10 years of settlement in the U.S. who experienced more depression when exposed to high language barriers. So as the length of time spent in the U.S. increases, immigrants with high and low language barriers reported lower levels of depression. Furthermore, this also implies that as immigrants live longer in the new culture, even those who are less proficient with English language even after being in the U.S. for 11 and more years, experience fewer

negative mental health effects. This may be due to factors such as, immigrants living in situations where English language is less necessary (e.g., in family situations or ethnic enclaves where it is less necessary to speak English) and lead to lower depression. However, time spent in U.S. did not moderate the relationship of other acculturative stress, legal stress and discrimination, to mental health. This implies that exposures to these stresses are too harmful and longer residency cannot offer protection to deleterious mental health.

The initial assumptions about the moderating effect of kin and non-kin social support on the association of acculturative stress and psychological distress were partially supported. Non-kin social support was found to moderate the relationship of discrimination stress and psychological distress, but not the relationship of legal stress and language barriers to psychological distress. Immigrants who have more non-kin social support were buffered from the effects of high discrimination stress on depression; in comparison to immigrants who have low non-kin social support experienced more depression when exposed to high discrimination stress. On the other hand, kin social support did not moderate the relationship of any acculturative stress and psychological distress among Asian immigrants. Similar results have been seen in a small community sample of Asian Americans where the non-kin social support was associated with a reduction in depression scores over time (Gellis, 2003). This may mean that individuals from the same families share the same stresses and resources, and may be unable to provide support that may buffer them from the impact of these stresses on psychological stress. Furthermore, this result suggests that immigrant families need support from other sources, like government agencies and non-profit organizations that may assist them to

negotiate their lives during the settlement process. In addition, the buffering action of non-kin social support on the relationship of discrimination and psychological distress was significant. One potential explanation may be that non-kin members may be able to assist in the visa process by connecting immigrants with other immigrants, provide a safe place to discuss issues being faced in the new culture and hence, make the settlement and adjustment process easier to negotiate. This shows the importance of presence and assess of social resources other than family members in understanding and coping with discrimination faced in a new culture.

Finally, the relationship of acculturative stress to depressive episode and psychological distress was different among the three ethnic groups, Vietnamese, Filipino, and Chinese. Association of legal stress to depressive episode was significant for all three ethnic groups, while the association of legal stress to psychological distress was not significant for any ethnic group. Therefore, higher legal stress was associated to higher depression, but not to psychological distress among all ethnic groups. This is consistent with the position that legal stress is an extremely important concern in the lives of Asian immigrants, and it has significant effect on their mental health.

Association of language barriers to depressive episode was significant only for the Chinese group, whereas the association of language barrier to psychological distress was significant only for the Vietnamese group. Therefore, Chinese immigrants who reported higher language barriers had higher levels of depressive episode, and for Vietnamese immigrants higher language barriers was associated with higher psychological distress. The findings revealed in this study lend support to existing mental health literature that language difficulty is an important acculturative stress for all Asian American immigrants

(Daniel & Shirley, 2007; Pippins, Alegria & Haas, 2007; Zhang & Ta, 2009). This study also highlights that attention needs to be paid not just on the language skills of immigrants, but also on the ease or proficiency of interaction in English language with other individuals.

Significant association of discrimination to depressive episode was seen only among Filipinos, whereas discrimination was significantly associated with psychological distress among Filipinos and Chinese ethnic groups. Thus for Filipino immigrants higher reports of discrimination stress was associated with higher depressive episode and psychological distress, and for Chinese immigrants higher discrimination was associated with higher psychological distress. Other studies have also reported that Filipinos reported higher discrimination in comparison to other Asian immigrants due to their increased familiarity and recognition of discrimination because of colonization by the U.S. during the 1898-1934 (Cabras et al., 1989; Gee et al., 2007).

Therefore, this study contributes not just examining relationships of immigration, acculturative stress and mental health in just all Asian Americans as an aggregated group but also among major Asian ethnic groups too.

Challenges of Research Among Asian Americans

There are multiple challenges of doing research among Asian Americans, which must be considered when examining the results of this study. These factors give context to understanding the experiences of immigration, settling in a new country, and finally experiencing and reporting mental health issues. It is important to examine the impact of stereotypes that exist about the Asian Americans, and how it influences health. Like other

minority groups, Asian Americans encounter many stereotypes that constrain their identities, relationship with others, and their opportunities.

The most significant and persistence stereotypes of Asian Americans are as “model minority.” According to the model minority stereotype, Asian Americans have achieved enormous economic and academic success by working hard and following Asian cultural norms, therefore they no longer face any barriers to economic, social, or political success. The term model minority was first used in the mid-1960s by sociologist William Petersen in an article examining success stories of Japanese and Chinese American in the U.S. (1966). He asserted that the Japanese and Chinese cultures that use ethics of hard work and strong family ties enable them to achieve high academic and economic success in society. Various popular media reports and scholarly research have equated “Asian American” with “success”. Many have questioned what’s wrong with being stereotyped as a successful model minority, as it may be better than some stereotypes faced by other racial groups. I argue while model minority stereotype appears to be flattering and positive, it can also be extremely misleading and even harmful.

First of all, this stereotype hides the diversity among Asian Americans and so masks the many concerned that Asian-American individuals and communities face. Much of the research that positions Asian Americans as high achieving model minority, is usually based on aggregate data that lumps all Asians as a single group. Asian Americans come from various countries, have distinct immigration histories, as well as a diverse range of economic, social, and educational capital (Reeves & Bennett, 2004). By failing to recognize this diversity, this stereotypes enables policymakers and service providers to ignore many of their basic needs. For example, when we look at poverty rates for all

Asian Americans (12.6%), the rates are similar to that seen among the general population (12.4%); however when one looks at specific Asian ethnic groups clear and powerful differences are seen. Filipinos and Japanese Americans have poverty rates of less than 10%, the poverty rates for Hmong is 38% and Cambodian is 29%, which are among the highest of any communities in the United States (Reeves & Bennett, 2004).

Another concern due to model minority stereotype is that it pits Asian Americans against other racial groups. When the dominant society holds Asian Americans up as model minority it promotes antagonism between the Asian Americans and other people of color. The notion that Asian Americans have achieved full equality with whites is incorrect, for instance Asian Americans continue to earn less than whites even with equal educational backgrounds and experience, for example in California, Chinese American men earn 68% and Filipinos American men earn 62% of the salaries that White American men earn in similar positions (Uy, 2004). Therefore, it facilitates institutions and government agencies to ignore or not support initiatives to fund research or develop social service programs for this group. In addition, immigration policies have facilitated immigration of mostly skilled workers from Asian countries. Therefore, the characteristics of Asian immigrants seen and praised in this country do not reflect the true characteristics of all Asians. Immigrants coming to the U.S. are extremely motivated to succeed and special visa categories have been created to attract them here, and this process has often been described as brain drain (Beine, Docquier & Rapoport, 2001).

Ultimately, model minority stereotype may encourage Asian Americans to hide and silence issues or problems that may contradict the model minority image. Attempts to live up to the standards set by the model minority stereotype may lead Asian Americans

to feel shame that may inhibit them from seeking the necessary health services. For example, relatively few Asian Americans utilize mental health services even as research show that Asian Americans do suffer from mental health issues (Lin & Cheung, 1999; Zane & Yeh, 2002). For instance, Asian American women have been identified as having among the highest suicide rates in the United States out of all racial groups (Center for Disease Control and Prevention, National Center for Health Statistics, 2001).

Finally, another vital issue that needs attention in research among Asian Americans is the impact of culture in understanding, expressing and assessing treatments for mental disorders. Not all psychological disorders defined in the western medicine are translatable in other cultures. In fact most cultures have their own specific understanding of psychiatry disorders, referred as cultural bound syndromes or cultural specific syndromes. These syndromes are a combination of somatic and psychiatric symptoms that are accepted by a particular culture. The notion of cultural bound syndrome is critical to consider in relation to Asian American health since somatic expression is preferred over emotional expressions or psychological issues. Among many Asian cultures open displays of emotions are discouraged to maintain social harmony, and the accepted ways of expressing distress is through physical symptoms. For example, Neurasthenia is viewed as a Chinese version of major depressive disorder, where the emphasis is on the physical rather the psychological symptoms (Zheng et al., 1997).

Another important factor to consider is the understanding and comprehension of the mental disorders questions by the respondents from different cultures. In some Asian cultures inner distress is not sufficient to fulfill the criterion of depression despite severe levels of symptoms, because they might perceive the question about 'life' to refer

primarily to functioning and behavior that could be perceived by, or affect others (Hicks, 2002). The focus on 'life' as related to others may stem from the relation-based nature of being as conceptualized within Confucian thought, such that 'man is socially situated, defined, and shaped in a relational context' (King & Bond, 1985).

Furthermore, to assess depression, respondents have to identify deviation from normal functioning for a certain period of time. However, this question loses its meaning in an environment devoid of normal manifestations of 'life' and 'activities' against which the participant's function can be meaningfully compared (Hicks, 2002). For example, a refugee who may be experiencing depression may be used to low functioning due to severe lack of activities in the camp. Or immigrants living in deprived conditions or poverty in a new environment or culture are unable to judge what is 'normal functioning' in their situation. Therefore, the wording of the questions has different meaning for individuals from different cultures.

This highlights the importance of evaluating the survey instruments used in the community settings to assess mental disorders. In this study, the World Health Organization (WHO) Composite International Diagnostic Interview Version 3.0 (CIDI 3.0; Kessler and Ustun, 2004) was used to assess mental disorders. CIDI is a standardized diagnostic interview designed to assess current and lifetime mental disorders according to the definitions and criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; APA, 1994). CIDI has been designed for use in a variety of cultures and settings, and its core version is available in more than 16 languages (Wittchen, 1994). The two main characteristics of CIDI are its' reliance on respondents' self-report and the standardization of symptom questions. There are numerous advantages

of standardization symptoms as in CIDI. Specifically, the CIDI provides comprehensive data that can be compared across studies and settings, improves consistency of symptom assessment, is time efficient, increases reliability of diagnostic decisions across CIDI interviewers, and does not need clinical knowledge and experience by the person taking the interview. These are important advantages of the CIDI in community surveys to assess population prevalence rates of mental disorders.

However, there are some serious concerns when using the structured instruments such as, CIDI. First, does the instrument under-diagnose or over-diagnose patients and/or community participants? Second, does the instrument diagnose the same person in the same way as would clinicians? And finally, are the prevalence figures skewed because non-clinicians or computerized algorithms are employed to make the final diagnostic assessment? Validation studies have been done to investigate the diagnostic agreement between experienced clinicians and the CIDI. These studies have shown relatively poor to fair concordance rates between CIDI and clinician-based methods of assessing mental disorders, such as the Schedules for Clinical Assessment in Neuropsychiatry (SCAN; Brugha et al., 2001; Peter & Andrews, 1995; Rosenman, 1997).

The CIDI significantly differs from an expert clinical assessment in several ways. The CIDI systematically screens for every diagnosis included in the assessment tool. In comparison, clinicians typically focus on a particular diagnosis and therefore, consider co-morbid conditions only in so far as they have an impact on the primary diagnosis. Also most clinicians have limited time to evaluate a patient whereas the CIDI is not time-limited. Thus, the CIDI is more likely to generate multiple diagnoses because of its structure and its unbounded duration. The ability to capture co-morbid diagnoses that a

clinician would not necessarily capture probably explains some of the inflated prevalence rates as reported where CIDI has been used (Andrew & Peters, 1998). However, capturing co-morbid disorders is potentially valuable in health services research and policy planning, since it allows for a more complete analysis of the burden of symptoms and disorders in the community.

Moreover, standardized instruments have a distinct advantage over clinical assessment by trained health professional. Reduced reliability have been observed due to variance in questions asked to assess psychopathology symptoms by the clinicians, symptom information that the respondent provides, interpretation of information provided and finally random error caused by failure to listen or perform coding accurately. However, there is increased validity or accuracy of the diagnosis done by clinicians or other mental health professional in comparison to results from survey instruments, such as the CIDI.

Another important concern of the CIDI instrument is the phrasing of some symptom questions in the survey. Some questions in assessing the mental health section are too long that may create difficulty for elderly respondents, and people with lesser literacy. Moreover, identification of synonyms for key symptoms and concepts, such as depressed mood (blue, low, etc.), that plays a critical role in the diagnosis of mental disorders particularly for respondents from different cultures needs more attention (Wittchen, 1994).

Therefore, in community studies even though it is more cost and time effective to use survey instruments than clinical assessments, it is important to interpret the results with caution. Next steps in improving the instrument must emphasize address the

conceptual equivalence (or lack there of) of the items between respondents speaking English and other languages than English. This would make the questions more appropriate to the context of the respondents' language and culture. Similarly, more evaluation of dysfunction assessment will help respondents in establishing their caseness status. As the CIDI does not provide an opportunity to revisit or revise previously completed modules, it becomes difficult to include newly obtained material that might be important in the assessment mental disorders. Therefore, it might be beneficial to expand the screening questions by gathering more information for each diagnostic category prior to skipping out respondents, and clarifying the threshold for severity of the disorder. Later, additional assessment of sub-threshold respondents by clinicians may be an appropriate method to evaluate them. This will also help in correctly classifying the sub-threshold respondents to the appropriate disorders.

Next, in assessing treatments and help seeking behavior, counseling and psychotherapy are viewed as the primary methods of psychological treatment in the United States (Sue & Sue, 1999). In this view strong reliance on emotional expression, autonomy, and individual verbalization is emphasized that contradicts Asian American cultural values that emphasize emotional restraint, social harmony, and familial privacy (Yeh & Kwong, 2009). Traditional or alternate methods of healing originating from Asian countries reflect the cultural ideals and beliefs of Asians, which are incongruent with seeking help through counseling or psychotherapy. Western medicine perspective is based in the mental and physical realms of existence, often neglecting or minimizing the spiritual realm. On the other hand spiritual health is considered as important part of the Asian psyche and well being.

Another factor to remember is increased social stigma to mental disorders among Asian Americans that may explain decreased utilization of mental health services (Leong & Lau, 2001; Zane & Yeh, 2002). In fact some Asians report preferring to endorse only somatic symptoms to escape from stigma of mental disease diagnosis, and on further direct probing reveal psychological symptoms too (Chen et al., 2005; Nguyen, 1982). Therefore, study of Asian values that include collectivism i.e. group cohesion and interdependence between family members (Yeh et al., 2006), avoidance of family shame (Kim & Omizo, 2003), and loss of face i.e. importance of one's moral reputation and maintaining specific roles designated in the family and society (Kim, 2007) need to be further examined. Therefore, the results of this study need to be reported keeping all the above factors in mind.

Additional Study Limitations

This study reveals the complexity of Asian immigration and settlement process, and the key limitation of the study is that this research looked only at a subset of many factors that affect immigration. Numerous factors that need attention include for instance, institution/policy issues, international relationships, and labor market operations. Studies focusing on immigration need to be aware of historical, institutional, social, and cultural contexts in which immigrants or immigration are embedded. It is due to this diversity in the experiences of immigration that there are differential resources available to immigrants. As a result of which, some immigrants do better than other in terms of mental health.

In this study only limited number of variables and the associations were included, like immigration related factors: reasons for immigration, time spent in the U.S., and age

at immigration. There are many other important factors that I was not able to incorporate which include, pre-immigration experiences, structural conditions of the receiving country, and socio-economic status. In addition there exists stratification among immigrants based on many other dimensions. Division based upon background resources, status distinction or class, and gender lead to different starting points and immigration paths for each group of immigrants who then further lead to diverse incorporation and the acculturation outcomes (Rumbaut, 1997). Unfortunately, little information is available in the NLAAS dataset with regards to immigrants' characteristics in their country of origin. Future studies on immigration and immigrants should pay more attention to these above mentioned immigration factors.

Similarly, acculturative stress scale in used in this research has been tested mostly among Hispanic American samples, and has not been previously used among Asian American samples. However during the development stage of the NLAAS questionnaire, the stress questions were determined as a result of in-depth interviews and pretesting among Asians (Alegría, et al., 2004). In doing so, it addressed concerns of cultural relevance, cultural equivalence and generalization of the measures. Nonetheless, future investigations of acculturative stresses among Asian American sample is considered necessary to establish its' accuracy.

In addition to instrument and measurement issues, the cross-sectional nature of the sample can be considered as a limitation. Cross-sectional studies examine a snapshot look at health problems, but they cannot determine pathways of causality. However, based on previous research studies, it can be predicted that experience of stress during the

immigration and settlement process is important in predicting mental health concerns among Asian American immigrants (Shen & Takeuchi, 2001; Yasuda & Duan, 2002).

Finally, definitions, etiology, diagnosis and treatment of mental disorders need to be reevaluated and reassessed, as they have been defined within a context of limited cultural and contextual variability. Potential cross-cultural variation in the expressions of disease symptoms may render the current diagnostic and classification systems inadequate and inaccurate to address issues among people of different cultures. Using the Diagnostic and Statistical Manual of Mental disorders, edition IV (1994) poses some challenges in diagnosing mental disorders in people from different cultures. The DSM-IV relies heavily on the clustering of symptoms into disorders for diagnosis with criteria that have been validated in the west. Therefore, it does not fully represent expectations and symptoms of people from other cultures. This may lead to underestimation, or incorrect conclusions about the rates of mental disorders among Asian Americans (Takeuchi et al., 1998; Zheng et al., 1997).

The NLAAS is the first nationally representative survey of mental health and social conditions among several Asian ethnic groups. However, the dataset has relatively small samples for each ethnic group, which created small cell sizes that may not be large enough to generate reliable estimates in certain analyses. In addition, only three main ethnic groups in the NLAAS were identified. Other major ethnic groups settled in U.S. like Korean, Asian Indian, and Japanese were grouped together in the “Others” group. This made it difficult to do more detailed analyses of the Others Asian group. Therefore, caution should be taken in generalization of these results.

Intervention Recommendations and Policy Implications

As the number of Asian immigrants continues to rise, various issues in policy, health, and social work practice related to Asian immigrants have been emerged (Water & Eschbach, 1995). These issues include, physical and mental health, domestic violence, racial and workplace discrimination, citizen acquisition, political participation, etc. Addressing these issues through appropriate policies, social work practices, and health services require a better understanding of different reasons for immigration and various pathways to immigrant adaptation. The availability of information on reasons for immigration, age at immigration, time spent in the U.S. since immigration, exposure to acculturative stress, and availability of social resources in the NLAAS has allowed me to explore the impact of these variables on mental health among Asian Americans. The results have implications for both U.S. immigration policy and social work practice among the Asian immigrant population.

Debate regarding U.S. immigration policy has been primarily focused on the issue of entry into the U.S. The reason for the policy debate is mostly due to the increasing number of undocumented and illegal immigrants, and the major concern has been how immigrants affect the economic interests of Americans. However, the purpose of U.S. immigration policy has never been solely economic, as the 1965 U.S. immigration law introduced the current preference system of family reunification, job skills, and refugee status. So these policies are based on economic, social, political, and humanitarian grounds. According to the results in this study about two third Vietnamese immigrants came to U.S. as refugees, and similarly more than three quarter Chinese, Filipino, and

Vietnamese and immigrants from “Other” countries of origin reported coming for family reunification.

These immigrants had varying levels of education, financial resources, income, and employment status that imply that support and social services need to target immigrants in different ways based on their needs. For instance, differences in the language barriers were reported among Asian ethnic groups, with Filipino immigrants reporting the lowest language difficulties. This difference is related to the unique immigration history that Filipinos experience, in that Philippines used to be a U.S. territory and English remains one of their official language. So programs targeting Filipinos immigrants need to be aware of and sensitive about this unique historical context. In some Chinese immigrant communities multi-service centers have emerged as a community based practice model, which provides a variety of services, such as language classes, employment training, legal aid, family counseling, and connecting community members with each other to address the diverse needs of immigrants (Chow, 1999). In addition there is variability within each ethnic group category used in this study, for example, Chinese immigrants belonging to different region of origin (Mainland China, Taiwan, Hong Kong, etc.) are vastly different (Chen, 2007). Therefore, social and health services need to be aware of the within group differences, as well as potential intra-group tensions because of varied economic and political stances.

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