

Role of Social Support in Examining Acculturative Stress and Psychological Distress Among Asian American Immigrants and Three Sub-groups: Results from NLAAS

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Abstract This study examined the impact of acculturative stress and social support (family and friend) on psychological distress among Asian American immigrants and three Asian sub-groups (Vietnamese, Filipino and Chinese) immigrants. The National Latino and Asian American Study 2002–2003 dataset was used. The study findings were: (1) among all Asian American immigrants high language barrier and discrimination stress were associated with increased level of psychological distress, but similar association was not present for legal stress; (2) among all Asian American immigrants high family social support decreased the levels of psychological distress, and in addition, friend social support buffered the relationship of discrimination and psychological distress; and (3) among Vietnamese, Filipino, and Chinese, differential association of social support and acculturative stress to psychological distress were observed. These findings highlight the importance of social support among Asian American immigrants, while also paying attention to the variation that may exist between different sub-groups.

Keywords Asian American · Immigrants · Social support · Acculturative stress · Psychological distress · National Latino Asian American Study

Background

Asian Americans are the fastest growing racial group in the United States, with reported population growth of 46 % compared to the total US population growth of about 10 % in the last decade [1]. About 70 % of Asian Americans reported being foreign-born, and constituted around one-fourth of the nation's total foreign-born population [1]. The process of immigrating to a new country with the subsequent exposure to a new culture and environment can be a challenge to immigrants. During their acculturative process immigrants' risk for mental health problems 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 [2–5]. The relationship of stress and mental health is well established in literature, but, the unique stressors experienced by immigrants need to be investigated. Awareness of these unique stressors and social support are crucial factors in understanding the needs of this immigrant population.

Limited studies assessing the mental health indicators of Asian Americans, report lower prevalence rates of mental disorder among Asian Americans in comparison to other racial/ethnic populations [6]. These low reports have been explained by the protective effect of cultural buffering, i.e. cultural values that endorse emotional restraint and fear of losing face [7–9]. Additional disaggregation of the heterogeneous Asian American population in research aids in clarifying these mixed reports on their prevalence and incidence of mental disorder [6, 10, 11]. This research

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seeks to investigate whether social support, as measured by family and friend support, buffers against the negative effects of acculturative stress on mental health, thus acting as a protective element against psychological distress. This research study not only highlights the heterogeneity that exists among Asian immigrant populations, but provides further insight into understanding differential patterns of mental health status among Asian immigrant populations.

Conceptual Framework

The concept of acculturative stress is rooted in the stress and coping theory, which examines adaptation to stressful life events and engagement in various coping strategies among people [12–14]. According to this theoretical perspective, acculturation can be advantageous (e.g. providing work or education opportunities) or harmful (e.g. exposure to stressful events) that may lead to acculturative stress, which is an indicator of the insufficiency of adaptive resources to support adjustment to a new culture [15–17]. Major acculturative stress for immigrants includes, legal fear, discrimination and language barrier. Impact of legal fear on mental health among Asian immigrants has not been investigated. Limited research on discrimination specific to immigrant's experience has been done among immigrant populations and demonstration a negative effect on their physical and mental health [18–22]. Recent studies on poor English language comprehension and proficiency have shown a negative relationship with mental health [23–25].

Social support is a powerful resource for individuals experiencing stressful life changes, particularly the stress of adjusting to a new culture [26, 27]. According to the social support and network theory, there are direct and indirect pathways through which social support impacts health. Social support has a direct main effect on health by enhancing sense of belonging, companionship and reassurance of self worth regardless of stress levels [28]. Social support also indirectly impacts health by buffering the relationship of stress and health [29–31]. Social epidemiological studies suggest that there are beneficial effects of support from friends and family [32], where strong family and community support [33–36] among immigrant populations is associated with better mental health. Friends and family members may provide important resources, such as, assistance in finding employment, help accessing legal and economic support, and may influence individual's engagement with health protective behaviors (e.g. vaccinations or preventive screening) that impacts overall health [37, 38]. However, not all social connections are beneficial. Research shows that negative interactions, such as family conflict, competition for limited resources

can adversely affect psychological well-being [38]. Since many Asian immigrants possess a collective cultural orientation, social support may have a unique influence on their mental health [39, 40].

The specific aims of the study were to: (1) examine if acculturative stress including legal stress, language barriers, and discrimination, had a direct and independent effect on psychological distress among Asian American immigrants; (2) examine the buffering action of family and friend social support on the relationship of acculturative stress and psychological distress among Asian American immigrants; (3) examine if acculturative stress including legal stress, language barriers, and discrimination, had a direct and independent effect on psychological distress among three Asian American immigrant sub-groups, Vietnamese Filipinos, and Chinese.

Method

Participants

Data from the National Latino and Asian American Study (NLAAS) 2002–2003 was analyzed. The NLAAS 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 [41, 42]. The NLAAS Asian sample comprised of the NLAAS Core sample, designed with 63 PSU nationally representing the entire US. Asian American adult population and the NLAAS High-Density (HD) supplemental sample, which consisted of geographic areas with greater than 5 % residential density for three individual Asian national origins groups of interest, Vietnamese, Filipino, and Chinese. 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 [43].

Data Collection

The NLAAS has a total sample size of 2095 Asian American adults, with four ethnic groups-Vietnamese, Filipinos, Chinese, and individuals of "Other" Asian Ancestry. The instrument was translated into three Asian languages, Chinese, Tagalog, and Vietnamese, and interviews were conducted in the preferred language of the respondent [44]. This study includes only those respondents who are foreign-born and defined as immigrants. The total sample size in this research was 1639 Asian American immigrants, with 502 Vietnamese, 349 Filipinos, 473

Chinese, and 315 Other Asians. Weighted response rates were 69.3 % for primary respondents and 73.6 % for secondary respondents [45].

Psychological Distress

The Kessler Psychological Distress Scale (K10) was used to measure psychological distress [46]. This scale measured the amount of distress experienced by respondents during the last 30 days. This scale was created from 10 questions and coded as a continuous variable, where scores ranged from 0 (being the least distressed) and 50 (being the most distressed) with Cronbach's $\alpha = 0.90$. Cronbach's α for K10 scale was 0.87 for Vietnamese, 0.84 for Filipino and 0.84 for Chinese sub-groups.

Acculturative Stress

The Acculturative Stress scale, adapted from the Mexican–American Prevalence and Services Survey (MAPSS) [33] and the Occupational/Emotional Stress subscale of the Hispanic Stress Inventory (HSI) was used [47]. This scale assessed legal stress, discrimination, and language barrier. Questions to measure legal stress were: have you been questioned about your legal status; do you think you will be deported if you go to a social or government agency; and do you avoid seeking health services due to fear of immigration officials. Questions to measure discrimination stress were: 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; and do people treat you badly because they think you do not speak English well or speak with an accent. Questions for measuring language barrier were: do you find it hard to interact with others because of difficulties you have with English language. Individual item responses were dichotomous (yes/no), with score ranged from 0 to 3 for legal stress (Cronbach's α is 0.65 for total sample, 0.67 for Vietnamese, 0.57 for Filipino, and 0.80 for Chinese), 0–3 for discrimination (Cronbach's α is 0.63 for total sample, 0.65 for Vietnamese, 0.59 for Filipino, and 0.60 for Chinese), and 0–1 for language barrier. Response scores were further dichotomized as any versus none level of acculturative stress for each of the three factors.

Social Support

Similar parallel question were asked to measure family and friend social support. As has been recommended in the literature [36] we normalized these indexes to zero mean and standard deviation of one. This variable was coded as continuous where scores ranged from 0 to 20, with

Cronbach's $\alpha = 0.59$ for family social support and Cronbach's $\alpha = 0.71$ for friend social support.

Socio-demographic Variables

Socio-demographic variables included in analyses were: age, gender, education, marital status, household income, work status, and immigration-related factors (reason to immigrate, age at immigration and years spent since immigrating to the US).

Analysis

Descriptive statistics to analyze the demographic characteristics of the study sample was done. This was followed by bivariate analysis to examine the association between all the independent variables in the study. Finally, a series of logistic regressions models were estimated for the total Asian American immigrant population to test the effects of acculturative stress, social support and covariates on psychological distress. The first model estimated the effects of all the acculturative stressors on psychological distress controlling for socio-demographics. The second model tested estimated the effect of social support (family and friend) and immigration related factors on psychological distress. Next, the full model along with interaction testing between acculturative stress and social support (family and friend) on psychological distress was done. In addition, regression models were also run for the Asian American immigrant sub-groups (Vietnamese, Filipinos, and Chinese) to test the effects of acculturative stress and family and friend social support, on psychological distress. The “Other” group that included multiple Asian subgroups was not included in the analysis as no conclusive understanding was possible from the results. 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. All analyses were conducted using STATA 10.

Results

Table 1 summarizes descriptive statistics for key demographics and independent variables for Asian American immigrants and each specific sub-group. Respondents reported that increased language barriers and higher levels of discrimination were important sources of acculturative stress. Filipinos were less likely than other groups to report that language barriers were a substantial source of acculturative stress. The majority of participants reported immigrating for better job opportunities and/or to join family

Table 1 Demographic characteristics of Asian American immigrants in the National Latino and Asian American Study (NLAAS) 2002–2003, 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
Acculturation stress (%)										
Legal stress	19.6	16.9	6.2	3.2	24.7	23.6	17.8	12.9	24.9	23.2
Language barrier	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	55.9	55.9	46.9	42.9
Reason to immigrate (%)										
Job opportunities	85.9	80.48	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 refuge	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	28.7	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 US (%)										
0–10 years	34.6	33.2	42.0	46.8	27.9	27.4	34.4	37.6	34.9	26.3
11+ years	65.4	66.8	57.9	53.2	72.1	72.7	65.6	62.4	65.1	73.7
Total sample (N = 1639)	771	869	236	266	154	195	221	252	160	155

members. Vietnamese respondents also reported that seeking refugee status was a major reason for immigration. Two-thirds of the total Asian immigrants came to US after the age of 18 years, and more than 65 % had lived longer than 10 years in the US.

Table 2 reports mean values of family and friend support indexes by categories of acculturative stress,

immigration related factors and SES. Acculturative stress related to language barrier and discrimination both had a strong, negative association with family and friend social support. Legal stress showed a significant negative correlation with friend social support but not with family social support. For immigration related factors, refugee status was the only variable that showed significant negative

Table 2 Mean social support index values by SES, acculturative stress and immigration-related factors of adults: Asian American immigrants in the National Latino and Asian American Study 2002–2003

Characteristics	Family support	Friend support
Education		
Some high school	-.359 (.061)	-.346 (.068)
High school graduate	-.314 (.071)	-.270 (.077)
Some college	-.228 (.069)	-.041 (.071)
College graduate	-.163 (.046) ***	-.005 (.032) ***
Household income		
< 25,000	-.312 (.058)	-.230 (.049)
25,001–50,000	-.229 (.088)	-.086 (.064)
50,001–75,000	-.316 (.091)	-.386 (.067)
75,001+	-.161 (.041) NS	-.089 (.034) **
Marital status		
Married	-.209 (.037)	-.206 (.038)
Never married	-.341 (.136)	-.273 (.116)
Divorce/widow/separated	-.293 (.059) NS	.301 (.054) ***
Work status		
Employed	-.224 (.038)	-.103 (.038)
Unemployed	-.211 (.128)	-.138 (.140)
Not in labor market	-.263 (.078) NS	-.141 (.060) NS
Acculturative stress		
No legal stress	-.0241 (.037)	-.148 (.031)
High legal stress	-.207 (.072) NS	.021 (.070) **
No language barrier	-.166 (.043)	-.005 (.040)
High language barrier	-.356 (.046) ***	-.317 (.046) ***
No discrimination stress	-.157 (.044)	-.031 (.044)
High discrimination stress	-.331 (.048) ***	-.223 (.042) ***
Immigration related factors		
Reason to immigrate		
Job opportunities	-.102 (.056) NS	-.101 (.063) NS
Join family	-.130 (.081) NS	-.272 (.063) ***
Seek refugee	-.215 (.053) ***	-.291 (.045) ***
Age at immigration		
0–17 years	-.214 (.055)	.185 (.047)
18+ years	-.242 (.043) NS	-.209 (.030) ***
Years spent in the US		
0–10 years	-.289 (.044)	-.151 (.039)

Table 2 continued

Characteristics	Family support	Friend support
11+ years	-.207 (.042) NS	-.099 (.033) NS

N = 1639; NS not significant, *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; significance of association of each variable with the normalized average social support indexes; standard errors are shown in parentheses

correlation with both family and friend social support. Joining family members had significant negative relation to only friend social support. Age at immigration was significantly associated with only friend social support, and no significant associations were seen for the years spent in the US and indexes of social support.

Table 3 presents results of the multiple regression models for psychological distress of the total Asian American immigrant sample. In model 1, language barriers and discrimination were significantly associated with psychological distress after controlling for demographics and SES. In model 2, there was a strong significant negative association of family social support and psychological distress. Acculturative stress of discrimination remained significantly related to psychological distress. Model 3 showed a significant buffering effect for friend social support on the relationship between discrimination and psychological distress.

Table 4 illustrates the full model for each of the Asian American immigrant sub-groups. Results for Vietnamese group showed a significant positive association of legal stress and language barriers in association to psychological distress. There was also a significant negative association between family social support and psychological distress. Seeking refugee status as the reason for immigration was significantly associated with psychological distress among Vietnamese respondents. Results for the Filipino group showed a significant positive association between acculturative stresses related to discrimination and psychological distress. No significant association was noted for family and friend social support and psychological distress among Filipino immigrants. Results for the Chinese group showed a significant association between legal stress and psychological distress. There is a significant positive association between seeking refugee status as a reason to immigrate and psychological distress. There was a significant positive association between seeking refugee status as a reason to immigrate, age at immigration and years spent in the US to psychological distress. There is also a significant negative association between family social support and psychological distress.

Table 3 Regression of psychological distress on acculturative stress with adjustment for demographics (Model 1), immigration related factors and family and friend social support (Model 2), interaction of key variables (Model 3) among Asian American Immigrants, National Latino Asian American Study (NLAAS), 2002–2003

Variables	Model 1 Coefficient (SE)	Model 2 Coefficient (SE)	Model 3 Coefficient (SE)
Acculturative stress			
Any legal stress (no legal stress ^a)	.025 (.024)	.029 (.023)	.023 (.021)
Any language barrier (no language barrier ^a)	.050* (.023)	.043 (.022)	.052* (.024)
Any discrimination stress (no discrimination stress ^a)	.046** (.019)	.037* (.090)	.030 (.089)
Age	.999 (.000)	.001 (.0008)	.001 (.001)
Gender (male^a)			
Female	.036*** (.015)	.045*** (.016)	.043*** (.016)
Marital status (married^a)			
Never married	-.001 (.031)	.006 (.030)	.011 (.031)
Divorce/widow/separated	.098*** (.034)	.106*** (.036)	.108*** (.036)
Household income (<25,000^a)			
25,001–50,000	-.025 (.026)	-.015 (.023)	-.0162 (.024)
50,001–75,000	.012 (.030)	.009 (.027)	.011 (.029)
75,001+	-.004 (.025)	.005 (.023)	0.004 (.023)
Education (<high school^a)			
High school graduate	.024 (.023)	.037 (.027)	.042 (.029)
Some college	.032 (.025)	.046 (.028)	.048 (.029)
College graduate	.033 (.027)	.047 (.029)	.050 (.031)
Work status (employed^a)			
Unemployed	.012 (.028)	.015 (.027)	.019 (.029)
Not in labor market	.005 (.028)	.003 (.029)	.006 (.031)
Social support			
Family support		-.029 (.009)***	-.011 (.004)
Friend support		-.009 (.014)	.003 (.004)
Immigration related factors			
Reason to immigrate			
Job opportunities		.004 (.019)	.002 (.019)
Join family		-.016 (.015)	-.018 (.014)
Seek refugee		.018 (.027)	.020 (.027)
Age at immigration (0–17 years^a)			
18+ years		.009 (.019)	.009 (.021)
Years spent in the US (0–10 years^a)			
11+ years		-.002 (.019)	-.003 (.019)
Interactions			
Discrimination*friend support			-.054*** (.019)
Constant	0.105*** (.038)	0.074 (.046)	.189** (.089)

N = 1639; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; family support and friend support were normalized to have a zero mean and a standard deviation of one; *coefficient* regression coefficient; *SE* standard error

^a Reference group

Discussion

The study findings indicate a relationship of language barriers and discrimination stress to psychological distress among Asian American immigrants. The results are consistent with previous studies on racial and ethnic

discrimination that are associated with a poorer physical and mental health outcomes [48–50]. The relationship between these stressors and impaired mental health is likely complex. Experiencing discrimination can lead to feelings of lost respect and might contribute to difficulties finding employment, which could cause psychological distress.

Table 4 Regression of psychological distress on acculturative stress, immigration related factors and social support among Asian American Immigrants by ethnicity, National Latino Asian American Study (NLAAS), 2002–2003

Variables	Vietnamese Coefficient (SE)	Filipino Coefficient (SE)	Chinese Coefficient (SE)
Acculturative stress			
Any legal stress (no legal stress ^a)	.116* (.053)	−001 (.025)	.073* (.037)
Any language barrier (no language barrier ^a)	0.069* (.030)	.074 (.055)	.015 (.029)
Any discrimination stress (no discrimination stress ^a)	.025 (.023)	.077* (.034)	.030 (.089)
Age	.001 (.001)	.001 (.001)	−.000 (.001)
Gender (male^a)			
Female	.008 (.029)	.028 (.034)	.042 (.033)
Marital status (married^a)			
Never married	.195*** (.047)	−.015 (.046)	.004 (.046)
Divorce/widow/separated	.129*** (.032)	.140** (.055)	.139*** (.047)
Household income (<25,000^a)			
25,001–50,000	−.032 (.024)	.036 (.065)	.018 (.034)
50,001–75,000	−.008 (.046)	.057 (.055)	.046 (.043)
75,001+	−.036 (.043)	.052 (.058)	.057 (.034)
Education (<high school^a)			
High school graduate	.069* (.037)	−.026 (.048)	.094** (.045)
Some college	.054 (.032)	−.073 (.061)	.117*** (.042)
College graduate	.006 (.033)	−.088 (.058)	0.063 (.034)
Work status (employed^a)			
Unemployed	−.001 (.037)	−.003 (.039)	.009 (.029)
Not in labor market	.021 (.048)	−.026 (.051)	.006 (.048)
Social support			
Family support	−.027 (.009)***	−.019 (.019)	−.033** (.013)
Friend support	−.011 (.012)	−.007 (.020)	.000 (.015)
Immigration related factors			
Reason to immigrate			
Job opportunities	−.027 (.023)	.006 (.069)	−.019 (.029)
Join family	.032 (.031)	−0.019 (.033)	−.007 (.021)
Seek refugee	.057** (.027)	.084 (.049)	.100** (.029)
Age at immigration (0–17 years^a)			
18+ years	−.051 (.044)	−.014 (.037)	.116*** (.033)
Years spent in the US (0–10 years^a)			
11+ years	.044 (.031)	−.041 (.026)	.068** (.033)
Constant	−0.009 (.077)	0.188 (.113)	−.097 (.061)

N = 1639; *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$; family support and friend support were normalized to have a zero mean and a standard deviation of one; *coefficient* regression coefficient; *SE* standard error

^a Reference group

Therefore, observed higher levels of psychological distress among immigrant populations may be, at least, partially attributable to the presence of acculturative stress associated with immigration rather than a reflection of some fundamental difference in psychological functioning.

This study adds to the existing literature on language skills proficiency in research conducted in Asian American populations. The inability to communicate effectively because of a lack of familiarity with the American accent

and/or idioms can create language barriers for immigrants who are not proficient in the English language. The positive association between language barriers and increased psychological distress suggests that language skills are salient factors that can affect mental health. Because the underutilization of health services among Asian Americans has been largely attributed to language difficulties and lower language proficiency [51], interventions aimed at reducing language barriers are needed.

The findings also indicate that there are important differences in psychological distress among subgroups of the Asian population, suggesting that heterogeneity of the population should be considered in research and practice. Among Vietnamese, psychological distress was strongly associated with higher levels of legal stress and greater language barriers despite facilitation of their immigration process as a refugee. The findings from this study are consistent with previous research that has shown that Vietnamese immigrants report poorer physical and mental health in comparisons to other Asian ethnic groups due to their refugee experience and decreased personal resources [52, 53]. Among Filipino respondents, psychological distress was most strongly correlated with discrimination. As a group, Filipinos tend to be highly educated and come to the US with better job opportunities and resources that may assist in their settlement and immigration process [48]. However, higher job placements may expose them to glass ceiling effect that may explain their reporting of discrimination as a significant source of psychological distress. The results from Chinese respondents indicated that psychological distress was significantly associated with legal stress. Failing to find a significant association between discrimination and psychological distress in this group may be partially explained by the large numbers of Chinese ethnic enclaves that provide increased opportunities to live and work. These self-sustained communities can limit the need to interact with others in English, thus mitigating concerns related to language proficiency. When taken as a whole, these findings emphasize the diversity of Asian immigrant experiences, including differences in the factors that affect psychological health. Recognizing that heterogeneity is important to understanding the mental health outcomes of Asian immigrants will be important to creating effective interventions to improve mental health status.

The study also highlights the significant and independent role of family social support in decreasing psychological distress among Asian American immigrants, especially among Vietnamese and Chinese immigrants. Collectively, these findings indicate that family support is essential for all Asian American immigrants, but it may have a stronger support role for specific Asian populations. Surprisingly, only friend support significantly buffered the association of discrimination stress and psychological distress counter to our assumptions on the buffering impact of social support. This may be explained by shared limited resources among family members that prevent them from buffering the impact of acculturative stress on mental health. However, social support from friends may help in buffering and coping with discrimination stress and moderating its impact on psychological distress.

Limitations

The results of this study are intriguing but bear some caveats. This study was a cross-sectional survey and therefore does not allow us to make any causal inferences. Secondly, limited factors were examined as a part of acculturative stress and these reduced questions may be responsible for a lower Cronbach's alpha in the study. An important factor to consider would be goal striving stress and social mobility that is experienced by immigrants. Most immigrants come to the US 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 sub-groups in this study were identified, Vietnamese, Filipinos, and Chinese. Other major sub-groups like Korean, Asian Indian, and Japanese were grouped together in the 'Others' group, that made it difficult to perform a more detailed analysis of the 'Others' Asian group.

New Contribution to Literature

This study contributes to the literature by examining understudied aspects of acculturative stress and social support among a nationally representative sample of Asian American immigrants. It was found that these relationships are significant and different for the various sub-groups, as patterns of association vary due to different immigration related factors and social support. Asian immigrants are a heterogeneous group, with varied resources before and after their migration that expose them to different stressors. These personal, social and economic resources may impact access and utilization of health care services, and influence patient-provider interaction. For example, highly educated immigrants may have better skills to negotiate the health care system when compared to refugee migrants. Awareness of these stressors can assist policy makers in developing and supporting the needs of the immigrant community. For example, federal programs to support refugees in their initial settlement phase may expand their support resources to include English language training, and actively connecting the new immigrants with local ethnic support groups. In addition, providing services such as, translation services at health care settings and legal aid to immigrants are an essential. Thus, it is necessary to understand the diverse stressors and social resources and their relationship to mental health among different Asian American sub-groups. Increased understanding will allow for the development of more effective and culturally

appropriate interventions and will contribute to policy-making.

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