Family Factors Related to Three Major Mental Health Issues Among Asian-Americans Nationwide

Amy L. Ai, PhD
Hoa B. Appel, PhD, MPH
Jungup Lee, PhD
Frank Fincham, PhD

Abstract

Asian-Americans (AAs) constitute the fastest growing minority group in the USA. AAs share a common emphasis on collective cultural strengths, especially family values. Using the National Latino and Asian American Study (NLAAS) data, this study investigated the roles of family cohesiveness, along with other cultural strength factors and negative family interactions in three psychiatric disorders. Supporting the study's hypotheses, multivariate analyses showed that family cohesiveness was associated with a lower incidence of general anxiety disorder (GAD), while regular religious attendance was linked with a lower likelihood of having substance use disorder (SUD). Conversely, negative family interactions increased the likelihood of experiencing major depression disorder (MDD) and SUD. Whereas perceived discrimination was related to higher odds of all diagnoses, family cohesiveness moderated the relationship between discrimination and GAD. These findings suggest that family relationships play a critical role in AAs' mental health and should be further explored through a prospective design.

Introduction

Asian-Americans (AAs) constitute the fastest growing minority group in the USA and comprise a multi-ethnic subpopulation with varied ancestries from Asia.[1] Understanding the role of AAs' cultural system, family relationships, and social dynamics is central to better assessing mental health interventions for this population.[2–4] AA subpopulations are highly diverse in terms of

Address correspondence to Amy L. Ai, PhD, Colleges of Social Work, Medicine, and Nursing, Florida State University, 2570 University Building C, Tallahassee, FL 32306, USA.

Hoa B. Appel, PhD, MPH, School of Nursing and Health Studies, University of Washington Bothell, Bothell, WA, USA.
Jungup Lee, PhD, Department of Sociall Work, National University of Singapore, Singapore, Singapore.
Frank Fincham, PhD, Colleges of Family Sciences, Florida State University, Tallahassee, FL, USA.

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ethnicity and culture, spoken language, socioeconomic status, religion and spirituality, and immigration history. Nevertheless, AAs share a common emphasis on collective cultural strengths (e.g., ethnic-cultural identity, religious involvement, and support from social networks), and especially a focus on extended family systems.[5,6] Such strengths, defined as collective traits embraced in their common values and traditions, may be psychosocial resources for AAs to cope with common stressors (e.g., discrimination and immigration problems) and to mitigate their negative impact on AA's mental health.[2,7–10]

The emerging evidence on mental health in AAs has focused on risk factors. Moreover, recent work has revealed that when the detrimental impact of acculturation-related stress was controlled, strength factors might not function identically across AA subcultures due to their diverse experiences and history in the USA.[6,11] Although uniformity is assumed in the role of family relationships in all AAs, no study has examined the relationship of family factors, in conjunction with collective cultural strengths, to AAs' mental health at a national level. Consequently, this study employed data from the National Latino and Asian American Study (NLAAS) to investigate the impact of family cohesiveness and negative interactions alongside other cultural strength factors in three key psychiatric diagnoses: major depressive disorder (MDD), general anxiety disorder (GAD), and substance use disorder (SUD).

Asian-Americans' collectivist cultural tradition

Cultural and social psychological theories have cast light on the importance of family relationships in AAs. Cultural psychologists highlight the role of collectivist values in preserving cultural identity and in maintaining the well-being of members in ethnic minority communities.[5,12,13] AAs may have a stronger sense of collectivism than many other cultural groups and tend to feel a sense of obligation toward in-group members and a sense of duty to take care of family members.[14] These cultural traditions place value on discipline and hard work and carry high parent expectations regarding educational achievement,[15] which is viewed as a means to social mobility.[16,17] Adhering to Asian cultural values may contribute to psychological adjustment and act as protective factors against stress.[11,18]

Social identity theory postulates that group behavior plays a significant role in the cognitive process of intergroup experiences.[19,20] The key principle of social identity theory is that group behaviors derive from cognitive representations of the self as a group member. Differences within the group are perceived as more similar and homogeneous among the group members.[20,21] Schwartz[22] suggested that collectivist groups are communal cultures characterized by shared obligations and expectations centered on assigned, common familial conditions. AA communities exemplify such cultural social groups, in which members share common outcomes, goals, and values which are central to the culture and, specifically, extended families.[2,21,22] Such collective goals and values, in turn, could shape their behaviors and coping strengths. Emerging studies on AAs have shown benefits of their collective cultural strengths (e.g., ethnic identity and religious attendance) in strengthening mental health.[2,7,9]

However, some others have shown discrepancies in the role of AAs' cultural strengths. For example, ethnic identity was associated with lower odds of having MDD in Filipino Americans but higher odds in Chinese Americans.[6] Ethnic identity, however, seems to both buffer[23] and exacerbate the effects of discrimination on depression among Southeast-Asian immigrants.[6,24] Religious attendance also showed an inconsistent function across AA subcultures.[11] Clearly, group-based strengths are complex constructs embodying distinctive cultural practices, and each subcultural group may have unique religious traditions,[6,11] which could play differential roles in the behavioral health of AA subcultures.[2] Cross-subgroup divergence is not unique to AAs, given that a similar finding was shown in a Latino nationwide sample.[5] The discrepancy suggests that over-arching cultural strengths may be generally important but not necessarily helpful to the study

of the mental health of all AAs. At the national level, more investigation is needed to address other culturally sensitive factors for AAs.

Asian-Americans' identity and family values

Prominent among almost all Asian subcultures are conformity to norms, deference to authority figures, humility, and hierarchical family structure.[25] The family unit and parenting are central to Asian families. Nevertheless, some practices and expectations within AA families may differ from those in American culture, generating distress. Since AAs have been shown to make only limited use of formal mental health treatment, their close family ties and strong cultural identity become the backbone of their social support when faced with mental illness.[26]

Family systems theory may help deepen the understanding of AA's cultural identity. Bowen[27] postulates that individuality and togetherness are the foundation of all human relationships, and that the ability to negotiate a boundary between the self and the family helps shape the quality of connections among family members. This theory can also be used to explain how ethnic minorities supplement their individual identity within group identification to make sense of race and ethnic-related experiences. Individuals who are unable to achieve an optimal connection between these systems may have difficulty maintaining their well-being, especially in times of stressful interpersonal interactions.[28]

In the NLAAS, most AAs were not born in the USA so their identity was complicated by immigration experiences.[18] AAs' identity thus is manifest at multiple levels: an AA self, an AA family member, a subcultural AA, and a general AA as a group member at large as projected by non-AAs. For all AAs, a commonly shared, traditional sense of a core AA identity, regardless of nativity, generational, subcultural, and socio-political difference, may form among AA family members. However, acculturation gaps within AA families may also be a source of conflict.[13] Often, children in immigrant families acculturate faster than their parents. Different rates of acculturation may make the parents more dependent on their children for help in terms of language translation and social interactions and this role reversal may affect the quality of family relationships.[29]

AAs' family values and practice related to their mental and behavioral health

From the above theoretical perspective, it is important to explore the role of family relationships along with other cultural strength factors in AAs' mental health. Indeed, Zhang and Ta[10] showed that family cohesion had both independent and direct positive effects on AAs' self-rated mental and physical health. Sangaang and Gee[8] found that family support was associated with decreased likelihood of major depression and general anxiety, while family cohesion was related to a lower prevalence of mood disorders.[30] Greater family cohesion was associated with a decrease in risk of depression in older Asian adult populations.[31] Family support was associated with lower rates of MDD and also acted as a buffer for discrimination among AAs.[32]

Conversely, evidence indicates that family conflict and burden predict mood disorders, and family strain was positively associated with GAD in AAs.[8,30] Marital distress has been linked to a higher likelihood of disorders such as anxiety and substance abuse.[33] In addition, negative interaction with relatives contributes to MDD.[32] Family conflict and being female were positively associated with suicidal ideation and attempts,[7] which is consistent with Kuroki and Tilley's[34] findings regarding a positive relationship between low family support and suicidal ideation. Among older AAs, family conflict and the quality of family relationships were linked with late-life depression and mental disorders.[31,34] Furthermore, Shijian and Delva[35] found that family conflicts and greater levels of connection to family members were associated with smoking in AAs.

As for SUD, AAs' family relationship could play a significant role even though its etiology is not well understood in this population.[36] The rate of SUD has been increasing, especially among AA college students.[37,38] Culturally based factors as regards the parent-child relationship may increase the susceptibility of AA adolescents to engage in alcohol use and SUDs.[39,40] However, strong observance of Asian values may decrease the chance of engaging in SUDs and serve as a protective factor.[38,41] Thus, a nationwide evaluation of the family function in such psychiatric disorders could have important implications for behavioral health assessment and intervention with AAs.

Acculturation-related factors in AAs' mental and behavioral health

Research over the past decade has shown that discrimination, English proficiency, and nativity play important roles in AAs' mental health. Perceived discrimination has been positively associated with depression.[18] However, family support moderates the association between discrimination and depression in AAs.[42] Both unfair treatment and racial discrimination was found to predict psychological distress, with US-born AAs more distressed by unfair treatment than were their foreign-born counterparts.[43] Everyday, discrimination was strongly associated with increased mental health symptoms in AA men with poor English.[44] US-born AA women were more likely to perceive discrimination compared with immigrant AA women, even though the former were more acculturated.[45]

English proficiency was positively related to family cohesion[46] and had some influence on the use of mental health services in many national studies.[47,48] AA men whose English is poor reported more discrimination and an increase in mental health symptoms.[44] Asian immigrants in the USA experience a transition from being members of a majority in their country of origin to minority status in the USA, which may lead to perceived discrimination.

Findings on the role of nativity status in AAs' mental health have not always been consistent. Some early studies indicated that Asian immigrants had higher levels of depressive symptoms than US-born Asians.[49] Other reports, however, found that Asian immigrants have lower rates of depression than US-born Asians.[50,51] Also, Choi, Miller, and Wilbur[52] reported higher depression scores among immigrant Asian women who came to the USA more recently than more acculturated AA women. However, US-born AA women were twice as likely as late-life AA immigrants to report depression over the course of their lives.[45] All major acculturation-related factors that were known to be influential on their mental health, therefore, were controlled for in the present study.

The present study

Taken together, the scattered literature underscores the critical influence of AA culture and family norms in their mental health, which may have significant social implications. Nevertheless, more information at a national level is needed. Using the NLAAS data collected from a national household representative sample, the present study attempts to present more comprehensive evidence. In doing so, it documented the link between AAs' unique cultural components and three psychiatric diagnoses. Specifically, it examined the association of family cohesiveness, negative interactions, and other cultural factors with mental and behavioral health outcomes. The ultimate goal was to provide culturally sensitive knowledge about AA cultural values and family practices for professionals in areas of behavioral health research and practice.

Based on prior research, it was hypothesized that family cohesiveness would be inversely associated with the psychiatric diagnoses (MDD, GAD, and SUD), after controlling for key demographics and acculturation-related factors known to predict mental health, such as perceived discrimination. Next, it was further hypothesized that negative interactions would be positively

associated with such mental health problems. In a post hoc analysis, the moderating effect of family factors on the relationship between discrimination and psychiatric diagnoses was evaluated.

Method

Data source and procedure

The study employed the NLAAS dataset, the first representative household survey on the mental health of Latino and Asian Americans aged older than 18 and residing in the USA. The NLAAS was designed as a part of the Collaborative Psychiatric Epidemiology Studies (CPES). One of the main aims of the NLAAS research was attaining cultural relevance in contextual differences of AAs as compared with the mainstream population. One aim of the CPES was to compare the association of immigration factors and the use of mental health services across major racial and ethnic categories (African-, Asian-, and Latino-Americans) with that of European Americans. The original research design of the NLAAS was adapted from that of the NCS-R.[53,54] Available in six languages, the NLAAS questionnaire provided information on key socio-demographics, self-reported mental health diagnoses, service utilization, and acculturation variables for Asian-Americans.

The NLAAS dataset consists of primary sampling units selected with probabilities proportional to size with three stages of sampling that were described extensively elsewhere.[53,55] Bayesian methods were employed to produce weights to correct for sampling bias for the total sample, using the interval estimates from other CPES studies.[55] Trained interviewers administered the NLAAS questionnaire in each participant's preferred language in a face-to-face interview between May 2002 and December 2003. Participants responded to mostly multiple-choice questions at various sittings.

The sample

The NLAAS collected information primarily from nationally representative household samples of Latino and AA adults. The total sample size in the NLAAS was 4649, including 2095 AAs in three major subgroups: Chinese ($n = 600$), Filipino ($n = 508$), and Vietnamese ($n = 520$), as well as in other subgroups including all other AA ethnicities ($n = 467$). The current analysis involved all 2095 AAs identified in the NLAAS. Table 1 shows descriptive information for Asian-Americans. Average age was 41.22 years (SD = 14.77; range: 18–97), and average income was 5.6 (SD = 4.9), based on the 2001 Census household income/needs ratio (range: 0–17). Around 58.2% were college educated (levels 1–3, < 15 years) (Table 1). Although only slightly over two-fifths of the sample were US-born, over 80% of Asians interviewed had stayed in the USA at least 11 years prior to the survey.

Measures

Major independent variables

Religious affiliation was addressed via the question: "What is your religious preference?" Responses were coded and entered into the database as Protestantism, Catholicism, other religion, and no religion. In the public data, no detailed categories were given on specific Asian faiths (e.g., Buddhism, Confucianism, Daoism, and Hinduism) in the NLAAS. *Religious attendance* was assessed for respondents who had identified a religious affiliation via one question (i.e., "How often do you usually attend religious services?") with answers scored on a 5-level Likert scale (1 = *never*, 5 = *more than once a week*). For those with no religion, the answer was coded as default (1 = *never*). *Religious coping* was assessed for respondents who had identified a religious affiliation via the question, "When you have problems or difficulties in your family, work, or personal life,

Table 1
Descriptive statistics ($N = 2095$)

	N	Mean	SD	Range
MDD	2095	0.046	0.210	0–1
GAD	2095	0.014	0.117	0–1
SUD	2095	0.040	0.195	0–1
Age	2095	41.219	14.765	18–97
Income ratio	2095	5.642	4.903	0–17
Employed	2095	0.661	0.474	0–1
US-born	2092	0.217	0.412	0–1
English proficiency ($\alpha = 0.965$)	2087	8.384	3.091	3–12
Acculturation stress ($\alpha = 0.970$)	2045	0.197	0.174	0–1
Discrimination ($\alpha = 0.910$)	2020	1.777	0.725	1–6
Racial and ethnic identity ($\alpha = 0.746$)	2069	3.285	0.604	1–4
Social support ($\alpha = 0.787$)	1991	2.830	0.645	1–4
Family cohesiveness ($\alpha = 0.832$)	2085	11.055	1.540	3–12
Negative family interactions ($\alpha = 0.756$)	2068	1.287	0.361	1–4
		n	*%*	
Education	2095			
0–11[a]		316	15.1	
12		372	17.8	
13–15		529	25.3	
16		878	41.9	
Years in the USA	2092			
< 5		302	14.4	
5–10		300	14.3	
11–20		532	25.4	
≥ 21		504	24.1	
US-born		454	21.7	
Religious attendance	1757			
Never		346	19.7	
Less than once a month		505	28.7	
1–3 times a month		224	12.7	
About once a week		504	28.7	
More than once a week		178	10.1	
Religious coping	2086			
Never		708	33.9	
Rarely		334	16.0	
Sometimes		433	20.8	
Often		611	29.3	

MDD major depressive disorder, *GAD* general anxiety disorder, *SUD* substance use disorder
[a]The reference category in regression models

how often do you seek comfort through religious or spiritual means, such as praying, meditating, attending a religious or spiritual service, or talking to a religious or spiritual advisor – often, sometimes, rarely or never?" Answers were scored on a 4-point Likert scale (1 = *never*, 4 = *often*). For those with no religion, the answer was coded as 1 = *never*.

Table 2
Kendall's Tau-B correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age																
2. Female	− 0.025															
3. Education	− 0.152**	− 0.029														
4. Income ratio	− 0.006	− 0.078**	0.269**													
5. Employed	− 0.064**	− 0.175**	0.068*	0.239**												
6. US-born	− 0.165**	− 0.025	0.120**	0.036	0.011											
7. Length in the USA	0.004	− 0.035	0.106**	0.090**	0.041	0.742**										
8. English proficiency	− 0.241**	− 0.020	0.409**	0.251**	0.095**	0.395**	0.356*									
9. Acculturation stress	0.132**	0.007	− 0.086***	− 0.054*	− 0.002	− 0.637**	− 0.532*	− 0.375**								
10. Discrimination	− 0.153**	− 0.049	0.143**	0.127**	0.067**	0.195**	0.187*	0.214**	− 0.054*							
11. Religious attendance	0.103***	0.008	0.124**	0.004	− 0.066*	− 0.118**	− 0076**	0.014	0.074**	− 0.020						
12. Religious coping	0.070**	0.121**	0.079**	0.005	− 0.060*	0.002	0.019	0.083**	− 0.003	0.030	0.408*					
13. Racial and ethnic identity	0.110**	− 0.011	− 0.054*	− 0.042	− 0.054*	− 0.213**	− 0.181*	− 0.174**	0.148**	− 0.176**	0.086*	0.011				
14. Social support	− 0.023	− 0.080**	0.004	− 0.025	0.020	0.020	0.014	0.004	0.019	0.017	− 0.030	− 0.030	0.023			
15. Family cohesiveness	0.143**	− 0.006	− 0.094***	− 0.003	0.014	− 0.196**	− 0.186*	− 0.125**	0.095**	− 0.217**	0.063*	0.021	0.230**	− 0.033		
16. Negative interactions	− 0.093**	0.074**	0.117**	0.085**	0.005	− 0.019	− 0.001	0.074**	0.080**	0.267**	− 0.006	0.005	− 0.142**	− 0.019	− 0.300**	

$*p < .05$, $**p < .01$

Table 3

Correlations between independent and dependent variables for AAs (N = 2095)

	MDD	GAD	SUD
1. Age	− 0.088***	− 0.031	− 0.1000***
2. Female	0.052	0.035	− 0.107***
3. Education	0.013	0.025	0.002
4. Income ratio	− 0.036	− 0.028	0.002
5. Employed	− 0.061*	− 0.047	− 0.024
6. US-born	0.061*	0.038	0.138***
7. Length in the USA	0.057*	0.036	0.138**
8. English proficiency	0.004	0.023	0.083***
9. Acculturation stress	− 0.005	− 0.005	− 0.120***
10. Discrimination	0.115***	0.074**	0.137***
11. Religious attendance	− 0.036	− 0.032	− 0.087***
12. Religious coping	0.001	0.022	− 0.021
13. Racial and ethnic identity	− 0.054*	− 0.030	− 0.088***
14. Social support	− 0.023	0.020	0.016
15. Family cohesiveness	− 0.136***	− 0.104***	− 0.094***
16. Negative interactions	0.151***	0.099***	0.052

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

Social support was assessed with an 8-item measure for emotional support through the respondent's social network with a 4-point scale (1 = *not at all*; 4 = *a lot*; $\alpha = 0.79$).[53] Respondents answered items referring to support from family and relatives, friends, spouse, as well as others if applicable (e.g., "How much can you rely on your relatives for help if you have a serious problem?"). *Racial and ethnic identity* was assessed with a 3-item measure, an averaged 4-point scale (1 = *not at all*, 4 = *very close*; $\alpha = 0.75$). Respondents answered questions referring to perceived closeness to the respondent's ethnic group (e.g., "How much do you identify with others of the same racial/ethnic descent?")

Family cohesiveness was assessed with a 3-item measure for the feeling of closeness to the respondent's family with 4-point scale (1 = *strongly disagree*, 4 = *strongly agree*; $\alpha = 0.83$). Respondents considered attributes such as, "Family members like to spend free time with each other".

Negative family interactions were assessed with a 5-item measure assessing conflict with the respondent's family using such attributes as "Your personal goals have been in conflict with your family?" Respondents indicated their answer using a 3-point scale (1 = *hardly ever or never*, 3 = *often*; $\alpha = 0.76$).[53] Items on each scale were averaged to produce a mean score for the assessed construct.

Criterion variables

In the NLAAS, diagnosis of psychiatric disorders was based on the World Mental Health Survey Initiative version of the WMH-CIDI, equivalent to the criteria from the DSM-IV.[56,57] Trained interviewers asked whether participants had received a diagnosis, including MDD, GAD, or SUD, over the preceding 12 months. The answers were then recorded as dichotomy variables (0 = *no*, 1 = *yes*).

Table 4

Logistic regression predicting MDD, GAD, and SUD in the past 12 months (religious attendance used)

	MDD Model 1	MDD Model 2	MDD Model 2, 95% CI	GAD Model 1	GAD Model 2	GAD Model 2, 95% CI	SUD Model 1	SUD Model 2	SUD Model 2, 95% CI
Age	0.95***	0.95**	0.913–0.981	0.97*	0.98	0.961–1.005	0.98*	0.96**	0.927–0.987
Female	1.39	1.09	0.469–2.536	3.51*	1.66	0.379–7.278	0.29***	0.20***	0.081–0.475
Years of education									
12	1.77	1.40	0.185–10.561	6.18	0.87	0.184–4.074	1.04	0.76	0.194–3.023
≥13[a]	1.90	1.66	0.205–13.354	6.97			1.01	0.81	0.205–3.241
Income	0.98	0.99	0.903–1.091	0.99	1.11	0.916–1.344	1.02	1.04	0.966–1.130
Employed	0.85	1.12	0.394–3.201	0.83	0.30	0.069–1.282	0.41**	0.34	0.149–0.753
Years in the USA									
5–11	3.61*	2.55	0.560–11.652	1.63	0.69	0.342–14.094	0.89	0.71	0.082–6.066
>11[b]	3.44*	4.18*	1.014–17.221	1.98	0.78	0.092–6.558	1.32	2.29	0.462–11.349
US-born	5.37**	3.46	0.728–16.442	2.92	0.55	0.477–6.448	2.72	2.29	0.380–13.797
English proficiency	0.84*	0.83	0.674–1.004	1.03	0.93	0.716–1.211	1.00	0.99	0.834–1.180
Acculturation stress	4.80	2.37	0.233–24.014	4.63	0.25	0.007–8.741	0.17	0.04	0.001–1.324
Discrimination	2.50***	2.44***	1.561–3.810	1.94*	2.14	0.944–4.862	1.98***	1.79**	1.180–2.716
Religious attendance									
Less than once a month		0.72	0.270–1.926		0.73	0.089–5.970		0.94	0.417–2.137
1–3 times a month		1.07	0.302–3.797		1.32	0.136–12.823		0.56	0.158–1.999
Once a week or more [c]		0.14	0.139–1.323		1.02	0.131–7.910		0.26*	0.092–0.744
Social support		0.96	0.596–1.554		1.27	0.722–2.246		1.13	0.680–1.867
Negative interactions		5.07***	2.093–12.297		2.20	0.634–7.599		3.31*	1.285–8.516
Family cohesiveness		0.78	0.364–1.661		0.28*	0.086–0.935		1.65	10.731–3.711
Racial and ethnic identity		0.99	0.484–2.034		2.11	0.782–5.703		0.73	0.382–1.398
χ^2	84.65	88.63		35.39	59.08		85.92	76.96	
df	12	19		12	19		12	19	

MDD major depressive disorder, *GAD* general anxiety disorder, *SUD* substance use disorder, *OR* odds ratio, *CI* confidence intervals

[a]13–15 and ≥ 16 years were combined to avoid perfect prediction in the analysis based on small categorical respondent numbers

[b]11–20 and ≥ 21 years were combined to avoid perfect prediction in the analysis based on small categorical respondent numbers

[c]Once a week and more than once a week were combined to avoid perfect prediction in the analysis based on small categorical respondent numbers

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

Table 5

Logistic regression predicting MDD, GAD, and SUD in the past 12 months (religious coping used)

	MDD			GAD			SUD		
	Model 1	Model 2	Model 2, 95% CI	Model 1	Model 2	Model 2, 95% CI	Model 1	Model 2	Model 2, 95% CI
Age	0.95***	0.95**	0.918–0.981	0.97*	0.98	0.955–1.012	0.98*	0.97**	0.940–0.991
Female	1.39	1.18	0.561–2.474	3.51*	2.25	0.640–7.926	0.29***	0.26***	0.126–0.522
Years of education									
12	1.77	1.47	0.326–6.678	6.18	0.81	0.196–3.377	1.04	1.02	0.254–4.107
≥ 13ᵃ	1.90	1.28	0.287–5.681	6.97	0.77	0.177–2.888	1.01	0.94	0.246–3.571
Income	0.98	1.00	0.919–1.088	0.99	1.04	0.849–1.272	1.02	1.06	0.987–1.141
Employed	0.85	1.05	0.444–2.498	0.83	0.58	0.128–2.618	0.41**	0.35**	0.168–0.717
Years in the USA									
5–11	3.61*	2.20	0.653–7.418	1.63	1.12	0.093–13.492	0.89	0.37	0.051–2.625
> 11ᵇ	3.44*	2.29	0.681–7.720	1.98	1.44	0.150–13.829	1.32	1.26	0.343–4.660
US–born	5.37**	2.36	0.559–9.958	2.92	1.19	0.100–14.149	2.72	2.27	0.582–8.886
English proficiency	0.84*	0.86	0.719–1.033	1.03	1.09	0.769–1.547	1.00	0.95	0.816–1.112
Acculturation stress	4.80	3.37	0.457–24.880	4.63	6.03	0.030–30.008	0.17	0.12	0.006–2.510
Discrimination	2.50***	2.32***	1.502–3.587	1.94*	2.64*	1.160–6.022	1.98***	1.77**	1.150–2.731
Religious coping		0.95	0.711–1.265		1.01	0.573–1.780		0.84	0.635–1.122
Social support		1.21	0.777–1.887		1.33	0.803–2.190		0.97	0.619–1.534
Negative interactions		6.29***	2.883–13.729		1.56	0.441–5.505		3.26*	1.292–8.231
Family cohesiveness		0.59	0.336–1.052		0.28***	0.140–0.555		0.79	0.414–1.520
Racial and ethnic identity		1.15	0.619–2.134		1.35	0.626–2.923		0.90	0.503–1.590
χ²	84.65	100.12		35.39	67.96		85.92	67.53	
df	12	17		12	17		12	17	

MDD major depressive disorder, *GAD* general anxiety disorder, *SUD* substance use disorder, *OR* odds ratio, *CI* confidence intervals

ᵃ13–15 and ≥ 16 years were combined to avoid perfect prediction in the analysis based on small categorical respondent numbers

ᵇ11–20 and ≥ 21 years to avoid perfect prediction in the analysis based on small categorical respondent numbers

ᶜOnce a week and more than once a week were combined to avoid perfect prediction in the analysis based on small categorical respondent numbers

*p < .05, **p < .01, ***p < .001

Control factors

Socio-demographic factors: age (measured by years), *education* (four levels: 1 = *0–11 years*, 2 = *12 years*, 3 = *13–15 years*, and 4 = *> 16 years* with 0–11 years served as the reference category), *income* (ranging from 0 to 17; measured using an index as the ratio to poverty threshold—the US Census' year 2000 poverty line), and *employment* (two levels: 0 = *unemployed or not in the labor force*, 1 = *employed*).

Acculturation factors: English proficiency was assessed with a 3-item measure for one's ability to speak, read, and write English ($\alpha = 0.97$). *US-born* was dichotomized for one's birthplace (0 = *foreign-born*, 1 = *US-born*). *Years in the US* was assessed with four categorical levels (1 = *0–10 years in the USA*, 2 = *11–20 years in the USA*, 3 = *≥ 21 years or more*, and *US-born*) with 0–10 years in the USA served as the reference category). *Acculturation stress* was assessed with a 9-item measure for social and emotional strains pertaining to culture change resultant from migration ($\alpha = 0.97$)[55] with dichotomized answers (0 = *no*, 1 = *yes*) assessed. *Discrimination* was assessed with a 9-item measure for perceived discrimination[48] on a 6-point scale for each (1 = *never*, 6 = *almost every day*; $\alpha = 0.91$).

Statistical analysis

All data analyses were conducted using Stata 13.[58] The weights created for the data were presented in the results to correct for sampling bias, including age. Descriptive analyses were computed for all variables among AAs in this analysis. Kendall's Tau statistics were computed to

illustrate zero-order correlations among all variables in the multivariate analyses. Logistic regression analyses were conducted with diagnostic status as the criterion for each of the three outcomes, respectively, involving two preplanned steps. An OR > 1 represents a positive relationship, and OR < 1 represents a negative relationship. Differences in chi-squares in models 1 and 2 showed whether the newly added variables increase the power of the original sets of predictors. For all tests, we used an alpha level of .05 to establish statistical significance. Under each diagnosis, the first model included covariates (existing socio-demographics and acculturation predictors in the literature). The second step included the investigation of psychosocial risk and protective factors in addition to the existing predictors in the first model. In logistic regression, the odds ratios (ORs) indicate the likelihood that one group had the diagnosis compared to another group.

Results

Bivariate correlations

Table 2 displays correlations among all independent variables. *Family cohesiveness* and *negative family interactions* were inversely related, while each was correlated with two cultural strength factors (*religious attendance* and *racial/ethnic identity*) in opposite directions. Moreover, *family cohesiveness* was correlated positively with *acculturation stress*, but negatively with *discrimination*, *US-born*, *length in the USA*, and *English profi*ciency, as well as with *education*. All three acculturation factors were positively related to *discrimination*. *Negative family interactions* were positively correlated with *discrimination*, *English proficiency*, and *acculturation stress,* as well as with *education*, *income*, and *female* gender*,* but negatively correlated with *age*.

Figure 1

The interaction effect of family cohesiveness on the relationship between discrimination and GAD among Asian-Americans ($p < 0.05$). Note. GAD = general anxiety disorder, FC = family cohesiveness
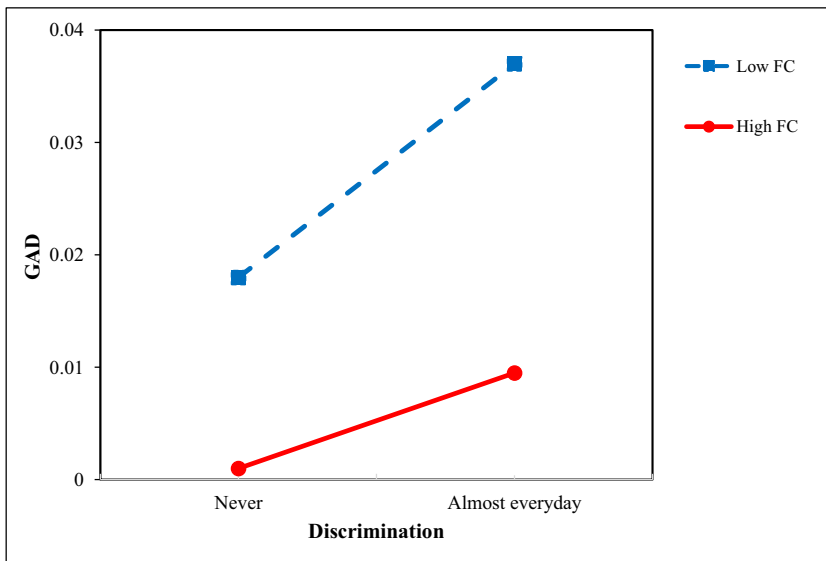
Table 3 presents the correlations between independent and dependent variables. Positive correlates of MDD and SUD were negative family interactions, discrimination, US-born status, and length in the USA, whereas negative correlates of both outcomes were family cohesiveness, racial/ethnic identity, and age. In addition, MDD was negatively correlated with employment, whereas SUD was correlated negatively with acculturation stress and religious attendance but positively with English proficiency. GAD correlated positively with negative family interactions and perceived discrimination but negatively with family cohesiveness.

Multivariate analyses

Using religious attendance to indicate religious involvement, the results of the regression analyses are shown in Table 4. For MDD, model 1 showed each year of increase in *age* decreased by 5% the likelihood of MDD, and *English proficiency* was linked to a 16% lower likelihood of MDD. Compared to AAs who had been in the USA for fewer than 5 years, US-born Asians were more than 4.4 times more likely to be diagnosed with MDD, and those who had been in the USA for 5–10 years or longer were 2.4–2.6 times more likely to be diagnosed with MDD. Each increase in *perceived discrimination* raised the odds by 1.5. The effect of *English proficiency* was not evident in model 2, after entry of family and cultural strength factors. However, the impacts of *age*, *perceived discrimination*, and *length in the USA* for at least 11 years persisted. Among new factors, *negative family interactions* was a significant predictor for MDD. Each unit increase of such interactions made a diagnosis of MDD 4.1 times more likely. Hence, AAs who reported greater family conflicts, as well as those who were older, had spent more than 11 years in the USA, and had perceived greater discrimination, were more likely to have a diagnosis of MDD over the past 12 months.

Table 4 indicates that the odds of having GAD decreased by 3% for every year of increased *age.* Being female, however, increased the likelihood of GAD 2.5 times. Each level of increase in *perceived discrimination* raised the likelihood of GAD by 94%. These associations, however, disappeared when new factors were entered in model 2, which significantly improved the model fit. *Family cohesiveness* emerged as the only new predictor and was associated with a 72% lower chance of having GAD. Therefore, AAs who experienced less family cohesion were more likely to be diagnosed with GAD.

For SUD, two demographic predictors emerged in model 1. The odds of reporting SUD was 3% lower with each additional year of *age* and 65% lower for the *employed*. The latter effect, but not the former, remained in model 2 after entry of family and cultural strength factors. The role of *income*, however, became significant: each unit increase in income was associated with a 13% higher likelihood of having a diagnosis of SUD. Among new factors, *negative family interactions* emerged as a significant predictor as each additional unit raised the likelihood of the diagnosis 4.1 times. In contrast, regular *religious attendance* at least once a week was associated with a 90% decrease in likelihood of this diagnosis. Therefore, AAs who reported more family conflicts, who were unemployed, and who had higher incomes were more likely to be diagnosed with SUD. However, those who attended religious services regularly had a lower chance.

Next, using *religious coping* to indicate religious involvement, Table 5 indicates only slightly different patterns of predictors for MDD, GAD, and SUD, from those shown in Table 4, with no substantive changes in family factor-based associations. Specific to Table 5, the magnitude of the positive associations of *negative family interactions* with MDD increased by 5.3 times, and that with SUD increased to a 7.9 times higher likelihood, respectively, while *religious coping* had no influence. The role of *family cohesiveness* in GAD remained identical in the two tables. In addition, in Table 5, the positive association of *perceived discrimination* and the negative association of *age* with MDD was maintained, but not that of time in the USA. The role of *perceived discrimination*

in GAD increased 1.6 times, thereby becoming significant in model 2. The effect of *age* on SUD became significant, alongside the sustaining role of the *employment* status.

In post hoc analysis, two-way interactions between family factors and *perceived discrimination* (*perceived discrimination × family cohesiveness* and *perceived discrimination × negative family interactions*) were examined to identify potential moderation effects. To test the hypothesis that family factors would moderate the relationship between *perceived discrimination* and three psychological outcomes (MDD, GAD, SUD), six interaction models were created. The findings revealed that only *family cohesiveness* significantly moderated the association between *perceived discrimination* and GAD (see Fig. 1). More specifically, compared to lower *family cohesiveness*, higher *family cohesiveness* reduced the magnitude of the positive relationship between *perceived discrimination* and GAD in AAs.

Discussion

The present study fills a gap in research on AAs with respect to the role of family relationships alongside other cultural strengths, in three major psychiatric diagnoses. As hypothesized, family cohesiveness is inversely linked with GAD, and negative interactions are positively related to MDD and SUD. The findings from the current analyses are particularly noteworthy given that key demographic and acculturation-related factors, especially perceived discrimination, were statistically controlled.

The role of family and cultural factors

Similar to the literature on the positive role family cohesion plays in mitigating psychological disorders,[30–32,34] the findings here showed that family cohesion was associated with a lower likelihood of GAD for all AAs. It should also be noted that the protective role of family cohesiveness in this regard is consistent with the link found between family cohesion and lower psychological distress in other minority groups, such as Latinos.[59] Both of these minority populations share a similarity in that a large proportion of more recent immigrants are facing the challenge of acculturation. Also, family cohesion among African-Americans is inversely associated with psychosocial stressors and lower risk of developing and experiencing psychological distress.[60–62]

In contrast, family conflicts may have a negative impact on mental health, as they were associated with a higher likelihood of being diagnosed with MDD and/or SUD. The impact of negative family functioning, however, is not relevant to the likelihood of GAD, as was presented by Sangalang and Gee.[8] The difference regarding family conflicts might be attributable to the fact that the current analysis adjusted for the role of other cultural strength factors. The fact that other cultural strength factors, such as ethnic identity, have only limited influence corroborates previous reports on the divergent roles that they play in mental health across major AA subgroups.[6,11] The only crossover positive effect of other strength factors was illustrated in an association between regular religious attendance and fewer diagnoses of SUD. The combined evidence suggests that the impact of family relationships could be more prominent in AAs' mental health.

The evidence under-scoring family factors is robust. However, it is not a surprise given that family-oriented traditions significantly improve the well-being of AAs.[2] The positive link between negative family interactions and both depression and substance use disorder is strongly supportive of the stress-generation model in that stressors could increase the likelihood of depression.[63] For AAs, stressors could be generated within the family (e.g., negative interaction), which comports with the marital discord model of depression.[64] AAs collective cultural values partly determine family practices, which can be challenged by Western individualized society, leading to conflict within families. Certain AAs might overemphasize their traditional family values and the gender

roles of their culture,[65] leading to cross-cultural family conflicts. Some immigrant women could be expected to follow traditional gender roles in contrast to those of women in the host culture.[66,67] AA women with stronger ethnic identity were more likely to encounter family conflict and suffer mental health problems than their male counterparts.[44]

The same disparity occurs in cross-generational AA family conflicts when Asian youths become acculturated.[68] For example, faster acculturation of children may lead them to develop individualistic goals that diverge from the collectivist orientation of other family members.[13] This can lead to increased stress as AA parents tend to expect children to adhere to their culture. As children adopt US culture, parents and elders may see this as a sign of disrespect. The literature has shown that acculturation-based conflicts compromised the well-being of children in AA immigrant families.[68–70] With the new national level evidence from the present study, mental and behavioral health professions should be more attentive to AAs' family matters.

Perceived discrimination and moderation effect of family cohesion

The present study demonstrated the strong negative role of perceived discrimination in AA's mental health, especially in MDD and SUD, which also reinforces the stress-generation model in that stressors from outside family could also exacerbate the level of depression.[63] The literature has consistently pointed to the detrimental impact of perceived discrimination on mental health in AAs.[32,42] This finding is also consistent with those from the Latino sample in the NLAAS.[59] Although some researchers have linked more perceived discrimination and unfair treatment with greater acculturation,[42,43,45] others found a positive relationship between discrimination and poor English fluency in AAs.[44]

Likewise, this research found that greater acculturation was associated with perceived discrimination that, in turn, contributed to an increased likelihood of being diagnosed with major depression. Unlike Tummala-Narra et al.'s[42] study, where family support moderated the positive link between discrimination and depression, the current analysis did not indicate that family coherence moderated this association.[42] Rather, the analysis showed that family cohesiveness significantly moderated the positive link between perceived discrimination and the diagnosis of general anxiety. Stated differently, better family relationships lessened the detrimental impact of perceived discrimination. While the present study used a national sample, future nuanced studies are needed to provide stronger evidence for underlying mechanisms.

Previous studies have shown the positive interplay of acculturation-related factors, such as English proficiency, with family cohesion.[46] However, this was not evident in the current bivariate analyses. Particularly noteworthy is the inverse relationship between family cohesion and the extent to which AAs are acculturated and educated (see Table 3). In other words, those who were native born, had stayed longer in the USA, and spoke better English were more likely to experience less family harmony. Conversely, negative family interactions were more likely to appear among those of higher socioeconomic status and English proficiency. These findings reinforce our expectation that potential cross-cultural value conflicts within the family could increase with the process of acculturation and may manifest themselves via immigration status or education-based socio-mobility. Among these acculturation factors, however, only longer stay in the USA had a significantly unfavorable effect on major depression, supporting previous similar findings obtained by Choi, Miller, and Wilbur.[52]

Limitations and lessons for future investigation

The results from this study should be considered in the light of several limitations. First, the findings are limited by the cross-sectional nature of the NLAAS data. Second, the NLAAS database itself is limited to the three major subgroups. This national survey excluded three other

large AA subgroups (East Indian, Japanese, and Korean Americans) in the USA, the members of which are more educated and affluent,[1] but also experience discrimination.[32] Therefore, this first AA representative sample in the USA is a valid means of exploring subgroups rather than drawing inferences from the findings for all AAs. Third, because the analyses are limited to a sample of AAs, more research comparing different racial and ethnic groups is necessary to establish the generalizability of the conclusions from this study.

Fourth, the NLAAS used diagnostic categories from an earlier version of the DSM (DSM-IV), which may be different from those found in the current DSM-V, although the three major outcomes in this study did not seem to be affected. Furthermore, the current study showed relatively low rates of psychopathology among AAs in the NLAAS (see Table 1). For example, the prevalence of GAD among AAs is shown to be 1.4%, which is nearly 50% lower than an estimated 2.7% among US adults in the past 12 months.[45] However, the study did not address whether the difference due to AAs as a psychologically healthier population or a cultural related stigma would affect reporting rate. Finally, the analyses in this paper used the two religious involvement factors each of which was assessed by a single item presented in the NLAAS. Despite these limitations, the present study allowed us to show that the relationship of family structure and processes to mental health among AAs was somewhat different from the expected associations found in previous research.

Inquiry into the effects of other family processes, such as marital happiness, stability, and quality in future research may provide a more detailed picture of how family structure and processes act to improve or diminish the well-being of minorities in the USA. As evident, acculturation, nativity, and perceived discrimination played important roles in relation to family factors. More studies should focus on whether the process of acculturation among AAs leads to the loss of culturally tied health beliefs, available resources, and social support networks, the loss of which could put them at risk of mental illnesses.[62,63] It will also be important to examine different aspects of well-being, including substance abuse, self-esteem, and mental functioning between men, women, immigrants, and the US-born, because they may express their physical and emotional distress differently.

Given the increased attention in racial health disparities, future research should examine cultural and family factors, especially family factors concerning how they affect one's behavioral health and coping skills when faced with adversities. Finally, to have a comprehensive picture, it would be critical to include at least the left-out three major subgroups from the NLAAS in future national surveys on AAs.

Implications for Behavioral Health Practices

Notwithstanding the limitations, the current findings from a nationally representative database underscore the significance of considering family relationships as a key cultural factor in assessing mental health risks in all AAs. The results could be important for primary care practitioners as part of their family-centered interventions to establish culturally sensitive behavioral health interventions with AAs. The significance for the patients could be substantial, as many patients prefer to see their primary care providers rather than a mental health specialist for their behavioral health needs.[52] This is critical since culture plays an influential role in how patients obtain health care, including behavioral health care, and how they use their coping skills to deal with their illnesses.[71] The understanding of mental health issues among US and foreign-born AAs might increase if providers were aware of differences in family conflict, perceived discrimination, and cultural conflict among AA men and women.

Ample research exists on the impact of mental health barriers and help-seeking behaviors and family relationships in other populations. Relationships within a family help regulate social control and offer encouragement and information to act and use health care services more effectively.[72,73] Whites have higher behavioral health care use than other racial/ethnic populations, including access to specialists.[74,75] Disparities exists which include language barriers, levels of health care use, late

initiation of type of care,[76,77] and prevalence and treatment of mental illness.[78] Likewise, the present findings from this first epidemiological representative sample suggest the importance of considering key cultural factors such as individual family relationships as part of the behavioral health assessment in clients with behavioral health issues. Health care providers, especially those who work with behavioral health clients should be aware of the differences in family conflict, perceived discrimination, and cultural conflict among Asian Americans.

Declarations

Conflict of Interest   The authors declare no competing interests.

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