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The Effects of Familial Acculturative Stress and Hopelessness on Suicidal Ideation by Immigration Status among College Students

Robert Lane and

Hunter College, City University of New York and St. John's University

Regina Miranda

Hunter College and The Graduate Center, City University of New York

Abstract

Objectives—Based on acculturative family distancing theory, we examined whether familial acculturative stress interacted with hopelessness to predict suicidal ideation differentially among emerging adult immigrant versus non-immigrant college students.

Participants—We recruited 152 generationally and racially/ethnically diverse college students (42 immigrants) from 2012 to 2013.

Methods—Participants completed measures of hopelessness, depressive symptoms, ethnic identity, familial acculturative stress, and suicidal ideation.

Results—Immigrant status interacted with hopelessness and familial acculturative stress. Hopelessness was associated with less suicidal ideation among immigrants than among non-immigrants at a familial acculturative stress score below the 11th percentile, but greater suicidal ideation among immigrants than among non-immigrants at a familial acculturative stress score above the 72nd percentile.

Conclusions—Familial acculturative stress may exacerbate the effect of hopelessness on suicidal ideation among immigrant college students, and should be monitored during suicide risk assessment and treatment.

Keywords

immigrant; acculturative family distancing; acculturative stress; hopelessness; suicidal ideation

Immigrants comprise 13.3% of the United States (US) population as of 2014.¹ Nearly 20% of full-time college students and about 24% of community college students are either immigrants or second-generation individuals.² Community colleges offer affordable education to immigrants, who are often of limited financial means^{3–6} and who, in addition to facing challenging familial obligations, also face language and cultural barriers at odds with

Address correspondence to Regina Miranda, Department of Psychology, Hunter College, City University of New York, 695 Park Ave., Room 611HN, New York, NY 10065.

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the emphasis on individual achievement and independence in higher education.^{4-5,7-10} Higher education institutions have endeavored to address immigrant students' financial and linguistic barriers,^{4,11} but attempts to address cultural stressors that deleteriously influence their academic and mental health outcomes have been more limited.

Colleges serve students during emerging adulthood (ages 18–25) – a developmental period often associated with seeking autonomy from family and forging distinct identities.¹² This period is one of increased risk for major depression and suicidal behavior.^{13–15} In fact, suicide is the second leading cause of death in emerging adulthood.¹⁵ Furthermore, emerging adulthood is a period of particularly heightened risk for suicidal thoughts and behaviors (STB) among racial and ethnic minorities,^{16–17} who comprise the majority of current US immigration.¹⁸ Understanding mechanisms that can influence cultural factors, which, in turn, influence STB among young immigrants, is important in addressing immigrant college students' mental health needs.

Cultural Factors and STB among Immigrants

Acculturative Stress

Several cultural factors frequently associated with immigration, such as acculturation and acculturative stress, have been found to influence psychiatric outcomes such as depression and STB.^{19–29} However, past studies report fewer suicide attempts^{19, 30} and less suicidal ideation and planning³¹ among immigrants versus non-immigrants. Acculturative stress – stress during the process of acculturation – has been found to be associated with suicidal ideation among immigrants,^{21–22} but the mechanisms surrounding its influence, and particularly among immigrant college students, are not fully understood.

Acculturation occurs at the intersection of two or more cultural contexts³² and is an adaptation to a dominant cultural orientation by an individual from a non-dominant cultural orientation, that forms in opposition to developing an ethnic identity.³³ Ethnic identity is an opposing process in which an individual shifts towards values of one's heritage culture that are not part of the dominant cultural orientation.³³ The tension between these two opposing processes is thought to result in acculturative stress,³³ which arises when, during acculturation, individuals experience social marginalization, negativity towards their heritage origin, pressure to assimilate, and conflict between individual and familial cultural expectations.³⁴

Familial Acculturative Stress

Prior research suggests the importance of understanding acculturative stress within a family context.¹⁰ Such conflict has been elaborated upon by acculturative family distancing (AFD) theory, which suggests that the pace of acculturation between ethnic minority parents and their children may vary, creating an acculturative discrepancy that may be associated with depressive symptoms.³⁵ One study of children of Southeast Asian immigrant parents found that parent-child discrepancy in partiality for values of the culture of heritage, versus the culture at large, predicted depressive symptoms, and that parent-child cultural conflict mediated the effect of perceived parent-child acculturative discrepancy on depressive

symptoms.²⁸ Another study found that conflict between parents and their daughters mediated the relation between traditional female gender roles (*marianismo*) and depressive symptoms among Mexican American female college students.³⁶ Stress from AFD and related family conflict have further been suggested to be positively related to adjustment difficulties among Asian American college students²³ and depressive symptoms in second-generation Asian Indian women.²⁶

With regard to suicide and AFD theory, one prominent study that surveyed over 2,000 Asian American individuals from varied ethnic backgrounds found that culturally-based family conflict was positively associated with STB.²⁰ Factors related to AFD have also been suggested to increase risk for suicidal behavior among Latina emerging adults.^{19, 29, 37} Prior research has examined AFD for its influence on depressive symptoms and STB, but study of potential moderators of the AFD-STB relation has been limited and requires further inquiry.

Ethnic Identity

One potential buffer against AFD is ethnic identity, a fluid, multifaceted concept referring to one's identification as belonging to an ethnic group.³⁸ Ethnic identity has been reported to protect against depressive symptoms among both immigrant and non-immigrant high school students from diverse racial/ethnic minority backgrounds;²⁵ and against acculturative stress, hopelessness, depressive symptoms, and suicidal ideation among urban college students.²⁴ Among Asian American individuals, ethnic identity has been associated with reduced odds of a suicide attempt.²⁰ Lower levels of ethnic identity affirmation and achievement have been associated with concurrent suicidal ideation²⁷ and prior suicide attempts among African American individuals;³⁹ and higher levels have been associated with reducing the influence of gendered racism (combined racism and sexism) on STB among African American women of low socioeconomic status.⁴⁰ Other studies of racial and ethnic minority individuals, however, have reported no observable effect of ethnic identity on STB.^{41–42} Thus, whether ethnic identity buffers against STB remains an open question.

Hopelessness, Depressive Symptoms, and STB

Hopelessness

Hopelessness, a prominent risk factor for both depression⁴³ and STB,^{44–47} entails believing that undesired future ends will occur inevitably in lieu of desired ones.⁴³ Family conflict has been reported to be positively associated with hopelessness among depressed youth.⁴⁸ One study of Latino adolescent immigrants found that participating in cultural traditions protected against hopelessness.⁴⁹ Another longitudinal study of an ethnically-diverse college-student sample reported that acculturative stress was positively related to hopelessness, which, in turn increased vulnerability to depression and suicidal ideation, though a strong ethnic identity protected against this effect.²⁴ It is thus possible that AFD, via familial acculturative stress, may interact with hopelessness to exacerbate its severity. This possibility has yet to be examined among immigrants.

Depressive Symptoms

Depressive symptoms are positively associated with suicidal ideation and increase risk for suicide.^{45, 50, 51} At elevated levels of severity, depressive symptoms have been associated with wanting to die, with this being the foremost reason for a prior suicide attempt among repeat attempters in one prior study.⁵²

Depressive symptoms have been found to be significantly and positively associated with acculturative stress among Korean²¹ and Central American²² immigrants, as well as among a racially/ethnically diverse group of emerging adult college students.²⁴ Familial acculturative stress has been found to be positively associated with depressive symptoms among second-generation Asian Indian women²⁶ and children of Southeast Asian immigrants.²⁸ Conflict between parents and daughters over traditional female gender roles has been reported to mediate a relation between cultural values espousing these roles and depressive symptoms among Mexican American female college students.³⁶ In addition, ethnic identity has been found to be negatively associated with depressive symptoms among racially/ethnically diverse high school and college students.^{24–25} Given the prior associations of cultural factors such as AFD and familial acculturative stress with depressive symptoms, research is needed to assess the effects of these cultural factors among young immigrants.

The Current Study

Prior research has yet to examine the potential combined influence of AFD and associated familial acculturative stress on suicidal ideation, in conjunction with hopelessness, among a racially/ethnically diverse sample of immigrants that arrived in the US prior to 18 years of age. The current study attempts to address this gap. We hypothesized that among immigrants, compared to non-immigrants, (a) mean levels of familial acculturative stress would be greater; (b) familial acculturative stress would be more strongly associated with suicidal ideation; and (c) familial acculturative stress would moderate the relationship between hopelessness and suicidal ideation, while adjusting for depressive symptoms and ethnic identity.

Method

Participants

One hundred fifty-two first and second-year college students ($n = 117$ women, 77%), ages 18–25 ($M = 18.64$, $SD = 1.06$), were recruited via an ongoing study of cognitive predictors of STB. These individuals were students from a New York City urban public university and other metropolitan area colleges. The sample included 42 (28%) immigrants of diverse racial, ethnic, and cultural origins (see Table 1).

Racial/ethnic composition included Asian ($n = 56$, 37%), White ($n = 41$, 27%), Hispanic/Latino/a ($n = 22$, 15%), Black ($n = 11$, 7%), biracial ($n = 10$, 6%), and other races/ethnicities ($n = 12$, 8%). Participants' self-reported sexual orientation was heterosexual ($n = 130$; 86%), gay or lesbian ($n = 4$; 3%), bisexual ($n = 11$; 7%), or not reported ($n = 7$; 5%).

Measures

Demographic Information Questionnaire (DIQ)—Participants self-reported their race/ethnicity, age, gender, sexual orientation, country of origin, length of US residency, and parents' countries of origin. Immigrant status was assigned to individuals who were born outside the US and whose length of US residency was less than their current age. All immigrants arrived in the US prior to age 18.

Hopelessness—The Beck Hopelessness Scale (BHS) measures beliefs and expectations about the occurrence of desired or undesired future outcomes, with 9 positively and 11 negatively phrased true/false items.⁵³ Total scores range from 0 to 20. Prior research suggests it is highly reliable ($\alpha = .82-.93$).⁵³ In the current study, its internal consistency reliability was .89.

Depressive Symptoms—The Beck Depression Inventory (BDI-II) contains 21 items that assess symptoms of depression two weeks prior to study participation.⁵⁴ Possible responses for each item ranged from 0 to 3. Summing all the items yields a total score that ranges from 0 to 63. The BDI-II has had strong internal consistency reliability ($\alpha = .93$) in prior use among college students⁵⁴ and also in the current study ($\alpha = .93$).

Suicidal Ideation—The Beck Scale for Suicide Ideation (BSS) is a 21-item self-report instrument used to rate active and passive suicidal ideation experienced during the week prior to study participation (on a 0–2 scale).⁵⁵ Summing the first 19 items yields a total score that ranges from 0 to 38. The BSS is a reliable ($\alpha = .87$) measure of suicidal ideation.⁵⁵ In the current study, internal consistency reliability was .90.

Familial Acculturative Stress—The Social, Attitudinal, Familial, and Environmental Acculturative Stress Scale (SAFE) is a reliable ($\alpha = .89$) self-report measure that evaluates acculturative stress in the four named contexts.³⁴ For the current study, we were interested in familial acculturative stress between parents and children, so only the familial context of this measure was used (SAFE-Family). The SAFE-Family consists of three items (e.g., “It bothers me that family members I am close to do not understand my new values”), with responses on a five-point scale ranging from “not stressful” (with a point value of 1), to “extremely stressful” (with a point value of 5). Summing these three items yields a total score that ranges from 3 to 15. Internal consistency reliability for this scale in the present study was .75.

Ethnic Identity—The 12-item version of the Multigroup Ethnic Identity Measure (MEIM) measures an individual's search for his or her specific ethnic identity in a developmental and cognitive context (e.g., “I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs”), and his or her level of ethnic identity affirmation, belonging, and commitment in an affective context (e.g., “I have a lot of pride in my ethnic group”).⁵⁶ Responses are made on a four-point scale ranging from “Strongly Disagree” (with a point value of 1) to “Strongly Agree” (with a point value of 4). Total scores for the MEIM range from 1 to 4 and are computed by calculating the mean of the 12 responses. The original version of the MEIM included reverse-scored items, but the 12-item

version does not.⁵⁶ The MEIM has been found to be a reliable measure of ethnic identity among college students ($\alpha = .90$).⁵⁶ In the current study, its internal consistency reliability was .88.

Procedure

This study was approved by the institutional review board of the City University of New York. Participants provided informed consent and then completed self-report questionnaires (DIQ, BHS, BDI-II, and BSS) either alone in a room with a research assistant, or in small groups where they worked independently in the presence of each other and a research assistant. Participants were subsequently evaluated for suicide risk and debriefed. Those reporting suicidal ideation with a plan (on the BSS) were assessed by a clinical psychologist or social worker, and referred for further evaluation at a student counseling center, as needed.

A subgroup of participants who had completed the previous measures was then randomly selected and invited to complete an online survey that included the SAFE-Family and MEIM. Participants were not scheduled in advance to complete this survey. Those who were unable to complete the survey immediately were given up to 48 hours to complete the measures online via Survey Monkey. Participants chose as compensation either a ten-dollar [amazon.com](https://www.amazon.com) gift card or one credit towards their introductory psychology research participation requirement.

Data Analytical Plan

T-tests were conducted to examine differences between immigrants and non-immigrants on study measures, and correlations were used to examine associations among study variables by immigrant and non-immigrant status. Racial/ethnic differences on continuous study variables were examined via one-way ANOVAs.

Two-way (immigrant status X familial acculturative stress) and 3-way (immigrant status X familial acculturative stress X hopelessness) interactions were tested by entering interaction terms into a hierarchical linear regression. In block 1 of the regression, we adjusted our analysis for gender, LGB status (each individual was dichotomously coded as LGB or not LGB), ethnic identity, and depressive symptoms. In block 2, we entered the dummy coded dichotomous variable immigrant status. In block 3, we entered hopelessness and familial acculturative stress. In block 4, we entered the two-way interaction terms for immigrant status X hopelessness, immigrant status X familial acculturative stress, and hopelessness X familial acculturative stress. Hopelessness X familial acculturative stress was dropped from the analysis due to high multicollinearity and will not be further discussed. In block 5, we entered the three-way interaction term for immigrant status X hopelessness X familial acculturative stress.

All continuous study variables (depressive symptoms, ethnic identity, hopelessness, familial acculturative stress) were centered around their means to reduce multicollinearity.⁵⁷ In addition, we conducted our regression using bootstrapping, which has been recommended for regression models in small samples with heteroscedastic residuals, to ensure compliance with the assumptions of multiple linear regression.⁵⁸

The Johnson-Neyman technique was then used to probe significant interactions via the PROCESS script for SPSS.⁵⁹ This technique identifies significant regions of the moderator for the conditional effect of the predictor on the dependent variable, providing greater precision in examining the moderator's effect on the predictor-outcome relation than methods identifying arbitrary values of the moderator at the mean and at one standard deviation above and below the mean of the moderator.⁵⁹

Results

Sample Characteristics

Means, Standard Deviations, T-Tests, and Correlations—Table 2 displays means and standard deviations for continuous study variables (depressive symptoms, ethnic identity, hopelessness, familial acculturative stress), both for the overall sample and for the immigrant and non-immigrant groups. It also contains the results of independent samples t-tests between the immigrant and non-immigrant groups for each study measure. Table 3 displays correlations among continuous variables representing study measures, both for the overall sample and for the immigrant and non-immigrant groups.

Differences by Immigration Status—Supporting our first hypothesis, immigrants ($M = 9.45$, $SD = 3.08$) reported significantly greater mean levels of familial acculturative stress than did non-immigrants ($M = 7.73$, $SD = 3.12$), $t(150) = 3.06$, $p = .003$, $d = .55$. The effect size was moderate (see table 2).⁶⁰ Immigrants also had significantly greater mean levels of depressive symptoms ($M = 16.93$, $SD = 12.83$) than did non-immigrants ($M = 12.82$, $SD = 10.50$), $t(150) = 2.03$, $p = .045$, $d = .35$. The effect size was small (see table 2).⁶⁰ No additional differences in mean levels of continuous variables, based on immigration status, were found.

Racial/ethnic differences—We used a one-way analysis of variance (ANOVA) to test racial/ethnic differences in continuous study variables, with post hoc t-tests with Bonferroni corrections used to examine specific group differences. There was an overall racial/ethnic difference in familial acculturative stress, $F(5, 146) = 5.56$, $p < .01$, with Asian individuals reporting significantly greater mean levels ($M = 9.54$, $SD = 2.72$) than both Hispanic/Latino/a ($M = 6.73$, $SD = 3.25$) and White individuals ($M = 6.85$, $SD = 2.61$), $t = 3.75$ and 4.38 , respectively, $p < .05$. No other significant racial/ethnic differences in continuous study variables were found.

Predictors of Suicidal Ideation among Immigrants

To test our hypothesized interactions (immigrant status X familial acculturative stress; immigrant status X hopelessness X familial acculturative stress), we conducted a hierarchical linear regression analysis in five blocks (see Table 4). In block 1, the control variables depressive symptoms, ethnic identity, lesbian; gay; or bisexual (LGB) status, and gender contributed significantly to the model, $F(4, 147) = 26.78$, $p < .01$, and accounted for 42% of the variance in suicidal ideation. Depressive symptoms and LGB status were significantly and positively associated with suicidal ideation, but ethnic identity and gender were not significantly associated with suicidal ideation.

In block 2, immigrant status was added to the model, but was not significantly associated with suicidal ideation. In addition, ethnic identity remained non-significantly associated with suicidal ideation. However, depressive symptoms, LGB status, and gender became significantly associated with suicidal ideation. Block 2 did not contribute significantly to the model, $F(1, 146) = .72, p = .40$, and this change in R^2 was not statistically significant, accounting for less than 1% of the variance in suicidal ideation.

In block 3, hopelessness and familial acculturative stress were added to the model, of which only hopelessness was significantly associated with suicidal ideation. Depressive symptoms, LGB status, and gender remained significantly associated with suicidal ideation; and immigrant status and ethnic identity remained non-significantly associated with suicidal ideation. Block three contributed significantly to the model, $F(2, 144) = 15.16, p < .01$, and this change in R^2 was significant, accounting for 10% additional variance in suicidal ideation.

In block 4, neither the immigrant X hopelessness nor immigrant X familial acculturative stress interactions were significantly associated with suicidal ideation. Of the previously entered variables, LGB status and hopelessness were significantly and positively associated with suicidal ideation; but depressive symptoms, ethnic identity, gender, immigrant status, and familial acculturative stress were not. Block 4 contributed significantly to the model, $F(2, 142) = 6.68, p < .01$, and this change in R^2 was statistically significant, accounting for 4% of the variance in suicidal ideation.

In block 5, the hypothesized immigrant X hopelessness X familial acculturative stress ($\beta = .08, p = .01$) three-way interaction was added to the model and was significantly associated with suicidal ideation (see Table 4). Block 5 contributed significantly to the model, $F(1, 141) = 7.16, p < .01$, and this change in R^2 was statistically significant, accounting for 2% of the variance in suicidal ideation.

Probing the Interaction among Immigrant Status, Hopelessness, and Familial Acculturative Stress

Probing the statistically significant interaction among immigrant status, hopelessness, and familial acculturative stress with the Johnson-Neyman technique revealed two regions of significance for the conditional effect of immigrant status X hopelessness, at familial acculturative stress scores of 3.74 (11th percentile, $b = -0.51, SE = 0.26, p = .05, 95\% CI [-1.01, 0.00]$) and 10.07 (72nd percentile, $b = 0.21, SE = 0.11, p = .05, 95\% CI [0.00, 0.42]$). As Figure 1 indicates, at familial acculturative stress scores below 3.74 (11th percentile), immigrant status interacted with hopelessness to predict lower levels of suicidal ideation relative to non-immigrant status; and at familial acculturative stress scores above 10.07 (72nd percentile), immigrant status interacted with hopelessness to predict greater levels of suicidal ideation relative to non-immigrant status.

Discussion

Prior research suggests that the acculturative gap between immigrant parents and their children may arise due to a differential pace of acculturation, and may be positively

associated with depressive symptoms³⁵ and STB.^{19–20,29,37} The present study examined the interaction between hopelessness – a prominent risk factor for STB,^{44–47} – and familial acculturative stress in predicting suicidal thoughts among immigrant college students.

As predicted by our first hypothesis, mean levels of familial acculturative stress were significantly and moderately greater among immigrant than among non-immigrant college students. This finding suggests that the experience of immigrating prior to age 18 may be characterized by some degree of AFD and related familial acculturative stress.

Our second hypothesis was not supported. High levels of familial acculturative stress did not significantly predict greater levels of suicidal ideation among immigrant versus non-immigrant college students (although the interaction was present as a non-significant trend). However, our third hypothesis of a three-way interaction with hopelessness was supported. Higher levels of familial acculturative stress, combined with higher levels of hopelessness, was associated with greater levels of suicidal ideation among immigrant versus non-immigrant college students. This result helps to elucidate the process by which familial acculturative stress may influence hopelessness and suicidal ideation among immigrant college students, though the small effect size of this finding suggests it should be interpreted with caution.⁶⁰

Interestingly, the two-way interaction between immigrant status and hopelessness was not significantly associated with suicidal ideation, suggesting that the role of hopelessness in the relation between immigrant status and suicidal ideation may be explained by AFD and associated elevations in familial acculturative stress. However, this potential mediation relationship cannot be tested in the current study due to its cross-sectional nature. Thus, this idea requires further inquiry.

Our findings should not be interpreted to suggest that immigrant college students are more vulnerable to suicidal ideation than non-immigrant peers. This was something we neither found nor hypothesized, given prior research that suggests more favorable outcomes regarding STB among immigrants, generally, than among later generation peers.^{19,30–31} Our findings do suggest, however, that the factors that influence vulnerability to suicidal ideation may vary between immigrant college students and their non-immigrant peers, and that familial acculturative stress may be part of a specific cultural pathway of vulnerability among emerging adult immigrant college students.

Strengths, Limitations, and Future Directions

The current study's strengths include its examination of AFD among immigrant college students via familial acculturative stress and its relation with suicidal ideation and hopelessness. Immigrants constitute a sizable portion of the US population¹ and of US college students.² Familial acculturative stress and its effect on the mental health of immigrant college students is thus an important issue for future research, assessment, and treatment of STB among this group.

Our study is also subject to certain limitations. First, it is based upon self-report measures and is subject to social desirability bias that could have led to the underreporting or over-

reporting of specific symptoms. Second, our study was cross-sectional, and we cannot draw conclusions about causality. Third, our sample consisted of mostly female college students. We did control for gender in our analyses; however, given our mostly female sample, our findings may not generalize well to men. Our findings may also not generalize well to clinical populations and to emerging adults who do/did not pursue a college education, as these individuals were not represented in our sample. Fifth, those not able to complete our survey immediately were given up to 48 hours after the initial administration to complete the ethnocultural measures online via Survey Monkey. Some shift in attitudes regarding ethnocultural factors may have occurred during this period. However, such a shift is unlikely, given that ethnocultural attitudes are longstanding perspectives formed through developmental processes and life experiences such as acculturation.³⁸ In addition, though our participants always completed measures individually and in the presence of a research assistant, some of them completed their measures simultaneously while in the same room. Thus, it is possible that the presence of other individuals completing measures independently, while simultaneously nearby, may have influenced participants' patterns of responses. Finally, our study may have benefited from recruiting additional participants for increased power.

Future research can test if our findings generalize to men, clinical populations, and immigrants who have not and do not intend to attend college by replicating our study and recruiting individuals from these groups. Future studies should also pursue similar lines of inquiry to our own with data collected at multiple time points in order to conduct analyses that may establish mediation. Additionally, future research should test our findings by collecting data from sources other than self-report, including but not limited to parental and peer observations, and biological data such as heart rate and cortisol levels.

Future research can also expand upon our study's scope in a number of ways. These include: (1) Exploring potential group differences and relationships between factors such as hopelessness, familial acculturative stress, and suicidal ideation among different immigrant groups of specific races and ethnicities; (2) Examining the potential association of familial acculturative stress and hopelessness among immigrants with non-suicidal self-injury, prior suicide attempts, and completed suicides; and (3) Testing if our findings would generalize to immigrants who arrived in the US after 18 years of age, especially among those who lived apart from family members.

Implications for Interventions with College Students

It is vital that faculty, administration, academic advisement staff, medical staff, and counseling center staff are aware of cultural factors, such as familial acculturative stress, that can affect mental health among immigrant students. Given the multifaceted and unique needs of immigrant students, we propose that colleges may benefit from adopting an integrated care model,⁶¹ in which students expressing distress in academic or medical milieu (as students often receive their health care from on campus services) can meet with a mental health professional embedded within these service areas to address problems as they arise. This may serve to address issues in context and to circumvent cultural barriers that may exist regarding traditional mental health services.

Immigrant students may also benefit from peer exposure. In settings where a sufficient number of individuals from similar cultural backgrounds require services, immigrants in treatment at counseling centers may benefit from a college based application of a group psychoeducational intervention such as the Family Coping Skills Program,⁶² an intervention designed for Latino youth that includes peers with similar experiences, as well as parents and siblings (if available in the area of the college campus). Such an intervention could be adapted to address the deleterious effects of AFD among a variety of racial/ethnic/cultural groups. In settings and situations where an immigrant student lacks peers of a similar cultural background, that student may still benefit from having access to trained immigrant peer mentors, who, despite a potentially different cultural background, may still share experiences of AFD and of being a child of immigrant parents while attending college.

In addition, colleges should attempt to form partnerships with cultural organizations that represent immigrant communities, if they are locally available.⁶³ Such groups may be able to provide cultural resources to help alleviate an immigrant student's distress and may even be able to play a role in a coping skills program-style intervention.

Conclusion

Awareness of cultural factors that affect the mental health of immigrants is crucial for informing suicide intervention and prevention among this growing segment of the US population. Our findings suggest that high levels of familial acculturative stress may strengthen the association between hopelessness and suicidal ideation among immigrant emerging adults, compared to non-immigrant emerging adults. Practitioners should thus take multifaceted treatment approaches to reduce hopelessness-related cognitions, familial acculturative stress, and AFD, among immigrant college students.

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Figure 1.

Three-way interaction of immigrant status, familial acculturative stress, and hopelessness statistically predicting suicidal ideation. Low hopelessness is plotted at one standard deviation below the mean. High hopelessness is plotted at one standard deviation above the mean. Circular markers represent immigrants and square markers represent non-immigrants. One standard deviation below the mean is represented by the left most markers on each line. One standard deviation above the mean levels is represented by the right most markers on each line. Mean levels are represented by the center markers on each line.

Table 1

Immigrant College Student Countries of Origin

Country	<i>N</i>	%
Albania	2	5%
Bangladesh	8	19%
China	8	19%
Costa Rica	1	2%
Dominican Republic	3	7%
England	1	2%
Gambia	1	2%
Guyana	1	2%
India	3	7%
Jamaica	2	5%
Japan	1	2%
Pakistan	1	2%
Philippines	4	10%
Poland	1	2%
Romania	1	2%
South Korea	2	5%
Uruguay	1	2%
Unspecified Country of Origin	1	2%
Totals	42	100%

Table 2

Means and Standard Deviations of Continuous Study Variables

Variable	All Participants (N = 152)		Non-Immigrants (N = 110)		Immigrants (N = 42)	
	M	SD	M	SD	M	SD
Age	18.64	1.06	18.55	0.96	18.88	1.27
Depressive Symptoms	13.95	11.30	12.82	10.50	16.93	12.83
Hopelessness	5.05	4.66	4.85	4.46	5.55	5.16
Familial Acculturative Stress	8.20	3.20	7.73	3.12	9.45	3.08
Ethnic Identity	2.75	0.49	2.74	0.49	2.76	0.51
Suicidal Ideation	1.40	3.88	1.08	3.27	2.24	5.10

Group Differences between Non-Immigrant (N = 110) and Immigrant (N = 42) College Students

Variable	t-test	p-value	Cohen's d
Age	1.70	.091	0.29
Depressive Symptoms*	2.03	.045	0.35
Hopelessness	0.82	.414	0.15
Familial Acculturative Stress*	3.06	.003	0.55
Ethnic Identity	0.24	.809	0.04
Suicidal Ideation	1.37 ⁺	.177	0.27

Note.

* $p < .05$, Degrees of Freedom for each t -test = 150;⁺ degrees of freedom = 54.40, based on Levene's Test for equality of variances

Table 3

Correlations among Continuous Study Variables

All Participants (N= 152)	1	2	3	4	5
(1) Depressive Symptoms	-	.72***	.38***	.00	.56***
(2) Hopelessness		-	.36***	-.06	.64***
(3) Familial Acculturative Stress			-	.06	.21**
(4) Ethnic Identity				-	-.01
(5) Suicidal Ideation					-
Immigrants (N= 42)	1	2	3	4	5
(1) Depressive Symptoms	-	.74***	.38**	.05	.64***
(2) Hopelessness		-	.29	.12	.80***
(3) Familial Acculturative Stress			-	-.63*	.36*
(4) Ethnic Identity				-	.07
(5) Suicidal Ideation					-
Non-Immigrants (N= 110)	1	2	3	4	5
(1) Depressive Symptoms	-	.71***	.35***	-.03	.49***
(2) Hopelessness		-	.38***	-.14	.53***
(3) Familial Acculturative Stress			-	-.10	.10
(4) Ethnic Identity				-	-.07
(5) Suicidal Ideation					-

Note.

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

Table 4
Summary of Hierarchical Linear Regression Statistically Predicting Suicidal Ideation

Step or Variable	B	S.E.	β	Partial r	p	R ²	Adj. R ²	R ²
Step 1 ***					<.001	.42	.41	.42
Depressive Symptoms **	0.19	0.03	.55	.58	.002			
Ethnic Identity	0.36	0.59	.05	.06	.582			
LGB *	3.98	1.56	.31	.37	.019			
Gender ⁺	-1.24	0.61	-.13	-.17	.051			
Step 2					.398	.42	.40	.00
Depressive Symptoms **	0.19	0.03	.55	.57	.002			
Ethnic Identity	0.36	0.58	.05	.06	.586			
LGB *	4.00	1.56	.31	.37	.019			
Gender *	-1.25	0.61	-.14	-.17	.046			
Immigrant	0.47	0.58	.05	.07	.445			
Step 3 ***					<.001	.52	.50	.10
Depressive Symptoms *	0.07	0.03	.22	.20	.042			
Ethnic Identity	0.53	0.54	.07	.10	.347			
LGB *	3.77	1.44	.29	.38	.015			
Gender *	-1.01	0.50	-.11	-.15	.050			
Immigrant	0.73	0.52	.08	.12	.177			
Hopelessness **	0.39	0.10	.47	.42	.002			
FAS	-0.05	0.08	-.04	-.05	.564			
Step 4					.005	.57	.53	.04
Depressive Symptoms ⁺	0.06	0.03	.18	.18	.063			
Ethnic Identity	0.43	0.49	.05	.08	.404			
LGB *	3.50	1.32	.27	.37	.015			
Gender	-0.76	0.50	-.08	-.12	.144			

Step or Variable	<i>B</i>	<i>S.E.</i>	β	<i>Partial r</i>	<i>p</i>	<i>R</i> ²	<i>Adj. R</i> ²	<i>R</i> ²
Immigrant	0.35	0.53	.04	.06	.515			
Hopelessness*	0.33	0.12	.39	.33	.015			
FAS	−0.12	0.10	−.10	−.12	.245			
Immigrant X Hopelessness	0.24	0.19	.17	.19	.195			
Immigrant X FAS ⁺	0.33	0.18	.15	.16	.069			
Step 5					.002	.60	.56	.02
Depressive Symptoms ⁺	0.06	.03	.17	.18	.075			
Ethnic Identity	0.29	.45	.04	.05	.509			
LGB*	3.27	1.30	.25	.35	.023			
Gender	−0.89	.51	−.10	−.14	.107			
Immigrant	0.07	.51	.01	.01	.887			
Hopelessness*	0.33	.12	.39	.34	.018			
FAS	−0.12	.10	−.10	−.11	.283			
Immigrant X Hopelessness	0.02	.20	.02	.02	.895			
Immigrant X FAS ⁺	0.32	.17	.14	.16	.056			
Immigrant X Hopelessness X FAS**	0.08	.04	.22	.22	.013			

Note.

⁺ $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$;

LGB = Lesbian, Gay, or Bisexual status; FAS = Familial Acculturative Stress; *B* = Unstandardized regression coefficient; *S.E.* = Standard Error; β = Standardized regression coefficient; *Adj.* = Adjusted; *R*² = Change in *R*².