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Factors associated with emotional distress and suicide ideation among international college students

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ABSTRACT

Objective: To identify risk and protective factors associated with greater emotional distress and suicide ideation among international college students. **Participants:** International students ($n = 435$) from two Midwestern and two Southeastern universities in the US. **Methods:** Online surveys were administered that measured emotional distress, past-year suicide ideation, entrapment, cultural stress, family conflict, perfectionism, ethnic discrimination, interpersonal needs, ethnic identity, and cultural sanctions against suicide. **Results:** In final linear regression analyses, higher levels of entrapment, unmet interpersonal needs, and ethnic discrimination were significantly associated with increased emotional distress. Only unmet interpersonal needs remained significantly associated with greater past-year suicide ideation in a multivariate regression analysis. **Conclusions:** Clinicians working with international students and prevention programmers targeting this population should address students' perceptions of entrapment, ethnic discrimination, and especially unmet interpersonal needs in efforts to decrease or prevent students' feelings of emotional distress and suicide ideation.

Suicide ranks as the second leading cause of death for college students.[1] Although enrollment of international students in American colleges has increased, researchers have failed to examine suicide risk among this unique population. International students may be at greater risk for mental health problems, including suicide ideation and behavior, due to being uprooted, acculturative stress, needing to adjust to a different education system and host culture, and potentially experiencing social isolation and discrimination.[2–5] One study found that 44% of international graduate students experienced an emotional or stress-related problem that significantly affected their well-being and academic performance within the past year.[3] However, international students are less likely to use counseling services than are domestic students.[3,6] One reason might involve differences across cultures in basic beliefs regarding, and stigmatization of, mental health problems.[3,6] Thus, despite the expansion of the international student population in the US, these students remain one of the most quiet, invisible, and underserved groups on American campuses.[6]

To meet the needs of international students, we must understand factors that might increase and decrease risk of suicide, so we can appropriately tailor prevention programing. Some factors associated with emotional distress and/or suicide ideation among college students in general include higher levels of family conflict,[7] perfectionism,[8] and unmet interpersonal needs.[9] Researchers remain uncertain whether these factors similarly impact risk for suicidal thinking among international students, or how culture-specific variables, such as having a strong ethnic identity[10] or holding cultural sanctions against suicide,[11] protect against risk. Ideation-to-action suicide theories[12–14] provide a framework for organizing risk factors that differentially impact risk for suicide ideation and attempts. All these theories suggest that interpersonal experiences (e.g., family conflict) and cognitive features, such as perfectionism, can contribute to notable distress and activate suicidal thinking. The interpersonal theory of suicide[14] specifies that thwarted belongingness or perceived burdensomeness are critical to developing suicide ideation, while the three-step theory[12] and integrated motivational–volitional theory[13] emphasize that hopelessness about, or a sense of entrapment within, one's distress exacerbates suicidal thinking. We remain uncertain whether theoretically grounded risk factors for suicide ideation generalize to international students. Furthermore, cultural models of suicide[15] emphasize discriminatory experiences[16] and/or cultural strain[17] as particularly salient factors to consider when understanding risk among under-represented groups. Researchers have not examined all of these factors together to determine those most strongly associated with emotional distress and suicide ideation among international students. We sought to address this gap by answering the

research question: What risk and protective factors are associated with greater emotional distress and suicide ideation (i.e., strength and frequency of thoughts about killing oneself) among international college students?

Methods

Study design and sample

Participants included 435 international students recruited between 2013 and 2017 through email solicitations and international student newsletter postings from two Midwestern and two Southeastern universities. Permissions to post in newsletters and send an email to enrolled international students were obtained from the respective universities' international student offices/departments, after approval to use this strategy was obtained from each Institutional Review Board (IRB). All students completed the study measures online via Qualtrics after checking a box indicating informed consent. The IP address tracking function was turned off, and students did not provide identifying information, so survey responses remained anonymous. The final survey screen provided de-briefing information that included both national and campus-specific mental health/crisis resources for students. At three of the universities, participants who were interested entered their names into a separate database for a drawing to win a $25 gift card. Each institution's IRB approved the study procedures.

The current analysis was restricted to students of typical college age, i.e., 18 to 26 years ($n = 334$). Most students identified as female (56.0%), and 93.7% held an F1 academic Visa. Within the analytic sample, students reported their race/ethnicity as Asian (62.0%), European (11.0%), Hispanic/Latino (9.3%), African (4.8%), Middle Eastern (4.8%), and Other (7.8%).

Measures

Dependent variables

Emotional distress. The Depression, Anxiety, and Stress Scales short form (DASS short form) was used to assess emotional distress.[18] The measure included 23 items pertaining to emotional distress that respondents rated on a 4-point scale (1 never to 4 every day). An example item was "I felt life was meaningless." The scale produced an internally consistent measure of emotional distress ($\alpha = .95$).

Past-year suicide ideation. Two items modified from the Suicidal Behaviors Questionnaire-Revised (SBQ-R)[19] and the Self-Injurious Thoughts and Behaviors Interview (SITBI)[20] were used to measure suicide thoughts during the past year. Participants chose statements that were most applicable to them regarding average strength of thoughts about/desires to kill oneself and frequency of thoughts about killing oneself. For example, "How often have you thought about killing yourself in the past year?" (1 never to 5 very often). Responses for the two items were summed, and higher total scores indicated greater levels of suicide ideation within the

past year (item correlation: $r = .85$). In addition, one item assessed a past-year suicide attempt: "Have you made a suicide attempt in the past year?" (dichotomized to yes vs. no).

Risk factors

Entrapment. The Entrapment Scale[21] consists of 16 items measuring experiences of specific hopelessness related to internal (e.g., "I feel trapped inside my body") and external (e.g., "I feel trapped by other people") experiences. Participants indicated the extent to which each item represented their view, on a 5-point scale ranging from 1 (not at all like me) to 4 (extremely like me). Scores were calculated by summing the items, with higher scores indicating higher levels of entrapment; internal consistency was high ($\alpha = .95$).

Cultural stress and family conflict. The cultural assessment for risk of suicide (CARS) consists of 34 items measuring culturally specific factors associated with suicide risk for racial/ethnic minority groups. Items from the cultural stress (seven items; e.g., "Adjusting to America has been difficult for me.") and family conflict (six items; e.g., "My family has disappointed me.") subscales were used in the current study to measure two potential risk factors for international students.[22] Participants responded to statements on a 6-point scale (1 strongly disagree to 6 strongly agree). Scores were calculated by summing the items for each scale. Higher scores indicated higher levels of each factor. Internal consistency for the cultural stress scale was $\alpha = .86$, and family conflict scale was $\alpha = .77$.

Perfectionism. Perfection was measured using the Multidimensional Perfectionism Scale.[23] Participants indicated how strongly they agreed with 35 statements on a scale of 1 (strongly disagree) to 5 (strongly agree). An example item was "I set higher goals for myself than most people." Items were summed to create a total score, with higher scores indicating greater levels of perfectionism. The measure demonstrated good internal consistency in the current study ($\alpha = .93$).

Ethnic discrimination. The 14-item Discrimination Stress Scale was used to measure experiences of ethnic discrimination.[24] Each item was rated on a 4-point scale, ranging from 1 (never) to 4 (very often). A sample item was "How often are you discriminated against because of your race or ethnicity?" Scores were calculated by summing the items, and higher scores indicated higher levels of ethnic discrimination. Cronbach's alpha was .94.

Interpersonal needs. The Interpersonal Needs Questionnaire was used to measure thwarted belongingness and perceived burdensomeness.[9] Respondents indicated, on a 7-point scale, how true 15 statements were of their current beliefs and experiences about themselves (1 very untrue of me to 7 very true of me). An example item was "These days, I feel like I belong." Items were summed to create total scores. Cronbach's alpha was .91.

Protective factors

Ethnic identity. The Multigroup Ethnic Identity Measure-Revised (MEIM-R) was used to measure ethnic identity.[25] The MEIM-R included 6 items (e.g., "I feel a strong attachment toward my own ethnic group.") to which participants responded on a 5-point scale (1 strongly disagree to 5 strong agree). Total scores were calculated, and internal consistency was good ($\alpha = .89$).

Cultural sanctions against suicide. Another four-item subscale of the CARS[22] was used to assess cultural sanctions against suicide (e.g., "Suicide would bring shame to my family."). Higher scores indicated greater cultural sanctions, and internal consistency was $\alpha = .75$.

Data analysis

Descriptive statistics were used to examine the mental health outcomes. Pearson correlation tests were performed to examine bivariate relationships between each risk and protective factor and emotional distress and suicide ideation. All the variables that demonstrated a significant association with each outcome in the first step were entered together, with gender and age, into linear regression analyses to determine the factors most strongly related to greater emotional distress and suicide ideation during the preceding year.

Results

Students did not report very high levels of recent emotional distress (range: 23.0–82.0; $M = 37.8$, SD = 12.6) or suicide ideation during the past year (range: 2.0–12.0; $M = 2.6$, SD = 1.5). To look at suicide ideation a little closer, within the previous year, 18.2% ($n = 56$) of students reported any thoughts about killing themselves, 5.5% ($n = 17$) seriously considered suicide (i.e., occasionally, often, or very often thought about suicide), and 4.8% ($n = 15$) reported having moderately to extremely strong desires to kill themselves. Two percent of students ($n = 6$) reported attempting suicide during the past year.

Factors significantly associated with greater emotional distress included higher levels of entrapment ($r = .75$), cultural stress ($r = .44$), family conflict ($r = .39$), perfectionism ($r = .33$), unmet interpersonal needs ($r = .58$), ethnic discrimination ($r = .34$), and lower levels of cultural sanctions against suicide ($r = -.18$). Similarly, factors significantly associated with greater suicide ideation were higher levels of entrapment ($r = .30$), cultural stress ($r = .28$), family conflict ($r = .25$), perfectionism ($r = .18$), unmet interpersonal needs ($r = .34$), and ethnic discrimination ($r = .24$).

When all significant factors were examined together in a regression analysis $F(9,246) = 40.44$, $p < .001$, higher levels of entrapment ($\beta = .57$, $t = 10.31$, $p < .001$), unmet interpersonal needs ($\beta = .13$, $t = 2.28$, $p < .05$), and ethnic discrimination ($\beta = .14$, $t = 2.74$, $p < .01$) were significantly associated with increased emotional distress. Only unmet interpersonal needs ($\beta = .19$, $t = 2.37$, $p < .05$) remained significantly associated with greater past-year suicide ideation in a multivariate regression analysis $F(8,248) = 6.92$, $p < .001$.

Comment

Findings provide initial evidence supporting the generalizability of current suicide theories for understanding factors associated with emotional distress and suicidal thinking among international college students. Eighteen percent of international students reported thinking about suicide, and around 6.0% seriously considered suicide in the past year. This compares to 10.3% of students who reported seriously considering suicide on the 2017 National College Health Assessment.[26] Further, around 5.0% of international students in the current sample reported having moderately to extremely strong desires to kill themselves, and 2.0% reported attempting suicide during the past year, which is similar to the percentage of students who reported attempting suicide on the National College Health Assessment (1.5%).[26] In many ways, international students struggle with suicidal thoughts to the same degree as their domestic peers.

Clinicians and prevention specialists working with international students should consider students' perceptions of entrapment, ethnic discrimination, and especially unmet interpersonal needs in programing efforts to decrease or prevent students' feelings of emotional distress and suicide ideation. The current findings implicate social interactions and experiences of not belonging or perceiving oneself as a burden as particularly salient to international students' emotional distress and suicidal thinking. These findings are consistent with the three-step and interpersonal theories of suicide[11,13] that emphasize the important role of social connection in understanding suicide risk trajectories. Researchers have found that social support with either locals or co-nationals might buffer acculturative stress and potentially prevent emotional distress among international students.[4,27] Social connections also protect against suicide thoughts and attempts.[9,28] Thus, to address unmet interpersonal needs, colleges are encouraged to enhance opportunities that facilitate international students' sense of belonging at the university, as well as address perceived burdensomeness among these vulnerable students by emphasizing the value they bring as students and taking steps to reduce both systemic and individual instances of ethnic discrimination.[4,5]

Future research should examine these outcomes among international students using longitudinal designs and consider other factors such as healthy coping strategies. Qualitative research also might provide more in-depth information regarding the experiences of international students and possible approaches for preventive interventions. Researchers could also examine macro-level factors such as cultural and institutional patterns of the host environment; for example, host receptivity and pressure to conform, as well as of the ethnic community; for example, size and strength of the co-ethnic population at a university.[5]

Strengths and limitations

A notable strength of this study involved the sample, which included relatively diverse students from four different universities in different regions of the country. However, the voluntary participation may have led those with an interest

in or experiences related to mental health to be more likely to participate than other students. Also, those who were not currently experiencing significant distress were probably more likely to participate than students who were in greater distress. In addition, limited power precluded us from examining factors associated with suicide attempts. Finally, the data are self-report and cross sectional, precluding us from making causal inferences.

Conclusion

International students are a diverse and increasing population who might have unique concerns and needs that place them at greater risk for mental health problems.[6] To ensure these students are not overlooked and their mental health needs are met, multiple campus entities, including the student counseling service, health center, international student office, academic affairs, and diversity office, must work cooperatively to engage in outreach efforts and implement tailored programing.[5] In particular, university leaders need to help international students feel cared for, connected, and as though they belong at American universities to help reduce risk for emotional distress and suicide.

Conflict of interest disclosure

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements, of United States and received approval from the Institutional Review Boards of the University of Wisconsin-Eau Claire, University of Missouri-Kansas City, University of Tampa, and University of Central Florida.

Data sharing

Data are available upon request.

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