

Nonsuicidal Self-Injury: Exploring the Connection Among Race, Ethnic Identity, and Ethnic Belonging

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Abstract:

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Keywords: Nonsuicidal self-injury | Race | Ethnic identity

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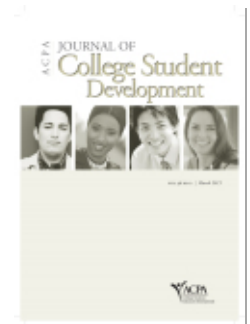
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Nonsuicidal Self-Injury: Exploring the Connection Among Race, Ethnic Identity, and Ethnic Belonging

Kelly L. Wester Heather C. Trepal

This study examined race and ethnic identity in relation to nonsuicidal self-injury (NSSI). Participants included freshmen at 2 universities, who were predominantly female. Final inferential statistics examined differences across Caucasian, African American, Hispanic, Asian American, and Multiracial students, finding African Americans and Asian Americans having significantly lower NSSI engagement than all other racial groups, and no other significant differences across groups. After controlling for depression and anxiety, a sense of ethnic belonging was significantly related to NSSI engagement. Cultural implications exist for working with college students who self-injure.

Nonsuicidal self-injury (NSSI), a deliberate infliction of self-harm that causes immediate tissue damage with no intent to die (Simeon & Favazza, 2001), has been determined to be increasing in prevalence (Walsh, 2006). Among college students, rates of NSSI have been found to quadruple within a 4-year time span (Wester & Trepal, 2012). Furthermore, college populations self-injure at higher rates than does the general population, specifically with 7% (Murray, Wester, & Paladino, 2008) to 35% of college students self-injuring at some point in their life (Gratz, 2001) compared to 1% to 6% in the general population (e.g., Simeon & Favazza, 2001). Thus, it is important to gain a better understanding of NSSI among college

students due to the higher rates and increases of NSSI in recent years.

Chapman, Gratz, and Brown (2006) hypothesized that NSSI is a result of an inability to regulate overwhelming emotions; therefore, an individual engages in NSSI as a form of avoidance and temporary relief. Nock (2009) agreed with this hypothesis in his theory of self-injury by stating that in times of stress, individuals experience intense aversive emotions, but may not have coping, interpersonal, or communicative resources; therefore, they engage in NSSI. In regard to emotions, Chickering and Reisser (1993) indicated that an important aspect of identity development was the ability to manage emotions. They stressed that anxiety, depression, and other emotions had the power to derail the educational process, especially when these emotions become overwhelming (Chickering & Reisser, 1993). Thus, students who self-injure may be having difficulties in their educational experience since NSSI has been found to provide a temporary relief from high levels of intolerable, aversive emotions (e.g., depression and anxiety; Chapman et al., 2006; Nock, 2009; Wester & Trepal, 2005). This developmental stage of learning to manage emotions (Chickering & Reisser, 1993) may be a reason why college students are a group with one of the highest levels of NSSI prevalence.

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In addition to exploring the relationship between emotions and NSSI, researchers have begun to explore the connection with race. Providing one of the first glances of NSSI across race, Muehlenkamp and Gutierrez (2007) visually examined rates of NSSI across racial groups in their study, finding Whites to be more likely to report a history of NSSI (29%), followed by Hispanic, Multiracial, and Other-identified students, with the lowest percentage of NSSI being reported among African American students. On the other hand, Latzman et al. (2010) found African American adolescents reported significantly higher levels of engagement in cutting, burning, and desire to hurt oneself. One of the difficulties in interpreting these conflicting results is that neither of these studies explored possible reasons as to why these racial differences in NSSI engagement existed.

One possible reason may be the establishment of one's identity. Chickering and Reisser (1993) proposed establishment of an identity as an important aspect of development. This includes developing a sense of self within a social, historical, and cultural context and a sense of being valued by others (Chickering & Reisser, 1993). Croyle (2007) explored Chickering's concept of belonging and identity related to NSSI by examining the relationship between these constructs among a group of White and Hispanic college students. She found a significant, negative relationship between Mexican orientation (i.e., exposure to more Hispanic culture and characteristics versus Anglo orientation) and NSSI for Hispanic males, postulating that adherence to traditional roles and values in Mexican culture may serve as a protective factor against NSSI for Hispanic men. Interestingly, she did not examine ethnic identity or orientation for White students, thus not providing a full picture.

Iwamoto and Liu (2010) echoed Croyle's (2007) ideas regarding the importance of

ethnic orientation by suggesting that a positive relationship exists between a sense of belonging to a particular ethnic group and psychological well-being. They suggested that this relationship is consistent with ethnic identity theory, which states that a strong sense of ethnic pride or attachment allows individuals to have more trusting, close-knit relationships, which can lead to feelings of validation, increased self-acceptance, or other methods of coping through social interaction and sharing. It has been suggested that those who engage in more adaptive coping strategies are less likely to engage in NSSI (Wester & Trepal, 2010). Therefore, it would seem that individuals, regardless of race, who have higher levels of ethnic identity and sense of belonging would be less likely to engage in NSSI.

Outside of Croyle's (2007) study, little has been done to explore the connection between ethnic identity and sense of belonging related to NSSI behaviors across racial groups. It would seem that this examination is important since ethnic identity has been consistently related to psychological well-being (e.g., Iwamoto & Liu, 2010; Kaslow et al., 2004; St. Louis & Liem, 2005; Utsey, Chae, Brown, & Kelly, 2002). Furthermore, Chickering and Reisser (1993) proposed that establishing an identity was an important aspect of development during higher education. Therefore, one of the purposes of the current study was to examine racial differences in NSSI, as well as to continue the exploration of ethnic identity and sense of belonging related to NSSI behaviors, specifically among a college student population. The research questions for the current study were the following: (a) Are there differences in the lifetime engagement of NSSI across racial groups? (b) Are there differences in the number of methods used to engage in NSSI across racial groups? (c) Is there a relationship between ethnic identity or a sense of belonging to one's ethnic group and NSSI,

when controlling for other mental health symptoms such as depression and anxiety?

METHOD

Sample

The sample was taken from two universities; one was a predominantly Caucasian midsized university in the Southeast (University A), the second a large Hispanic serving institution (HSI) in the Southwest (University B). The population of interest consisted of all incoming freshman students in the fall of 2008. This resulted in a total population size of 2,400 for University A and 8,000 for University B. All incoming freshmen were sampled. A total of 1,396 students responded (13.5% response rate; *n* = 655 responded from University A [27% response rate]; *n* = 741 responded from University B [9% response rate]). The database was cleaned to remove individuals who participated and were not freshmen and an additional 229 individuals were removed for missing demographic variables (e.g., ethnicity). This resulted in a total sample size of 1,096

freshmen (*n* = 514 University A; *n* = 582 University B; see Table 1 for demographic information). No statistical differences were found on NSSI, ethnic identity, or ethnic belonging between the two universities; thus the two universities were collapsed into one sample.

The sample was predominantly female (*n* = 794, 72%; *n* = 302 males), which was characteristic of the population of the two universities. At the time of data collection, University A was approximately 71% female and University B was approximately 60% female for undergraduate students. The race and ethnicity of the sample include 47.6% White (*n* = 522), followed by Hispanic/Latino (*n* = 214, 19.5%), African American (*n* = 155, 14.1%), Multiracial/Other (*n* = 112, 10.2%), Asian/Asian American (*n* = 86, 7.8%), and Native American (*n* = 7, < 1%). The mean age was 18.43 (*SD* = 2.01, range = 17–48).

Procedures

The study was conducted online via a web-based survey. Students were sent an email

TABLE 1.
Demographics of Freshman Students and Nonsuicidal Self-Injury (NSSI) as a Percentage of the Total and Individual Group Samples

	Asian/ Asian American (<i>n</i> = 86)	Black/ African American (<i>n</i> = 155)	Hispanic/ Latino(a) (<i>n</i> = 214)	White/ Caucasian (<i>n</i> = 522)	Native American (<i>n</i> = 7)	Multiracial/ Other (<i>n</i> = 112)	Total (<i>N</i> = 1,096)
<i>Demographics</i>							
Sex (%)							
Male	34.9	18.1	31.3	28.9	14.3	22.3	27.6
Female	65.1	81.9	68.7	71.1	85.7	77.7	72.4
Age (<i>M, SD</i>)	18.37 (0.92)	18.24 (1.24)	18.57 (1.81)	18.35 (1.98)	18.33 (0.51)	18.89 (4.23)	18.44 (2.13)
<i>NSSI (%)</i>							
Engage	7.0	8.4	17.8	16.3	28.6	16.1	14.8
Not Engage	93.0	91.6	82.2	83.7	71.4	83.9	85.2
# Methods (<i>M, SD</i>)	1.67 (1.51)	1.30 (1.03)	1.68 (0.93)	1.88 (1.49)	2.50 (0.71)	1.61 (1.46)	1.75 (1.33)

in their university email account inviting them to participate in a study on college student behavior. Those students who did not respond to the first email were sent a follow-up email 1 to 2 weeks later, for a total of three emails. Students were provided the possibility of winning one of three \$50 raffles at each university.

Instruments

Each student was asked to provide their sex, age, year in school, and race.

Ethnic Identity. The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was used to assess the degree to which participants identified with and felt connected to their identified racial group. The MEIM has 12 items asking participants to respond on a 4-point Likert-type scale. The MEIM has two subscales: (a) Affirmation, Belonging and Commitment (MEIM-A) and (b) Ethnic Identity Achievement (MEIM-EI; Roberts et al., 1999). The MEIM-A subscale measures the strength to which one identifies with one's ethnic group and one's attitudes and feelings related to this attachment. The MEIM-EI subscale measures the awareness and understanding one has of one's ethnicity. These two subscales were determined based on a sample of more than 5,000 youth (Roberts et al., 1999). The MEIM has been found to have adequate validity when compared to similar measures (see review in Avery, Tonidandel, Thomas, Johnson, & Mack, 2007). The current study found Cronbach's alpha of .90 (with MEIM-A $\alpha = .86$ and MEIM-EI $\alpha = .76$).

Nonsuicidal Self-Injury. Nonsuicidal self-injury was measured using an adapted version of the Deliberate Self-Harm Inventory (ADSHI; for the original Deliberate Self-Harm Inventory, see Gratz, 2001; refer to Wester & Trepal, 2010, for the adaptation of the measure). The DSHI has been found to have

adequate test-retest reliability ($r = .92$ for 2- to 4-week retest) and has been found to correlate moderately with other measures of self-harm indicating construct validity (Gratz, 2001). The DSHI was also found to significantly correlate with suicide attempts, albeit a low correlation ($r = .20$; Gratz, 2001), supporting the view that the DSHI does not measure suicidal behavior. The ADSHI asks participants 12 questions regarding if they have "ever intentionally (or on purpose) hurt yourself (e.g., cut or burn self, pull hair, punch self, head bang, etc.)?" These 12 questions assess (a) NSSI ever in one's lifetime (yes/no) and (b) the number of NSSI methods used across one's lifetime. The number of NSSI methods used in one's lifetime is calculated by summing the number of methods respondents indicated yes to in relation to NSSI.

Anxiety. Anxiety was measured using the five-item Anxiety subscale from the PGI General Well Being Scale (Verma, Dubey, & Gupta, 1983). Participants were asked to rate each item on a 4-point Likert-type scale according to frequency of occurrence. Higher scores on the Anxiety subscale equate to better wellness and less anxiety. The Anxiety subscale of the PGI has been found to be valid, with positive correlations with measures of negative affectivity and self-esteem (Karatzias, Chouliara, Power, & Swanson, 2006). Cronbach's alpha for the current study was .78.

Depression. The short version of the Center for Epidemiological Studies Depression Scale (CES-D; Andresen et al., 1994) was used. The CES-D is a 10-item scale measuring depressive symptoms. It has been shown to have good predictive accuracy for depression and adequate reliability (.64). The CES-D has been used in more than 50 studies since its creation in 1977, being used in epidemiological and clinical studies (see the Orme, Reis, & Herz, 2006, review). The CES-D has been found

to differentiate between clients in treatment for depression and those not in treatment, and has been found to correlate with other scales designed to measure depression (see the Orme et al., 2006, review). A Cronbach's alpha of .60 was found of the current study. Higher scores on the CES-D indicate higher levels of depression.

Data Analysis

One-tailed chi-square tests were used to examine the differences in proportions between racial groups and engagement in NSSI for the first research question. There was enough power a priori (.80, with $\alpha = .05$) to run this test. For the second research question, an ANOVA was conducted, with post hoc Scheffé tests. It was determined that adequate power a priori ($> .80$) was achieved to find a moderate effect at an alpha level of .05. Finally, for the third research question, a linear probability model and a linear regression model were used to explore the relationships. Specifically, linear probability models function like linear regressions, but have a criterion variable that is dichotomous (e.g., *engage in NSSI* = 1, *do not engage in NSSI* = 0), while regression models contain criterion variables that are continuous in nature (e.g., number of NSSI methods). It was determined that for a moderate effect, and alpha set at .05, a sample size of 92 was needed to reach adequate a priori power (.80); the sample in the current study exceeds all power requirements, providing enough power to conduct these analyses.

RESULTS

Of the 1,096 students, 162 (14.8%) indicated they had engaged in NSSI (see Table 1). Students who reported engaging in NSSI indicated utilizing an average of 1.75 different methods ($SD = 1.33$, range = 1–9) to self-injure. Examining NSSI across racial

groups (see Table 1), it can be seen that engagement in NSSI ranges between 7% to 28%, with Hispanics, White/Caucasian, and Multiracial/Other students reporting similar rates (approximately 17%) of engaging in NSSI at some point in their life and Asian and Black/African American students reporting lower frequencies. While Native American students self-reported engagement in NSSI was higher than that of the other groups (i.e., 28%), it should be noted that this is based on a total sample of 7 students, which brings circumspection to the generalizability of the results to this racial group.

Due to the low overall sample sizes of Native Americans in the sample ($n = 7$; with only 2 students indicating they self-injured), these students were dropped from all further analyses.

Racial Group Differences on NSSI Engagement

To examine whether racial group differences existed on NSSI engagement, a chi-square test was conducted and was found to be statistically significant ($\chi^2 = 11.83$, $df = 4$, $p < .05$, Cramer's $V = .10$). Due to finding statistical significance, follow-up chi-square tests were conducted to determine which racial groups were significantly different. It was found that African American and Asian American students reported significantly lower proportions of engaging in NSSI than did Hispanic ($\chi^2 = 6.63$, $df = 1$, $p < .05$, Cramer's $V = .13$; $\chi^2 = 5.696$, $df = 1$, $p < .05$, Cramer's $V = .14$, respectively), Caucasian ($\chi^2 = 6.02$, $df = 1$, $p < .05$, Cramer's $V = .09$; $\chi^2 = 5.03$, $df = 1$, $p < .05$, Cramer's $V = .09$, respectively), and Multiracial/Other students ($\chi^2 = 3.74$, $df = 1$, $p < .05$, Cramer's $V = .12$; $\chi^2 = 3.78$, $df = 1$, $p < .05$, Cramer's $V = .14$, respectively). However, African American and Asian American students did not significantly differ from each other on their rates of NSSI

engagement. No other racial group significantly differed, leaving Hispanic, Caucasian, and Multiracial/Other students reporting NSSI at similar rates.

Racial Group Differences on NSSI Methods Used

An ANOVA was used to examine the differences between the five racial groups on the number of methods used. No significant differences in number of methods used were found, $F(3, 1084) = 2.65, p > .05$.

Relation of Ethnic Identity and Belonging to NSSI

To examine if ethnic identity and sense of belonging were related to engagement in NSSI, a linear probability model was conducted. In the first step of the model, sex, depression, and anxiety were controlled for, due to these variables being found to differentiate or correlate with NSSI engagement. The model was found to be significant ($F = 11.67, p < .001$) and explained 6% of the variance in NSSI (adjusted $R^2 = .061$). Depression and anxiety (as in previous research) were both found to be significantly related to NSSI engagement, with those engaging in NSSI reporting higher levels of anxiety ($\beta = -.11, t = -2.88, p < .01$) and depression ($\beta = .14, t = 3.67, p < .01$) than students who never engaged in NSSI. Sex, entered as a control variable, was not significantly related to NSSI.

Students who reported engaging in NSSI at some point during their life reported lower levels of affirmation, belonging, and commitment to their ethnic group (MEIM-A; $\beta = -.16, t = -3.51, p < .01$) than those who had never engaged in self-injury. The Ethnic Identity subscale (MEIM-EI) were not significantly related to NSSI engagement.

To examine if ethnic identity (MEIM-EI) and a sense of belonging (MEIM-A) were related to the number of NSSI methods used,

another multiple regression was conducted, controlling for the effects of sex, anxiety, and depression. The regression model for number of methods used in a lifetime was significant ($F = 13.01, p < .001$) and explained 7% of the variance (adjusted $R^2 = .068$). Once again, anxiety and depression were significantly related to NSSI methods ($\beta = -.12, t = -3.07, p < .01$; and $\beta = .16, t = 4.21, p < .01$, respectively). This suggests higher levels of anxiety and depression were associated with a greater number of methods selected to NSSI. Sex was not related.

The MEIM-A was significantly related ($\beta = -.13, t = -2.93, p < .01$), suggesting that a lower sense of belonging was associated with a greater number of methods selected to NSSI during their lifetime. Ethnic identity (MEIM-EI) was not found to be significantly related.

Ethnic Identity and Sense of Belonging Across Ethnic Groups: Post Hoc Analyses

Due to the sense of belonging to one's ethnic group (MEIM-A) being consistently related to NSSI engagement and the number of methods used, and racial group differences being found in the lifetime NSSI engagement, a post hoc analysis was conducted to determine if different racial groups in the current sample experienced different levels of belonging. Based on the results in this study, it was hypothesized that there would be differences across ethnic groups on a sense of belonging (MEIM-A), specifically that African Americans and Asian Americans would have significantly higher levels of belonging than Caucasians, Hispanics, and Multiracial/Other students since they had lower levels of NSSI engagement. In order to explore these possible differences, ANOVA was utilized. The current study had adequate power ($> .80$) to find moderate effects at a .05 level to run this analysis.

As expected, significant differences were

found between the racial groups and a sense of affirmation, belonging, and commitment to one's ethnic group, $F(4, 1039) = 18.75$, $p < .001$, $\eta^2 = .067$. Post hoc Scheffe tests determined Caucasian and Multiracial students had significantly lower levels of sense of belonging to their ethnic group (MEIM-A) than did African Americans and Hispanic students. In addition, Caucasian students reported lower levels of belonging than did Asian American students. No significant differences existed among Asian American, African American, or Hispanic students. In addition, differences did not exist between Multiracial and Asian American students.

Figure 1 combines race and engagement in NSSI in examining their relation to MEIM-A. As can be seen, it appears that those who have a higher sense of belonging within one's ethnic group tend to be less likely to engage in self-injury at some point in their life. In addition, it can be seen that Multiracial/Other and

Caucasian students typically have lower levels of ethnic belonging, and have been found to be statistically more likely to engage in NSSI than African Americans and Asian Americans—both of these groups have higher levels of sense of belonging. The one exception that appears is Hispanic students, who appear in Figure 1 to have higher levels of ethnic belonging, similar to Asian American and African American students, but who self-injure at similar rates as Caucasian and Multiracial students.

DISCUSSION

The purpose of the current study was to augment existing research exploring the differences in NSSI behavior across racial groups by examining the relationship between ethnic identity and sense of belonging to NSSI behavior, and gaining a sense of how these two factors may vary across racial groups and NSSI engagement. In addition, this is one of the first

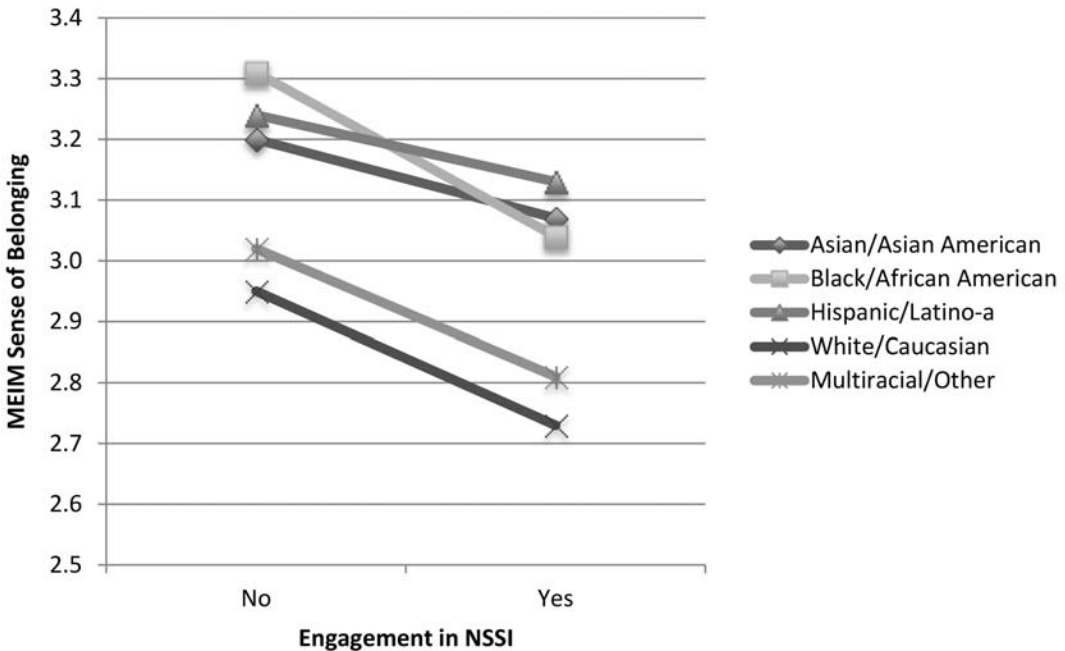


FIGURE 1. Graphical Depiction of Ethnicity, Nonsuicidal Self-Injury (NSSI), and Multigroup Ethnic Identity Measure (MEIM) Sense of Belonging

studies to incorporate more than a comparison of two racial groups (e.g., Black and White, White and Hispanic) in an analysis of NSSI behavior. Similar to previous findings (e.g., Croyle, 2007; Holsinger & Holsinger, 2005), our results showed that African American college students were significantly less likely to engage in NSSI than were Caucasian, Hispanic, and Multiracial/Other students and that Hispanic, Multiracial/Other, and Caucasian students did not differ from one another on rates of NSSI engagement. It was also found that Asian American students were less likely to engage in NSSI than were White, Hispanic, and Multiracial/Other students, which is a new finding in the NSSI literature since few researchers have included Asian American students in their samples.

To examine possible explanations for these racial differences, both ethnic identity (i.e., awareness and understanding the social, historical and cultural context of one's ethnic group; MEIM-EI) and sense of belonging (i.e., connection and affirmation of this connection from one's ethnic group; MEIM-A) were explored. It was found that ethnic identity was not related to NSSI behavior, engagement in NSSI, or number of methods used. This was surprising as ethnic identity has been found to correlate positively with psychological well-being in other studies (e.g., St. Louis & Liem, 2005) and since according to Chickering (2012) understanding one's origin and ethnic heritage is important in understanding oneself. This may be true in developing one's self-concept or worth, but according to the findings in this study, ethnic identity may not be explanatory of NSSI. Instead, what seems to be the more important aspect of ethnic identity is the feeling of connection one has. As stated by Phinney, DuPont, Espinosa, Revill, and Sanders (1994), ethnic identity includes the feeling of belonging, a clear understanding of the meaning of group membership, positive

attitudes toward the group, and involvement in the group's practices. This mimics Chickering's (2012) discussion of the importance of sense of self in response to feedback from others, a sense of belonging and understanding of how one is seen and evaluated within a group. Thus, a sense of belonging to one's ethnic group may serve as a protective factor, but the understanding and awareness of one's ethnic group and culture may not ward off maladaptive coping behaviors such as NSSI.

In the current study, the negative relationship between ethnic sense of belonging and NSSI engagement was statistically significant. This relationship was found in a model that also controlled for factors known to relate to NSSI, such as depression and anxiety. Iwamoto and Liu (2010) found similar results when studying Asian college students and wellness, specifically that affirmation and belonging was significantly related to more psychological well-being, while ethnic identity achievement was not related.

While sense of belonging in the current study was found to be a protective factor against NSSI engagement, it needs to be noted that the entire model (including depression and anxiety) explained only 6% to 7% of the variance, indicating that sense of belonging is not a robust predictor of NSSI behavior. This finding is similar to that of Clarke, Colantonio, Rhodes, and Escobar's (2008) in that sense of belonging and connection did not fully explain ethnic differences in self-harm behavior, but the interaction between sense of belonging and other contextual factors (e.g., socioeconomic status) did fully mediate the relationship. Our results, taken along with those of Clarke et al., indicate a need to further explore the differences found in NSSI across racial groups within a cultural and environmental context, as the individual's context and other variables may be better predictors for NSSI.

In an attempt to gain further understanding

of the results, sense of belonging across racial groups was explored. This led to unexpected and interesting findings. Specifically, the general relationship of sense of belonging serving as a protective factor seems to have held true for African American and Asian American students—who self-injured less than any other racial group and had significantly higher levels of belonging than did Caucasians and Multiracial students. This relationship did not appear to hold true for Hispanic students. Explicitly, Hispanic students reported higher levels of belonging than Caucasian and Multiracial/Other students, but also reported similar rates of NSSI engagement. In addition, Hispanic students had statistically similar rates of sense of belonging as African Americans, yet engaged in NSSI at a significantly higher rate. This leads to the question of why. Why might a sense of belonging lower the engagement in NSSI in general for most racial groups, but not to the same degree for Hispanic college students? This question needs to be explored further in research, not simply in relation to race/ethnicity alone, but within a cultural and community context.

Taking racial/ethnic differences into cultural context would help to answer why a sense of ethnic belonging as a possible protective factor might hold true for African Americans and Asian American student in the current study, but differ for Hispanic students (Figure 1). In addition, cultural context would address the more common within-group racial/ethnic differences that may appear (Bean, Perry, & Bedell, 2001; Duarte-Vélez & Bernal, 2007) due to within-group fluctuation on cultural factors such as cultural beliefs, originating country or region, religious beliefs, and acculturation levels. While these factors have not been explored specifically in relation to NSSI in the current or other studies, Nock (2009) stressed the need to incorporate culture in predicting NSSI.

One possibility is considering the majority culture. Attending an HSI has been shown to influence Latino ethnic identity development (Torres, 2003). It is possible that since most of the Hispanic students in the sample attended an HSI (University B), a majority-minority campus, this influenced the relationship among ethnic identity, race/ethnicity, and NSSI for Hispanic students—possibly explaining the reason why sense of belonging (MEIM-A) did not serve as a protective factor for Hispanic students in the way it did for African American and Asian American students. Recently, Gonzalez (2010) suggested that researchers investigate the role and effects of attending a majority-minority institution on ethnic identity. We would extend this recommendation and propose that future researchers examine the role regarding mental health and positive and negative coping skills, including NSSI.

Limitations

Few research studies have been conducted to explore racial differences in NSSI behavior, with even fewer exploring the possible explanations for the similarities and differences found. While adequate power existed to conduct the analyses in the current study, small sample sizes still existed within the different racial groups, limiting the ability to generalize these results. However, similar statistical findings were found across racial groups that have been found in other studies, leading to the possibility that these results are representative of what others have found in regard to NSSI. However, future researchers need to gain larger sample sizes of the various racial groups for increased validity of the findings, as well as to increase statistical power to examine mediation effects of cultural context. In addition, it should be noted that compiling all individuals of an identified racial/ethnic group to compare between-group effects discounts the within-group differences that exist. Within-group culture can vary at times

more than between-group cultural differences, and thus is a limitation of the current study.

In addition, in the current study Native Americans were removed from analyses due to extraordinarily small sample sizes compared to the other groups. Although the current study found 28% of Native Americans to report engagement in NSSI, this was based on a sample size of seven students. This possible high prevalence of NSSI as well as explanations of this behavior need to be further explored in a larger sample size of this racial group.

While differences between racial groups and relationships between ethnic belonging were found, the regression models explained very little (i.e., 6% to 7%) of variance of NSSI behavior, and small effects were found in the chi-square and ANOVA tests as well. Although these effect sizes are small, due to the possible patterns evolving between race/ethnicity, ethnic belonging, and NSSI, and the low amount of variance explained by depression and anxiety, future research needs to be conducted that explores more in regard to cultural factors in explaining NSSI behavior.

Another limitation is the low Cronbach's alpha score (.60) on the CES-D in the current sample. According to DeVellis (1991), an alpha of .60 is undesirable, but not unacceptable. It should also be noted that Cronbach's alpha is a conservative estimate of internal consistency (Carmines & Zeller, 1979); however, the results with depression should be taken with caution. Depression in the current study, measured by the CES-D, was used as a control variable when testing the relationship of ethnic identity to self-injuring behavior. The results of this study are similar to those of other research, in which a significant positive relationship was found.

Implications

The results of the current study indicate that engagement in NSSI differs across racial groups. Some of this difference, although

small, is explained by a sense of belonging to one's ethnic group. Therefore, there are several implications that have relevance for the college setting.

First, when a student who self-injures comes into counseling, college counselors might want to explore whether the individual feels a connection to his or her self-identified ethnic culture or is involved in organizations that celebrate connections with one's ethnic group. However, while these are important assessments to inquire about regarding a sense of belonging, this factor and feelings of depression do not explain the majority of the decision to engage in NSSI and may not buffer some racial groups to the degree that they buffer others (e.g., Hispanics). Thus, other cultural factors that are considered protective may need to be taken into account, including access to counseling services, amount of stress, coping skills, and resources.

Second, being that college populations have a high rate of NSSI behavior (Gratz, 2001; Murray et al., 2008) and that the current study found 14% of freshmen alone engaged in NSSI, it may be helpful at freshman orientation to help connect students to others of similar cultural background. This connection may lead to familiarity and ability to adjust more easily to college, including a sense of fitting in with others on the campus. This connection may be facilitated with other freshman students at the orientation or an introduction to other student groups and organizations on campus by having more senior students publicize the organization.

Sometimes, whether warranted or not, NSSI has been reacted to as a crisis or assumed to be a suicide attempt on a college campus (Amada, 2004). This may be due to a lack of knowledge regarding NSSI dynamics or due to college campus policies and procedures. Typically, student affairs professionals (e.g., residence life staff, judicial affairs officers)

or the campus police are the first responders to such events, particularly when they take place on campus (e.g., in the residence halls). In these cases, it is helpful to have these individuals trained in NSSI assessment and recognition. However, after they respond it may also be conducive as a follow-up to the students' continued college adjustment and lowering of NSSI behavior, to help connect these individuals to other groups or individuals on campus to create a sense of belonging. Judicial sanctioning models such as EPIC (Fueglein, Price, Alicea-Rodriguez, McKinney, & Jimenez, 2012) may serve as a conduit to this type of planful, targeted resource activation. The EPIC acronym reflects student development in terms of "engagement, personal development, interpersonal development, and community membership" (p. 1) and serves to involve not only the student but also the university community in the student's educational experience. Specific strategies, such as connecting the student to a member of the university community who is also a member of his or her racial/ethnic group, may serve to enhance a sense of connection and belonging.

These implications and connections, however, may differ for different racial/ethnic groups. As found in this study, the slight protective factor of ethnic belonging did not appear to help in the case of Hispanic, White, or Multiracial students. It may be that Multiracial students may have difficulty selecting one specific racial/ethnic group to identify with, particularly if they have not integrated all components of their racial heritage (Choi-Misailidis, 2003). The other two racial/ethnic groups were, in this study, majority groups on their campuses. It may be that those in the majority culture within a given environmental context do not experience the same protective effect from ethnic belonging as those in a minority context. This phenomenon needs to be further explored.

While this study explored ethnic belonging specifically, future researchers are encouraged to explore general interpersonal connections as well on college campuses. However, connection to ethnic groups and student organizations should not be the only response, as in this study it explains less than 7% of the variance in NSSI behavior.

The findings in this study beg for more research on culture and NSSI to be conducted to further explain and determine protective and risk factors; however, this research also creates the question as to whether treatment for NSSI needs to be altered depending up racial and ethnic group status. Clarke et al. (2008) found similar results when examining suicidal ideation, specifically finding that different pathways and explanations existed across and within racial groups based on cultural and environmental experiences and beliefs. They concluded that certain specific pathways could increase suicidal risk in a typically low-risk group. This may also be the case for NSSI behaviors, something that both researchers and clinicians need to be cognizant of.

CONCLUSION

This study reveals some explanation to possible differences across racial/ethnic groups, specifically that a sense of belonging to one's identified racial/ethnic group may serve as a protective factor for some racial/ethnic groups, but not for others. This finding leads to a need to further examine differences within and across racial groups, specifically exploring explanations for these differences more through a cultural and environmental context lens than simply across racial differences. While aversive emotions such as depression have consistently been found to relate to NSSI behavior, this study found them to not be a robust predictive factor of engagement or methods used. As NSSI continues to increase (Walsh, 2006),

risk and protective factors need to be further explored for mental health practitioners to be effective, and possibly preventative, in working with NSSI.

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