

Factors Associated with Recurrent Suicidal Ideation among Racially and Ethnically Diverse College Students with a History of Suicide Attempt: The Role of Mindfulness

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Although one-third of enrolled U.S. undergraduate college students are non-White, little is known about risk factors for suicidal behavior among racial and ethnic minority students. Thus, we set out to determine psychosocial factors associated with recurrent suicidal ideation among racially and ethnically diverse college students with a history of suicide attempt. From 2012–2013, 1,734 racially and ethnically diverse college students completed an on-line survey of suicidal behavior and associated factors.

Depression, hopelessness, rejection sensitivity, and mindfulness, as well as past-year discrimination, ethnic identification, and acculturative stress were measured using well-validated self-report instruments. The Beck Scale for Suicide Ideation was used to assess current suicidal ideation. A subsample of 118 college students who self-reported a past suicide attempt were selected for the current analysis. Logistic regression analysis was used to test associations between risk factors and the presence of suicidal ideation, and linear regression analysis was used to test factors associated with suicidal ideation severity among those who reported current suicidal ideation.

Depression was significantly related to both the presence and severity of current suicidal ideation. Mindfulness, and in particular awareness of present moment experience, was also inversely associated with ideation severity.

We found depression and mindlessness were associated with suicidal ideation severity among a sample of diverse college students at high risk for suicidal behavior due to a past suicide attempt. Factors unique to the minority experience, such as acculturative stress, were not associated with current suicidal ideation. Implications for suicide prevention are discussed.

Keywords mindfulness, racial and ethnic minority students, risk factors, suicidal ideation

Suicide is a leading cause of death among college students (Schwartz, 2011). Although numerous studies have examined correlates of suicidal behavior among mostly White college students, only a few studies have investigated risk factors for suicidal behavior among ethnically and racially diverse college students (Buchanan, Flowers, Salami, & Walker, 2011). As the college student population increasingly diversifies (Knapp, Kelly-Reid, & Ginder, 2012), there is a pressing public health need to understand risk factors for suicidal behavior among racially and ethnically diverse college students to inform suicide prevention and intervention efforts.

Risk factors for suicidal behavior among primarily White college student samples include depression, hopelessness, substance abuse, loneliness, lack of social support, and borderline personality disorder traits (Brener, Hassan, & Barrios, 1999; Garlow et al., 2008; Jeglic, Pepper, Vanderhoff, & Ryabchenko, 2007; Weber, Metha, & Nelsen, 1997). While there has been comparatively little research investigating risk factors among racially and ethnically diverse college students, thus far, studies have suggested that psychosocial risk factors for lifetime suicidal behavior are similar to those found for White college students and include depression, hopelessness, and deficient social problem-solving (Chang, 1998; Hirsch, Visser, Chang, & Jeglic, 2011; Hirsch, Webb, & Jeglic, 2011). Similarly, depression and hopelessness have been linked to *current* suicidal ideation among diverse college students (Linda, Marroquín, & Miranda, 2012; Miranda, Tsydes, Gallagher, & Rajappa, 2013). Some research also suggests that there may be risk and protective factors specific to the minority experience that are associated with suicidal behavior among non-majority students, including acculturative stress (defined as stress due to identification with values, beliefs, and practices of the dominant culture that conflict with those

of the racial/ethnic group of origin; Berry & Annis, 1974; Gomez, Miranda, & Polanco, 2011; Polanco-Roman & Miranda, 2013), ethnic identification (defined as understanding of and feelings towards one's own ethnicity as well as other ethnic group members; Phinney, 1992; Polanco-Roman & Miranda, 2013), and discrimination (Hwang & Goto, 2008; Polanco-Roman & Miranda, 2013).

Researchers have also studied risk factors for suicidal behavior among specific racial and ethnic college student groups. Depression, hopelessness, and social problem-solving deficits have been associated with suicidality among female Hispanic college students (Chang, Sanna, Hirsch, & Jeglic, 2010; Chesin & Jeglic, 2012). Conversely, hope has been inversely associated with suicidality among Hispanic college students of both genders (Chang, Yu, Kahle, Jeglic, & Hirsch, 2013).

Among Black college students, current depression is associated with suicidal thoughts and behavior (Hirsch, Visser, et al., 2011; Walker & Bishop, 2005; Walker, Wingate, Obasi, & Joiner, 2008; Wang, Nyutu, & Tran, 2012). Further, hopelessness in the context of depression is associated with greater suicidal behavior among Black students such that past, current, and expectations of future suicidal thoughts and behavior are greater among depressed Black students reporting more hopelessness (Hirsch, Visser et al., 2011). Hopelessness has also been found to be particularly poignant in determining current suicidal ideation among Black women in college such that the relationship between suicidal ideation and hopelessness is greater for Black as opposed to White female coeds (Lamis & Lester, 2012).

Similarly cultural factors, including acculturative stress and ethnic identity, are particularly potent risk factors for suicidal ideation among Black students. Among Black, but not White students, acculturative stress is related to current suicidal ideation,

and it exacerbates the relationship between depression and suicidal ideation (Walker et al., 2008). Similarly, a negative association between ethnic identification and suicide risk (i.e., fewer reasons for living) has been observed among Black students, with greater ethnic identification also attenuating the relationship between hopelessness and suicidal ideation among Black students (Walker, Alabi, Roberts, & Obasi, 2010).

While the aforementioned studies significantly advance our understanding of risk factors for racially and ethnically diverse college students, they have some limitations. Namely, many of the studies do not distinguish between past, present, and future suicidal behavior and risk. In the few studies examining current suicidal thoughts among diverse students in college (e.g., Linda et al., 2012; Walker et al., 2008), samples have included individuals with and without a history of suicide attempt, and no reference to the severity of current suicidal thoughts among the samples. Thus, it remains unclear whether risk factors identified in these studies indicate acute suicide behavior risk in diverse college students.

To overcome these previous limitations, we set out to determine the most potent psychosocial risk factors for recurrent suicidal ideation among racially and ethnically diverse college students with a history of at least one suicide attempt. We choose to study past suicide attempters endorsing current suicidal ideation because individuals who have made a prior suicide attempt and continue to think about suicide are at particular suicide attempt and suicide risk (Holma et al., 2010; May, Klonsky, & Klein, 2012). Thus, understanding risk factors for recurrent suicidal ideation among this high suicide risk group has important implications for preventing suicide among diverse college students.

Based on previous studies of suicidality among ethnic and racial minority college students, we hypothesized that depression and hopelessness would be associated with

current suicidal ideation among past suicide attempters. We also posited psychosocial factors unique to the minority experience, including acculturative stress, perceived discrimination in the past year, and low levels of ethnic identification would be associated with current suicidal ideation among racially and ethnically diverse students with a past suicide attempt.

As this is a particularly at-risk group, we also thought it would be important to identify treatment targets in addition to risk factors. As such, we also included measures of mindfulness, or the ability to attend to present experience with an accepting, curious, and open attitude (Bishop et al., 2004; Kabat-Zinn, 1994), and interpersonal difficulties. Interpersonal skills and social problem solving are targets in cognitive therapy (CT) for suicide prevention (Brown et al., 2005). Meanwhile, in third-wave behavioral therapies such as Dialectical Behavior Therapy (DBT), mindfulness is used to decrease emotion dysregulation, and ultimately, prevent suicidal behavior (Linehan, 1993). However, it remains unclear whether these interventions work to prevent suicidal behavior among diverse college student at high risk for suicide, and more specifically, whether mindfulness and interpersonal difficulty are important targets for treatments in this population.

We hypothesized that mindfulness would be inversely related to suicidal ideation among suicide attempters based on findings showing that self-compassion, an aspect of mindfulness (Bishop et al., 2004), was indirectly associated with suicidal behavior among diverse college students (Hirsch, Webb, et al., 2011) as well as findings showing acceptance and awareness of current experience (i.e., mindfulness) were negatively associated with current suicidal ideation among a mostly White college student sample (Lamis & Lester, 2012). Finally, given evidence of the relationship between interpersonal difficulty and suicidality among college students, we posited that

rejection sensitivity, a cognitive-affective processing style to anxiously expect and perceive interpersonal rejection (Downey & Feldman, 1996), would be associated with suicidal thoughts among non-majority students with a history of suicide attempt.

METHODS

Participants and Procedures

Survey data from 118 college students with a self-reported past suicide attempt were selected from data from 1,734 college students who completed an on-line survey between 2012 and 2013 on psychosocial and cultural risk factors for suicidal behavior. The survey was conducted at a diverse, urban, public college in the northeastern United States. Participants received credit to partially fulfill a research requirement for their psychology course in exchange for their time and effort. The study was approved by the Institutional Review Board at the survey site. Participants were racially and ethnically diverse. Forty-nine percent ($n = 58$) self-identified as Hispanic, with the majority indicating they were Dominican American or Puerto Rican. Twenty-one percent ($n = 25$) self-identified as Black; 20% ($n = 23$) self-identified as White, and 10% ($n = 12$) self-identified as another race or ethnicity. Most of our sample was female (86%, $n = 102$), and the modal age of participants was 18.

Measures

Beck Depression Inventory-II (BDI-II). The BDI-II (Beck, Steer, & Brown, 1996) is a 21-item, self-report measure of current depressive symptoms. Items are scored on a 4-point scale, with higher scores indicating more severe depression. The BDI-II has excellent psychometric properties (Beck et al., 1996) and maintains excellent reliability

and adequate validity when used with racially and ethnically diverse college students (Hooper, Qu, Crusto, & Huffman, 2012; Lamis & Lester, 2012). The BDI-II maintained excellent internal reliability in the current sample (Chronbach's $\alpha = .92$).

Beck Hopelessness Scale (BHS). The BHS (Beck, Weissman, Lester, & Trexler, 1974) is a 20-item self-report measure of hopelessness. Higher scores indicate that an individual feels more hopeless about his or her future. The BHS has good psychometric properties (Beck et al., 1974), including when used in college student samples and Hispanic and Black samples (e.g., Lamis & Lester, 2012). In our sample, the internal consistency was excellent (Cronbach's $\alpha = .90$).

Beck Scale for Suicide Ideation (BSS). The BSS (Beck & Steer, 1991) is a 21-item self-report measure of current suicidal ideation. Higher scores indicate more severe suicidal ideation. The BSS has been found to have good internal reliability and concurrent validity with the Scale for Suicidal Ideation (Beck, Kovacs, & Weissman, 1979), a well-validated clinician-administered measure of current suicidal ideation (Brown, 2001). The BSS has been used with a diverse college student sample with excellent reliability (Polanco-Roman & Miranda, 2013). The scale maintained good reliability in our sample, with Chronbach's $\alpha = .88$.

Rejection Sensitivity Questionnaire (RSQ). The RSQ (Downey & Feldman, 1996) is an 18-item, self-report measure of cognitive and affective tendencies towards rejection, with higher scores indicating a greater tendency to perceive and react with fear or concern to interpersonal rejection by personal and professional contacts. Each of 9 situations is rated on two 6-point Likert scales to capture rejection concern and expectancy. Then, scores on rejection

expectancy and concern for each item are multiplied and summed across the 9 scenarios. The 9 scenario scores are then averaged to calculate the total score, which can range from 1 to 36. The RSQ has been found to have sound psychometric properties (Berenson et al., 2009; Downey & Feldman, 1996), including when used with Asian American college students (Chan & Mendoza-Denton, 2008). In this sample, the scale maintained adequate internal consistency (Chronbach's $\alpha = .80$).

The General Ethnic Discrimination Scale (GED). The GED (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006) is an 18-item self-report measure designed to capture the frequency and diversity of discriminatory events experienced in the past year and over the individual's lifetime (GED-recent, GED-lifetime, respectively). On these scales, items are scored on a 6-point scale, with higher scores indicating greater perceived discrimination in the past year or lifetime. A third scale (GED-appraised) measures perceived stress as a result of discriminatory events. Items on this scale are also scored on a 6-point scale with higher scores indicating greater perceived stress as a result of discrimination. The GED demonstrated good validity and reliability in a racially and ethnically diverse sample of college students and community members (Landrine et al., 2006). Because we were interested in predicting recurrent suicidal ideation in college, we chose to include only past year discriminatory experiences in our analyses. In our sample the GED-recent maintained excellent reliability. Chronbach's α was .93.

The Multigroup Ethnic Identity Measure. The MEIM (Phinney, 1992; Roberts et al., 1999), a 12-item self-report measure designed to measure ethnic identity among members of any ethnic group (Phinney, 1992; Roberts et al., 1999). Items ask about the cognitive ("I understand pretty well what my ethnic

group membership means to me, in terms of how to relate to my own group and other groups."), affective ("I feel good about my cultural and ethnic background."), and behavioral ("I participate in cultural practices of my own group, such as special food, music, or customs.") components of ethnic identification. Items are scored on a 4-point scale, with higher scores indicating greater ethnic identification. The MEIM has been found to have adequate reliability, including in samples with significant proportions of non-majority members (Phinney, 1992; Ponterotto, Gretchen, Utsey, Stracuzzi, & Saya, 2003). The factor structure has also been replicated in several largely minority samples (e.g., Worrell, 2000). The reliability of the MEIM in our sample was good, with Cronbach's $\alpha = .87$.

Social, Attitudinal, Familial, and Environmental Acculturation Stress Scale (S.A.F.E.). The S.A.F.E. (Mena, Padilla, & Maldonado, 1987) is 24-item self-report measure of acculturative stress due to environmental, social, and familial factors as well as beliefs about the self and others. Respondents rate the stressfulness of various situations ("My family does not want me to move away but I would like to.") and beliefs (i.e., "I have more barriers to overcome than most people.") on a 5-point scale. Thus, scores can range to 120, with higher scores indicating greater acculturative stress. The S.A.F.E. demonstrates good reliability and validity when used with college students (Mena et al., 1987), and the S.A.F.E. has been found to maintain good psychometric properties when used with Hispanic college students (Fuentes & Westbrook, 1996). In our sample, Chronbach's α was .86, indicating good internal consistency of items.

Five Factors Mindfulness Questionnaire (FFMQ). The FFMQ (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) is a 39-item, self-report measure of five aspects of mindfulness: observing (FFMQ-O),

describing (FFMQ-D), acting with awareness (FFMQ-AA), non-judging of experience (FFMQ-NJ), and non-reactivity to inner experience (FFMQ-NR). Each subscale of the FFMQ has been found to have adequate internal consistency and construct validity, including among college students (Baer et al., 2006; Christopher, Neuser, Michael, & Baitmangalkar, 2012). The FFMQ has been used with Black college students (Graham, West, & Roemer, 2012). In our sample, four of the subscales maintained adequate to good internal reliability (Chronbach's alpha for FFMQ-O = .81, FFMQ-D = .90, FFMQ-AA = .81, and FFMQ-NJ = .87). Chronbach's alpha for FFMQ-NR was .62. Thus, the FFMQ-NR was not used in any other analyses.

Suicide History. The second author previously developed a brief survey questionnaire to determine suicide behavior history. We used this tool, which included the question, "have you ever attempted suicide?" to identify individuals with a history of self-harm with suicidal intent.

Demographic information, including race/ethnicity and years living in the U.S., was also collected.

Statistical Analysis

Suicidal ideation data collected using the BSS is often zero-inflated, meaning many individuals report no current suicidal ideation. To overcome analytical constraints that could limit power to accurately detect correlates of suicidal ideation, Keilp et al. (2012) modeled predictors of any suicidal ideation and predictors of severity of suicidal ideation among those who had any suicidal ideation ($BSS > 0$) in two separate analyses. This approach allowed for correlates of any suicidal ideation and more severe suicidal ideation among ideators to be determined and parametric regression techniques to be used to model severity

of suicidal ideation. To overcome similar limits in our zero-inflated suicidal ideation data, we emulated this analytical approach.

Analyses were conducted using SAS software, Version 9.2 (SAS Institute Inc., Cary, NC, USA, www.sas.com). Descriptive statistics for the entire sample were computed and demographic and clinical differences between college students with a past suicide attempt reporting no current suicidal ideation ($BSS \text{ total} = 0$) and at least some current suicidal ideation ($BSS \text{ total} > 0$) were compared using chi-square analysis and independent sample t-tests or the non-parametric equivalent Wilcoxon-Mann-Whitney test, as appropriate. Then, logistic and linear multivariate regression analyses were run to determine which clinical correlates were associated with any current suicidal ideation and severity of current suicidal ideation. For the logistic regression, we included only those factors that distinguished current ideators from non-ideators in the model. In the linear regression testing correlates of ideation severity, we included all variables in the model. As Gomez et al. (2011) did, we controlled for degree of acculturation by including years in the U.S. divided by age as a covariate in both multivariate models. We also included race/ethnicity as a predictor to determine whether racial or ethnic group was related to current suicidal ideation.

RESULTS

Comparisons between past college student suicide attempters with and without current suicidal ideation are presented in Table 1. Of the 118 suicide attempters who participated in this study, 43% of the sample ($n = 51$) reported current suicidal ideation. Among those with current suicidal ideation, the average BSS score was 8.6 ($sd = 7.0$). Current ideators reported greater depression and hopelessness. Past suicide attempters without current suicidal ideation

TABLE 1. Comparison of Characteristics of Past Suicide Attempters by Presence of Current Suicidal Ideation

Demographic	Non-ideators (n = 67) BSS = 0		Current ideators (n = 51) BSS > 0		Analysis	
	Mean	sd	Mean	sd	Z ^b	p
Age	21.7	5.0	20.8	6.3	-1.82	0.07
	<i>n</i> w/ characteristic	%	<i>n</i> w/ characteristic	%	X ²	p
Female	60	89.6	42	82.4	1.28	0.26
Male	7	10.5	9	17.7		
Freshman or Sophomore	43	64.2	37	74.0	1.28	0.26
Hispanic	37	55.2	21	41.2	2.71	0.44
Black	12	17.9	13	25.5		
White	11	16.4	12	23.5		
Other race	7	10.5	5	9.8		
Clinical States & Traits						
	Mean	sd	Mean	sd	Z ^b	p
BDI	14.2	9.9	28.5	12.6	<i>t</i> = -6.86	<.0001
BHS	3.6	1.4	4.7	2.9	2.3	0.02
RSQ	8.9	1.7	9.5	2.7	1.1	0.27
FFMQ-O	26.1	2.4	25.2	3.9	-0.57	0.57
FFMQ-D	27.0	3.4	25.7	4.1	-1.53	0.13
FFMQ-AA	25.5	3.2	24.4	3.2	-1.4	0.16
FFMQ-NJ	23.6	3.8	22.2	3.4	-2.04	0.04
Factors Unique to the Minority Experience						
	Mean	sd	Mean	sd	Z ^b	p
GED-recent	23.5	3.9	23.7	5.7	-0.38	0.71
MEIM	37.7	7.3	34.8	9.2	<i>t</i> = 1.88	0.06
S.A.F.E.	53.6	7.7	55.4	6.5	1.12	0.26
Level of Acculturation	0.9	0.2	0.9	0.2	0.37	0.71

Note. Two-tailed.

^bExcept as indicated in table, Wilcoxon-Mann-Whitney statistic reported due to non-normal data. Means and standard deviations reported to facilitate interpretation.

were more mindful, and specifically, less judgmental.

In the multivariate model, current depression ($B = .10$, $X^2 = 19.90$, $p = <.0001$), but neither hopelessness nor non-judgmentalness remained a significant predictor of current suicidal ideation (present or absent). For every 1-point increase in BDI-II score, the odds of reporting any current suicidal ideation were 1.11 (95%

C.I. [1.06, 1.16]) times greater (see Table 2). Meanwhile, among current ideators, severity of suicidal ideation was predicted by depression ($B = .34$, $t = 4.64$, $p = <.0001$). The ability to observe experience, a component of mindfulness, was inversely associated with the current severity of suicidal thoughts ($B = -.75$, $t = 2.28$, $p = .03$). The multivariate model was significant ($F(12) = 3.61$, $p = .001$) and explained 39% (Adjusted

TABLE 2. Logistic Regression Analyses Predicting Current Suicidal Ideation from Depression, Hopelessness, and Non-Judgmental Awareness

	<i>B</i> (Odds Ratio)	s.e.(<i>B</i>)
BDI	.10 (1.11)	.02**
FFMQ-NJ	−.05 (0.95)	.07
BHS	.13 (1.09)	.13
$X^2(df)$		39.79 (3)**

Note. ** $p < .01$.

TABLE 3. Regression Analysis Predicting Severity of Suicidal Ideation from all Psychosocial Factors, Controlling for Level of Acculturation ($n = 51$)

	<i>B</i>	s.e.(<i>B</i>)	<i>p</i>
Race/Ethnicity	0.16	0.47	0.73
Clinical States & Traits			
BDI	0.34	0.08	<.01**
BHS	−0.49	0.34	0.16
RSQ	0.42	0.34	0.23
FFMQ-0	−0.75	0.33	0.03*
FFMQ-D	0.48	0.37	0.2
FFMQ-AA	−0.19	0.3	0.52
FFMQ-NJ	−0.2	0.33	0.54
Factors Unique to the Minority Experience			
GED-recent	0.02	0.14	0.88
MEIM	−0.02	0.1	0.86
SAFE.	0.27	0.14	0.06
Level of Acculturation	3.53	5.18	0.5

Note. * $p < .05$; ** $p < .01$. $F(12, 38) = 3.61$, $p = .001$.

$R^2 = .39$) of the variance in severity of suicidal ideation among diverse college students with a past suicide attempt and current suicidal ideation (see Table 3).

DISCUSSION

In a sample of ethnically and racially diverse college students with a suicide attempt history, we found depression was

associated with the presence and severity of current suicidal ideation and that the ability to observe experience, a component of mindfulness, was inversely related to the severity of suicidal ideation. However, contrary to expectation, we did not find a relationship between factors unique to the minority experience and current suicidal ideation among past suicide attempters.

In multivariate analysis controlling for psychosocial risk factors for suicidal ideation, we found depression was robustly correlated with both the presence of suicidal thoughts and the severity of current suicidal thoughts among racially and ethnically diverse past suicide attempters in college. In previous studies of mostly White college students, depression has been correlated with current suicidal ideation (e.g., Jeglic et al., 2007). In fact, a dose relationship has been noted such that college students with greater current depression endorse more severe suicidal ideation (i.e., active versus passive suicidal ideation; Nyer et al., 2013). Among racially and ethnically diverse students, current depression is also linked to suicidality broadly construed to include past and/or current suicidal ideation and behavior (Hirsch, Visser et al., 2011; Hirsch, Webb, et al., 2011; Linda et al., 2012). Thus, our finding that depression is associated with suicidal thoughts and the severity of suicidal thoughts in a college population is congruent with past research. Our findings extend previous studies by showing that current depression is robustly associated with *current* suicidal thoughts in diverse college students even when other cultural, cognitive, and psychosocial risk factors for suicidal thoughts and behavior are simultaneously considered.

We also found a particular aspect of mindfulness, the ability to observe experience, was inversely related to the severity of current suicidal ideation among diverse college students with a previous suicide attempt. Mindfulness can be divided into two components: a behavioral ability to self-regulate attention and an attitude

towards experience that is characterized by acceptance (Bishop et al., 2004). In mindfulness, self-regulation of attention is described as follows: “Mindfulness begins by bringing awareness to current experience—observing and attending to the changing field of thoughts, feelings, and sensations from moment to moment—by regulating the focus of attention” (Bishop et al., 2004, p. 232). At its face and by design, the observe subscale on the FFMQ or the observe facet of mindfulness is most akin to the ability to self-regulate attention (Baer et al., 2008). Thus, findings from our study align with and extend biobehavioral research showing attentional deficits among outpatient suicide attempters (Cha, Najmi, Park, Finn, & Nock, 2010; Keilp, Gorlyn, Oquendo, Burke, & Mann, 2008; Keilp et al., 2013). They also extend findings showing that self-reported mindlessness, and specifically difficulties observing and attending to experience, explains the relationship between BPD symptoms and reliance on self-injury (suicide intent unknown) to regulate emotions among inpatients (Wupperman, Fickling, Klemanski, Berking, & Whitman, 2013). Similar to clinical populations, college students at risk for engaging in suicidal behaviors also self-report difficulties maintaining and shifting attention with experience. For instance, in a large national sample of mostly White undergraduate and graduate students, self-reported mindlessness, broadly defined to include an inability to both attend to and accept experience, significantly predicted recent suicidal ideation in response to stress in multivariate analysis controlling for past suicide attempt and current distress (Hess, 2012). In the same sample, however, mindfulness did not distinguish students with more severe recent suicidal behavior, that is, recent suicide attempters, from ideators (Hess, 2012). From smaller student samples, we also know mindful awareness and attention to experience is inversely related to current suicidal ideation (Lamis & Dvorak, 2013). Our finding linking

mindlessness to current suicidal ideation severity among ethnically and racially diverse lifetime suicide attempters in college also aligns with studies showing that rumination is associated with current suicidal ideation among diverse college students with a history of suicide attempt (Miranda et al., 2013). Rumination and mindfulness are antithetical constructs that have been shown to be inversely related, including among college students (Keune, Bostanov, Kotchoubey, & Hautzinger, 2012). Thus, taken together, findings from our study and previous studies suggest mindfulness, and particularly the ability to observe experience, may protect against suicide behavior risk in high-risk groups, including ethnically and racially diverse college students at risk for suicide by history of suicide attempt and current suicidal thoughts.

Contrary to expectation we did not find relationships among acculturative stress, lack of ethnic identification, past year discrimination and suicidal ideation in our sample. These findings contrast with findings from previous studies showing acculturative stress, lack of ethnic identification and discrimination are associated with past suicide attempt, current suicidal ideation, and current suicide risk (i.e., fewer reasons for living) in diverse college students (e.g., Gomez et al., 2011; Hwang & Goto, 2008; Walker et al., 2008; Walker et al., 2010). We suggest that our findings may be explained by the unique composition of the student body at the college where our study was conducted. Students of minority race and ethnicity at the college where this study took place are in the majority. Thus, our students may not perceive or experience the same minority stressors (e.g., discrimination or ethnic dis-identification) or realize the same behavioral or psychological sequelae from such experiences (e.g., acculturative stress) as minority students attending college where White students are the majority. In fact, we (Smith, Chesin, & Jeglic, 2014) previously investigated the

role of majority status on mental health outcomes among diverse college students and found racial and ethnic minority students at the same mostly minority college were relatively dissimilar in terms of mental health outcomes to racial and ethnic minority students at a majority White college. As this was not a multi-site study, we could not test whether majority status on campus buffered the relationship between sociocultural risk factors and suicidal ideation. Thus, additional studies are needed to determine whether and perhaps for whom (e.g., diverse students currently in the majority or minority on campus), cultural factors protect or exacerbate suicide risk among college students.

Further, given robust research relating hopelessness to current suicidal ideation and behavior (e.g., Beck, Steer, Beck, & Newman, 1993), including among diverse college students (Miranda et al., 2013), it is surprising that hopelessness was not significantly associated with suicidal ideation in this sample. One possible explanation could be that the current sample had relatively low levels of depression, with the group average falling in the mild depressive symptoms range. Uncapher, Gallagher-Thompson, Osgood, and Bongar (1998) studied the relationships between hopelessness and suicidal ideation among 60 institutionalized older males and found that the relationship between hopelessness and suicidal ideation was dependent upon the level of depression. When subjects had minimal to mild depressive symptoms, hopelessness had little effect on the level of suicidal ideation. Given the robust nature of the relationship between hopelessness and suicidal thoughts and behavior, these findings need to be replicated in an independent sample before more speculation is warranted.

Overall, our findings provide important information on the correlates of suicidal thoughts among ethnically and racially diverse college students at particularly high risk for suicide and suicide-related behavior

given a history of suicide attempt. Very few studies have investigated suicide behavior risk in this group. Instead, information about risk factors for suicidal thoughts and behavior among diverse college students has largely been derived in investigations of White students and from studies of students indicating past and/or current suicidal thoughts and behavior. These strategies limit the ability of findings to inform college student suicide prevention efforts because 1) the college student population is increasingly diversifying (Knapp et al., 2011) and 2) the correlates of lifetime suicidal behavior are not always the same as factors associated with acute suicidal thoughts and behavior (Rudd, 2006).

Limitations and Future Directions

This study is not without limitations. There are, of course, other variables that would be of interest to study as potential correlates of current suicidal ideation among diverse college student suicide attempters. Alcohol misuse, and in particular binge drinking, for instance, is often observed among college students and is associated with suicidal behavior in this population (Gonzalez, 2012; Substance Abuse and Mental Health Services Administration, 2009). Social difficulties, including loneliness, isolation, are also often indicated in suicidal behavior among college students including diverse college students (Chang et al., 2010; Jeglic et al., 2007). We included rejection sensitivity, a social cognitive-affective processing style linked to but not completely correlated with identified interpersonal triggers (current loneliness, isolation) of suicidal behavior in college students (Watson & Nesdale, 2012). Future studies could thus also include measures of binge drinking and current social support and connection.

There may also be limits to the generalizability of findings from this study. The

current sample was half Hispanic, with most Hispanics identifying as Dominican American or Puerto Rican. There is some indication that risk factors for suicidal behavior are somewhat specific to race and ethnic group or subgroup (Hirsch, Visser, et al., 2011; Lamis & Lester, 2012). By employing moderational analytic techniques or by studying specific racial and ethnic groups, risk factors unique to each group could be identified. We choose to combine across racial and ethnic groups and subgroups to provide general information applicable to the diversifying student body on risk factors for acute suicide risk among students with a history of suicide attempt.

Similarly, as this was a first step towards specifying psychosocial risk factors for suicidal behavior among racially and ethnically diverse past suicide attempters in college, we included both female and males subjects. Eighty-six percent of the sample was, however, female, suggesting findings from our study are likely more applicable to racially and ethnically diverse female college students than male students. That most of our sample of past suicide attempters were female is perhaps unsurprising given that rates of suicide attempt among female adolescents are double those among male adolescents (Centers for Disease Control and Prevention, 2012). Given studies showing risk factors for suicidal behavior in students differ by gender (e.g., Goldston et al., 2008), in future studies using different sampling or analytical methods, suicide behavior risk factors for diverse male as compared to female college students may be better specified.

Finally, to establish the construct validity of the FFMQ-O subscale, additional study is needed (Baer et al., 2008). FFMQ developers posit that the FFMQ-O subscale captures “the quality of noticing or attending to experience that is characteristic of mindfulness” (Baer et al., 2008, p. 42). However, when the convergent and

divergent validity of the FFMQ-O subscale are tested, particularly among meditation and mindfulness-naïve college students, scores and correlations between FFMQ-O scores and measures of similar constructs are not always as expected and do not definitively establish it as a measure of mindful attention and awareness of experience (Baer et al., 2008; Bowlin & Baer, 2012; Van Dam, Earleywine, & Danoff-Burg, 2009). Of particular relevance to understanding how these findings fit in the larger literature on risk factors for suicidal behavior would be a study testing the correlation between FFMQ-O and a biobehavioral measure of executive attention such as the Stroop (Stroop, 1935).

Clinical Implications

Our findings suggest depression and self-reported difficulties observing experience, that is, knowing current thoughts, feelings, and physiological sensations, are related to suicidal thoughts among racially and ethnically diverse college students who have previously made a suicide attempt. Thus, particular care should be taken to screen for depression and unawareness or inattention to present experience among past suicide attempters in college. Students who screen positive should then be thoroughly assessed for suicide behavior risk.

That an aspect of mindfulness, namely the ability to observe present experience, was inversely related to the severity of suicidal ideation in this sample suggests an approach that includes mindfulness training approach might be more effective than CT to prevent suicide among racially and ethnically diverse college students. Dialectical Behavior Therapy (DBT, Linehan, 1993) is a well-established treatment for reducing suicidal thoughts and behavior among Borderline Personality Disorder (BPD) patients that includes a mindfulness-based training

component (Kliem, Kröger, & Kosfelder, 2010, for a quantitative summary of study findings). DBT has less often been tested in college students than in BPD out- or in-patients, though findings from a recent randomized controlled trial suggest DBT delivered to students through their college counseling center is efficacious in reducing suicidality among students with suicidal ideation, a history of suicide attempt, or non-suicidal self-injury and at least three BPD symptoms at baseline assessment (Pistorello, Fruzzetti, MacLane, Gallop, & Iverson, 2012). Meanwhile, in one uncontrolled pilot study of Native American high school students who self-selected into treatment, a brief mindfulness-based intervention (MBI) based on Mindfulness-Based Stress Reduction (Kabat-Zinn, 1990, 1994) showed promise with respect to reducing suicidal thoughts among participants (Le & Gobert, 2013). We are in the process of confirming the positive effects of MBI for reducing suicidal behavior. In the meantime these data suggest cultural adaptations of MBIs are possible, and an MBI might be acceptable and helpful to diverse students with suicide-related concerns. Further, the short duration and group format of MBCT may make this treatment ideal for delivery in a semester-based college environment.

In sum, we found depression and mindlessness, defined as self-reported difficulty attending to present experience, were related to the presence and severity of suicidal thoughts among ethnically and racially diverse college students with a history of suicide attempt. We concluded that treatments aimed at increasing mindfulness among college students with a history of suicide attempt may reduce suicide and suicide behavior risk among ethnically and racially diverse college students. Additional studies are needed to confirm these findings. Treatment studies testing the feasibility, acceptability, and effectiveness of suicide prevention interventions with mindfulness training components are

needed to verify offered clinical implications. In the meantime, findings from our study provide important information about psychosocial correlates of current suicidal thoughts among diverse college students with a history of suicide attempt. To our knowledge, very few other such studies exist.

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REFERENCES

- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27–45. doi:10.1177/1073191105283504
- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., . . . Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment, 15*, 329–342.

- Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicidal intention: The Scale for Suicide Ideation. *Journal of Consulting and Clinical Psychology*, 47, 343–352.
- Beck, A. T., & Steer, R. A. (1991). *Manual for the Beck Scale for Suicide Ideation*. San Antonio, TX: Psychological Corporation.
- Beck, A. T., Steer, R. A., Beck, J. S., & Newman, C. F. (1993). Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide and Life-Threatening Behavior*, 23, 139–145.
- Beck, A. T., Steer, R. A., & Brown, G. (1996). *Manual for the Beck Depression Inventory–II*. San Antonio, TX: Psychological Corporation.
- Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, 42, 861–865. doi:10.1037/h0037562
- Berenson, K. R., Gyurak, A., Ayduk, z., Downey, G., Garner, M. J., Mogg, K., . . . Pine, D. S. (2009). Rejection sensitivity and disruption of attention by social threat cues. *Journal of Research in Personality*, 43, 1064–1072. doi:10.1016/j.jrp.2009.07.007
- Berry, J. W., & Annis, R. C. (1974). Acculturative stress: The role of ecology, culture and differentiation. *Journal of Cross-Cultural Psychology*, 5, 382–406. doi:10.1177/002202217400500402
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., . . . Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11, 230–241. doi:10.1093/clipsy.bph077
- Bowlin, S. L., & Baer, R. A. (2012). Relationships between mindfulness, self-control, and psychological functioning. *Personality and Individual Differences*, 52, 411–415. doi:10.1016/j.paid.2011.10.050
- Brener, N. D., Hassan, S. S., & Barrios, L. C. (1999). Suicidal ideation among college students in the United States. *Journal of Consulting and Clinical Psychology*, 67, 1004–1008. doi:10.1037/0022-006x.67.6.1004
- Brown, G. K. (2001). *A review of suicide assessment measures for intervention research with adults and older adults*. Rockville, MD: U.S. Department of Health and Human Services.
- Brown, G. K., Ten Have, T., Henriques, G. R., Xie, S. X., Hollander, J. E., & Beck, A. T. (2005). Cognitive therapy for the prevention of suicide attempts. *JAMA: The Journal of the American Medical Association*, 294, 563–570.
- Buchanan, K. L., Flowers, K., Salami, T., & Walker, R. (2011). Racial and ethnic differences. In D. A. Lamis & D. Lester (Eds.), *Understanding and preventing college student suicide* (pp. 65–79). Springfield, IL: Charles C. Thomas.
- Cha, C. B., Najmi, S., Park, J. M., Finn, C. T., & Nock, M. K. (2010). Attentional bias toward suicide-related stimuli predicts suicidal behavior. *Journal of Abnormal Psychology*, 119, 616–622. doi:10.1037/a0019710
- Chan, W., & Mendoza-Denton, R. (2008). Status-based rejection sensitivity among Asian Americans: Implications for psychological distress. *Journal of Personality*, 76, 1317–1346. doi:10.1111/j.1467-6494.2008.00522.x
- Chang, E. (1998). Cultural differences, perfectionism, and suicidal risk in a college population: Does social problem solving still matter? *Cognitive Therapy and Research*, 22, 237–254. doi:10.1023/a:1018792709351
- Chang, E., Yu, E., Kahle, E., Jeglic, E., & Hirsch, J. (2013). Is doubling up on positive future cognitions associated with lower suicidal risk in Latinos?: A look at hope and positive problem orientation. *Cognitive Therapy and Research*, 1–9. doi:10.1007/s10608-013-9572-x
- Chang, E. C., Sanna, L. J., Hirsch, J. K., & Jeglic, E. L. (2010). Loneliness and negative life events as predictors of hopelessness and suicidal behaviors in Hispanics: evidence for a diathesis-stress model. *Journal of Clinical Psychology*, 66, 1242–1253. doi:10.1002/jclp.20721
- Centers for Disease Control and Prevention. (2012). Youth risk behavior surveillance—United States, 2011. Retrieved from <http://store.samhsa.gov/shin/content//SMA12-4669/SMA12-4669.pdf>
- Chesin, M. S., & Jeglic, E. L. (2012). Suicidal behavior among Latina college students. *Hispanic Journal of Behavioral Sciences*, 34, 421–436. doi:10.1177/0739986312445271
- Christopher, M., Neuser, N., Michael, P., & Baitmangalkar, A. (2012). Exploring the psychometric properties of the Five Facet Mindfulness Questionnaire. *Mindfulness*, 3, 124–131. doi:10.1007/s12671-011-0086-x
- Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, 70, 1327–1343. doi:10.1037/0022-3514.70.6.1327
- Fuertes, J. N., & Westbrook, F. D. (1996). Using the social, attitudinal, familial, and environmental

- (S.A.F.E.) acculturation stress scale. *Measurement & Evaluation in Counseling & Development*, 29, 67.
- Garlow, S. J., Rosenberg, J., Moore, J. D., Haas, A. P., Koestner, B., Hendin, H., & Nemeroff, C. B. (2008). Depression, desperation, and suicidal ideation in college students: Results from the American Foundation for Suicide Prevention College Screening Project at Emory University. *Depression and Anxiety*, 25, 482–488. doi:10.1002/da.20321
- Goldston, D. B., Molock, S. D., Whitbeck, L. B., Murakami, J. L., Zayas, L. H., & Hall, G. C. N. (2008). Cultural considerations in adolescent suicide prevention and psychosocial treatment. *American Psychologist*, 63, 14–31.
- Gomez, J., Miranda, R., & Polanco, L. (2011). Acculturative stress, perceived discrimination, and vulnerability to suicide attempts among emerging adults. *Journal of Youth and Adolescence*, 40, 1465–1476.
- Gonzalez, V. M. (2012). Association of solitary binge drinking and suicidal behavior among emerging adult college students. *Psychology of Addictive Behaviors*, 26, 609–614. doi:10.1037/a0026916
- Graham, J. R., West, L. M., & Roemer, L. (2012). The experience of racism and anxiety symptoms in an African-American sample: Moderating effects of trait mindfulness. *Mindfulness*, 1–10.
- Hess, E. A. (2012). *Between suicidality and self: Effects of mindfulness on college students' entrance into and progression along the continuum of suicidality*. University of Texas. Retrieved from <http://repositories.lib.utexas.edu/bitstream/handle/2152/21614/HESS-DISSERTATION-2013.pdf?sequence=1>
- Hirsch, J. K., Visser, P. L., Chang, E. C., & Jeglic, E. L. (2011). Race and ethnic differences in hope and hopelessness as moderators of the association between depressive symptoms and suicidal behavior. *Journal of American College Health*, 60, 115–125. doi:10.1080/07448481.2011.567402
- Hirsch, J. K., Webb, J. R., & Jeglic, E. L. (2011). Forgiveness, depression, and suicidal behavior among a diverse sample of college students. *Journal of Clinical Psychology*, 67, 896–906. doi:10.1002/jclp.20812
- Holma, K. M., Melartin, T. K., Haukka, J., Holma, I. A. K., Sokero, T. P., & Isometsä, E. T. (2010). Incidence and predictors of suicide attempts in DSM-IV major depressive disorder: a five-year prospective study. *The American Journal of Psychiatry*, 167, 801–808. doi:10.1176/appi.ajp.2010.09050627
- Hooper, L. M., Qu, L., Crusto, C., & Huffman, L. E. (2012). Scalar equivalence in self-rated depressive symptomatology as measured by the Beck Depression Inventory-II: Do racial and gender differences in college students exist? *Psychology*, 3, 762–774. doi:10.4236/psych.2012.329116
- Hwang, W.-C., & Goto, S. (2008). The impact of perceived racial discrimination on the mental health of Asian American and Latino college students. *Cultural Diversity and Ethnic Minority Psychology*, 14, 326–335. doi:10.1037/1099-9809.14.4.326
- Jeglic, E. L. (2011, August). Understanding risk for suicidal thoughts and behaviors among ethnic-racial minority college students. Paper presented at the Annual Convention of the American Psychological Association Washington, DC.
- Jeglic, E. L., Pepper, C. M., Vanderhoff, H. A., & Ryabchenko, K. A. (2007). An analysis of suicidal ideation in a college sample. *Archives of Suicide Research*, 11, 41–56. doi:10.1080/13811110600897176
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. Surrey, England: Delta.
- Kabat-Zinn, J. (1994). *Wherever you go, there you are: Mindfulness meditation in everyday life*. New York, NY: Hyperion.
- Keilp, J. G., Gorlyn, M., Oquendo, M. A., Burke, A. K., & Mann, J. J. (2008). Attention deficit in depressed suicide attempters. *Psychiatry Research*, 159, 7–17. doi:10.1016/j.psychres.2007.08.020
- Keilp, J. G., Gorlyn, M., Russell, M., Oquendo, M. A., Burke, A. K., Harkavy-Friedman, J., & Mann, J. J. (2013). Neuropsychological function and suicidal behavior: Attention control, memory and executive dysfunction in suicide attempt. *Psychological Medicine*, 43, 539–551. doi:10.1017/S0033291712001419
- Keilp, J. G., Grunebaum, M. F., Gorlyn, M., LeBlanc, S., Burke, A. K., Galfalvy, H., . . . Mann, J. J. (2012). Suicidal ideation and the subjective aspects of depression. *Journal of Affective Disorders*, 140, 75–81. doi:10.1016/j.jad.2012.01.045
- Keune, P. M., Bostanov, V., Kotchoubey, B., & Hautzinger, M. (2012). Mindfulness versus rumination and behavioral inhibition: A perspective from research on frontal brain asymmetry. *Personality and Individual Differences*, 53, 323–328. doi:10.1016/j.paid.2012.03.034
- Kliem, S., Kröger, C., & Kosfelder, J. (2010). Dialectical behavior therapy for borderline personality disorder: A meta-analysis using mixed-effects modeling. *Journal of Consulting and Clinical Psychology*, 78, 936–951. doi:10.1037/a0021015
- Knapp, L. G., Kelly-Reid, J. E., & Ginder, S. A. (2012). Enrollment in postsecondary institutions, Fall 2011;

- Financial statistics, fiscal year 2011; and Graduation rates, Selected cohorts, 2003–2008.
- Lamis, D. A., & Dvorak, R. D. (2013). Mindfulness, nonattachment, and suicide rumination in college students: The mediating role of depressive symptoms. *Mindfulness*, 1–10. doi:10.1007/s12671-013-0203-0
- Lamis, D. A., & Lester, D. (2012). Risk factors for suicidal ideation among African American and European American college women. *Psychology of Women Quarterly*, 36, 337–349. doi:10.1177/0361684312439186
- Landrine, H., Klonoff, E., Corral, I., Fernandez, S., & Roesch, S. (2006). Conceptualizing and measuring ethnic discrimination in health research. *Journal of Behavioral Medicine*, 29, 79–94. doi:10.1007/s10865-005-9029-0
- Le, T., & Gobert, J. (2013). Translating and implementing a mindfulness-based youth suicide prevention intervention in a Native American community. *Journal of Child and Family Studies*, 1–12. doi:10.1007/s10826-013-9809-z
- Linda, W. P., Marroquín, B., & Miranda, R. (2012). Active and passive problem solving as moderators of the relation between negative life event stress and suicidal ideation among suicide attempters and non-attempters. *Archives of Suicide Research*, 16, 183–197. doi:10.1080/13811118.2012.695233
- Linehan, M. (1993). *Cognitive–Behavioural treatment of Borderline Personality Disorder*. New York, NY: Guilford.
- May, A. M., Klonsky, E. D., & Klein, D. N. (2012). Predicting future suicide attempts among depressed suicide ideators: A 10-year longitudinal study. *Journal of Psychiatric Research*, 46, 946–952. doi:10.1016/j.jpsychires.2012.04.009
- Mena, F. J., Padilla, A. M., & Maldonado, M. (1987). Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of Behavioral Sciences*, 9, 207–225. doi:10.1177/07399863870092006
- Miranda, R., Tsykes, A., Gallagher, M., & Rajappa, K. (2013). Rumination and hopelessness as mediators of the relation between perceived emotion dysregulation and suicidal ideation. *Cognitive Therapy and Research*, 37, 786–795. doi:10.1007/s10608-013-9524-5
- Nyer, M., Holt, D. J., Pedrelli, P., Fava, M., Ameral, V., Cassiello, C., . . . Farabaugh, A. (2013). Factors that distinguish college students with depressive symptoms with and without suicidal thoughts. *Annals of Clinical Psychiatry*, 25, 41–49.
- Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7, 156–176. doi:10.1177/074355489272003
- Pistorello, J., Fruzzetti, A. E., MacLane, C., Gallop, R., & Iverson, K. M. (2012). Dialectical Behavior Therapy (DBT) applied to college students: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 80, 982–994. doi:10.1037/a0029096
- Polanco-Roman, L., & Miranda, R. (2013). Culturally related stress, hopelessness, and vulnerability to depressive symptoms and suicidal ideation in emerging adulthood. *Behavior Therapy*, 44, 75–87. doi:10.1016/j.beth.2012.07.002
- Ponterotto, J. G., Gretchen, D., Utsey, S. O., Stracuzzi, T., & Saya, R. (2003). The Multigroup Ethnic Identity Measure (MEIM): Psychometric review and further validity testing. *Educational and Psychological Measurement*, 63, 502–515. doi:10.1177/0013164403063003010
- Roberts, R. E., Phinney, J. S., Masse, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. [10.1177/0272431699019003001]. *The Journal of Early Adolescence*, 19, 301–322.
- Rudd, M. D., Berman, A. L., Joiner, T. E., Nock, M. K., Silverman, M. M., Mandrusiak, M., Van Orden, K., & Witte, T. (2006). Warning signs for suicide: Theory, research, and clinical applications. *Suicide and Life-Threat Behavior*, 36, 255–262. doi: 10.1521/suli.2006.36.3.255
- Schwartz, A. J. (2011). Suicidal behavior among college students. In D. A. Lamis & D. Lester (Eds.), *Understanding and preventing college student suicide* (pp. 5–32). Springfield, IL: Charles C. Thomas.
- Smith, K. M., Chesin, M. S., & Jeglic, E. L. (2014). Minority college student mental health: Does majority status matter? Implications for college counseling services. *Journal of Multicultural Counseling and Development*, 42, 77–92.
- Stroop, J. R. (1935). Studies of interference in verbal reactions. *Journal of Experimental Psychology*, 12, 242–248.
- Substance Abuse and Mental Health Services Administration. (2009). *Results from the 2008 National Survey on Drug Use and Health: National Findings*. Rockville, MD: Office of Applied Studies, NSDUH Series H-36, HHS Publication No. SMA 09–4434.
- Uncapher, H., Gallagher-Thompson, D., Osgood, N. J., & Bongar, B. (1998). Hopelessness and suicidal ideation in older adults. *The Gerontologist*, 38 62–70.

- Van Dam, N. T., Earleywine, M., & Danoff-Burg, S. (2009). Differential item function across meditators and non-meditators on the Five Facet Mindfulness Questionnaire. *Personality and Individual Differences*, 47, 516–521. doi:10.1016/j.paid.2009.05.005
- Walker, R. L., Alabi, D., Roberts, J., & Obasi, E. M. (2010). Ethnic group differences in reasons for living and the moderating role of cultural worldview. *Cultural Diversity and Ethnic Minority Psychology*, 16, 372–378. doi:10.1037/a0019720
- Walker, R. L., & Bishop, S. (2005). Examining a model of the relation between religiosity and suicidal ideation in a sample of African American and white college students. *Suicide and Life-Threatening Behavior*, 35, 630–639. doi:10.1521/suli.2005.35.6.630
- Walker, R. L., Wingate, L. R., Obasi, E. M., & Joiner, T. E. (2008). An empirical investigation of acculturative stress and ethnic identity as moderators for depression and suicidal ideation in college students. *Cultural Diversity and Ethnic Minority Psychology*, 14, 75–82. doi:10.1037/1099-9809.14.1.75
- Wang, M.-C., Nyutu, P. N., & Tran, K. K. (2012). Coping, reasons for living, and suicide in black college students. *Journal of Counseling & Development*, 90, 459–466. doi:10.1002/j.1556-6676.2012.00057.x
- Watson, J., & Nesdale, D. (2012). Rejection sensitivity, social withdrawal, and loneliness in young adults. *Journal of Applied Social Psychology*, 42, 1984–2005. doi:10.1111/j.1559-1816.2012.00927.x
- Weber, B., Metha, A., & Nelsen, E. (1997). Relationships among multiple suicide ideation risk factors in college students. *Journal of College Student Psychotherapy*, 11, 49–64. doi:10.1300/J035v11n03_06
- Worrell, F. C. (2000). A validity study of scores on the Multigroup Ethnic Identity Measure based on a sample of academically talented adolescents. *Educational and Psychological Measurement*, 60, 439–447.
- Wupperman, P., Fickling, M., Klemanski, D. H., Berking, M., & Whitman, J. B. (2013). Borderline personality features and harmful dysregulated behavior: The mediational effect of mindfulness. *Journal of Clinical Psychology*, 69, 903–911. doi:10.1002/jclp.21969

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