PERCEIVED DISCRIMINATION AND SUICIDE IDEATION: MODERATING ROLES OF ANXIETY SYMPTOMS AND ETHNIC IDENTITY AMONG ASIAN AMERICAN, AFRICAN AMERICAN, AND HISPANIC EMERGING ADULTS

A Thesis Presented to

The Faculty of the Department
of Psychology
University of Houston

In Partial Fulfillment
Of the Requirements for the Degree of
Master of Arts

By
Soumia Cheref
December, 2016

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ABSTRACT

Suicide is one of the leading causes of death in the United States. It is more common among emerging adults than among older adults (CDC, 2014). Two factors that have received empirical support as independent predictors of suicide ideation are perceived discrimination (Gomez, Miranda, & Polanco, 2011) and anxiety symptoms (Cheng et al., 2010). However, to date, no studies have examined perceived discrimination and anxiety symptoms as simultaneous predictors of suicide ideation despite literature and theory indicating these variables activate similar pathways (Smith, Allen, & Danley, 2007). Furthermore, ethnic identity has been shown to mitigate suicide risk in the face of other stressors (Walker, Wingate, Obasi, & Joiner, 2008). This study assessed the moderating effect of anxiety symptoms on the relationship between perceived discrimination and suicide ideation in a multi-ethnic sample of emerging adults. A further analysis determined whether ethnic identity further moderated this relationship. The results indicated that anxiety symptoms moderated the perceived discrimination-suicide ideation relationship for Hispanic emerging adults, but not for their Asian and African American counterparts. The Johnson-Neyman technique revealed that when anxiety symptoms exceeded the 23rd percentile, suicide ideation increased for Hispanic emerging adults as reports of perceived discrimination increased. Ethnic identity further interacted with perceived discrimination and anxiety symptoms to predict suicide ideation among Hispanic emerging adults. The Johnson-Neyman technique revealed that the interaction between perceived discrimination and anxiety symptoms was a significant predictor of suicide ideation when ethnic identity was below the 94th percentile. Thus, when ethnic identity was very high, it protected against the effects of perceived discrimination and anxiety symptoms on suicide ideation. The implications of these findings are discussed.

Introduction

Suicide is the tenth leading cause of death in the United States, accounting for more "deaths than war, murder, and natural disasters combined" (American Foundation for Suicide Prevention [AFSP], 2014; Centers for Disease Control and Prevention [CDC], 2014). In 2014, 42,773 Americans died by suicide (CDC, 2014). In addition, suicide costs the United States an estimated $51 billion each year (CDC, 2015). For various reasons, including a lesser likelihood of reporting by suicide attempters, suicide attempt data is not collected consistently. Although national suicide attempt data is not available, the CDC reported that nearly 500,000 individuals were treated for self-inflicted injuries in 2013 (CDC, 2015). Furthermore, it is estimated that for every fatal suicide, there are up to 25 suicide attempts (AFSP, 2014).

Emerging adulthood, a period of life between the ages of 18 and 25 (Arnett, 2000), has been identified as a time of increased vulnerability for psychiatric problems, including suicide (Kessler, Berglund, Borges, Nock, & Wang, 2005). Suicide rates among emerging adults are much greater than older adults and are second only to accidental injury (CDC, 2014). Young adults are also more likely to attempt and think about suicide than their older counterparts (Kuo, Gallo, & Tien, 2001).

Although suicide death and suicide ideation rates are comparable across racial and ethnic emerging adults (SAMHSA, 2014, CDC, 2014), the literature suggests that the mechanisms by which individuals from various groups become vulnerable to suicide, or experience increased risk for suicide, may differ and are often understudied (Odafe, Talavera, Cheref, Hong, & Walker, 2016). Two theoretically well-supported, but understudied risk factors are perceived discrimination and anxiety. Although historically thought of as an

experience unique to African American and Hispanic individuals, emerging literature suggests that perceived discrimination is a common experience across racial and ethnic groups (Turner, Ross, Bednarz, Herbig, & Lee, 2003; Soto, Dawson-Andoh, & BeLue, 2011). Perceived discrimination has been associated with suicidality in Asian, Hispanic, White, and African American individuals (Chen, Szalacha, & Menon, 2014; Gomez, Miranda, & Polanco, 2011; Perez-Rodriguez et al., 2014; Walker, Salami, Carter, & Flowers, 2014; Wang, Wong, & Fu, 2013). However, studies examining perceived discrimination are limited and tend to focus on one group rather cross-group comparisons.

The emergence of thoughts of one's own death is a complex phenomenon. The association between discrimination and suicide is likely determined by psychological factors that exacerbate and mitigate suicide vulnerability. Perceived discrimination and anxiety have not been examined simultaneously as predictors of suicidality. However, an emerging body of literature has revealed a strong association between anxiety and suicide thoughts and behaviors even after controlling for the effects of depressive disorders and symptomatology (see Sareen, 2011). Furthermore, ethnic identity has been found to buffer against the effects of anxiety, perceived discrimination, and suicide (Cheng et al., 2010; Kaslow et al., 2004; Polanco-Roman & Miranda, 2013; Walker, Wingate, Obasi, & Joiner Jr., 2008), though it has not been examined in a comprehensive model that includes all three factors. Thus, the present study seeks to expand on our existing models of suicidality by examining the moderating role of anxiety symptoms on the relationship between perceived discrimination and suicide ideation across ethnic groups. Further analyses will determine the potential buffering role of ethnic identity in the relationship between perceived discrimination, anxiety symptoms, and suicide ideation.

Suicide among Racial and Ethnic Minorities

Suicide is often conceptualized on a spectrum from mild thoughts (suicide ideation and suicide plans) to more severe behaviors (non-fatal suicide attempts). Suicide death, or "suicide," is a self-inflicted act with evidence (either explicit or implicit) of intent to die (Chu, Goldblum, Floyd, & Bongar, 2010). Suicide attempts are non-fatal, potentially injurious self-inflicted behaviors with intent to die (Hill, Castellanos, & Pettit, 2011; Silverman, Berman, Sanddal, O'Carroll, & Joiner, 2007). Suicide ideation is defined as having thoughts of engaging in behaviors intended to end one's life (Bhatta, Shakya, & Jefferis, 2014; Silverman et al., 2007).

Between 2010 and 2014, there were 107,877 suicides among emerging adults (CDC, 2014). Of these, 58% were among White individuals, 21% were among Black individuals, 16.2% were among Hispanic individuals, and 2.5% were among Asian individuals. However, these numbers translate to different rates. The rates of suicide per 100,000 are 85.21 for African Americans, 61.22 for White Americans, 47.37 for Hispanic individuals, and 24.20 for Asian Americans (CDC, 2014). Suicide was also the second leading cause of death among 18 to 25 year olds in Asian American emerging adults, and the third leading cause of death in African American and Hispanic emerging adults.

Suicide death rates among college and university students range from 6.2 to 7.0 per 100,000 (Schwartz, 2011; Turner, Leno, & Keller, 2013). Although there has been a steady decline of suicide deaths since the 1980s, rates among adolescents and young adults are now higher than they were in the 1970s (McKeown, Cuffe, & Schulz, 2006). Furthermore, African Americans who died by suicide were found to be younger than White American suicide decedents (Purselle, Heninger, Hanzlick, & Garlow, 2009). Findings from a national

study suggest that there is an 8.8% prevalence of suicide ideation and a 2.5% prevalence of suicide attempts among Asian American adults (Cheng et al., 2010). Rates for both suicide ideation and attempts were highest among young adults in this study.

Suicide and Perceived Discrimination

Discrimination is the unfair or differential treatment on the basis of race, ethnicity, gender, or other observable characteristics of an individual (Ong, Fuller-Rowell, & Burrow, 2009; Smart Richman & Leary, 2009). Smart Richman and Leary (2009) theorized that perceived discrimination arises from a threatened sense of interpersonal belonging (Smart Richman & Leary, 2009). This threatened sense of belonging is also discussed in Joiner's (2005) interpersonal-psychological theory of suicide, which posits that in order for individuals to die by suicide there needs to be suicide desire and acquired capability. The suicide desire component of the theory consists of perceived burdensomeness and thwarted belongingness. Thus, it is possible that perceived discrimination may contribute to suicide thoughts and behaviors by threatening the individual's sense of belonging.

Although traditionally regarded as an experience more common among African American and Hispanic individuals, recent studies have revealed similar rates of perceived discrimination for Asian Americans (Turner et al., 2003). Studies examining base rates of perceived discrimination have varied, but indicate high rates of discrimination across racial and ethnic minority groups. One study found that 60% of African Americans experienced racism in the three years prior to the study (Broman, Mavaddat, & Hsu, 2000). Another study indicated that 96% of African American adults reported experiencing racial discrimination in the past year (Klonoff, Landrine, & Ullman, 1999). In contrast to the rates reported by African Americans, 45% of Latino adults across the United States reported experiencing or

witnessing racial discrimination (Brodie, Steffenson, Valdez, Levin, & Suro, 2002). However, rates of perceived discrimination among emerging Hispanic adults may be comparable to rates observed among African American adults. Flores and colleagues (2010) found that 94% of Mexican-American emerging adults experienced racial discrimination at some point in their lives (Flores, Tschann, Dimas, Pasch, & de Groat, 2010). Although no base rates were reported, Hwang and Goto (2009) found that Asian American and Hispanic college students did not differ in reports of discrimination.

Perceived discrimination, particularly perceived racial and ethnic discrimination, has been linked to a number of physical and mental health outcomes, including poorer health (Williams, Neighbors, & Jackson, 2003). Poorer health outcomes include self-rated health, blood pressure and other cardiovascular problems, and mortality (see Williams et al., 2003). Perceived discrimination has also been associated with poorer overall well-being, self-esteem, and control, as well as greater reports of major depression, anxiety disorders, and other psychiatric disorders (Williams et al., 2003). Racial discrimination has been linked with depression (Simons et al., 2002) and thoughts of death for African Americans as early as 12 years of age (Walker et al., 2016).

In a community sample of African American adults, perceived racism was found to be associated with suicide ideation (Walker et al., 2014). In another study, perceived discrimination did not predict history of a suicide attempt among African American emerging adults (Gomez et al., 2011). However, only 5 of 118 African American participants reported a history of suicide attempt, making the study underpowered to detect a significant effect. This study also found that perceived discrimination was associated with a three-fold increase in odds of suicide attempt among Hispanic emerging adults, and a 10-fold increase among

U.S.-born White emerging adults, but not among non-U.S. born emerging adults. Perceived discrimination has also been linked with suicide ideation (Wang et al., 2013) and suicide attempts (Cheng et al., 2010) among Asian Americans. When comparing Asian and Hispanic college students, Hwang and Goto (2009) found that perceived discrimination predicted suicide ideation equally among the two groups.

Suicide and Anxiety

Anxiety disorders are the most common psychiatric disorders in the United States (Kessler, Chiu, Demler, Merikangas, & Walters, 2005) with a lifetime prevalence of 28.8% (Kessler, Berglund, Demler, et al., 2005). Furthermore, anxiety disorders emerge by the age of 24 years for approximately 75% of those who develop an anxiety disorder (Kessler, Berglund, Demler, et al., 2005), suggesting that emerging adulthood may be a time of greatest risk for anxiety. Anxiety is conceptualized as a future-oriented mood state utilized to cope with imminent negative events (Barlow, 2000). Anxiety can manifest in different ways and includes physical, affective, and cognitive symptoms. Such symptoms are comprised of worry or fear, thoughts of danger, muscle tension, and negative affect (American Psychiatric Association, 2015). Anxiety is considered to consist of stable (trait) characteristics, and transient (state) characteristics, but is often studied as a state phenomenon (Ohring et al., 1996). Anxiety disorders are more severe and excessive phenomena that cause significant distress (American Psychiatric Association, 2015).

Weissman et al.'s (1989) seminal work indicated a strong association between panic disorder and suicide thoughts and attempts (Weissman, Klerman, Markowitz, & Ouellette, 1989). This finding led to a new area of research with often mixed results. Sareen et al.'s (2005a) more recent work found only posttraumatic stress disorder (PTSD) to be

significantly linked to suicide ideation and attempts after controlling for lifetime mood disorders as well as sociodemographic and other anxiety and psychiatric variables (Sareen, Houlahan, Cox, & Asmundson, 2005). In another study, Sareen and his colleagues (2005b) found that 70% of individuals who attempted suicide met criteria for an anxiety disorder. The authors further examined the predictive effects of six anxiety disorders, but excluded PTSD. This study found that most anxiety disorders (i.e., social phobia, simple phobia, generalized anxiety disorder, panic disorder, obsessive compulsive disorder, and agoraphobia without panic disorder) conferred significant risk for suicide ideation and suicide attempts after controlling for sociodemographic, mood disorders, and other anxiety variables in cross-sectional and longitudinal analyses (Sareen, Cox, et al., 2005).

As scholars continue to develop this area of research, the case is becoming stronger that anxiety is an important predictor of suicide (see Hill et al., 2011; Sareen, 2011). To address the findings that suggest the association between anxiety disorders and suicide are attributed to co-occurring depression and other psychiatric disorders, Thibodeau et al. (2013) employed propensity score matching analyses that allow for comparisons between matched groups that differ in group status. Results across two epidemiological samples revealed odds ratios that remained significant across six anxiety disorders after matching for diagnostic status of mood disorders, substance use disorders, other anxiety disorders, and sociodemographic variables (Thibodeau, Welch, Sareen, & Asmundson, 2013).

To date, the majority of findings published in the area of anxiety and suicide pathology consist of large epidemiological studies that assessed Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnoses. These studies contribute important findings to our knowledge of the anxiety-suicide association, but they overlook less severe symptoms

of anxiety that are experienced by a larger percentage of individuals. There is emerging evidence among the few studies examining anxiety symptomatology and suicidality that anxiety confers risk for suicide at the subsyndromal level. For example, among a sample of primarily externalizing youth, symptoms of generalized anxiety were significantly associated with suicide ideation even after controlling for the effects of depressive symptomatology (Greene, Chorpita, & Austin, 2009). Norton et al. (2008) examined the relationship between symptoms of social phobia, obsessive compulsive disorder, panic disorder, generalized anxiety disorder, and suicide ideation while controlling for depressive symptoms in a multiethnic sample. In separate analyses, symptoms of each of these anxiety disorders conferred risk for suicide ideation above and beyond depression (Norton, Temple, & Pettit, 2008).

Although scholars distinguish between trait and state anxiety, few studies have examined the differential effects of these phenomena on suicide thoughts and behaviors. One inpatient adolescent study revealed that suicide attempters reported significantly more trait and state anxiety than their non-attempter counterparts (Horesh & Apter, 2006). Another study corroborated these results among an inpatient adolescent sample (Ohring et al., 1996). However, after controlling for depression, adolescents who attempted suicide only differed from those who did not on trait anxiety. Another inpatient study found that adolescents who have attempted suicide either once or more than once reported greater levels of trait anxiety than their non-attempting counterparts (Goldston et al., 1996). These findings suggest that trait anxiety may be more implicated in suicide attempts among more severe populations (e.g., inpatient samples). However, state anxiety is more transient and may be important in understanding less severe suicide ideation among non-treatment seeking samples.

Hwang and Goto (2009) found similar associations between trait and state anxiety and suicide ideation among Asian and Latino American college students. They also found a significant association between state anxiety and discrimination, but the relationship between trait anxiety and perceived discrimination was not significant. These findings suggest that anxiety that is more transient may be more implicated in the association between discrimination and suicide. Studies examining the link between anxiety and suicide have largely ignored racial and ethnic variations in such relationships. However, three known studies have explored these relationships in diverse samples. One such study found that among White emerging adults, social anxiety symptoms were associated with a four-fold increase in odds of a suicide attempt (Polanco-Roman, Tsypes, Soffer, & Miranda, 2014). This relationship was not significant among a multi-ethnic minority sample or for symptoms of generalized anxiety disorder. The presence of a lifetime anxiety disorder, but not a depressive disorder, was associated with a five-fold increase in odds of lifetime suicide ideation and an eight-fold increase in odds of lifetime suicide attempt among Asian Americans (Cheng et al., 2010). Among Black Americans, the presence of an anxiety disorder was associated with a six-fold increase in attempting suicide (Joe, Baser, Breeden, Neighbors, & Jackson, 2006). Furthermore, anxiety was the strongest DSM-IV predictor of suicide attempts after controlling for sociodemographic variables. These findings suggest that there are important racial and ethnic group differences, but the literature investigating these differences is overwhelmingly limited.

Perceived Discrimination and Anxiety

Although grossly understudied, some studies have suggested a relatively strong relationship between discrimination and anxiety among Black Americans. In a meta-analysis

of 66 studies of Black Americans, Pieterse and colleagues (2012) found a moderate effect size for the association between racism and anxiety disorders in addition to depression and general distress (Pieterse, Todd, Neville, & Carter, 2012). Other studies have also found racism and symptoms associated with anxiety to be similarly linked in samples of Black and African Americans (Klonoff et al., 1999; Rucker, West, & Roemer, 2010). Furthermore, laboratory studies with Black and African American samples have shown an association between perceived racism and blood pressure, an outcome of physiological symptoms of anxiety and stress (Brondolo et al., 2008; Hill et al., 2011). An important study examining the differential effects of perceived racial macroaggressions (i.e., overt, purposeful discrimination) and microaggressions (i.e., covert, subtle discrimination) among Black Americanwomen found that both types of perceived racism predicted depression, but only perceived macroaggressions predicted anxiety symptoms (Donovan, Galban, Grace, Bennett, & Felicié, 2013). This suggests that discrimination limits coping overall, but when racism is more overt and aggressive, an individual may have increased difficulty coping with the experience.

The discrimination-anxiety association has been less frequently studied among other racial and ethnic groups. In a study comparing Hispanic and Asian American college students, perceived discrimination predicted state anxiety equally among the two groups, but Asian students evidenced greater trait anxiety when compared to their Hispanic counterparts (Hwang & Goto, 2009). In addition, perceived everyday discrimination was found to be associated with a number of DSM-IV disorders, including anxiety disorders, even after controlling for the effects of socioeconomic and culturally related variables (Gee, Spencer, Chen, Yip, & Takeuchi, 2007). Among Chinese immigrants, those who reported more

discrimination exhibited greater social anxiety when interacting with European Americans, but not when interacting with other Chinese individuals (Fang, Friedlander, & Pieterse, 2016). In a national study of African Americans, Afro-Caribbeans, and non-Hispanic White Americans, race-based discrimination significantly predicted GAD for African Americans only (Soto et al., 2011). However, when the researchers examined all other forms of discrimination, perceived discrimination was associated with GAD for all three groups.

Graham and her colleagues have attempted to examine the mechanisms by which discrimination leads to anxious feelings. In one study, they found that among Black Americans, experiences of racism (both past year and past week) predicted anxious arousal only at low levels of reported emotion regulation (Graham, Calloway, & Roemer, 2015). Emotion regulation did not moderate the relationship between prior experiences of racism and stress associated with generalized anxiety. In another study, they found that internalized racism mediated the relationship between frequency of past year experiences and anxious arousal and anxiety symptoms (Graham, West, Martinez, & Roemer, 2016). While these studies shed some light on how discrimination may impact anxiety, more work is needed to understand this relationship.

Hunter and Schmidt (2010) recently proposed a new framework for understanding African American anxiety pathology whereby awareness of racism, along with stigma of mental health illness and salience of physical illness, can influence the presentation of anxiety. Expanding on this model, Soto and his colleagues (2011) further suggest that the direct experience of racial discrimination is an acute stressor that may be associated with the onset of generalized anxiety disorder (Soto et al., 2011). Smith et al.'s (2007) racial battle fatigue theory delineates how experiences such as discrimination may lead to symptoms

often associated with anxiety. Racial battle fatigue is defined as "the physiological and psychological strain exacted on racially marginalized groups and the amount of energy lost dedicated to coping with racial microaggressions and racism" (Smith, Allen, & Danley, 2007, p. 555).

Smith et al. (2007) proposed cumulative symptoms of racial battle fatigue as identified via extensive interdisciplinary literature reviews and empirical studies. These symptoms are both physiological and psychological and exhibit great overlap with symptoms of anxiety. Examples of physiological symptoms include tension, elevated heartrate and blood pressure, rapid breathing in anticipation of racial conflict, upset stomach or "butterflies," extreme fatigue, and loss of appetite. Examples of psychological symptoms include constant anxiety and worry, sleep difficulties and insomnia, intrusive thoughts, loss of self-confidence, hypervigilance, emotional and social withdrawal, and difficulty thinking coherently (Smith et al., 2007). Correspondingly, anxiety disorders are characterized by physiological and psychological symptoms that include fear, worry, avoidance of the anxiety causing stimulus, problems with concentration, hypervigilance, hyperarousal, tension, difficulties with sleep, and fatigue (American Psychiatric Association, 2015). Thus, experiencing discriminatory events may activate similar responses to anxiety, which in combination can lead an individual to think about suicide.

Ethnic Identity as a Potential Buffer

Ethnic identity refers to one's sense of belonging with other members of one's ethnic group and includes having positive attitudes about one's ethnic group as well as taking part in ethnic behaviors and practices (Phinney, 1992). Some findings have suggested that ethnic identity buffers against adverse mental health outcomes. However, studies examining the

buffering effects of ethnic identity have yielded mixed results, particularly with suicide. Three studies examining the direct effects of ethnic identity on suicide risk (i.e., suicide thoughts and behaviors) found non-significant results in African American (Perry, Stevens-Watkins, & Oser, 2013) and Latina women (Ai, Weiss, & Fincham, 2014; Chesin & Jeglic, 2012). Among Asian Americans, one study found that ethnic identity was associated with a decrease in odds of attempting suicide (OR = 0.31). However, this study did not find a significant relationship between ethnic identity and suicide ideation (Cheng et al., 2010). Furthermore, African Americans who have attempted suicide reported significantly lower levels of ethnic identity (Kaslow et al., 2004).

Walker and colleagues (2008) found a buffering effect of ethnic identity on suicide among African American college students. Their findings indicate that the relationship between depressive symptoms and suicide ideation was stronger among African Americans who reported low ethnic identity than among those who reported high ethnic identity (Walker et al., 2008). Similarly, Polanco-Roman and Miranda (2013) found that in a multi-ethnic sample, the relationship between perceived discrimination and suicide ideation through hopelessness was significant only at low levels of ethnic identity. This further suggests that there is a buffering quality to ethnic identity in the context of both perceived discrimination and suicide ideation (Polanco-Roman & Miranda, 2013). However, the authors did not disaggregate racial and ethnic groups, causing difficulties in understanding which racial and ethnic groups may benefit from a strong ethnic identity.

Ethnic identity has also been found to protect against anxiety in African Americans. One study reported that ethnic and national identity buffered the relationship between discrimination and psychological distress (i.e., anxiety and depressive symptoms; Huynh,

Devos, & Goldberg, 2014). In other studies, high levels of ethnic identity have been associated with lower levels of anxiety (Williams, Chapman, Wong, & Turkheimer, 2012) and have moderated the relationship between online (i.e., internet) discrimination and anxiety (Tynes, Umaña-Taylor, Rose, Lin, & Anderson, 2012). Taken together, these findings suggest that ethnic identity may not mitigate against suicide ideation in isolation. However, when faced with other stressors (e.g., anxiety and discrimination), a strong ethnic identity may potentially protect racial and ethnic minority individuals from suicide.

Current Study

Although the literature examining the relationships between perceived discrimination, anxiety, and suicide is new and relatively sparse, a number of studies have shown consistent links among these variables. However, the extant literature is lacking in two ways: (a) the literature has established the link between discrimination and suicide as well as the link between anxiety and suicide, but no studies to my knowledge have examined both discrimination and anxiety together as correlates of suicide above and beyond depression symptomatology; (b) the variables of interest have not been consistently studied across racial and ethnic groups (i.e., most studies focus on one racial or ethnic group making cross-group comparisons difficult). Thus, the current study aims to bridge this gap in the literature by examining whether individuals who are marginalized (via experiences of discrimination) are more likely to think about suicide when the marginalization is paired with increased anxious symptoms. In other words, this study will test whether perceived discrimination influences suicide ideation at different levels of anxiety symptoms across three ethnic groups (i.e., Asian American, African American, and Hispanic) of emerging adults. This study will also assess

the potential buffering quality of ethnic identity via moderated moderation. To that end, the hypotheses for the current study are:

1. Perceived discrimination will be significantly and positively associated with anxiety symptoms, depressive symptoms, and suicide ideation and negatively associated with ethnic identity in Asian American, African American, and Hispanic individuals.
2. Perceived discrimination will predict suicide ideation at high, but not low, levels of anxiety symptoms for Asian American, African American, and Hispanic individuals. This association will be significant above and beyond the effects of age, gender, and depressive symptoms.
3. Ethnic identity will further moderate the interaction between perceived discrimination and anxiety symptoms as predictors of suicide ideation. This association will be significant above and beyond the effects of age, gender, and depressive symptoms. Perceived discrimination will predict suicide ideation at high levels of anxiety symptoms and low levels of ethnic identity.

METHOD

Participants

Participants were 904 students enrolled in a large public university in the southwestern region of the United States. Participants received course credit for their participation. Participants who are not emerging adults (i.e., between ages 18 and 25 years) were omitted from these analyses. This resulted in 161 cases being removed because participant age was older than 25. One additional case was deleted due to missing age. The final sample consisted of 742 emerging adults. Independent samples t-tests revealed no mean differences between emerging adults (i.e., those included in this sample) and adults over the

age of 25 years (i.e., those excluded from the sample) on measures of perceived discrimination, suicide ideation, anxiety symptoms, and depressive symptoms. However, emerging adults (M = 2.84, SD = 0.61) reported more ethnic identity than non-emerging adults (M = 2.70, SD = 0.63; $t(900) = 2.70$, $p < .01$). The mean age for this sample is 20.57 years (SD = 1.90) with an age range of 18 to 25. The majority of the sample was female (62.5%). The ethnic composition of the sample was 309 (41.6%) Asian American, 141 (19.0%) African American, and 292 (39.4%) Hispanic. The majority of participants (93%) indicated that they were "single, never been married." In terms of nativity, 21.6% of participants reported that they were born outside of the United States and 78.4% were born in the United States. No mean differences were observed on study variables between those born in the U.S. and those born outside of the U.S.

Measures

Demographics. A demographics form queried participant characteristics including age, sex, race/ethnicity, marital status, and generational status.

Adult Scale for Suicidal Ideation (ASIQ). The Adult Scale for Suicidal Ideation (ASIQ; (Reynolds, 1991) is a 25-item self-report measure of suicide ideation experienced over the past month for adults ages 18 years and older. Responses are assessed on a Likert-scale ranging from 0 (never had the thought) to 6 (had the thought almost every day). Total scores are acquired by summing the ratings for items 1-25. Total scores range from 0-150 with higher scores indicating greater levels of suicide ideation. The scale has shown high reliability and validity across settings (Fu & Yip, 2007; Reynolds, 1991) and among racial and ethnic minorities (α = .96-.98; Hovey, 2000; Walker et al., 2014). The measure also demonstrated good reliability (α = .98) in the current sample.

Everyday Discrimination Scale (EDS). The Everyday Discrimination Scale (Williams, Yu, Jackson, & Anderson, 1997) is a self-report measure designed to assess more routine and relatively minor experiences of perceived discrimination. The scale consists of 10 items that are rated based on frequency on a scale ranging from 1 (never) to 4 (four or more times). The items consist of experiences such as being treated with less courtesy and less respect than others, receiving poorer services than others at restaurants, and being insulted, threatened, or harassed. The last item directs the participant to indicate the "main" reason for these discriminatory experiences and includes options such as ancestral origin, race, gender, religion, height or weight, age, and physical disability. Although described as a measure of perceived discrimination, the EDS is a measure of both objective (i.e., frequency) and perceived discrimination because the participant is asked to make comparisons of themselves to other individuals and to quantify the frequency with which they experience discriminatory events. In their meta-analysis, Pieterse et al. (2012) concluded that the relationship between discrimination and mental health was not impacted by type of discrimination Black individuals reported. Thus, the relationship between discrimination and mental health outcomes is one that is robust regardless of how discrimination is assessed. The EDS is a reliable measure of chronic experiences of discrimination across racial and ethnic groups (α ranges from .87 to .91; Pérez, Fortuna, & Alegría, 2008; Williams et al., 2008; Williams, Yu, Jackson, & Anderson, 1997). In the present sample, internal consistency reliability was good ($\alpha = 90$).

State-Trait Anxiety Inventory-State (STAI-S). The State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) is a self-report measure of anxiety symptoms. The full measure consists of two subscales that measure enduring (trait) and

transient (state) anxiety. The state subscale, consisting of 20 items, was used in this study. Each item is rated on a four-point Likert scale ranging from "Almost never" to "Almost always." Total scores range from 20 to 80, with higher scores indicating a greater presence of anxiety. The measure has demonstrated good reliability in ethnically diverse samples (α ranges from .87 to .91; Heinz et al., 2013; Pointer et al., 2012; Spielberger et al., 1983). In the present sample, the reliability was good (α = .93).

Multigroup Ethnic Identity Measure (MEIM). The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) is a widely used measure of ethnic identity based on the components of ethnic identity that are common across ethnic groups (Phinney, 1992). The measure consists of 14 items that assess three aspects of ethnic identity (i.e., positive ethnic attitudes and sense of belonging; ethnic identity achievement; and ethnic behaviors/practices). Participants are instructed to rate each item on a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). An average score is obtained with higher scores representing a more positive ethnic group identity. The MEIM has been shown to be valid and reliable for Asian, Black, Hispanic, and White individuals (Cheng et al., 2010; Chesin & Jeglic, 2012; Phinney, 1992; Walker et al., 2008; M. T. Williams et al., 2012). Internal consistency reliability was good in the present sample (α = .85).

Beck Depression Inventory (BDI-II). The Beck Depression Inventory (Beck, Steer, & Brown, 1996) was used to assess physical and psychological symptoms of depression. It consists of 21 self-report items with responses ranging from 0-3. An example item, "0 - I do not feel I am worthless; 1 - I don't consider myself as worthwhile and useful as I used to; 2 - I feel more worthless as compared to other people; 3 - I feel utterly worthless," assess the range of experiencing worthlessness, a common symptom of depression. Total scores range

from 0 to 63, with higher scores indicating a greater presence of depression. This measure has demonstrated good reliability in ethnically diverse samples (α ranges from .84 to .94; Cheref, Lane, Polanco-Roman, Gadol, & Miranda, 2015; Joe, Woolley, Brown, Ghahramanlou-Holloway, & Beck, 2008; Walker, Salami, Carter, & Flowers, 2014; Walker et al., 2008; Walker & Bishop, 2005). Internal consistency reliability was good in the present sample (α = .91).

Procedure

Data were obtained from a larger archival study of stress and coping among college students. The university institutional review board approved this study. Potential participants were informed that their participation in the study was completely voluntary and that at any time during the study, they could choose to withdraw without penalty. Upon giving electronic consent, participants were administered a brief demographic form along with a computerized battery of questionnaires. All participants were provided an online debriefing form. Participants received course credit for their participation.

Data Analysis

Statistical Power and Preliminary Analyses

Power analyses were conducted using the G-Power software (Faul, Erdfelder, Buchner, & Lang, 2009). The primary analysis consisted of a hierarchical linear regression. The largest number of predictors that will be entered will not exceed 6. Similar studies have found moderate effect sizes (Graham et al., 2015, 2016), thus a power analyses was conducted with an alpha = .05, power = .80, and an estimated effect size of $f^2 = 0.15$. This analysis revealed that a sample of 98 participants was needed. Another power analysis was conducted to determine the sample size needed for the moderated moderation (i.e., three-way

interaction) analysis. The power analysis with 10 predictor variables and alpha = .05, power = .80, and an estimated effect size of $f^2 = 0.15$ revealed that 118 participants were needed. A preliminary multivariate analysis of variance (MANOVA) will be conducted to determine whether ethnic group mean differences are present across study variables. If mean differences are found, stratified analyses will be conducted.

Hypothesis 1: Bivariate correlations will be utilized to assess the association between perceived discrimination, anxiety symptoms, ethnic identity, and suicide ideation. Bivariate correlation analyses will be conducted to assess the correlations in this sample.

Hypothesis 2: Moderation occurs when the effects of a predictor variable on a dependent variable differ at various levels of a moderator variable (Baron & Kenney, 1986). This study tested whether anxiety symptomatology moderated the relationship between perceived discrimination and suicide ideation, thus an interaction term was entered in the regression model to test for moderation. The analyses were conducted via Model 1 on version 2.15 of the PROCESS script for SPSS (Hayes, 2013). The moderated regression models consisted of the following variables: age, gender, depressive symptoms (as control variables), perceived discrimination (as the predictor variable), anxiety symptoms (as the moderator), and an interaction term between perceived discrimination and anxiety symptoms. Total ASIQ scores were entered as the dependent variable. All significant interactions were probed according to the Johnson-Neyman procedure via PROCESS. The Johnson-Neyman technique identifies the regions of significance of the moderator variable for the conditional effect of the predictor on the dependent variable (Hayes, 2013). This method allows for more accurate probing of interactions and is superior to methods identifying arbitrary low, mean, and high values of a moderator.

Hypothesis 3: To test whether ethnic identity moderates the interaction between perceived discrimination and anxiety symptoms as predictors of suicide ideation, an additional moderated regression analysis was conducted (see Figure 1 for an illustration). Analyses were conducted via Model 3 on the PROCESS macro for SPSS. The moderated moderation consisted of the following variables: age, gender, depressive symptoms (as control variables), perceived discrimination (as the predictor variable), anxiety symptoms and ethnic identity (as the moderators), and interaction terms between perceived discrimination, anxiety symptoms, and ethnic identity (Perceived Discrimination X Anxiety Symptoms, Perceived Discrimination X Ethnic Identity, Anxiety Symptoms X Ethnic Identity, and Perceived Discrimination X Anxiety Symptoms X Ethnic Identity). Total ASIQ scores were entered as the dependent variable in each of the models. As outlined for hypothesis 2, significant interactions were probed according to the Johnson-Neyman technique.

Results

Table 1 displays the means, standard deviations, and intercorrelations for study variables. A preliminary multivariate analysis of variance (MANOVA) was conducted to test for omnibus differences between racial and ethnic groups on perceived discrimination, anxiety symptoms, suicide ideation, depressive symptoms, and ethnic identity. The MANOVA yielded a significant main-effect for group; Wilk's $\lambda = 0.95$, $F(10, 1442) = 3.41$, $p < .01$, partial $\eta^2 = .03$. Follow-up univariate analyses revealed significant racial and ethnic group differences in perceived discrimination [$F(2, 725) = 8.68$, $p < .01$, partial $\eta^2 = .02$], anxiety symptoms [$F(2, 725) = 3.18$, $p < .05$, partial $\eta^2 = .01$], and suicide ideation [$F(2, 725) = 5.60$, $p < .01$, partial $\eta^2 = .02$]. African American emerging adults ($M = 9.77$, $SD = 6.93$, range = 0-27) reported significantly more perceived discrimination than their Asian

American (M = 7.63, SD = 5.64, range = 0-27) and Hispanic (M = 7.25, SD = 5.66, range = 0-27) counterparts. Asian American (M = 41.06, SD = 11.10, range = 20-79) participants reported significantly greater levels of anxiety symptoms than Hispanic (M = 38.57, SD =12.45, range = 20-78) participants. Finally, African American (M = 43.43, SD = 30.55, range = 25-175) participants reported significantly greater levels of suicide ideation than their Hispanic (M = 35.13, SD = 19.48, range = 25-152) counterparts. Given the mean differences in key study variables, stratified analyses were conducted to test the main hypotheses. Post-hoc power analyses revealed sufficient power for each ethnic group (power > .80, alpha = .05, $f^2 = 0.15$).

As hypothesized, across ethnic groups, self-reported perceived discrimination was significantly associated with increased reports of anxiety symptoms ($r_{\text{Asian American}}$ = .30, $r_{\text{African American}}$ = .36, r_{Hispanic} = .20, ps < .01), depressive symptoms ($r_{\text{Asian American}}$ = .38, $r_{\text{African American}}$ = .37, r_{Hispanic} = .33, ps < .01), and suicide ideation ($r_{\text{Asian American}}$ = .26, $r_{\text{African American}}$ = .26, r_{Hispanic} = .45, ps < .01). Perceived discrimination was negatively associated with ethnic identity ($r_{\text{Asian American}}$ = -.16, $r_{\text{African American}}$ = -.22, r_{Hispanic} = -.15, ps < .01). In addition, higher levels of anxiety ($r_{\text{Asian American}}$ = .36, $r_{\text{African American}}$ = .45, r_{Hispanic} = .41, ps < .01) and depressive symptoms ($r_{\text{Asian American}}$ = .42, $r_{\text{African American}}$ = .50, r_{Hispanic} = .52, ps < .01) were associated with higher levels of suicide ideation. Lower levels of ethnic identity ($r_{\text{Asian American}}$ = -.24, $r_{\text{African American}}$ = -.47, r_{Hispanic} = -.24, ps < .01) were associated with higher levels of suicide ideation.

Tests of Main and Moderating Effects of Anxiety Symptoms

To test the hypothesis that anxiety symptoms would interact with perceived discrimination to predict suicide ideation above and beyond the potential effect of depressive

symptoms, three moderated regression analyses were conducted as outlined above (one for each ethnic group). The effects of age and gender were also statistically controlled.

Asian American Emerging Adults. Among Asian American individuals, the overall model was significant, $F(6, 296) = 12.52$, $p < .01$, and accounted for 20% of the variance in predicting suicide ideation (see Table 2). Depressive symptoms were a significant predictor of suicide ideation ($b = 0.55$, $p < .01$). However, there were no main effects of perceived discrimination and anxiety symptoms nor was the interaction (Perceived Discrimination X Anxiety Symptoms) significant ($b = 0.02$, $p > .05$). Thus, anxiety symptoms did not moderate the relationship between perceived discrimination and suicide ideation among Asian American emerging adults.

African American Emerging Adults. Among African American emerging adults, the overall model was significant, $F(6, 132) = 10.27$, $p < .01$, and accounted for 32% of the variance in predicting suicide ideation (see Table 3). Similar to Asian American individuals, depressive symptoms were a significant predictor of suicide ideation ($b = 0.99$, $p < .01$). Again, there were no main effects of perceived discrimination and anxiety symptoms. Perceived Discrimination X Anxiety Symptoms was also not significant ($b = 0.05$, $p > .05$). Thus, anxiety symptoms did not moderate the relationship between perceived discrimination and suicide ideation among African American emerging adults.

Hispanic Emerging Adults. Among Hispanic individuals, the overall model was significant, $F(6, 278) = 39.10$, $p < .01$, and accounted for 46% of the variance in predicting suicide ideation (see Table 4). Anxiety symptoms ($b = -0.43$, $p < .01$), perceived discrimination ($b = -1.88$, $p < .01$), depressive symptoms ($b = 0.53$, $p < .01$), and Perceived Discrimination X Anxiety Symptoms ($b = 0.08$, $p < .01$) were significant predictors of

suicide ideation. See Figure 1 for a graphical depiction of this interaction. These results indicate that anxiety symptoms moderated that relationship between perceived discrimination and suicide ideation among Hispanic emerging adults. Thus, hypothesis 2 was partially supported in that anxiety symptoms moderated the relationship between perceived discrimination and suicide ideation among Hispanic emerging adults, but not among Asian American and African American emerging adults.

The Perceived Discrimination X Anxiety Symptoms interaction was probed according to the Johnson-Neyman technique outlined above. This method revealed that perceived discrimination transitioned from a nonsignificant to a significant predictor of suicide ideation at a STAI-S score of 28.31 (23rd percentile among Hispanic participants in this sample), $b = 0.39$, $SE = 0.20$, $p = .05$, 95% confidence interval (CI) [0.00, 0.78], $f^2 = .09$, indicating a small to medium effect size. Thus, among Hispanic emerging adults, perceived discrimination was positively associated with suicide ideation when the individual reported at least some anxiety symptoms (i.e., at STAI-S scores higher than 28.31). When anxiety symptom scores were lower than 28.31, no significant conditional effect of perceived discrimination on suicide ideation was found.

Test of Buffering Effect of Ethnic Identity

To examine the final hypothesis that ethnic identity would act as a buffer against suicide ideation in the presence of perceived discrimination and anxiety, an additional moderated regression was conducted for the group for which Perceived Discrimination X Anxiety symptoms was significant (i.e., Hispanic individuals). The analysis was conducted via the PROCESS macro as outline above. The overall model was significant, $F(10, 274) = 29.55$, $p < .01$, and accounted for 52% of the variance in predicting suicide ideation among

Hispanic emerging adults (see Table 5). Depressive symptoms ($b = 0.52$, $p < .01$), Perceived Discrimination X Anxiety Symptoms ($b = 0.16$, $p < .01$), and Perceived Discrimination X Anxiety Symptoms X Ethnic Identity ($b = -0.03$, $p < .01$) were all significant predictors of suicide ideation. These results support the hypothesis that ethnic identity will further moderate the relationship between perceived discrimination, anxiety symptoms, and suicide ideation. See Figure 3 for a graphical depiction of this interaction.

Next, the three-way interaction was probed. The Johnson-Neyman technique revealed that the conditional effect of Perceived Discrimination X Anxiety Symptoms on suicide ideation transitioned in significance at a MEIM mean score of 3.67 (94^{th} percentile), $b = 0.40$, $SE = 0.02$, $p = .05$, 95% CI [0.00, 0.80], $f^2 = .01$, indicating a small effect size. Perceived discrimination and anxiety symptoms interacted to positively predict suicide ideation at ethnic identity levels below the 94^{th} percentile. Thus, for Hispanic emerging adults who reported very strong ethnic identity, the interaction between perceived discrimination and anxiety symptoms did not significantly predict suicide ideation.

Discussion

The purpose of this study was to investigate the interaction between perceived discrimination and anxiety symptoms to predict suicide vulnerability among a multi-ethnic sample of emerging adults. A further aim of the study was to determine if ethnic identity would buffer against the effects of perceived discrimination and anxiety symptoms such that reports of suicide ideation are decreased. Moderation analyses indicated that anxiety symptoms moderated the relationship between perceived discrimination and suicide ideation for Hispanic emerging adults, but not for their Asian American or African American counterparts. Ethnic identity mitigated the potential role of discrimination and anxiety for

Hispanic emerging adults. While previous studies have revealed that perceived discrimination and anxiety individually confer risk for suicidality, this is the first study to examine the two factors simultaneously and in a multi-ethnic sample.

Moderating Effect of Anxiety Symptoms

It was hypothesized that for Asian American, African American, and Hispanic emerging adults, perceived discrimination would predict suicide ideation at high, but not low, levels of anxiety symptoms. This hypothesis was supported for Hispanic emerging adults, but not for Asian American and African American individuals. The available literature suggests that anxiety and perceived discrimination share qualities that may exacerbate suicidality similarly across racial and ethnic groups (Hunter & Schmidt, 2010; Hwang & Goto, 2009; Joe et al., 2006; Smith et al., 2007; Soto et al., 2011). However, the results of the current study suggest that there may be important ethnic group differences. Specifically, the findings suggest that for Hispanic emerging adults, perceived discrimination is associated with thoughts of suicide only when the individual also reports some anxiety symptomatology, though this finding does not hold up under all conditions (i.e., people who report high ethnic identity). This association is in line with other research that has found an independent link between anxiety and discrimination as well as anxiety and suicide among Hispanic individuals (Hwang & Goto, 2009). However, this study was the first to show that perceived discrimination functions in the presence of anxiety symptomatology to exacerbate risk for suicide ideation in Hispanic emerging adults.

This finding can be understood in the context of the racial battle fatigue theory. This theory states that discriminatory experiences can lead to and exacerbate symptoms that resemble anxiety. Thus, Hispanic emerging adults may be more susceptible to the effects of

discrimination when they are also experiencing symptoms of anxiety, such as hypervigilance. In addition, the observed small to medium effect size for this finding indicates there is support for the racial battle fatigue theory, especially among Hispanic emerging adults. However, the degree of the effect warrants replication of this study so that stronger conclusions can be made about the robustness of this finding.

The unexpected finding that anxiety did not moderate the relationship between perceived discrimination and suicide ideation among Asian American and African American emerging adults may be accounted for by the sample's developmental stage, the role of other 'third' variables or the lack of culturally relevant anxiety measures. First, the findings from which the hypothesis was formulated were based largely on adult samples with a wider age range than the sample utilized in this study. This study was specifically interested in examining suicide risk among emerging adults. Emerging adults have been found to be at increased risk for suicide (Kessler, Berglund, Borges, et al., 2005) and the stressors they face may differ from those of older adults (Gomez et al., 2011). Thus, previous findings may not generalize to emerging adults. Second, there may be other factors not included in this study that convey greater risk for suicide among Asian American and African American emerging adults. For instance, Walker (2007) suggested that as African Americans adapt to mainstream culture, they may lose access to cultural elements previously available to them such as family cohesion and support, which may in turn increase risk for suicide. Indeed, acculturative stress, or stress associated with cultural adaptation, has been associated with suicide ideation (Walker et al., 2008) and suicide attempts (Gomez et al., 2011) among Black individuals. Acculturative stress has also been documented as a risk factor for suicide among Asian Americans (Gomez et al., 2011). Thus, acculturative stress may be a more salient factor than

anxiety to consider when explaining the relationship between perceived discrimination and suicide ideation for Asian and African American emerging adults. For Asian Americans, family conflict (Cheng et al., 2010) and perfectionism (Wang et al., 2013) are two factors that have also been associated with suicidality. Future studies may wish to incorporate these potential risk factors.

Finally, the null findings for Asian American and African American emerging adults may be a reflection of the measures used in this study. The measures used to assess anxiety symptoms and suicide were not developed specifically for use with racial and ethnic minorities, although they have been used in prior research with African and Asian American individuals (Garfield et al., 2015; Hwang & Goto, 2009). This may be problematic as prior literature indicates that the ways in which Asian Americans express symptoms of anxiety disorders differs from European Americans (Matkin, Nickles, Chris, & Demos, 1996; Okazaki, Liu, Longworth, & Minn, 2002). Furthermore, in a review of the literature, Hunter and Schmidt (2010) concluded that African Americans may underreport symptoms of anxiety, particularly cognitive symptoms of anxiety, due to stigma associated with symptoms unrelated to physical illness.

Buffering Effect of Ethnic Identity

The significant moderating effect of anxiety symptoms was tempered by ethnic identity, though only at very high levels of ethnic identity. Thus, ethnic identity was found to buffer against suicide among Hispanic emerging adults in the presence of anxiety symptomatology and perceived discrimination, but only when it was very strong. This finding further supports research suggesting that ethnic identity mitigates the effect of suicidality indirectly when the individual is faced with other stressors (Polanco-Roman &

Miranda, 2013; Walker et al., 2008). However, the seemingly high ratings of ethnic identity needed to protect against suicide ideation may point to the deleterious effects discrimination and anxiety have on suicide ideation when they interact. That is, Hispanic emerging adults who experience anxiety may have such an overwhelming response to discrimination that even moderate or high levels of ethnic identity may not reduce the ensuing distress.

This finding may also be attributed to the assessment of ethnic identity that was employed in the current study. Ethnic identity is a multidimensional construct that involves the aspects of an individual that define how that individual identifies as a member of their ethnic group (Sellers, Smith, Shelton, Rowley, & Chavous, 1998). The MEIM assesses the extent to which an individual has a positive sense of belonging with their ethnic group and how often they engage in ethnic behaviors. However, it overlooks other aspects of ethnic identity such as racial/ethnic salience (i.e., how important an individual's race or ethnicity is to their self-concept) and centrality (i.e., the extent to which an individual's race or ethnicity is a core part of their self-concept; Sellers et al., 1998). Thus, a different trend may be revealed if a more multidimensional measure of ethnic identity were used. In addition, the small effect size that was observed for the mitigating role of ethnic identity may be a reflection of the restricted measure of ethnic identity. Nevertheless, more work is needed to determine the magnitude of the effect ethnic identity plays in moderating the relationship between perceived discrimination, anxiety symptoms, and suicidal ideation.

Strengths, Limitations, and Future Directions

Although this is the first study to simultaneously examine perceived discrimination and anxiety symptomatology as predictors of suicide ideation in a multi-ethnic sample, there are some limitations to consider. First, though the STAI-S revealed significant findings for

Hispanic emerging adults in this sample, some have noted that the STAI is more accurately a measure of negative affect (Bados, Gómez-Benito, & Balaguer, 2010) . Thus, findings for the current study may reflect a global source of negative affect rather than symptoms specific to anxiety pathology. Future studies should replicate the findings with measures of anxiety that provide both a discrete assessment of anxiety symptoms as well as measures that are culturally-sensitive. It may also be useful for future research to consider specific types of anxiety. Prior research has indicated that symptoms of social anxiety, panic disorder, GAD, and OCD are all associated with suicide ideation (Norton et al., 2008). However, these specific types of anxiety may differentially interact with discrimination to predict suicide.

Second, the current sample consisted of college students, thus the findings are limited to emerging adults enrolled in universities. While this study contributed to the limited literature on emerging adult suicide, the findings may not generalize to emerging adults who are not college students. For example, studies have indicated that homeless youth are at increased risk for suicidality (Desai, Liu-Mares, Dausey, & Rosenheck, 2003). In addition, although the multi-ethnic nature of this sample is a strength that allowed for stratified analyses, it is worth noting that the racial and ethnic groups were not homogenous. Instead individuals were grouped into larger ethnic groups. Prior studies have indicated important differences between individuals in subgroups of ethnicities. For example, studies have revealed differences in reports of anxiety among Black subgroups. One study reported that race-based discrimination predicted GAD among African Americans, but not among Afro-Caribbeans (Soto et al., 2011). Other studies have also indicated that Puerto Ricans are at increased risk for anxiety disorders than Mexican Americans (Fortuna, Perez, Canino, Sribney, & Alegria, 2007) and that Bangladeshi American emerging adults are less likely to

report suicide ideation than Asian Indian American emerging adults (Lane, Cheref, & Miranda, 2016). Therefore, future research would benefit from further disaggregating ethnic groups to explore potential differences among specific ethnicities.

Finally, the use of self-report and cross-sectional data limits the interpretation of the results. Due to the self-report nature of the measures utilized, it is possible that participants underreported symptoms of anxiety and depression as well as thoughts of suicide. Future studies would benefit from incorporating objective measures of participants' symptomatology and suicide history. In addition, use of cross-sectional data prevents causal conclusions. The use of the MEIM was a limitation due to its more focused assessment of ethnic identity. Future studies would benefit from employing a more multidimensional measure of ethnic identity. Such a measure would elucidate the role of ethnic identity as a mitigating factor for Hispanic individuals. In contrast, the use of the EDS as a measure of both objective and perceived discrimination is a strength of the study that allowed for a more multidimensional assessment of discrimination. Furthermore, using a measure that assess both objective and perceived discrimination aids in eliminating method variance effects that may be present when assessing the different dimensions of discrimination independently. Nonetheless, future research would benefit from implementing longitudinal studies to better determine the causal relationship between discrimination, anxiety, and suicide.

Overall, this study sought to address gaps in the literature with respect to suicide vulnerability across ethnic groups. The results indicated that in the presence of anxiety symptomatology, perceived discrimination is associated with higher reports of concurrent suicide ideation for Hispanic, but not Asian American or African American emerging adults. Ethnic identity acted as a buffer against this pattern when Hispanic emerging adults indicated

very high ethnic identity. These findings enhance the scientific literature in that they provide empirical evidence that there are specific factors in play that exacerbate and mitigate risk for suicide among marginalized individuals.

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Table 1
Means, Standard Deviations, and Correlations of Study Variables Across Ethnic Groups

	Asian American (N = 309)							African American (N = 141)							Hispanic (N = 292)						
	1	2	3	4	5	*M*	*SD*	1	2	3	4	5	M	SD	1	2	3	4	5	M	SD
1. EDS	–	.26**	.30**	.24*	-.16**	7.63	5.64	–	.26**	.36**	.44*	-.22**	9.77	6.92	–	.45**	.20**	.38**	-.15**	7.25	5.66
2. ASIQ		–	.36**	.60**	-.24**	39.93	23.52		–	.45**	.49**	-.47**	43.43	30.55		–	.41**	.51**	-.24**	35.13	19.47
3. STAI-S			–	.63**	-.25**	41.06	11.10			–	.75**	-.25**	39.75	12.70			–	.61**	-.22**	38.57	12.45
4. BDI-II				–	-.32**	10.17	9.25				–	-.24**	10.29	9.40				–	-.20**	10.68	10.26
5. MEIM					–	2.89	0.61					–	2.81	0.66					–	2.81	0.59

Note. EDS = Everyday Discrimination Scale; ASIQ = Adult Scale for Suicidal Ideation; STAI-S = State-Trait Anxiety-Inventory-State Scale; BDI-II = Beck Depressive Inventory; MEIM = Multigroup Ethnic Identity Measure.
* $p < .05$, ** $p < .01$.

Table 2
Summary of Linear Regression for Perceived Discrimination X Anxiety Symptoms Predicting Suicide Ideation among Asian American Emerging Adults

Predictor	*b*	*S.E.*	*t*	LLCI	ULCI
Perceived Discrimination	-0.49	1.00	-0.51	-2.38	1.40
Anxiety Symptoms	0.02	0.02	1.02	-0.02	0.06
Depressive Symptoms**	0.55	0.16	3.48	0.24	0.86
Age	-0.28	0.73	-0.39	-1.72	1.15
Gender	3.74	2.53	1.48	-1.24	8.71
Discrimination x Anxiety Symptoms	0.02	0.02	1.02	-0.02	0.06

Note. ** $p < .01$.
b = unstandardized regression coefficient.

Table 3
Summary of Linear Regression for Perceived Discrimination X Anxiety Symptoms Predicting Suicide Ideation among African American Emerging Adults

Predictor	*b*	*S.E.*	*t*	LLCI	ULCI
Perceived Discrimination	-1.68	1.13	-1.48	-3.91	0.56
Anxiety Symptoms	-0.02	0.32	-0.07	-0.66	0.61
Depressive Symptoms**	0.99	0.27	3.66	0.45	1.52
Age	-1.33	1.08	-1.24	-3.47	0.80
Gender	-4.51	4.60	-0.98	-13.62	4.60
Discrimination x Anxiety Symptoms^{+}	0.05	0.03	1.73	-0.01	0.10

Note. $^{+}$ $p < .10$, ** $p < .01$.
b = unstandardized regression coefficient.

Table 4
Summary of Linear Regression for Perceived Discrimination X Anxiety Symptoms Predicting Suicide Ideation among Hispanic Emerging Adults

Predictor	*b*	*S.E.*	*t*	LLCI	ULCI
Perceived Discrimination***	-1.88	0.49	-9.84	-2.84	-0.92
Anxiety Symptoms**	-0.43	0.13	-3.32	-0.68	-0.18
Depressive Symptoms***	0.54	0.14	3.94	0.27	0.81
Age	-0.28	0.46	-0.61	-1.19	0.63
Gender	2.49	1.88	1.32	-1.22	6.20
Discrimination x Anxiety Symptoms***	0.08	0.01	6.49	0.06	0.10

Note. ** $p < .01$, *** $p < .001$.
b = unstandardized regression coefficient.

Table 5
Summary of Linear Regression for Perceived Discrimination X Anxiety Symptoms X Ethnic Identity Predicting Suicide Ideation among Hispanic Emerging Adults

Predictor	*b*	*S.E.*	*t*	LLCI	ULCI
Perceived Discrimination	-2.22	1.79	-1.24	-5.74	1.30
Anxiety Symptoms	-1.02	0.53	-1.94	-2.06	0.02
Depressive Symptoms***	0.52	0.13	3.97	0.26	0.77
Age	-0.45	0.44	-1.02	-1.32	0.42
Gender	2.31	1.81	1.27	-1.25	5.87
Ethnic Identity	-3.69	6.90	-.54	-17.27	9.89
Discrimination x Anxiety Symptoms***	0.16	0.05	3.54	0.07	0.25
Discrimination x Ethnic Identity	0.21	0.63	0.33	-1.03	1.45
Anxiety Symptoms x Ethnic Identity	0.23	0.18	1.27	-0.13	0.60
Discrimination x Anxiety x Ethnic Identity*	-0.03	0.02	-2.02	-0.07	-0.01

Note. * $p < .05$, *** $p < .001$.
b = unstandardized regression coefficient.

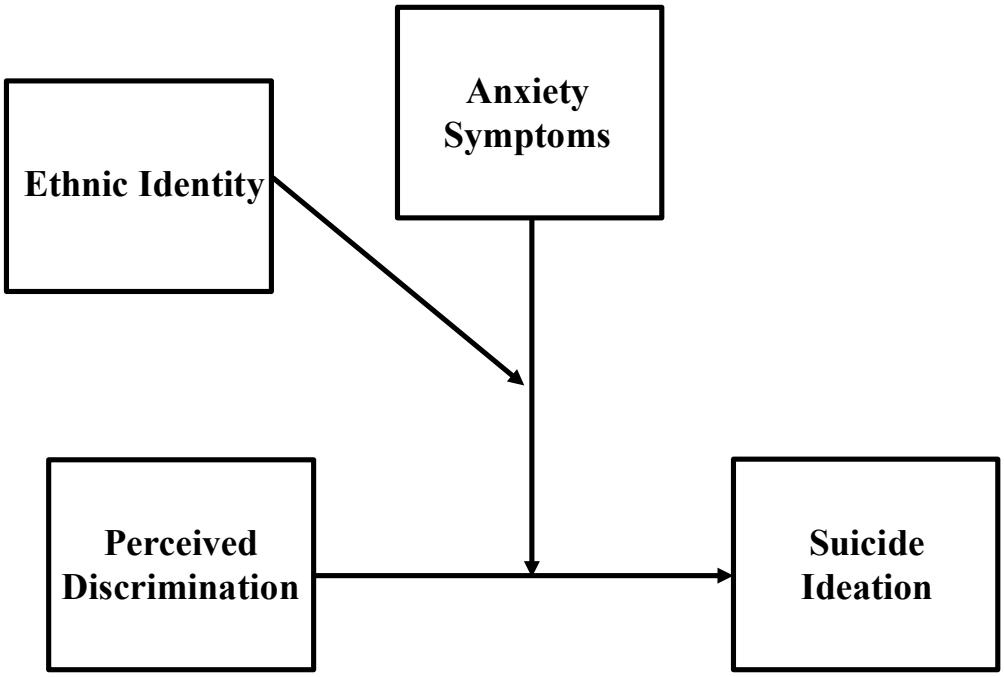

Figure 1. Diagram depicting three-way interaction between perceived discrimination, anxiety symptoms, and ethnic identity predicting suicide ideation.

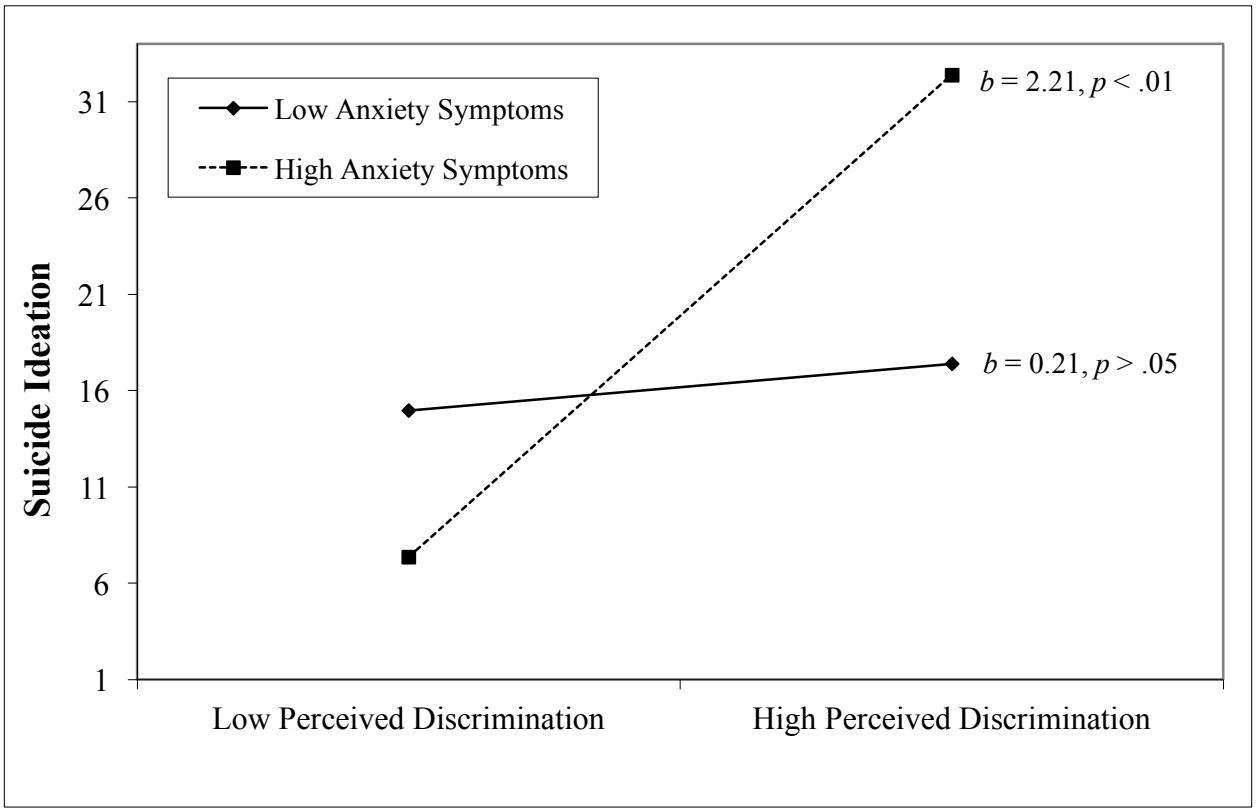

Figure 2. Interaction of perceived discrimination and anxiety symptoms predicting suicide ideation. Low perceived discrimination is plotted at 1 *SD* below the mean. High perceived discrimination is plotted at 1 *SD* above the mean.

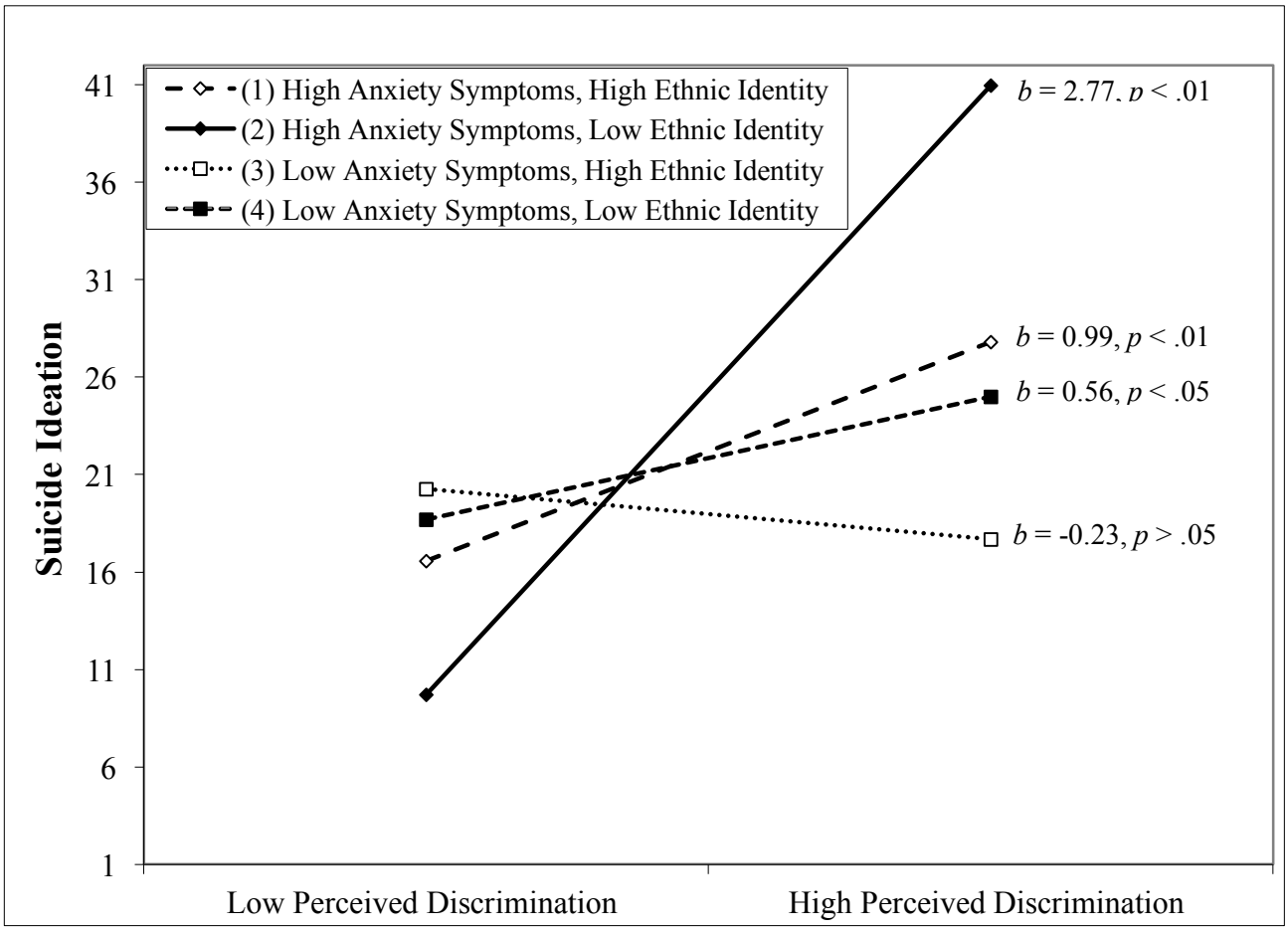

Figure 3. Interaction of perceived discrimination, anxiety symptoms, and ethnic identity predicting suicide ideation. Low perceived discrimination is plotted at 1 *SD* below the mean. High perceived discrimination is plotted at 1 *SD* above the mean.