5-2017

The Contributions of Perceived Ethnic Discrimination and Rumination to Depression, Anxiety, and Anger in Emerging Adults

Alexis M. Lima
University at Albany, State University of New York

The Contributions of Perceived Ethnic Discrimination and Rumination to Depression, Anxiety, and Anger in Emerging Adults

An honors thesis presented to the

Department of Psychology,

University at Albany, State University of New York

in partial fulfillment of the requirements

for graduation with Honors in Psychology

and

graduation from The Honors College.

Alexis M. Lima

Research Supervisor: Lizzie O'Rourke

Research Advisor: Leslie Halpern, Ph.D.

Second Reader: Elana Gordis, Ph.D.

Abstract

Perceived ethnic discrimination (PED), a type of race-based social stress, is conceptualized as a subjective experience of discrimination based on phenotype, linguistic, or cultural characteristics. As an environmental stressor, it is associated with the same negative outcomes as other stressors such as greater depressive and anxious symptoms, poorer academic performance, and poorer health outcomes. Previous research has focused on PED's association with mental and physical health outcomes, but cognitive factors (i.e., cognitive ruminations, coping strategies, executive functioning) that might mediate or moderate outcomes have received less attention. Moreover, while some research has investigated the associations of anger rumination and perceived discrimination on depression, anxiety, and aggression, the relations of depressive rumination and PED to negative emotions in an emerging adult sample have not been extensively studied. Therefore, this study's goal was to explore how cognitive factors such as anger and depressive rumination and PED contribute to negative emotions (anxiety, depression, and aggression), in both ethnic minority and White emerging adults. This study also investigated gender differences in rumination, perceived discrimination, and negative emotional outcomes.

Acknowledgments

I would like to thank Dr. Halpern for her guidance since joining her lab my sophomore year, and allowing my thesis to come to fruition. I would also like to thank everyone else in the Child Clinical and Developmental Lab including my fellow research assistants and graduate students who were always willing to help me with any of my questions and all did their part in running the participants of this study. Without them I would not have an honors thesis. Lastly, I would like to thank my friends and family who have been supportive throughout my undergraduate career, especially my parents, without their endless support and patience I would not have had the resilience or confidence to complete my thesis.

Table of Contents

The Contributions of Perceived Ethnic Discrimination and Rumination to Depression, Anxiety, and Anger in Emerging Adults

In today's society, the topic of discrimination as it relates to American institutionalized racism has given rise to research that includes the possible health and behavioral consequences for individuals who feel unjustly discriminated against. Today, overt racism has, to a great extent, been replaced by more covert and ambiguous acts at an institutional and cultural level (Bryant-Davis & Ocampo, 2005). Bryant-Davis and Ocampo (2005) suggest that racist incidents at an individual level that are verbal, physical, or another type of abuse fit trauma definitions such that experiences are repetitive. Sanders-Phillips (2009) contend that racial discrimination can occur at a personal, individual exposure level, as well as at an institutional level, where discrimination is experienced in housing, education and health care opportunities. Carter (2007) acknowledges that "racial stratification" is a part of American culture, laws, and traditions and therefore extends itself in disparities in mental health faced by racial and ethnic minority groups.

Most of the research on discrimination and health has been done through the African American experience, due to the unique history of African American maltreatment and discrimination, that has imposed a social hierarchy for this specific group of people of color (Sanders-Phillips, 2009; Williams, Neighbors, & Jackson, 2003). For example, a study of 152 African American individuals aged 15-71 found that an overwhelming majority (71.8%) reported feeling "extremely angry" about a racist experience in the past year, and 100% of participants reported experiencing racist discrimination in their lifetime (Landrine & Klonoff, 1996). Gibbons and colleagues (2012) also found that low self-control African American adolescents were more likely to report that discriminatory experiences would anger them. In another study of African American youth, researchers found a relationship between discrimination and delinquent

behaviors, and suggested that a decrease in self-efficacy may be related to aggression due to racial discrimination threatening the control they believe they have over their lives (Prelow, Danoff-Burg, Swenson, & Pulgiano, 2004).

In the past few decades an increasing number of studies have examined discrimination experienced by African Americans as well as other ethnic minorities. In a study by Landrine, Klonoff, Corral, Fernandez, and Roesch, (2006) African American participants reported more frequent lifetime discrimination than all other ethnic groups and found the discrimination as more stressful, however, all minority groups reported and experienced discrimination as more stressful than White participants. The research literature has also reported that white participants experience incidences of racial discrimination, however, the frequency and stress associated with that discrimination fails to match that of people of color (Pieterse, Carter, Evans, & Walter, 2010).

Discrimination is a unique stressor in that it is pervasive, uncontrollable, and due to an unchangeable aspect of a person, with major attitudes that are hard to change (Gibbons et al., 2012). Landrine and Klonoff (1996) hypothesized that the negative physical and mental health effects of racist events on African Americans are more severe than generic stressful life events because these events are, unlike losing house keys, personal and degrading. It has been proposed that discrimination is associated with poor health because physiological and psychological arousal are induced creating negative effects, but the mechanisms through which this occurs still need to be researched more thoroughly (Williams et al., 2003).

Perceived Ethnic Discrimination

One aspect of discrimination that is relevant to health outcomes is perceived ethnic discrimination (PED), which is conceptualized as a subjective experience of discrimination based

on phenotype, linguistic, or cultural characteristics (Borders & Liang, 2011; Liang & Borders, 2012). Borders and Liang (2011) noted that as an environmental stressor, PED is associated with the same negative outcomes as other stressors, such as greater depressive and anxious symptoms. PED also has a cognitive appraisal emphasis in that the discrimination one experiences may appear to be subtle enough that outsiders may not view those experiences as discriminatory. As a stressor, the way an individual who perceives discrimination copes with the experience can further exacerbate negative responses including psychological distress.

It is therefore important to study the factors that contribute to negative health outcomes for ethnic and racial minorities who have subjective experiences of discrimination. Previous research has focused on PED's association with a wide range of mental health outcomes including depressive and anxious symptoms, suicide ideation, acculturative stress, decrease in social connectedness, posttraumatic stress symptoms, and aggression; and rumination, brooding rumination, and angry rumination as coping strategies (Borders & Hennebry, 2015; Borders & Liang, 2011; Flores, Tschann, Dimas, Pasch, & de Groat, 2010; Gomez, Miranda, & Polanco, 2011; Liang & Borders, 2012). It is also related to physical health problems such as a higher incidence of risky behavior, and substance and alcohol use in African American and Latino adolescents and emerging adults (Borders & Hennebry, 2015; Hurd, Varner, Caldwell, & Zimmerman, 2014; Otiniano Verissimo, Gee, Ford, & Iguchi, 2014).

This study focused on emerging adults (18-25) specifically because of the research emphasizing the identity exploration that occurs during this time, therefore making aspects of individual's lives such as ethnic identity, more salient. Also, during this developmental period there is an increased vulnerability for risk behaviors, with ethnic minorities being at a higher risk for depression compared to their white counterparts (Arnett, 2000; Borders & Hennebry, 2015).

PED as A Social Stressor

PED has been conceptualized as a social stressor by various researchers (Clark, Anderson, Clark, & Williams, 1999; Flores et al., 2010; Williams et al., 2003). When individuals perceive certain environmental stimuli as racist, their amplified psychological and physiological responses over time lead to health disparities (Clark et al., 1999). Research by Landrine and Klonoff (1996) showed that ethnic discrimination occurs in the United States, and that it can be emitted in various forms such as in hate crimes as well as in more subtle forms such as being followed due to being suspicious of shoplifting. Carter, Forsyth, Mazzula, and Williams (2005) conceptualized race-based traumatic stress as emotional or psychological injury rather than as a mental disorder like PTSD.

Noting that PED can be conceptualized as a social stressor that is inherently complex, the different instances that a person perceives discrimination can be categorized by the different nature that they can be experienced (Clark et al., 1999; Borders & Liang, 2011). For example, they can be episodic stressors that are time-limited such as being rejected for a promotion because of ethnicity; microstressors that are subtle daily experiences such as being ignored, or stereotyped; and chronic strain in which PED showcases institutionalized racism, such as unequal distribution of resources due to race (Borders & Liang, 2011).

Over the past decade several studies have examined ethnic discrimination as a form of traumatic stress (Carter, 2007; Sanders-Phillips, 2009). Flores et al. (2010) using social stress theory, studied perceived racial and ethnic discrimination as traumatic stress, drawing parallels between racist-based incidents and experiences of rape, violence, and war. The authors noted that adolescents do not have a sense of control during everyday events of discrimination by adults in power, such as teachers, police and shopkeepers (Fisher, Wallace, & Fenton, 2000; Flores et al.,

2010). It is important to recognize that emerging adults perceiving discrimination based on their race or ethnicity in their day to day life can become distressed as well, and much like other general life stressors, these incidences may have lasting effects on these individuals as they try to navigate their world, where they may not have control or authority over others and situations.

Flores et al. (2010) examined posttraumatic stress symptoms (PSS) as a mediator between PED and health risk behaviors in a sample of Mexican-American adolescents. In this study of Mexican-American emerging adults, 94% of their participants had experienced PED at least once and those perceiving more discrimination also had greater posttraumatic stress symptoms. Their results showed that perceived racial/ethnic discrimination was related to the development of PSS, which provides evidence that racist incidents may result in emotional, physiological, and psychological reactions, similar to other trauma.

Another study found that African American adults who experience racism have intrusive thoughts, hypervigilance, and other factors that are considered posttraumatic stress symptoms (PSS) (Carter et al., 2005). Pieterse et al. (2010) conducted a study that sought to examine race-related stress within a trauma rubric as proposed by Sanchez-Hucles (1999), that suggests that the conceptualization of PTSD can be expanded upon to also include the trauma that is associated with instances of racial and ethnic discrimination. Because instances of discrimination can be cumulative in nature and occur in day-to-day experiences, it is also important to note the historical aspect of oppression of which experiences of discrimination are built upon, especially in the African American community. They found that racial and ethnic discrimination was a positive predictor of trauma-related symptoms for their black student sample. Racial climate on the campus was also a predictor of trauma-related symptoms, after controlling for general stress.

The authors suggested that the findings allowed for tentative support for racial and ethnic discrimination being viewed under the psychological trauma perspective.

Microaggressions

Racial microaggressions are another way that individuals of racial minorities, or people of color, face discrimiantion and stress in their everyday lives. Racial microaggresions are everyday, "verbal behavioral, or environmental indignities" (p. 271), and while they do not have to be intentional, they "communicate hostile, derogatory, or negative racial slights and insults toward people of color" (p. 271) (Sue et al., 2007). Certain microaggressions include noticing the lack of representation of ethnic minorities in textbooks, magazine, and positions of legal or social power which can acummulate to impact the individual negatively (Bryant-Davis & Ocampo, 2005).

Negative Health Outcomes

Longitudinal studies of self-reported racism and health suggest that the instances of self-reported racism precede negative health status. Also, it has been suggested that the relation between self-reported racism and health is mediated at least in part, by stress (Paradies, 2006). As an example of the negative impact of stress, a study by Landrine and Klonoff (1996) found in an African American sample, that having experienced racist stress was related to smoking, and participants who smoked reported that they found their experiences of discrimination as more stressful than those who did not smoke.

Regarding health outcomes, several studies have found associations between discrimination and substance use. For ethnic minorities in one study, those experiencing frequent discrimination were 2.3 times more likely to be smokers than those who reported lower discrimination. Of those, men were more likely to be smokers than women (Landrine et al.,

2006). In a study of late adolescents (18-21), those who reported more ethnic discrimination also had higher reports of alcohol use and severity of depressive symptoms (Cano et al., 2015). In a study assessing changes in psychological distress and substance use overtime in an African American sample, Hurd et al. (2014) found that perceived racial discrimination in emerging adulthood contributed to increases in alcohol use, anxiety, and depressive symptoms across the transition to adulthood for both men and women.

Gibbons et al. (2010) found that the association between discrimination and substance use in their sample was mediated by externalizing reactions such as anger and hostility rather than anxiety and depression. In another study of adolescents by Gibbons, Gerrard, Cleveland, Wills, and Brody (2004), perceived discrimination predicted increases in depression and anger, but only anger was associated with their self-reported substance use.

In a study of African American adolescents' self-control and discrimination, participants who had experienced discrimination had lower levels of self-control, and this relationship predicted increased substance use. Further analysis also revealed that anger also mediated the relationship between discrimination and increased substance use (Gibbons et al., 2012). Using an implicit measure for substance related word associations, participants who were put in a discrimination condition provided more substance related responses to double entre words, implying that discrimination increased substance-related cognitions, even for non-regular users. The authors suggested that this provides evidence that discriminatory experiences, whether real or imagined can reduce impulse control, even temporarily. Furthermore, discriminatory experiences and thinking about those experiences appear to be associated with substance use.

Otiniano Verissimo et al. (2014) expanded the study of minority stress and stress coping to recognize that individuals may hold multiple minority statuses such as racial, ethnic, and

gender identities. For example, in their study they looked at the different disadvantages that Latino and Latinas would have in regard to substance use and coping. Latinos, stereotyped as being more aggressive than their female counterparts, also report higher levels of abuse and substance use than Latinas (Otiniano Verissimo et al., 2014). In addition, Latinas receive a more sexualized context of discrimination and are more likely to work in domestic fields, therefore putting them at risk for instances of discrimination that may differ from the kinds of discrimination that males face. Although the study only found racial discrimination associated with substance use among men and gender discrimination associated with alcohol abuse among women, the authors noted that they did not capture the broader aspects of institutionalized discrimination.

It is also important to examine differences in discrimination experiences among ethnic and racial groups that may account for individual differences that go beyond personality and gender identification differences. For example, Latino/a youth characterized discrimination as based on English fluency levels, immigration concerns, stereotypes, poverty and skin color (Edwards & Romero, 2008). In a study of ethnic adolescents, those of East and South Asian descent reported more discrimination by peers than the rest of the ethnic minorities (Fisher et al., 2000). In another study of discrimination in a multi-ethnic sample, youth of South Asian descent reported people expected more from them than others their age. Whereas, for African American youth, self-reports of threats of physical harm, racial slurs, and exclusion were reported as discriminatory factors (Sanders-Phillips, 2009).

PED and Depression and Anxiety

Miranda, Polanco-Roman, Tsypes, and Valderrama (2013) found that perceived discrimination was associated with higher levels of depressive symptoms for emerging adult

minority participants and white participants in an ethnically diverse college. In Landrine and Klonoff's 1996 study, 98.1% of an African American sample of individuals from 15 to 70 years of age had reported to have experienced discrimination in the past year. Of those that experienced discrimination, they also self-reported higher levels of psychiatric symptoms. Perceived discrimination has been found to be associated with previous suicide attempts across all samples of a study including US born whites, and especially so for Latinos (Gomez et al., 2011). Gomez et al. (2011) found that among emerging adult Latinos, social acculturative stress and the frequency of PED was associated with past suicide attempt history. This finding suggests the severity of PED's possible effects and emphasizes the importance for finding the mechanisms through which perceived ethnic discrimination affects suicide attempts, a symptom of depression.

Protective Factors

Previous research has shown that certain buffers like racial or ethnic identity, spirituality, and certain personality characteristics like hardness and active responses such as seeking social support, serve to attenuate the negative effects of self-reported racism on depressive symptoms and self-assessed health status (Paradies, 2006).

Research studies have also investigated factors that protect against the negative effects of discrimination on health outcomes for ethnic minorities. Studies on ethnic identity, which focuses on the extent to which a person identifies with their ethnic group, have resulted in mixed findings in buffering the effects of discrimination (Miranda et al., 2013). For example, Miranda et al., (2013) did not find that ethnic identity at any level buffered the effects of perceived discrimination on depressive symptoms. Intragroup marginalization, distancing from one's ethnic group to adhere to the dominant group, was also associated with higher depressive

symptoms (Cano et al., 2015). In addition, in Landrine and Klonoff's (1996) study, African Americans who were less acculturated reported more recent and lifetime racist events and viewed them as more stressful, which shows how not adhering to the dominant culture may have negative effects. This shows the complexity of factors that can aid in attenuating discrimination's negative effects on individuals.

Coping Strategies

Of the methods that have been demonstrated to serve as potential protective factors for the negative effects of discrimination, coping skills are likely the most amenable to prevention and intervention efforts. The way in which individuals cope with stress and negative life events can result in different responses and outcomes. Coping is an ability to adapt to stress, manage emotions, and being able to regulate and direct behavior and arousal with the intention of possibly decreasing the source.

Compas, Connor-Smith, Saltzman, Thomsen, and Wadsworth (2001) noted the importance of psychosocial stress as a risk factor in childhood and adolescent psychopathology. Similarly, the mental and physical health of emerging adults is also influenced by the stress experienced by individuals and how they cope with the stress. Coping involves a cognitive appraisal of a situation being deemed stressful, therefore coping is goal-oriented in that the individual wishes to alleviate or resolve the stressful issue all the while managing the ensuing emotions (Compas et al., 2001). Coping responses are not always conscious or intentional and are also influenced by biological, cognitive, social, and emotional development of the person. In a study of adolescents coping with family conflict and economic strain, primary control (problem solving, emotional expression, and emotion regulation) and secondary control (acceptance, cognitive restructuring, distraction, and positive thinking) coping were generally associated with

lower levels of aggressive behavior and anxiety and depression scores (Compas et al., 2001; Wadsworth, Raviv, Compas, & Connor-Smith, 2005).

In a study of 73 Latino/a adolescents aged 11-15, higher levels of engagement coping reduced the negative effect of higher discrimination stress' association with lower self-esteem (Edwards & Romero, 2008). Therefore, primary control engagement coping such as problem solving, emotional expression and modulation, seemed to buffer the effects of discrimination on the youths' self-esteem, providing evidence of primary control engagement coping as a positive coping style.

Wadsworth et al. (2005) refer to two involuntary dimensions of coping: involuntary engagement, which includes emotional and physiological arousal, rumination, intrusive thoughts and impulsive action; and involuntary disengagement which includes cognitive interference, escape emotional numbing, and inaction. While primary and secondary control coping are associated with fewer internalizing and externalizing problems for adolescents and adults in poverty, the opposite is true for adolescents utilizing involuntary engagement and disengagement strategies, where involuntary responses such as rumination are commonly correlated with negative mental health outcomes such as depression (Wadsworth et al., 2005). Rumination, a tendency to dwell on past experiences, is associated with the onset and severity of depression (Nolen-Hoeksema, 2000) as well as mental inflexibility, which hinders individuals from finding solutions to their problems (Davis & Nolen-Hoeksema, 2000).

Compas et al. (2001) cite a study by O'Brien, Bahadur, Gee, Balto, and Erber (1997); O'Brien, Margolin, and John (1995) in which problem-focused coping was associated with poorer adjustment for children and adolescents who were dealing with parental conflict. As the authors suggested, this is an example in which problem-focused coping, a coping style that

involves problem solving, information and problem focused support seeking, and has been associated with lower internalizing and externalizing symptoms, cannot reach the alleviating effectiveness due to the possibility that the stressor, parental conflict, is not under the control of the child or adolescent. Similarly, for emerging adults, PED may occur in contexts in which they do not have control, such as the job market and housing opportunities.

Coping has been identified as a mediator or moderator of stress and the resulting psychopathology (Wadsworth et al., 2005). As a moderator coping would serve to buffer, or increase or decrease the resulting psychopathological effects. Whereas viewing coping as a mediator indicates a specific mechanism for stress that allows for psychopathology (Wadsworth et al., 2005). The coping literature has argued that coping strategies stabilize as individuals become adults, therefore, for children, coping is likely a mediator of stress while it serves as a moderator in adulthood. Since this study focuses on emerging adulthood (18-25), it will focus on coping as a moderator variable.

PED and Anger and Depressive Rumination

Different coping styles that individuals adhere to as a response to PED may serve to either attenuate or increase the effects of PED on individuals. Although there have been mixed findings of positive and negative outcomes for active or approach coping and passive or avoidance coping, respectively, there is a positive correlation between rumination specifically, and PED and increased distress (Liang & Borders, 2012; Miranda et al., 2013). Brooding, a maladaptive ruminative style of lingering on one's dysphoric mood, and not reflective pondering, a more adaptive ruminative style in which individuals try to understand their cause of dysphoria, has been found to significantly mediate the relationship between perceived discrimination and higher levels of depressive symptoms (Miranda et al., 2013).

Rumination is conceptualized as a maladaptive emotion-regulation strategy and is a risk factor for anxiety, substance abuse, and eating disorders (Lyubomirsky, Layous, Chancellor, and Nelson, 2015). Experiences that have been found to increase the likelihood of rumination that may lead to anxiety are environmental stressors. Therefore, it is important to view perceived ethnic discrimination as a potential environmental stressor that responded to with rumination, could play a role in adverse psychological wellbeing. Nolen-Hoeskema's research has also provided evidence for how rumination could help to explain the association between internalizing disorders and externalizing disorders, and why depression and anxiety, and aggressive behavior may be linked (Lyubomirsky et al., 2015).

Recently, Borders and Liang (2011) introduced rumination, as a maladaptive coping strategy in which individuals brood about and relive past experiences, into the narrative that coping styles may be a mechanism in which PED is associated with negative outcomes. Since PED has been regarded as a stressor, the method in which individuals cope can lead to psychological distress and negative health outcomes. Previous research has maintained broad coping categories of active or passive coping such that the authors considered anger rumination as a specific coping mechanism through which PED may illicit psychological distress. They found that individuals who engage in anger rumination are more likely to report longer-lasting negative emotions and worse physical well-being, depression, anger, hostility, and aggression (Borders & Liang, 2011). Interestingly, previous research has shown that a coping strategy that black men may utilize is a sense of vigilance in anticipation of discrimination, therefore this anger or hostility, as a form of psychological reactivity could lead to more maladaptive coping strategies (Franklin & Boyd-Franklin, 2000).

Stressors that involve perceived threat to well-being may increase the amount of rumination. Anger rumination has been found to be related to self-reported depressive symptoms, aggression, hostility, and anger. Ethnic minorities who report more frequent PED also report engaging in more anger rumination (Borders & Liang, 2011). Furthermore, in a study of college students of mix ethnic/racial backgrounds, angry rumination partially mediated associations between recent PED and depressive symptoms, anger, hostility, and aggressive behavior only for the ethnic minority college students (Borders & Liang, 2011).

In addition to anger rumination examined as a mediator for PED's negative psychological outcomes, anger rumination has been studied as moderating the association between PED and risky behaviors in emerging adults specifically. Borders and Hennebry (2015) explored whether anger rumination and PED were associated with increased depressive and anxious symptoms, and in turn if they would explain greater risky behaviors. They found that PED was not associated with risky behavior across an entire ethnic minority college student sample, rather PED was only predictive of risky behavior for those with higher anger rumination tendencies, Also, unexpectedly, neither depressive nor anxious symptoms mediated the effect of the PED-rumination interaction on risky behaviors.

Hypotheses

Previous research has found a plethora of evidence of the harmful physical and emotional effects that discrimination has on individuals. Specially, ethnic minorities are more likely to experience discrimination and perceive it as more stressful than their white counterparts, and those who experience more discrimination are more likely to have poorer health outcomes (Cano et al., 2015; Landrine et al., 2006). Perceived ethnic discrimination as a form of subjective discrimination has also been linked to poor psychological and physical outcomes such as anxiety,

depression, and health problems (Clark et al., 1999; Flores et al., 2010; Miranda et al., 2013; Williams et al., 2003). The mechanisms through which these effects take place have yet to be fully understood, however, several studies have investigated anger rumination, a form of a maladaptive coping strategy, as a potential mediator and/or moderator of PED's negative effects for ethnic minority samples (Borders & Hennebry, 2015; Borders & Liang, 2011). Given the lack of research on the relation between depressive rumination and negative mental health outcomes for ethnic minority individuals, this study investigated relations among PED, anger and depressive rumination, and depressive and anxious symptoms.

The hypotheses of the study were as follows: 1) Ethnic group differences were expected in PED. 2) It was expected that greater PED and anger rumination would be related to greater angession. 3) It was expected that greater PED and depressive rumination would be associated with greater depressive and anxiety symptoms.

Method

Participants

A total of 67 emerging adults ranging in age from 18-23 *(M*= 18.99; *SD* = 1.187*)* participated in the study. Most of the participants were male (56.7%) with one subject not identifying their gender. Of the 67 participants, 38.8% identified as being White, 26.9% Asian, 19.4% Black or African American, and 9.0% identified their ethnicity as being Hispanic/Latino. Furthermore, 6% identified as being more than one race or ethnicity.

Measures

Depression.

Center for Epidemiological Studies Depression Scale Revised (CESD-R) (Eaton, Smith, Ybarra, Muntaner, & Tien, 2004). The CESDR was used to measure depression in participants.

Subjects were asked questions to assess for depressive symptoms. The CESDR measures sadness, loss of interest, thinking and concentration, and other depressive symptomatology. Participants answer each item of the 20 items on a 5-point scale that ranges from 0 “not at all or less than one day” to 4 “nearly every day for 2 weeks”. The scores are summed with higher scores indicating more symptoms of depression.

Anxiety.

State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA) (Ree, MacLeod, French, & Locke, 2000). The STICSA is a 21-item questionnaire that was used to measure cognitive and somatic symptoms of anxiety. Participants must respond to items on a 4-point scale ranging from "not at all" to "very much so". Higher summed scores indicated higher levels of anxiety in participants.

Aggression.

Buss Perry Aggression Questionnaire (BPAQ) (Buss & Perry, 1992). The BPAQ was used to assess the level of aggressive behavior of the participants. Subjects answered the 29-item questionnaire and were asked to indicate how uncharacteristic or characteristic each item was in describing them. The questionnaire uses a 5-point Likert scale from “extremely characteristic” to “extremely uncharacteristic”. Scores were summed with higher scores indicating more aggression, hostility, and anger.

Perceived Stress.

Perceived Stress Scale (PSS) (Cohen & Williamson, 1988). The PSS was used to measure the general life stress that participants perceived. The 10-item questionnaire asked participants how often they had felt or thought a certain way during the past month. Participants answered on a 5-point Likert scale from “never” to "very often”. Higher summed scores indicate

higher stress with scores of 13 being considered average, and scores of about 20 being considered high stress.

Depressive and Anger Ruminations.

Rumination Response Scale (RRS) (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). The RRS was used to measure how often participants thought or behaved a certain way when depressed, sad, or down. Participants filled out the questionnaire and indicated how often they had those experiences on a 4-point scale from "almost never" to "almost always" with higher summed scores indicating more depressive rumination tendencies.

Anger Rumination Scale (ARS) (Sukhodolsky, Golub, & Cromwell, 2001). The Anger Rumination Scale was used to measure the extent to which participants ruminate after experiences that have made them angry, their thoughts of revenge, and overthinking past anger experiences. Participants responded to the 19-item questionnaire on an online version and were asked to rate each item according to how they felt on a 4-point Likert scale from "almost never" to "almost always", with higher scores indicating higher anger rumination.

Perceived Ethnic Discrimination.

Perceived Ethnic Discrimination Questionnaire (PEDQ) (Contrada et al., 2001). The PEDQ was used to measure the extent to which participants felt they experienced discrimination directed towards or against them based on their ethnic group or identity. Participants indicated how often they experienced these situations such as being "subjected to offensive ethnic comments" not fitting in based on "dress, speech, or other characteristic related to your ethnicity" on a 7-point Likert scale from "never" to "always", with higher summed scores indicating more discrimination.

Procedures

The study procedures were approved by the University's Institutional Research Review Board. The sample of emerging adults was recruited through a student subject research pool at a medium-sized university in upstate New York. They were enrolled in a larger study examining the relations between stress and psychological and health outcomes. Students were offered 1.5 credit hours for participating in the study and were able to withdraw at any time. All questionnaires were completed in the Child Clinical and Developmental Lab in designated rooms. Participants completed an online battery of executive functioning tasks that are part of the larger study, but the measures were not included in this study. Participants were given an identifying number that maintained students' anonymity and all data collected was maintained in a secure hard drive in the lab.

Results

Descriptive Statistics

Preliminary T-tests were conducted to test for sex differences in the study variables. Analyses revealed differences between males and females on the BPAQ scores for aggression ($p > .05$), with males reporting more aggression than females. No other sex differences were found.

Group differences in study measures were examined for ethnic/race group. Small sample sizes resulted in the combining of ethnicity and race groups into one minority group comprised of Hispanic/Latino, African American, Asian, and more than one race. The means and standard deviations of the study variables for ethnic minority and White emerging adults appear in Table 1. As can be seen in Table 1 there were no differences in study measures except for perceived ethnic discrimination; ethnic minorities reported significantly more discrimination than White emerging adults.

Pearson correlations were completed to examine the relations among the measures for minority and white emerging adults separately. As can be seen in Table 2, for ethnic minorities, there was a significant positive correlation between measures of anxiety and depression. Aggression was not significantly correlated with depression, but was significantly positively correlated with both cognitive and somatic anxiety. In addition, minorities who reported more anger rumination reported increased depression, anxiety, aggression, and perceived stress. Depressive rumination was significantly positively correlated with depression, both cognitive and somatic anxiety, and perceived stress, but not with aggression. Perceived stress and perceived discrimination were significantly positively correlated. Additionally, perceived stress was significantly correlated with depression, cognitive and somatic anxiety, and aggression. Minorities who reported higher scores of perceived ethnic discrimination also reported more depression, cognitive anxiety, depressive rumination and anger rumination, but interestingly, perceived ethnic discrimination was not significantly correlated with aggression.

As can be seen in Table 2, for white participants, there was a significant positive correlation between depression and anxiety measures, however, aggression was not significantly correlated with either depression or anxiety. In addition, for white participants, higher anger rumination scores were only positively correlated with increased cognitive anxiety. However, there was a trend between the relationship of anger rumination and aggression ($p > .06$). Moreover, those who reported more depressive rumination also reported more depression, cognitive anxiety, and perceived stress. Again, a trend was seen between depressive rumination and somatic anxiety ($p < .06$). For white participants, perceived discrimination and perceived stress were not significantly correlated. The table shows that there is a trend between the relationship of perceived stress and somatic anxiety ($p < .06$). Additionally, perceived

discrimination scores were only significantly correlated with cognitive anxiety, but showed a trend with aggression ($p < .06$). In contrast, perceived stress was positively correlated with higher depression, cognitive anxiety, aggression, and depressive rumination.

Regression Analyses

Regressions were completed for ethnic minority and White emerging adults separately to examine the relative contribution of anger and depressive rumination, and perceived ethnic discrimination to depression, anxiety, and aggression

A series of regressions were conducted for the ethnic minority sample. In the first regression the contributions of depressive rumination and perceived ethnic discrimination to depressive symptoms was conducted and showed that both perceived ethnic discrimination (B = .17; sr^2 = .08; t = 2.88, $p < .01$) and depressive rumination (B = .47; sr^2 = .40; t = 6.62, $p < .001$) contributed to depressive symptoms (R = .81, R^2 = .65, $F(2, 38) = 35.4$, $p < .001$). The semi partial correlation square indicated that perceived ethnic discrimination uniquely predicted 8% of the variance in depression. However, the semi partial correlation square indicated that depressive rumination uniquely predicted 40% of the variance in depression. Next, a regression was conducted to examine the contribution of depressive rumination and perceived ethnic discrimination to cognitive anxiety, and the regression was significant (R = .75, R^2 = .56, $F(2, 38) = 24.43$, $p < .001$). However, depressive rumination was the only variable that made a significant contribution to the analysis (B = .30; sr^2 = .43; t = 6.12, $p < .001$). The semi partial correlation square indicated that depressive rumination accounted for 43% of the variance in cognitive anxiety. The regression for anger rumination and perceived ethnic discrimination's contribution to aggression was significant (R = .51, R^2 = .26, $F(2, 38) = 6.6$, $p < .001$), however, only anger rumination was a significant contributor to the model (B = .98; sr^2 = .21; t = 3.24, $p <$

.001) and not perceived ethnic discrimination. The semi partial correlation square indicated that anger rumination uniquely predicted 21% of the variance in aggression.

Next, a series of regressions were conducted for the White sample. The regression examining the contribution of depressive rumination and perceived ethnic discrimination to depressive symptoms was not significant ($p > .05$). The regression examining depressive rumination and perceived ethnic discrimination's contribution to cognitive anxiety was significant ($R = .59$, $R^2 = .35$, $F(2, 23) = 6.21$, $p < .001$). However, depressive rumination, and not perceived ethnic discrimination was the only variable that made a significant unique contribution ($B = .22$; $Sr^2 = .21$; $t = 2.72$, $p < .05$). The semi partial correlation square indicated that depressive rumination uniquely predicted 21% of the variance in cognitive anxiety. In the final regression, the contribution of anger rumination and perceived ethnic discrimination to aggression was examined, and the results were not significant ($p > .05$).

Discussion

Perceived ethnic discrimination experienced by ethnic minorities has been associated with the same negative psychological outcomes as other environmental and social stressors such as depression, anxiety, and posttraumatic stress symptoms (Borders & Liang, 2011; Clark et al., 1999; Flores et al., 2010; Gomez et al., 2011; Liang & Borders, 2012) as well as negative physical health outcomes such alcohol use (Borders & Hennebry, 2015; Hurd et al., 2014).This study sought to help further the study of perceived ethnic discrimination and its effects by examining the contribution of anger rumination and depressive rumination in these associations as they are maladaptive coping strategies (Liang & Borders, 2012; Miranda et al., 2013).

In this study, ethnic minority emerging adults reported significantly more perceived ethnic discrimination than their White counterparts, which agrees with previous research

(Borders & Liang, 2011). Sex differences revealed that males reported more aggression than females across both groups. This was an interesting finding because males are generally described as showing more aggression than females, and in some ethnic minority groups such as Latinos, males are stereotyped as being more aggressive than their female counterparts (Flores et al., 2010).

Findings also demonstrated that for both ethnic minorities and White emerging adults, those who had more symptoms of depression also had more anxiety symptoms. However, only ethnic minorities who had more aggression also had more anxiety symptoms. This pattern was not seen in White participants. A difference between the ethnic minority and White groups in the study also emerged in that ethnic minority emerging adults who experienced more anger rumination also experienced more depression, anxiety, and aggression, whereas for White participants more anger rumination was only associated with more cognitive anxiety. It is also important to note that there was a trend between the relationship of anger rumination and aggression that, due to low sample size, may have been significant if the sample was larger. For both ethnic minority and White emerging adults those who reported depressively ruminating more had increased depressive and anxiety symptoms. The negative associations between depressive rumination and psychological well-being accord with the extensive review of literature on rumination as a maladaptive coping strategy (Davis & Nolen-Hoeksema, 2000; Lyubomirsky et al., 2015; Nolen-Hoeksema, 2000).

More perceived stress was also related to more anger rumination and depressive rumination in ethnic minorities, but only to more depressive rumination for White counterparts. Ethnic minorities who reported more perceived ethnic discrimination also reported more depression and cognitive anxiety, but not more aggression, unlike a previous study (Liang &

Borders, 2012), however, ethnic minorities who reported more perceived ethnic discrimination also reported more anger rumination which agrees with findings on ethnic minorities by Borders and Hennebry (2015). This current study, however, also found that ethnic minorities who reported more perceived ethnic discrimination also reported more depressive rumination tendencies. In contrast, White emerging adults who reported higher perceived ethnic discrimination only experienced more cognitive anxiety in this study. It is important to note that there was a trend difference however, between perceived ethnic discrimination and aggression for White emerging adults. Similar to a previous study, although White participants who experience perceived ethnic discrimination also experience more psychological distress, the extent is not as significant as their ethnic counterparts which suggests that the way in which individuals cope may be different based on their ethnicity (Borders & Liang, 2011). For measures of perceived stress however, White emerging adults who reported higher levels of perceived stress also reported more depression, cognitive anxiety, aggression, and depressive rumination.

This study also found that, interestingly, for ethnic minority emerging adults, both depressive rumination and perceived ethnic discrimination predicted depressive symptoms, whereas they did not for White emerging adults. For White emerging adults, however, neither PED nor depressive rumination predicted depressive symptoms. Surprisingly, for both ethnic minorities and White participants, perceived ethnic discrimination and depressive rumination predicted cognitive anxiety, but depressive rumination alone made a significant contribution to anxiety for both groups. Lastly, perceived ethnic discrimination and anger rumination was only predictive of aggression for ethnic minority emerging adults, but again only anger rumination and not PED made a significant unique contribution to aggression. This finding contrasts

somewhat with the findings of a previous study by Borders and Liang (2011) that found partial mediation between recent perceived ethnic discrimination and depressive symptoms and aggressive behavior in ethnic minorities.

Although this study showed that there is an association between perceived ethnic discrimination, rumination, and psychological distress for ethnic minority emerging adults, depressive rumination and anger rumination were both the significant contributors in the regression models. This finding is in support of rumination being linked to poor behavioral inhibition, onset and severity of depression, and mental inflexibility (Davis & Nolen-Hoeksema, 2000; Nolen-Hoeksema, 2000). Brooding, a ruminative subtype was also found to mediate the relationship between perceived ethnic discrimination and depressive symptoms (Miranda et al., 2013). Previous literature has found rumination, as an involuntary engagement coping mechanism, to be correlated with depression in adolescents (Wadsworth et al., 2005), as well as being a maladaptive emotion-regulation strategy that is a risk factor for anxiety, substance abuse, and eating disorders (Lyubomirsky et al., 2015).

Due to the small sample size in this study, the moderating effect of rumination on the relationship between perceived ethnic discrimination and depression, anxiety, and aggression for emerging adults could not be conducted. Future studies should consider rumination as a moderating variable as it may serve to increase the effects of perceived ethnic discrimination and resulting psychological distress (Wadsworth et al., 2005). Future research should also see if adaptive coping styles such as problem-focused coping (problem solving, information and problem focused support seeking) buffers the effects of perceived ethnic discrimination since previous studies have found mixed results in its association with lower internalizing and externalizing symptoms with stressors that are uncontrollable to the individual (Compas et al.,

2001). Moreover, perceived ethnic discrimination can occur as daily experiences such as being ignored, or denied a job promotion, and for emerging adults theses are situations in which they have little to no control over.

Another limitation of the study was that analyses were correlational in nature, therefore causal effects between perceived ethnic discrimination, rumination, and psychological distress could not be made. Small sample size also limited the analysis since ethnic minority groups needed to be aggregated. Previous literature has shown that different ethnic groups and genders experience unique discrimination (Edwards & Romero, 2008; Fisher et al., 2000; Otiniano Verissimo et al., 2014). For example, African American youth reported physical harm, racial slurs, and exclusion as discriminatory factors, whereas Latinas are more likely to experience discrimination in a sexualized context (Otiniano Verissimo et al., 2014). Future research should divide ethnic minority groups to assess differences between groups. The lack of gender differences beyond aggression could have also resulted from small sample size, since previous research by Nolen-Hoeksema has shown that females have higher tendencies of rumination as opposed to men (Lyubomirsky et al., 2015).

Nonetheless, this study adds to the growing literature that ethnic minority emerging adults experience more perceived ethnic discrimination than their White counterparts and how the relationship between PED and rumination is different between both groups. More research should be focused on finding the mechanisms through which perceived ethnic discrimination affects psychological wellbeing of ethnic minorities.

References

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist, 55*(5), 469.

Borders, A., & Hennebry, K. A. (2015). Angry rumination moderates the association between perceived ethnic discrimination and risky behaviors. *Personality and Individual Differences, 79*, 81-86.

Borders, A., & Liang, C. T. (2011). Rumination partially mediates the associations between perceived ethnic discrimination, emotional distress, and aggression. *Cultural Diversity and Ethnic Minority Psychology, 17*(2), 125.

Bryant-Davis, T., & Ocampo, C. (2005). The trauma of racism: Implications for counseling, research, and education. *The Counseling Psychologist, 33*(4), 574-578.

Buss, A. H., & Perry, M. (1992). The aggression questionnaire. *Journal of personality and social psychology, 63*(3), 452.

Cano, M. Á., de Dios, M. A., Castro, Y., Vaughan, E. L., Castillo, L. G., Lorenzo-Blanco, E. I., . . . Cruz, R. A. (2015). Alcohol use severity and depressive symptoms among late adolescent Hispanics: Testing associations of acculturation and enculturation in a bicultural transaction model. *Addictive behaviors, 49*, 78-82.

Carter, R. T. (2007). Racism and psychological and emotional injury: Recognizing and assessing race-based traumatic stress. *The Counseling Psychologist, 35*(1), 13-105.

Carter, R. T., Forsyth, J. M., Mazzula, S. L., & Williams, B. (2005). Racial discrimination and race-based traumatic stress: An exploratory investigation. *Handbook of racial-cultural psychology and counseling: Training and practice, 2*, 447-476.

Clark, R., Anderson, N. B., Clark, V. R., & Williams, D. R. (1999). Racism as a stressor for African Americans: A biopsychosocial model. *American psychologist, 54*(10), 805.

Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the US In S. Spacapam & S. Oskamp (Eds.), The social psychology of health: Claremont symposium on applied social psychology (pp. 31-67): Newbury Park, CA: Sage.

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: problems, progress, and potential in theory and research. *Psychological bulletin, 127*(1), 87.

Contrada, R. J., Ashmore, R. D., Gary, M. L., Coups, E., Egeth, J. D., Sewell, A., . . . Chasse, V. (2001). Measures of Ethnicity‐Related Stress: Psychometric Properties, Ethnic Group Differences, and Associations With Well‐Being. *Journal of Applied Social Psychology, 31*(9), 1775-1820.

Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive Therapy and Research, 24*(6), 699-711.

Eaton, W. W., Smith, C., Ybarra, M., Muntaner, C., & Tien, A. (2004). Center for Epidemiologic Studies Depression Scale: review and revision (CESD and CESD-R).

Edwards, L. M., & Romero, A. J. (2008). Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences, 30*(1), 24-39.

Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of youth and adolescence, 29*(6), 679-695.

Flores, E., Tschann, J. M., Dimas, J. M., Pasch, L. A., & de Groat, C. L. (2010). Perceived racial/ethnic discrimination, posttraumatic stress symptoms, and health risk behaviors among Mexican American adolescents. *Journal of Counseling Psychology, 57*(3), 264.

Franklin, A. J., & Boyd-Franklin, N. (2000). Invisibility syndrome: a clinical model of the effects of racism on African-American males. *American Journal of Orthopsychiatry, 70*(1), 33.

Gibbons, F. X., Etcheverry, P. E., Stock, M. L., Gerrard, M., Weng, C.-Y., Kiviniemi, M., & O'hara, R. E. (2010). Exploring the link between racial discrimination and substance use: what mediates? What buffers? *Journal of personality and social psychology, 99*(5), 785.

Gibbons, F. X., Gerrard, M., Cleveland, M. J., Wills, T. A., & Brody, G. (2004). Perceived discrimination and substance use in African American parents and their children: a panel study. *Journal of personality and social psychology, 86*(4), 517.

Gibbons, F. X., O'hara, R. E., Stock, M. L., Gerrard, M., Weng, C.-Y., & Wills, T. A. (2012). The erosive effects of racism: reduced self-control mediates the relation between perceived racial discrimination and substance use in African American adolescents. *Journal of personality and social psychology, 102*(5), 1089.

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*(11), 1465.

Hurd, N. M., Varner, F. A., Caldwell, C. H., & Zimmerman, M. A. (2014). Does perceived racial discrimination predict changes in psychological distress and substance use over time? An examination among Black emerging adults. *Developmental psychology, 50*(7), 1910.

Landrine, H., & Klonoff, E. A. (1996). The schedule of racist events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology, 22*(2), 144-168.

Landrine, H., Klonoff, E. A., Corral, I., Fernandez, S., & Roesch, S. (2006). Conceptualizing and measuring ethnic discrimination in health research. *Journal of behavioral medicine, 29*(1), 79.

Liang, C. T., & Borders, A. (2012). Beliefs in an unjust world mediate the associations between perceived ethnic discrimination and psychological functioning. *Personality and Individual Differences, 53*(4), 528-533.

Lyubomirsky, S., Layous, K., Chancellor, J., & Nelson, S. K. (2015). Thinking about rumination: The scholarly contributions and intellectual legacy of Susan Nolen-Hoeksema. *Annual Review of Clinical Psychology, 11*, 1-22.

Miranda, R., Polanco-Roman, L., Tsypes, A., & Valderrama, J. (2013). Perceived discrimination, ruminative subtypes, and risk for depressive symptoms in emerging adulthood. *Cultural Diversity and Ethnic Minority Psychology, 19*(4), 395.

Nolen-Hoeksema, S. (1994). An interactive model for the emergence of gender differences in depression in adolescence. *Journal of Research on Adolescence, 4*(4), 519-534.

Nolen-Hoeksema, S. (2000). The role of rumination in depressive disorders and mixed anxiety/depressive symptoms. *Journal of abnormal psychology, 109*(3), 504.

O'Brien, M., Bahadur, M. A., Gee, C., Balto, K., & Erber, S. (1997). Child exposure to marital conflict and child coping responses as predictors of child adjustment. *Cognitive Therapy and Research, 21*(1), 39-59.

O'Brien, M., Margolin, G., & John, R. S. (1995). Relation among marital conflict, child coping, and child adjustment. *Journal of Clinical Child Psychology, 24*(3), 346-361.

Otiniano Verissimo, A. D., Gee, G. C., Ford, C. L., & Iguchi, M. Y. (2014). Racial discrimination, gender discrimination, and substance abuse among Latina/os nationwide. *Cultural Diversity and Ethnic Minority Psychology, 20*(1), 43.

Paradies, Y. (2006). A systematic review of empirical research on self-reported racism and health. *International journal of epidemiology, 35*(4), 888-901.

Pieterse, A. L., Carter, R. T., Evans, S. A., & Walter, R. A. (2010). An exploratory examination of the associations among racial and ethnic discrimination, racial climate, and trauma-related symptoms in a college student population. *Journal of Counseling Psychology, 57*(3), 255.

Prelow, H. M., Danoff‐Burg, S., Swenson, R. R., & Pulgiano, D. (2004). The impact of ecological risk and perceived discrimination on the psychological adjustment of African American and European American youth. *Journal of Community Psychology, 32*(4), 375-389.

Ree, M., MacLeod, C., French, D., & Locke, V. (2000). State-trait inventory for cognitive and somatic anxiety (STICSA). *Australia: The University of Western Australia*.

Sanchez-Hucles, J. V. (1999). Racism: Emotional abusiveness and psychological trauma for ethnic minorities. *Journal of Emotional Abuse, 1*(2), 69-87.

Sanders-Phillips, K. (2009). Racial discrimination: a continuum of violence exposure for children of color. *Clinical child and family psychology review, 12*(2), 174-195.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: implications for clinical practice. *American psychologist, 62*(4), 271.

Sukhodolsky, D. G., Golub, A., & Cromwell, E. N. (2001). Development and validation of the anger rumination scale. *Personality and Individual Differences, 31*(5), 689-700.

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*(3), 247-259.

Wadsworth, M. E., Raviv, T., Compas, B. E., & Connor-Smith, J. K. (2005). Parent and adolescent responses to povertyrelated stress: Tests of mediated and moderated coping models. *Journal of Child and Family Studies, 14*(2), 283-298.

Williams, D. R., Neighbors, H. W., & Jackson, J. S. (2003). Racial/ethnic discrimination and health: findings from community studies. *American journal of public health, 93*(2), 200-208.

Table 1

Group Differences in Study Variables for Ethnic Minority and White Emerging Adults

	Ethnic Minority		White		
Variables	Mean	SD	Mean	SD	*t*
CESD-R	11.22	10.80	12. 23	9.56	-.39
STICSA COG	16.95	6.64	16.85	5.85	.07
STICSA SOM	15.66	5.41	14.73	4.51	.73
BPAQ	67.51	20.43	68.54	19.15	-.21
PSC	16.88	5.87	15.42	5.76	1.00
RRS	44.24	15.28	41.35	12.96	.80
ARS	30.80	10.16	29.81	8.15	.42
PEDQ	41.88	18.86	30.31	9.78	3.29*

Note. CESD-R = Center for Epidemiological Studies Depression Scale Revised; STICSA COG and STICSA SOM = State-Trait Inventory for Cognitive and Somatic Anxiety; BPAQ = Buss Perry Aggression Questionnaire; PSC = Perceived Stress Scale; RRS = Rumination Response Scale; ARS = Anger Rumination Scale; PEDQ = Perceived Ethnic Discrimination Scale.

*$p > .01$

Table 2

Correlations Among Study Variables for Ethnic Minority and White Emerging Adults

Variables	CESD-R	STICSA COG	STICSA SOM	BPAQ	PSC	RRS	ARS	PEDQ
CESD-R		.62**	.43*	.17	.58**	.45*	.20	.20
STICSA COG	.81**		.53**	.29	.49**	.55**	.39*	.38*
STICSA SOM	.79**	.78**		.08	.32t	.33t	-.03	.17
BPAQ	.24	.34*	.28*		.36*	.31	.32t	.31t
PSC	.55**	.55**	.50**	.34*		.60**	.30	.24
RRS	.76**	.74**	.69**	.17	.60**		.64**	.30
ARS	.33*	.35*	.32*	.51**	.35*	.25t		.02
PEDQ	.50**	.36*	.24	.23	.27*	.31*	.36*	

Note. Correlations for ethnic minority emerging adults appear below the diagonal. CESD-R = Center for Epidemiological Studies Depression Scale Revised; STICSA COG and STICSA SOM = State-Trait Inventory for Cognitive and Somatic Anxiety; BPAQ = Buss Perry Aggression Questionnaire; PSC = Perceived Stress Scale; RRS = Rumination Response Scale; ARS = Anger Rumination Scale; PEDQ = Perceived Ethnic Discrimination Scale.
$^{t}p > .06$, $^{*}p > .05$, $p > .01^{**}$