

THE MODERATING EFFECT OF PERSONALITY AND GENDER ON  
PSYCHOLOGICAL OUTCOMES AMONG AFRICAN AMERICANS WHO HAVE  
EXPERIENCED RACE-RELATED STRESS

---

A Thesis

Presented to

The Faculty of the Department of Psychology and Philosophy  
Sam Houston State University

---

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

---

by

Jasmine Phillips

August, 2021

THE MODERATING EFFECT OF PERSONALITY AND GENDER ON  
PSYCHOLOGICAL OUTCOMES AMONG AFRICAN AMERICANS WHO HAVE  
EXPERIENCED RACE-RELATED STRESS

by

Jasmine Phillips

---

APPROVED:

Temilola Salami, PhD  
Committee Director

Craig Henderson, PhD  
Committee Member

Laura Drislane, PhD  
Committee Member

Chien-Pin Li, PhD  
Dean, College of Humanities and Social  
Sciences

## ABSTRACT

Phillips, Jasmine., *The moderating effect of personality and gender on psychological outcomes among African Americans who have experienced race-related stress*. Master of Arts (Clinical Psychology) August, 2021, Sam Houston State University, Huntsville, Texas.

Black/African Americans who experience race-related stress are more susceptible to suicidality. More research is needed to understand the strength of this relation and the other possible factors that influence this relation. Past research has noted moderating factors such as coping, religion, and social support on the association between race-related stress and suicidality; however, there are no research studies examining the direct relation of both gender and personality on this association, particularly in the Black/African American community. Therefore, using the Socio-Ecological Model as the theoretical framework, this study sought to determine the impact of personality traits and gender on the association between race-related stress, suicidal ideation, and correlates of suicide (i.e., depression, anxiety, and hopelessness). The current study consisted of 133 Black/African Americans in the Southeastern United States, aged 18-59 years ( $M = 34.01$ ,  $SD = 11.856$ ) with the majority being women (51.9%) and single (65.4 %). Linear multiple regression analyses explored the moderating effects of gender and personality on the association between race-related stress, suicide, and suicide correlates. A significant moderating effect for personality (Neuroticism) and gender was found with depression and hopelessness, such that for men with higher levels of Neuroticism there was a positive association between race-related stress and the psychological outcomes. Further discussion of the findings and their implications can be found in the discussion section.

**KEY WORDS:** Race-related stress, Suicidal ideation, Black/African Americans, Personality

## TABLE OF CONTENTS

	<b>Page</b>
ABSTRACT.....	iii
TABLE OF CONTENTS.....	v
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
CHAPTER I: INTRODUCTION.....	1
Race-Related Stress, Suicide, & Suicide correlates.....	2
The Impact of Personality .....	5
The Impact of Gender.....	9
Theoretical Framework.....	11
The Present Study .....	13
CHAPTER II: METHODS.....	16
Participants.....	16
Measures.....	17
Procedure.....	22
CHAPTER III: RESULTS.....	24
Preliminary Data Analysis.....	24
Correlations.....	26
Linear Regressions.....	30
Moderated Moderation Analysis.....	30
CHAPTER IV: DISCUSSION.....	40
Limitations/Future Directions.....	46

Conclusion.....	48
REFERENCES.....	49
VITA.....	77

## LIST OF TABLES

<b>Table</b>	<b>Page</b>
1 Descriptive Statistics.....	16
2 Summary of Means and Standard Deviations.....	27
3 Summary of Correlations.....	28
4 Summary of Linear Regressions.....	30
5 Fit Indices for the Suicidal Ideation Models.....	32
6 Standardized Coefficients for the Suicidal Ideation Models.....	32
7 Fit Indices for the Depression Models.....	34
8 Standardized Coefficients for the Depression Models.....	34
9 Fit Indices for the Anxiety Models.....	36
10 Standardized Coefficients for the Anxiety Models.....	36
11 Fit Indices for the Hopelessness Models.....	38
12 Standardized Coefficients for the Hopelessness Models.....	38

## LIST OF FIGURES

<b>Figure</b>	<b>Page</b>
1 Theoretical Model- Social Ecological Model.....	12
2 Conceptual Model for the Moderated Moderation of Race-related stress, Personality, Gender, Suicidal Ideation, and Psychological Correlates.....	15
3 Graph of Interaction Effects of BDI x Neuroticism.....	35
4 Graph of Interaction Effects of BHS x Neuroticism.....	39

## CHAPTER I

### Introduction

Suicide is the fourth leading cause of death among Black/African American adults aged 20-29 years old and the eighth leading cause of death among those 30-39 years old (Joe et al., 2006; Sharpe et al., 2013; Walker et al., 2014). According to Crosby and Molock (2006), one Black/African American individual dies from suicide every four and a half hours. Despite these findings, previous researchers have posited that suicide is not a notable problem in the Black/African American community (see Wang et al., 2013). Previous research suggests that Black/African Americans are protected against suicidal ideation and behavior in comparison to other racial/ethnic groups (Davidson & Wingate, 2011). However, a series of recent studies have challenged these notions, stating that Black/African Americans experience suicide at a higher rate than previously presumed. Further, the rate of suicide among Black/African Americans continues to grow (Spates, 2011). Yet, suicidal ideation and behavior in the Black/African American community is often underreported, underenumerated or miscategorized/misclassified (Crosby & Molock, 2006; Morrison & Downey, 2000; Rockett et al., 2010; Wang et al., 2013) leaving notable gaps in the literature and further perpetuating the very factors contributing to these alarming statistics. Prior research has tried to fill these gaps by applying common risk factors found in the White/European American community, yet disregarding culturally relevant risk factors. Thus, for a more accurate understanding of suicide in the Black/African American community, more research is needed to identify factors associated with the unique Black/African American experience that confer risk of suicide related outcomes.



Suicide, as defined by the National Institute of Mental Health (2020), is a self-injurious act completed with the intent to end one's life (National Institute of Mental Health [NIMH], 2020). Suicidality can be classified in three distinct ways: attempts, completions, and ideation. Attempts include any behavior completed with the intent to die but does not result in death. However, completions are instances where death is a direct result of inflicted self-injurious behavior. Suicidal ideation differs from both the aforementioned as it does not involve behavior, rather thoughts or beliefs about ending one's life (NIMH, 2020). For the purposes of this paper, suicidal ideation will be the suicide outcome investigated. The purpose of this study is to investigate the relationship between race-related stress, a salient stressor for Black/African Americans, and individual (i.e., personality) and group (i.e., gender) factors that increase vulnerability to the development of negative psychological outcomes (i.e., suicidal ideation, depression, anxiety, and hopelessness).

### **Race-Related Stress, Suicide, & Suicide correlates**

Race-related stress is a prominent and unique stressor in the Black/African American community that can have long term and deleterious effects (Britt-Spells et al., 2018; Clark et al., 1999; Franklin et al., 2006; Hoggard et al., 2019; Hunter et al., 2017; Odafe et al., 2017). Race-related stress is defined as the psychological or emotional distress resulting from perceived chronic racism/discrimination experienced by an individual (Utsey & Ponterotto, 1996). According to Arshanapally et al. (2018), Black/African Americans report the highest rate of racial discrimination among all racial and/or ethnic groups. At least one in three Black/African Americans report having a personal experience of discrimination in a year, and 70-90% experience racial

discrimination at least once in their lifetime (Anderson & Stevenson, 2019; Gibbons et al., 2004; Odafe et al., 2017).

Chronic experiences of race-related stress increase the risk of poor mental health outcomes such as depression, anxiety, and hopelessness (Arshanapally et al., 2018; Gomez et al., 2011, Williams et al., 2003). According to the Centers for Disease Control and Prevention (2018), Black/African Americans are more likely to endorse feelings of sadness, hopelessness, worthlessness, and depression compared to their White/European American counterparts (Centers for Disease Control and Prevention [CDC], 2018). This heightened level of endorsement is particularly concerning, as previous research suggests that depression, hopelessness, and anxiety are psychological correlates of suicidal ideation (Cheref et al., 2015; Joe & Niedermeier, 2008; Morrison & Hopkins, 2019; Thompson et al., 2002; Wang et al., 2013). For this reason, mental health should be a factor considered when investigating the impact of cultural stressors.

### ***Depression***

According to the Anxiety and Depression Association of America (2020), Black/African Americans experience more chronic and severe depressive symptoms than their White/European American counterparts (Anxiety and Depression Association of America [ADAA], 2020; Woodward et al., 2013). Likewise, Bailey et al. (2019) found that Black/African Americans had a 20% increase in the chronicity of depression compared to White/European Americans. The symptoms of depression are often attributed to stressful life events, including the experience of race-related stress (Hill & Hoggard, 2018; Polanco-Roman & Miranda, 2013; Walker et al., 2014). Black/African Americans chronic experience of race-related stress and depressive symptoms can impact

their willingness to live and overall quality of life (Utsey et al., 2002). This is particularly pertinent to the current study as depressive symptoms have been strongly linked to suicidal ideation and behavior (Joe & Niedermeier, 2008; Morrison & Hopkins, 2019; Thompson et al., 2002; Wang et al., 2013). In light of these alarming facts, depression is often undetected in Black/African Americans when using standard assessment tools, and more often resembles anxiety symptoms (Willis et al., 2003). With this in mind, we must consider other related constructs such as anxiety that may be more culturally salient and expressed in the Black/African American community.

### *Anxiety*

An association has been found between anxiety disorders and racism in the Black/African American community (Bolton et al., 2008; Joe et al., 2006). In a study assessing Black/African American college students, Sosoo et al. (2019) indicated that psychological and physiological symptoms of anxiety were positively correlated with racial discrimination. However, these symptoms varied based on individual factors such as racial identity adherence, self-esteem, and self-hatred.

Of note, anxiety disorders are often referenced in research examining suicidal ideation (Bolton et al., 2008; Davidson et al., 2011; Willis et al., 2003). Davidson et al. (2011) reported that comorbid social anxiety and depression increased the risk of suicidal ideation in Black/African Americans. Indeed, anxiety symptoms have been directly linked to suicidal factors. Specifically, anxiety symptoms such as fixation, agitation, and hyperarousal are prominent risk factors for suicidal behavior (Bentley et al., 2016). Furthermore, the presence of anxiety can intensify the feeling that one's life is out of control and fate inescapable, increasing the risk for suicidal ideation (Sosoo et al., 2019;

Taylor et al., 2011). These findings highlight the need to assess potential individual level factors that influence the relation between race-related stress and anxiety.

### ***Hopelessness***

In addition to depression and anxiety, Black/African Americans may experience feelings of hopelessness related to experiences of discrimination. In a study of ethnic college students, Polanco-Roman and Miranda (2013) stated that hopelessness was positively associated with perceived discrimination and depressive symptoms. Particularly in the Black/African American community, hopelessness is expressed more often than typical depressive symptomology (Hirsch et al., 2012; Hollingsworth et al., 2016; Salami et al., 2017). Further, current research suggests there is a significant relation between hopelessness and suicide outcomes (Durant et al., 2006; Florez et al., 2018; Hirsch et al., 2012; Odafe et al., 2017). Specifically, those who have higher levels of hopelessness are more likely to have higher levels of suicidal ideation and more attempts (Lamis & Kaslow, 2014). Further, hopelessness is a more proximal risk factor when investigating suicide outcomes in the Black/African American community (Cheref et al., 2015; Odafe et al., 2017). Undoubtedly, hopelessness has shown the most promise in predicting suicidal outcomes in Black/African Americans. However, there is still a need to uncover other pertinent individual level factors that may impact the association between race-related stress and suicidal ideation.

### **The Impact of Personality**

The Five-Factor Model (FFM) of personality examines personality based on five broad traits: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Digman, 1990; Costa & McCrae, 1990). Openness to Experience is

often reflective of an individual's intellect, curiosity, inquisitiveness, and thoughtfulness (Grice, 2005; Costa & McCrae, 1990). Conscientiousness refers to an individual's sense of responsibility, organization, discipline, and duty (Grice, 2005; Costa & McCrae, 1990). Extraversion encompasses sociability, warmth, and positive affect (Grice, 2005; Costa & McCrae, 1990). Agreeableness is indicated in behaviors related to trust, altruism, and kindness (Grice, 2005; Costa & McCrae, 1990). Neuroticism describes emotional instability as seen in irritability, anger, and general negative affect (Grice, 2005). Each of these personality domains have been found to have a unique relationship with the development of mental health (Fuller-Rowell et al., 2021).

Although the unique contribution of personality traits has been established in the broader literature, there have been inconsistencies regarding racial differences in personality traits. While some researchers refute differences in the five personality factors as it pertains to race/ethnicity (Foldes et al., 2008; Krok-Schoen & Baker, 2014; Rossier et al., 2005), other researchers note differences on various facets of personality (Foldes et al., 2008; Heuchert et al., 2000; Hough et al., 2001; Savla et al., 2007). In a sample of older Black/African Americans, Salva et al. (2007) explained that most of the five factors were consistent between Black/African Americans and White/European Americans, except for Openness to Experience. Specifically, Openness to Experience had the weakest loading of all the factors for Black/African American participants (Salva et al., 2007). Similarly, Hough et al. (2001) found that Black/African American participants scored lower on Openness to Experience than White/European American participants. These findings suggest that this facet may not adequately capture Openness to Experience in Black/African Americans.

Likewise, research has found the manifestation and expression of Neuroticism varies across race (Assari, 2017; Huebner et al., 2005). In a sample of cancer patients, Krok-Schoen and Baker (2014) found that Neuroticism was a better predictor of psychological distress for Black/African American patients than White/European American patients. These race/ethnic differences in personality can be attributed to the disproportionate environmental stressors faced by Black/African Americans. Indeed, Neuroticism has a significant association with experiences of race-related stress (Pearson et al., 2014). Pearson et al. (2014) described that in a Black/African American sample, higher Neuroticism was related to worse psychological outcomes in relation to racism. Specifically, participants who had higher levels of Neuroticism were more likely to have more intrusive thoughts about the racial event, heightened emotional responses to the event, and lower levels of forgiveness for the perpetrator (Pearson et al., 2014). Neuroticism has also been found to influence perceptions of racism/discrimination (Buford, 2009). Though specific personality traits might not be unique to racial groups, they play an important role in how individuals from diverse backgrounds process, respond, and cope with stressful situations.

Personality traits moderate the degree to which a person copes with environmental stress (Clark et al., 2019; Cutrona et al., 2005; Leger et al., 2017). Of the five personality traits, Neuroticism has been studied the most in relation to suicide (Brezo et al., 2006; Draper et al., 2013; Iliceto et al., 2017; Velting, 1999). Previous research has showcased a positive association between Neuroticism and suicidal ideation (Brezo et al., 2006; Iliceto et al., 2016; McCann, 2010; Su et al., 2018). Allen et al. (2017) stated the two aspects of Neuroticism (withdrawal and volatility) have the most substantial

influence on suicide and psychological outcomes. Further, they explain that volatility is associated with negative affect that is likely to be expressed through externalizing behaviors, while withdrawal is more likely to be expressed through internalizing behaviors (Allen et al., 2017). Volatility is the aspect most closely associated with suicide, while withdrawal is most closely associated with depression and anxiety (Allen et al., 2017). In another study, Deshong et al. (2015) found that Neuroticism was positively related to suicidal ideation and depression. Neuroticism and Extraversion have also been found to be associated with hopelessness. Chioqueta and Stiles (2005) concluded that high Neuroticism and low Extraversion were associated with higher rates of hopelessness. Extraversion has also been negatively correlated with suicidal ideation (Deshong et al., 2015; Vorack, 2009) and depression (Chioqueta & Stiles, 2005). Similarly, some research depicts a negative correlation between Agreeableness, Openness to Experience (McCann, 2010; Velting, 1999), and Conscientiousness (Allen et al., 2017; Chioqueta & Stiles, 2005; Jourdy & Petot, 2017, Karsten et al., 2012) with suicide and suicidal ideation. There is strong evidence for the connection between Neuroticism and suicide; however, it is unclear how the other personality traits impact suicide as the research is limited or inconsistent.

There is a paucity of research examining all the big five personality traits in the Black/African American community. Clark et al. (2017) performed a study in the Black/African American community investigating the association between personality and depression. They found that low Conscientiousness, low Extraversion, low Openness to Experience and high Neuroticism were related to more depressive symptoms (Clark et al., 2017). While this study provided necessary information about an understudied

population, there is much more to learn about the unique influence of personality on psychological outcomes in Black/African Americans. Further, the prevailing literature fails to consider group level factors, such as gender and culturally salient stressors (i.e., race-related stress) that can differentially influence the association between personality traits and various mental health outcomes among Black/African Americans.

### **The Impact of Gender**

Gender is a risk factor that has been extensively researched when investigating suicide outcomes (Assari et al., 2017; Blüml et al., 2013; Freeman et al., 2017; Singh & Rani, 2014; Vörös et al., 2004; Woods et al., 2013). Gender can influence what is perceived as stressful, the expression of symptoms, coping styles and personality traits (Blüml et al., 2013; Seewoo Lee & Wong, 2020; Singh & Rani, 2014). For example, although both Black/African American men and women experience high rates of race-related stress, the outcomes of these experiences vary considerably. Men are more likely to externalize emotions and behaviors, resulting in greater aggression, substance use, and impulsivity (Eaton et al., 2012; Lewis-Coles & Constantine, 2006). On the other hand, women are more likely to internalize emotions and behaviors resulting in higher levels of depressive symptoms (Eaton et al., 2012; Lewis-Coles & Constantine, 2006). Thus, in response to culturally salient stressors such as race-related stress, Black/African American women may showcase more internalizing symptoms, while Black/African American men may showcase more externalizing symptoms.

When investigating personality, gender is a consistent moderator. Previous research has noted that women score higher on Neuroticism, Openness to Experience and Agreeableness (Brezo et al., 2006), while men score higher on Extraversion and



Conscientiousness (Blüml et al., 2013). These gender differences may also translate to differential suicide risk (Blüml et al., 2013; Seewoo Lee & Wong, 2020; Singh & Rani, 2014). Although researchers have noted significant gender differences on suicide outcomes (Blüml et al., 2013; Seewoo Lee & Wong, 2020; Singh & Rani, 2014), gender differences are often dependent on the researcher's operationalization of suicidality. Indeed, previous research indicates that women have lower rates of completed suicide compared to men (Callanan & Davis, 2011; Joe et al., 2008), but attempt suicide more often than their male counterparts (Joe et al., 2006; Sharpe et al., 2013; Tomek et al., 2015). Consistent with previous research, a recent study by Joe (2018) noted that Black/African American men had four times the risk of completed suicide than Black/African American women. In the Black/African American community, women have a higher risk of suicidal ideation than men (Carr et al., 2012; Joe et al., 2008; Wadsworth et al., 2014; Walker et al., 2014; Woods et al., 2013). Additionally, gender differences can be attributed to the varying stressful life experiences of men and women in society. For instance, Black/African American women who are suicidal report experiencing suicidal ideation after they have experienced traumatic events such as domestic violence or intimate partner abuse, child abuse, sexual abuse, or rape (Carr et al., 2012; Morrison & Hopkins, 2019; Spates, 2011). On the other hand, men are more likely to report suicidal ideation when they have experienced childhood trauma, are involved in the justice system, are a sexual orientation minority, or have a terminal disease (Wadsworth et al., 2014).

Although there has been robust research on the influence of personality on suicidal outcomes, most of these studies focus on a White/European population. Further,

there remains a scarcity of research examining the environmental and individual level factors that affect these statistics. The current body of literature has yet to address gender differences observed in personality among Black/African Americans, or study how these differences impact the risk of suicide and correlated psychological outcomes.

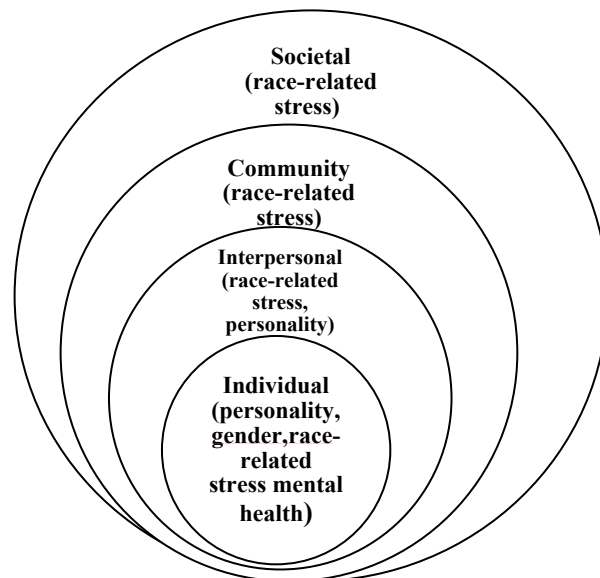
### **Theoretical Framework**

There are a multitude of theories used to explain suicide: cultural (Chu et al., 2010; Chu et al., 2020), interpersonal (Joiner, 2005, 2009), vulnerability-stress (Rubinstein, 1986), among others. Each of these theories considers factors on varying levels to describe suicide. For the present study, a comprehensive model was used that incorporates many facets of other models: the social-ecological model (SEM; Bronfenbrenner, 1977; see Figure 1). The SEM is derived from Bronfenbrenner's theory and uses a multidimensional approach to understand the interaction between individual, community, and environmental level factors, while also considering the interpersonal, institutional, and cultural influences (Kilanowski, 2017; Merrin et al., 2015). Under SEM, different levels are considered to provide a more comprehensive framework when assessing risk and protective factors (Cramer & Kapusta, 2017). Cramer and Kapusta (2017) posit that using a multidimensional model for suicide risk, assessment, and prevention will help fill in some of the gaps and inconsistencies in the literature regarding the varying factors that influence suicide. Based on Cramer and Kapusta's (2017) framework, gender, psychopathology (e.g., depression, anxiety, hopelessness), Neuroticism, and Openness to Experience are all individual level risk factors. These factors have the strongest effect on the individual and influence their interaction with the environment (Kilanowski, 2017). Of importance, race-related stress, a salient stressor for

Black/African Americans, can be deeply rooted within all levels of this framework. At the societal level, systemic racism in policies and societal norms related to racism impact an individual's response to these stressful situations. At the community level, poverty, social disorganization, and exposure to violent neighborhoods are a direct result of the systemic racist policies put in place that effect an individual's quality of life. At the interpersonal and individual levels, race-related stress occurs when an individual experiences or witnesses racist interactions with others in society. All of these racism-related outcomes can have varying effects based on individual level factors. It is crucial that more research is conducted that considers the influence of these multilevel factors on health outcomes, as well as the unique contribution of individual traits on higher level factors when investigating suicide outcomes.

### **Figure 1**

#### *Theoretical Model of the Socioecological Model*



## **Present Study**

The purpose of this study is to identify culturally relevant factors that influence suicidal ideation and correlated mental health outcomes in the Black/African American community. Although past research has identified both group and individual level factors that may impact suicide and correlates of suicide in the Black/African American community (Walker et al., 2014; Willis et al., 2003; Morrison & Downey, 2000), few have examined these constructs within the same model and in the context of race-related stress. Thus, the primary aim of this study is to examine the association of race-related stress on suicidal ideation and its psychological correlates (anxiety, depression, hopelessness), as well as to assess personality and gender as potential moderators of these associations. Physical health has been identified in the literature as a potential covariate when it comes to mental health (Lenze et al., 2001; Raposa et al., 2014; Rytwinski et al., 2014; Scott & Happell, 2011; Taliaferro et al., 2009; Williams et al., 2003). As such, it was assessed as a covariate using a data-driven method. The hypotheses are as follows:

**H<sub>1</sub>:** Race-related stress will be positively associated with suicidal ideation, depression, hopelessness and anxiety.

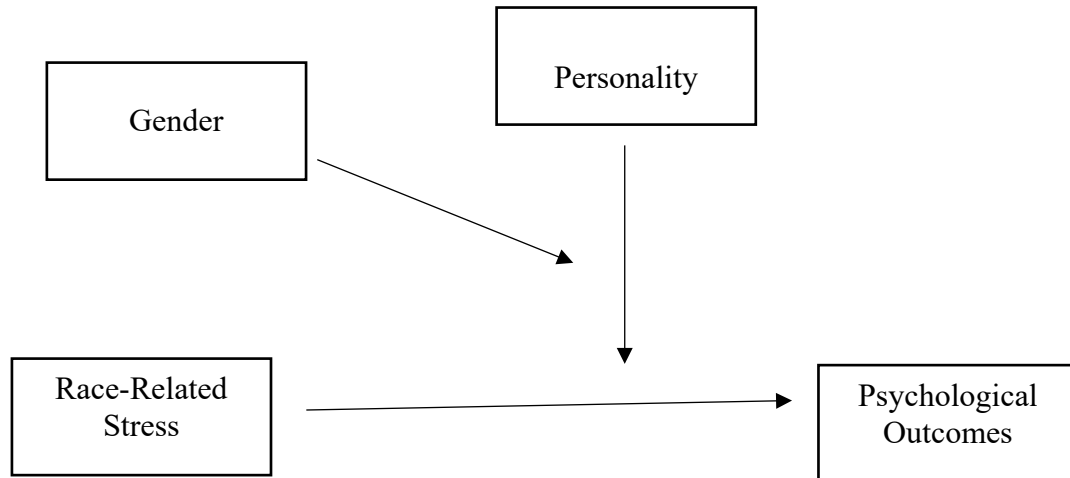
**H<sub>2</sub>:** Personality traits will act as a moderator of the association between race-related stress and study outcomes (i.e., suicidal ideation, depression, hopelessness and anxiety). Specifically, for those with higher self-reported levels of race-related stress, lower scores on Extraversion, Conscientiousness, and Agreeableness will be associated with higher rates of suicidal ideation, depression, hopelessness, and anxiety. Individuals with higher scores on Neuroticism and race-related stress will have higher rates of

suicidal ideation, depression, hopelessness, and anxiety. As there have been more mixed findings related to Openness to Experience, it will be assessed as an exploratory analysis.

**H<sub>3</sub>:** Gender will be a secondary moderator, influencing the interaction between race-related stress and personality on study outcomes (i.e., suicidal ideation, depression, hopelessness and anxiety). Specifically, as women often experience more internalizing behaviors (Eaton et al., 2012; James, 2010; Lewis-Coles & Constantine, 2006), we propose the following: Among women with higher levels of race-related stress, there will be a positive association between Neuroticism and all outcome variables; however, there will be a negative association between Extraversion and all outcome variables. As men often experience more externalizing behaviors (Eaton et al., 2012; James, 2010; Lewis-Coles & Constantine, 2006), we propose the following: Among men with higher levels of race-related stress, there will be a positive association between Neuroticism and all outcome variables; however, there will be a negative association between Agreeableness and Conscientiousness on all outcome variables. As there has been less research on Openness to Experience, it will be assessed as an exploratory analysis.

**Figure 2**

*Conceptual Model for the Moderated Moderation of Race-Related Stress, Personality, Gender, Suicidal Ideation, and Psychological Correlates*



*Note:* Psychological outcomes include depression, anxiety, hopelessness, and suicidal ideation

## CHAPTER II

### Methods

#### Participants

For the purposes of this study, archival data from a larger study was used. The sample included 133 Black/African American community members located in the Southeastern region of the United States. Participants' age ranged from 18 to 65 years old, with the mean age being 34.01 years ( $SD = 11.86$ ). The majority of the sample were female (51.9 %), and single (69.2%). In regard to religious affiliation, most of the sample identified as Baptist (32%), with the second highest percentage being those who did not identify with a religion (25.6%). The highest education level among the sample was a high school diploma (29.5%), and individuals with some college experience or specialized training (28.8%) coming in at a close second. The descriptive statistics are presented in Table 1.

**Table 1**

*Descriptive Statistics*

Variable ( $N = 133$ )	<i>M or Frequency</i>	<i>SD or Percent</i>
Age	<i>34.01</i>	<i>11.856</i>
Gender		
Male	59	44.4
Female	69	51.9
Religious Affiliation		
Religious	94	63.3
None	34	25.6
Spiritual	1.5	1.6
Agnostic	1	.8
Non-denominational	3	2.3
Education		
Less than 7 <sup>th</sup> grade	1	.8
Junior high school	5	3.8
High School	65	48.8

(continued)

Variable	<i>M</i> or Frequency	<i>SD</i> or Percent	
	College or specialized training	54	40.6
	Graduate/Professional training	7	5.3
Marital Status			
	Single	92	69.2
	Married	20	15.0
	Separate or divorced	20	15.1
Health			
	Excellent	25	19.2
	Very good	41	31.5
	Good	44	33.8
	Fair	17	13.1
	Poor	3	2.3
Occupation			
	Entry level worker	13	10.5
	Skilled manual worker	26	20.9
	Clerical worker/sales worker	14	11.3
	Semiprofessional/Professional	11	7.2
	Unemployed	62	50

## Measures

### *Demographics*

Participants were asked to indicate their age, gender, religious affiliation, marital status, generation, level of education, general health status, and occupation.

### *Index of Race-Related Stress-Brief (IRRS-B)*

The Index of Race-related Stress-Brief (IRRS-B; Utsey, 1999) is a 22-item instrument designed to measure levels of race-related stress experienced by Black/African Americans in their lifetime. The IRRS-B uses a Likert scale in which participants rate the frequency of race-based experiences and indicate specific feelings of stress related to the experience (0 = *event never happened*, 1 = *event happened but not*



*upset*, 2 = *event happened and I was slightly upset*, 3 = *event happened and I was upset*, and 4 = *event happened and I was extremely upset*). The instrument is composed of three subscales measuring different aspects of race-related stress including cultural racism, institutional racism, and individual racism. Cultural Racism is the individual and institutional expression of superiority attributed to a specific culture (e.g., “You notice that crimes committed by White people tend to be romanticized, whereas the same crime committed by a Black person is portrayed as savagery, and the Black person who committed it, as an animal”; Utsey, 1999). Institutional Racism encompasses the systemic policies and practices that place a specific group at a disadvantage (e.g., “You were refused an apartment or other housing; you suspect it was because you are Black” ; Utsey, 1999). Individual Racism is the internal belief that one group is superior to the others (e.g., “You were treated with less respect and courtesy than Whites and other non-Blacks while in a store, restaurant, or other business establishment”; Utsey, 1999). A global racism score is obtained by transforming the summed subscaled scores into z-scores, and then summing those scores. For the purposes of the study, the global score was used for the analyses of race-related stress. Higher scores indicate more experiences of race-related stress. The IRRS-B has shown to be reliable when assessing Black/African Americans with internal consistency above .80 for Cultural Racism ( $\alpha = .87$ ), Institutional racism ( $\alpha = .85$ ) and Individual Racism ( $\alpha = .84$ ). In addition, test–retest reliability coefficients for the IRRS-B subscales range from .61 to .75 (Utsey et al., 2002). The IRRS-B has demonstrated strong content and construct validity with other discrimination measures (Franklin-Jackson & Carter, 2007). The Cronbach’s alpha for this study was .85.

### ***NEO-Five Factor Inventory (NEO-FFI-3)***

The NEO-Five Factor Inventory (NEO-FFI 3; Costa & McCrae, 1992) is a 60-item measure used to assess dimensional personality traits related to the big five factors in the Five-Factor Model of personality (i.e., Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). Openness to Experience measures one's intellect, curiosity, and inquisitiveness (e.g., "I think it is interesting to learn and develop new hobbies). Conscientiousness is characterized by planning, organization, and dependability (e.g., "I am pretty good about pacing myself to get things done on time"). Extraversion involves characteristics such as likeability, talkativeness, and positive emotionality (e.g., "I am a cheerful, high-spirited person"). Agreeableness describes cooperativeness, altruism, and sympathy (e.g., "I tend to assume the best about people"). Finally, Neuroticism is characterized by emotional instability (e.g., "When I am under a great deal of stress, sometimes I feel like I'm going to pieces"). The measure has five subscales that correspond to the five different personality factors. There are 12 items for each factor, and each of the items are measured on a Likert-based scale ranging from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*). Scores are compiled by summing the responses and 28 items are reversed scored. The NEO-FFI-3 has high test-retest reliability ( $r = .86$  to  $.90$ ), and moderate ( $\alpha = .68$ ) to high internal ( $\alpha = .86$ ) consistency (Costa & McCrae, 1992; McCrae & Costa, 2004). In a specific Black/African American sample, Bookman et al. (2002) found good internal consistency for each subscale: Neuroticism ( $\alpha = .88$ ), Extraversion ( $\alpha = .80$ ), Openness to Experience ( $\alpha = .79$ ), Agreeableness ( $\alpha = .76$ ), and Conscientiousness ( $\alpha = .83$ ). In this study, the Cronbach's

alpha varied for each subscale: Neuroticism ( $\alpha = .81$ ), Extraversion ( $\alpha = .74$ ), Openness to Experience ( $\alpha = .36$ ), Agreeableness ( $\alpha = .51$ ), and Conscientiousness ( $\alpha = .80$ ).

### ***Beck Depression Inventory-II (BDI-II)***

The Beck Depression Inventory-II (BDI-II; Beck et al., 1996) is a 21-item questionnaire developed to measure severity of depressive symptoms over the previous two weeks. The questionnaire measures 21 symptoms related to cognitive, affective, and somatic domains of depression. Participants indicate the degree of depressive symptoms using a four-point Likert scale ranging from 0 (*not at all*) to 3 (*extreme form of each symptom*). A total score is created by summing participants scores, with possible scores ranging from 0-63. Scores are then placed into one of four levels of depression: minimal = 0–13, mild = 14–19, moderate = 20–28, and severe = 29–63. The BDI-II has been cited in multiple studies (Hirsch et al., 2017; Smarr & Keefer, 2011; Gary & Yarandi, 2004) and is widely considered valid and reliable (Segal et al., 2008; Storch et al., 2004; Richter et al., 1998), with a high Cronbach's coefficient ( $\alpha = .92$ ) and a good test-retest reliability correlation ( $r = .93$ ; Beck et al., 1996). The BDI-II has demonstrated good internal consistency ( $\alpha = .86$ ) in a non-clinical Black/African American sample (Compton et al., 2005). In a study of Black/African Americans related to suicide, the BDI-II had good reliability ( $\alpha = .94$ ) and moderate convergent validity ( $r = .66$ ) with other measures of depression (Joe et al., 2008). The Cronbach's alpha for this study was .93.

### ***Beck Hopelessness Scale (BHS)***

The Beck Hopelessness Scale (BHS; Beck & Steer, 1993) is a 20-item scale designed to measure hopelessness as it relates to the individual's attitudes about the future. The items are organized as true/false statements reflecting positive and negative

beliefs regarding three aspects of hopelessness: feelings about the future, loss of motivation, and expectations (e.g., “I look forward to the future with hope and enthusiasm”). The nine optimistic statements are reverse scored, and then the scores are summed. The total score can range from 0 to 20, with 0 to 3 considered within the normal range, 4 to 8 indicating mild hopelessness, 9 to 14 indicating moderate hopelessness, and scores greater than 14 indicating severe hopelessness (Beck, 1988). The BHS is one of the most used psychological measures with a good reliability coefficient .92, and average test-retest reliability of .69 (Pearson, 2019). The BHS has demonstrated excellent internal consistency ( $\alpha = .93$ ) in a Black/African American sample (Lamis et al., 2014). The Cronbach’s alpha for this study was .89.

### ***Beck Anxiety Inventory (BAI)***

The Beck Anxiety Inventory (BAI; Beck, 1988) is a 21-item assessment of anxiety presented as somatic, panic, and behavioral symptoms. Respondents rate the frequency and intensity of these symptoms using a four-point Likert scale (0 = *not at all*; 3 = *severely*). The 21-items are summed to produce a total score of anxiety where scores ranging from 0-7 indicate minimal anxiety; 8-15 mild anxiety, 16-29 moderate anxiety, and 30-63 indicate a critical level of anxiety. The highest possible score is 63. The BAI has been used with diverse samples such as varying ethnic groups (Chapman & Woodruff-Bordern, 2009; Contreras et al., 2004; Quintão et al., 2013) and clinical samples (Fydrich et al., 1992). The BAI has high internal consistency ( $\alpha = .92$ ) and test-retest reliability ( $r = .75$ ; Beck et al., 1988; Muntingh et al., 2011), as well as moderate validity ( $r = .51$ ) with other anxiety scales (e.g., Hamilton Anxiety Rating Scale; Beck et al., 1988). The BAI has demonstrated high internal consistency in Black/African

Americans (Chapman & Woodruff-Borden, 2009; Williams et al., 2012). The Cronbach's alpha for this study was .92.

### ***Adult Suicidal Ideation Questionnaire (ASIQ)***

The Adult Suicidal Ideation Questionnaire (ASIQ; Reynolds, 1991) is a suicide screening tool for adults adapted from the Suicidal Ideation Questionnaire (SIQ; Reynolds, 1987) for adolescents. The ASIQ consists of 25-items that measure suicidal thoughts and behaviors experienced in the past month. Items range from passive thoughts about death (e.g., thoughts that no one cared if he/she lived or died) to an active desire to take one's life (e.g., suicide as a way of making others realize one's worth). Respondents rate the frequency of these items using a 7-point Likert scale ranging from 0 (*never had the thought*) to 6 (*almost every day*). A total score is summed and ranges from 0 to 150. Higher scores indicate more serious suicidal ideation and a need for further suicidal risk evaluation or preventive action. The ASIQ has shown good internal consistency ( $\alpha = .96$ ) and test-retest reliability ( $r = .86$ ; Reynolds, 1991). This high reliability extends across varying samples such as college (Cukrowicz et al., 2011; Reynolds, 1991), clinical (Petitt et al., 2009), and community (Huen et al., 2015). The ASIQ has also shown high internal consistency ( $\alpha = .98$ ) in a Black/African American sample (Walker et al., 2018). The Cronbach's alpha for this study was .98.

### **Procedure**

Internal Review Board approval was obtained prior to recruitment and data collection. Participants were recruited in the Southeastern region of the United States using posted flyers from community organizations (e.g., community centers and religious institutions) and referrals by word of mouth (e.g., at hair salons, barbershops, churches).

Participants completed a paper and pencil battery of questionnaires that measured varying aspects related to experiences of discrimination and stress, mental health, personality, and suicide. Participants were compensated with \$20 for their participation.

## CHAPTER III

### Results

#### Preliminary Data Analysis

An a priori power analysis was conducted using G\*Power software to determine the sample size needed to detect a moderate to large effect (Faul et al., 2009). The analysis concluded that for a linear multiple regression model with 11 predictors (accounting for the interactions), an alpha of .05 and a power of .80, a sample size of 123 would be adequate to detect a moderate effect (Cohens  $f^2 = .15$ ).

The original sample consisted of 270 participants; however, 113 participants were removed for not completing the items measuring personality, along with 24 other participants who had at least  $\geq 50\%$  incomplete data on one of the measures. Therefore, the total sample was reduced to 133 participants, which is sufficient based on the aforementioned power analysis. Using a missing value analysis, 8.65 % of values were identified as missing. To estimate the pattern of missingness, Little's (1988) Missing Completely at Random (MCAR) test was conducted and revealed data was missing completely at random for three measures: BDI-II ( $\chi^2 = 149.414$ ,  $df = 184$ ,  $p = 0.97$ ), the IRRS-B ( $\chi^2 = 212.487$ ,  $df = 181$ ,  $p = 0.06$ ), and BHS ( $\chi^2 = 144.238$ ,  $df = 114$ ,  $p = 0.29$ ). However, the BAI ( $\chi^2 = 357.086$ ,  $df = 215$ ), ASIQ ( $\chi^2 = 880.987$ ,  $df = 348$ ), and NEO-FFI 3 ( $\chi^2 = 1655.336$ ,  $df = 1447$ ) were all missing not completely at random (all  $ps < .001$ ). Upon observing patterns of missingness, general health was controlled for with all outcome variables. Further, a multiple imputation method was used to replace the missing values. A total of five data sets were generated for the multiple imputation analysis. Data were analyzed using the Statistical Package for Social Sciences Version 25 (SPSS; IBM

Corp., 2017) and Mplus Version 8.5 (Muthén & Muthén, 2017). Of note, the Cronbach's alpha for the Openness to Experience subscale of the NEO-FFI 3 was in the unacceptable range (George & Mallery, 2003). Thus, the items on the Openness to Experience subscale are not reliable and it was omitted as a moderator.

The assumptions of a linear multiple regression were tested using SPSS. The data met the assumption requirements of normality upon visual inspection of scatterplots and partial regression plots. Likewise, the assumption of homoscedasticity was met as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values. As it pertains to multicollinearity, there were no correlations above 0.7 and the Tolerance values for all variables were greater than 0.1. Thus, multicollinearity was not observed in this dataset. Measured variables were screened for missing outliers using the Boxplot. Outliers were observed for three of the outcome variables in the data (anxiety, hopelessness, and suicidal ideation). There was a total of six outliers in the dataset, none of which were more than two standard deviations above the mean. These values likely reflected patterns of participant response, rather than error, thus the data were truncated (most extreme value replaced with the next reasonable value) to retain power while reducing the risk of potential bias (Costa, 2014; Maniruzzaman et al., 2018). Finally, the distribution of the data was examined using a cursory view of the Normal P-P Plot and histogram. Ranges for a normal curve are typically from -2 to 2 for skewness and -7 to 7 for kurtosis (Hair et al., 2010). Suicidal ideation, measured using the ASIQ, displayed positive skew and kurtosis (skewness 2.504; kurtosis = 8.67). These scores were transformed using a  $\ln(x+1)$  log transformation (Cao et al., 1999; Zhang et al., 2017;



Crisculo et al., 2019). The log transformation decreased the skewness (.398) and kurtosis (-1.525) allowing the distribution to become normal.

### **Correlations**

Means, standard deviations, and bivariate correlations for the outcome variables and covariates are shown in Tables 2 and 3. The means for outcome variables were as follows: anxiety ( $M = 32.72, SD = 10.05$ ), depression ( $M = 16.63, SD = 12.04$ ), hopelessness ( $M = 4.56, SD = 4.28$ ) and suicidal ideation ( $M = 10.70, SD = 16.67$ ). Of note, 97% ( $n = 129$ ) of the sample reported experiencing race-related stress. The means for the personality factors were as follows: Neuroticism ( $M = 35.42, SD = 9.10$ ), Openness to Experience ( $M = 37.62, SD = 4.38$ ), Extraversion ( $M = 39.38, SD = 7.43$ ), Agreeableness ( $M = 41.02, SD = 6.79$ ), Conscientiousness ( $M = 44.37, SD = 7.86$ ). The means split by gender are reported in Table 2.

As shown in Table 3, race-related stress was significantly related to anxiety ( $r = 0.26, p < 0.01$ ), depression ( $r = 0.33, p < .01$ ), and suicidal ideation ( $r = 0.36, p < .01$ ). There was not a significant correlation found between race-related stress and hopelessness ( $r = 0.18, p = .06$ ). General health was significantly related with all outcome variables ( $ps < .05$ ). Thus, it was established as a covariate and controlled for in our analyses.

**Table 2***Summary of Means and Standard Deviations*

	Total		Men		Women	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
ANX	32.72	10.05	33.66	11.26	31.92	9.03
DEP	16.63	12.04	15.28	12.66	17.58	10.86
HOP	4.56	4.28	3.99	3.92	4.93	4.54
SUI	10.71	16.66	11.38	20.80	10.67	13.08
NEUR	35.42	9.10	34.24	9.08	36.03	8.85
AGR	41.02	6.79	40.32	6.55	41.44	7.02
OPE	37.61	4.38	38.81	3.95	36.71	4.59
CON	44.37	7.86	44.68	8.57	43.86	7.16
EXT	39.38	7.43	41.04	7.07	38.36	7.40

*Note.* ANX = anxiety; DEP = depression; HOP = hopelessness; SUI = suicidal ideation;

NEUR = Neuroticism, AGR= Agreeableness, OPE = Openness to Experience, CON =

Conscientiousness, EXT = Extraversion.

**Table 3***Summary of Correlations for Covariates and Constructs*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. RRS	-												
2. ANX	.26**	-											
3. DEP	.33**	.62**	-										
4. HOP	.18	.42**	.65**	-									
5. SUI	.36**	.39**	.51**	.36**	-								
6. NEUR	.13	.51**	.61**	.56**	.44**	-							
7. AGR	-.09	-.34**	-.40**	-.48**	-.13	-.51**	-						
8. OPE	.04	.03	-.13	-.14	-.07	-.11	.02	-					
9. CON	-.03	-.29**	-.46**	-.46**	-.17	-.38**	.39**	.17	-				
10. EXT	-.04	-.35**	-.50**	-.54**	-.12	-.51**	.40**	.19*	.40**	-			
11. Age	.16	-.02	.07	.05	.08	-.04	.12	-.13	.01	-.05	-		
12. Gender	.00	-.09	.10	.11	.10	.10	.08	-.24*	-.05	-.18*	.15	-	
13. Health	.05	.30**	.45**	.48**	.24*	.28**	-.18*	-.19*	-.34**	-.42**	.30**	.23**	-

*Note.* RRS= race-related stress, ANX = anxiety, DEP = depression, HOP = hopelessness, SUI = suicidal ideation, NEUR = Neuroticism, AGR= Agreeableness, OPE = Openness to Experience, CON = Conscientiousness, EXT = Extraversion. Point-Biserial correlation was used for all correlations with gender (where 1 = female and 2 = male)

**\*\*** $p < 0.01$ . **\*** $p < .0$

## Linear Regressions

Hypothesis 1 posited that race-related stress would be positively associated with the outcome variables (e.g., depression, suicidal ideation, hopelessness, and anxiety). Race-related stress was positively associated with anxiety ( $\beta = .26$ ,  $SE = .34$ ,  $p < .01$ ), depression ( $\beta = .33$ ,  $SE = .42$ ,  $p < .01$ ), and suicidal ideation ( $\beta = .36$ ,  $SE = .05$ ,  $p < .001$ ). The race-related stress and hopelessness association trended towards significance ( $\beta = .18$ ,  $SE = .15$ ,  $p = .06$ ). These results are depicted in Table 4.

**Table 4**

*Summary of Linear Regression Model for Race-Related Stress and Anxiety, Depression, Hopelessness, and Suicidal Ideation*

Model ( $N = 133$ )	Outcome	B	SE	$\beta$	$p$	$R^2$
	BAI	.94	.34	.26	.01	.06
	BDI-II	1.48	.42	.33	.00	.11
	BHS	.28	.15	.18	.06	.03
	ASIQ	.20	.05	.36	.00	.13

*Note.* BAI= Beck Anxiety Inventory, BDI-II = Beck Depression Inventory-II, BHS = Beck Hopelessness Scale, and ASIQ = Adult Suicidal Ideation Questionnaire. General health was included as a covariate in all analyses.

## Moderated Moderation Analyses

To investigate hypotheses 2 and 3, which examined the moderating effects of personality and gender on the association between race-related stress and the study outcome variables, a moderated moderation model was conducted using linear multiple regression with Mplus. A bootstrap sampling method using 1,000 bootstrap draws was

used to test the proposed hypotheses (Efron & Tibshirani, 1993; Ekonomi, 2013; Fox, 2002; Fox & Weisberg, 2017).

The goodness of fit for the various models was analyzed using the fit indices provided through Mplus. The Chi-square ( $\chi^2$ ) goodness of fit test statistic is used to determine whether observed frequencies come from a specified distribution. As this statistic is sensitive to Type 1 error based on sample size, another method is dividing the  $\chi^2$  by the degrees of freedom (Schaap, 2019; Shi et al., 2018; Schumacker & Lomax, 1996). If this value is less than or equal to two, the model displays good fit. Other model fit indices assessed were the comparative fit index (CFI), Tucker-Lewis index (TLI), standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA). These indices were assessed using recommendations from previous literature (Burrows et al., 2020; Hu & Bentler, 1999; Peugh & Feldon, 2020; Shi et al., 2018; West et al., 2012). For the TLI and CFI values greater than or equal to 0.90 indicate good fit. Values less than or equal to 0.05 indicate good fit for RMSEA; however, values between 0.06 and 0.08 are considered acceptable. Finally, values less than or equal to 0.08 for SRMR indicate good fit. Overall, the models fit poorly with the data. However, some indices individually met acceptable levels of fit and had significant two- and three-way interactions. The specific results for each model are specified below.

### ***Suicidal Ideation***

All models for suicidal ideation fit poorly with the data. Indeed, there were some indices ( $\chi^2$  and SRMR) that reached acceptable levels of fit for the model with Neuroticism. However, as neither personality nor gender adequately moderated the association between race-related stress and suicidal ideation ( $ps > .05$ ), no further

analyses were explored for suicidal ideation. Specific model fit indices and regression coefficients can be found in Tables 5 and 6.

**Table 5**

*Model Fit Indices for the Suicidal Ideation Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
$\chi^2$	19.43	13.23	16.94	<b>9.41</b>
<i>df</i>	5	5	5	<b>5</b>
<i>p</i>	0.00	0.02	0.00	0.09
RMSEA	0.16	0.12	0.15	0.12
CFI	0.44	0.64	0.57	0.71
TLI	-0.34	0.13	-0.03	0.30
SRMR	0.10	0.09	0.10	<b>0.07</b>

*Note.* AGR= Agreeableness, CON = Conscientiousness, EXT = Extraversion, and NEUR = Neuroticism. Bolded values indicate acceptable fit indices.

**Table 6**

*Standardized Coefficients for Suicidal Ideation Model*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
HEALTH	0.00	0.01	0.01	0.00
GLORAC	0.21	0.29	0.50	0.59
NEUR	0.04	0.13	0.06	0.63
EXT	0.03	0.10	0.11	0.03
OPE	0.02	0.06	0.03	0.02
CON	0.03	0.04	0.05	0.03
AGR	-0.16	0.09	0.04	0.02
GENDER	0.10	0.12	0.07	-0.11
XW	-0.20	-0.38	-0.39	-0.09
XZ	0.14	0.05	-0.11	-0.45
WZ	0.03	-0.27	-0.21	-0.14
XWZ	0.11	0.43	-0.20	0.14

*Note.* GLORAC = Global Racism, NEUR = Neuroticism, EXT = Extraversion,

OPE = Openness to Experience, CON = Conscientiousness, AGR= Agreeableness,

X = Race-Related Stress, W = Personality, Z = Gender. None of the interactions were

significant at the  $p < .05$ ,  $p < .01$ , or  $p < .001$  levels.

### *Depression*

All models for depression fit poorly with the data. Indeed, there were some indices (CFI and SRMR) that reached acceptable levels of fit. Specific model fit indices and regression coefficients can be found in Tables 7 and 8. Additionally, with the exception of Neuroticism, none of these personality factors had a moderating effect on the association between race-related stress and depression. Although the overall model produced poor fit, given the moderating effect and significance of some fit indices, moderation and simple slope analyses were examined for depression. Neuroticism significantly moderated the association between race-related stress and depression ( $\beta = 0.55, p < .001$ ), such that as levels of Neuroticism increased, higher levels of race-related stress was associated with higher levels of depressive symptomology. Further, a significant three-way interaction was found between race-related stress, Neuroticism, and gender on depression ( $\beta = -0.45, p < .05$ ; see Figure 3). Simple slope tests revealed that for men with medium ( $B = 1.42, p < .01$ ) and high levels ( $B = 3.71, p < .001$ ) of Neuroticism, higher levels of race-related stress was associated with higher levels of depressive symptoms. The slopes at all other levels were not significant (all  $ps > .05$ ).



**Table 7***Fit Indices for the Depression Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
$\chi^2$	50.63	30.91	34.25	12.90
<i>df</i>	5	5	5	5
<i>p</i>	0.00	0.00	0.00	0.03
RMSEA	0.29	0.22	0.23	0.12
CFI	0.39	0.56	0.58	<b>0.90</b>
TLI	-0.46	-0.05	0.00	0.73
SRMR	0.18	0.15	0.14	<b>0.07</b>

*Note.* AGR= Agreeableness, CON = Conscientiousness, EXT = Extraversion, and NEUR

= Neuroticism. Bolded values indicate acceptable fit indices.

**Table 8***Standardized Coefficients for the Depression Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
HEALTH	-0.00	0.00	-0.00	-0.01
GLORAC	0.48	0.71	0.45	0.49
NEUR	-0.03	0.02	-0.03	0.57
EXT	-0.03	0.02	-0.85	-0.10
OPE	-0.02	0.01	-0.02	-0.06
CON	-0.03	-0.59	-0.03	-0.11
AGR	-0.49	0.02	-0.03	-0.09
GENDER	0.12	0.07	0.01	0.03
XW	-0.01	-0.12	0.02	0.55**
XZ	-0.20	-0.41	-0.17	-0.26
WZ	0.10	0.11	0.42	-0.16
XWZ	-0.11	0.09	-0.13	-0.45*

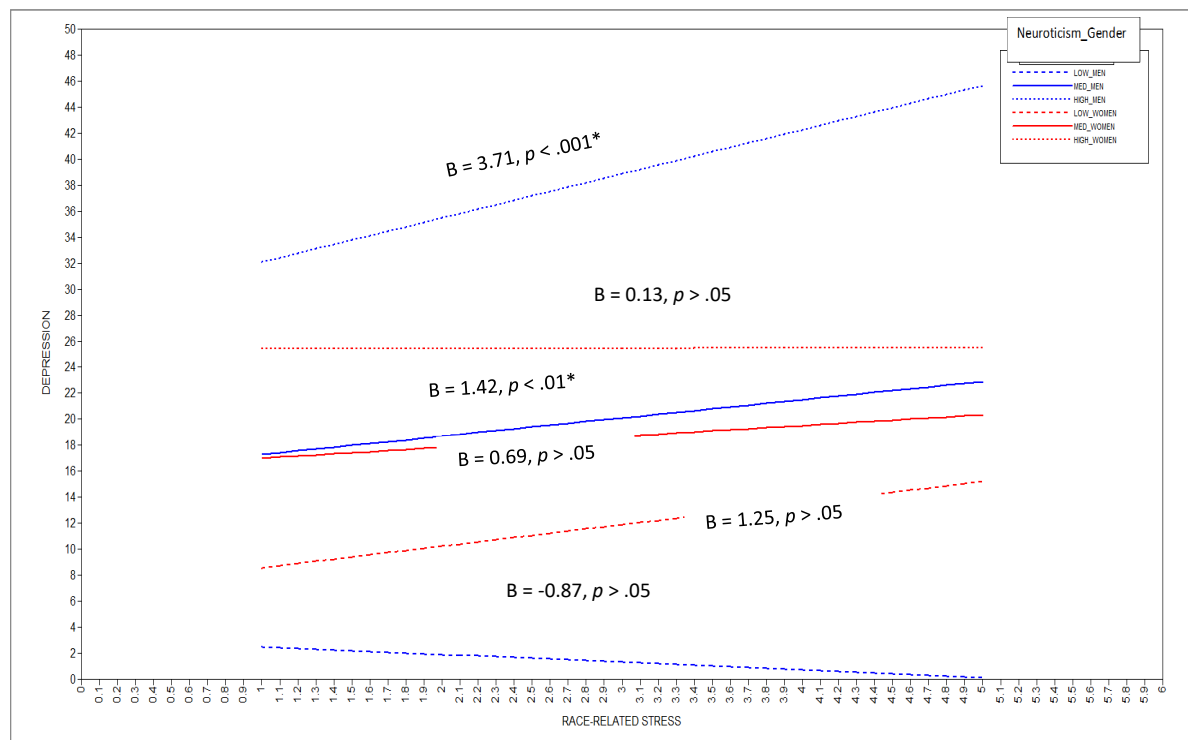
*Note.* GLORAC = Global Racism, NEUR = Neuroticism, EXT = Extraversion, OPE =

Openness to Experience, CON = Conscientiousness, AGR= Agreeableness, X = Race-

Related Stress, W = Personality, Z = Gender. \* $p < .01$ . \*\* $p < .001$ .

**Figure 3**

*Three-Way Interaction Between Gender, Neuroticism, and Race-Related Stress on Depression*



### *Anxiety*

All models for anxiety produced poor fit; however, SRMR reached acceptable levels of fit for Neuroticism. As neither personality nor gender adequately moderated the association between race-related stress and anxiety ( $ps > .05$ ), no further analyses were explored for anxiety. Specific model fit indices and regression coefficients can be found in Tables 9 and 10.

**Table 9***Fit Indices for the Anxiety Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
$\chi^2$	24.20	27.33	23.36	11.21
<i>df</i>	5	5	5	5
<i>p</i>	0.00	0.00	0.00	0.05
RMSEA	0.18	0.19	0.17	0.10
CFI	0.45	0.51	0.53	0.87
TLI	-0.31	-0.18	-0.13	0.68
SRMR	0.13	0.14	0.12	<b>0.06</b>

*Note.* AGR= Agreeableness, CON = Conscientiousness, EXT = Extraversion, and NEUR = Neuroticism. Bolded values indicate acceptable fit indices.

**Table 10***Standardized Coefficients for the Anxiety Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
HEALTH	0.00	0.01	0.00	-0.00
GLORAC	0.04	0.27	-0.08	-0.07
NEUR	0.01	0.07	0.02	0.77
EXT	0.01	0.05	-0.26	-0.02
OPE	0.01	0.03	0.01	-0.01
CON	0.01	-0.59	0.02	-0.02
AGR	-0.21	0.05	0.01	-0.02
GENDER	-0.06	-0.13	-0.15	-0.13
XW	-0.09	-0.34	-0.10	0.15
XZ	0.21	0.09	0.34	0.28
WZ	-0.12	0.24	-0.10	-0.30
XWZ	0.03	0.23	0.06	-0.09

*Note.* GLORAC = Global Racism, NEUR = Neuroticism, EXT = Extraversion,

OPE = Openness to Experience, CON = Conscientiousness, AGR= Agreeableness,

X = Race-Related Stress, W = Personality, Z = Gender.

None of the interactions were significant at the  $p < .05$ ,  $p < .01$ , or  $p < .001$  levels.

### *Hopelessness*

All models for hopelessness fit poorly with the data. Of note, SRMR reached acceptable levels of fit for Neuroticism. Specific model fit indices and regression coefficients can be found in Tables 11 and 12. Additionally, with the exception of Neuroticism, none of the personality factors had a moderating effect on the association between race-related stress and hopelessness. Although the overall model produced poor fit, given the moderating effect and significance of the SRMR fit index, moderation and simple slope analyses were examined for hopelessness. A significant two-way interaction was found for Neuroticism. Neuroticism significantly moderated the association between race-related stress and hopelessness ( $\beta = 0.60, p < .001$ ), such that for higher levels of Neuroticism, higher levels of race-related stress was associated with higher levels of hopelessness. Further, a significant three-way interaction was found for race-related stress, Neuroticism, and gender on hopelessness ( $\beta = -0.63, p < .001$ ; see Figure 5). Simple slope tests depicted a positive association between race-related stress and hopelessness for men high in Neuroticism ( $B = 0.90, p < .05$ ). There were no other significant slopes (all  $ps > .05$ ).

**Table 11***Fit Indices for the Hopelessness Models*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
$\chi^2$	33.19	41.84	31.75	18.57
<i>df</i>	5	5	5	5
<i>p</i>	0.00	0.00	0.00	0.00
RMSEA	0.21	0.24	0.21	0.15
CFI	0.52	0.45	0.58	0.79
TLI	-0.16	-0.32	-0.02	0.50
SRMR	0.15	0.17	0.13	<b>0.08</b>

*Note.* AGR= Agreeableness, CON = Conscientiousness, EXT = Extraversion, and NEUR = Neuroticism. Bolded values indicate acceptable fit indices.

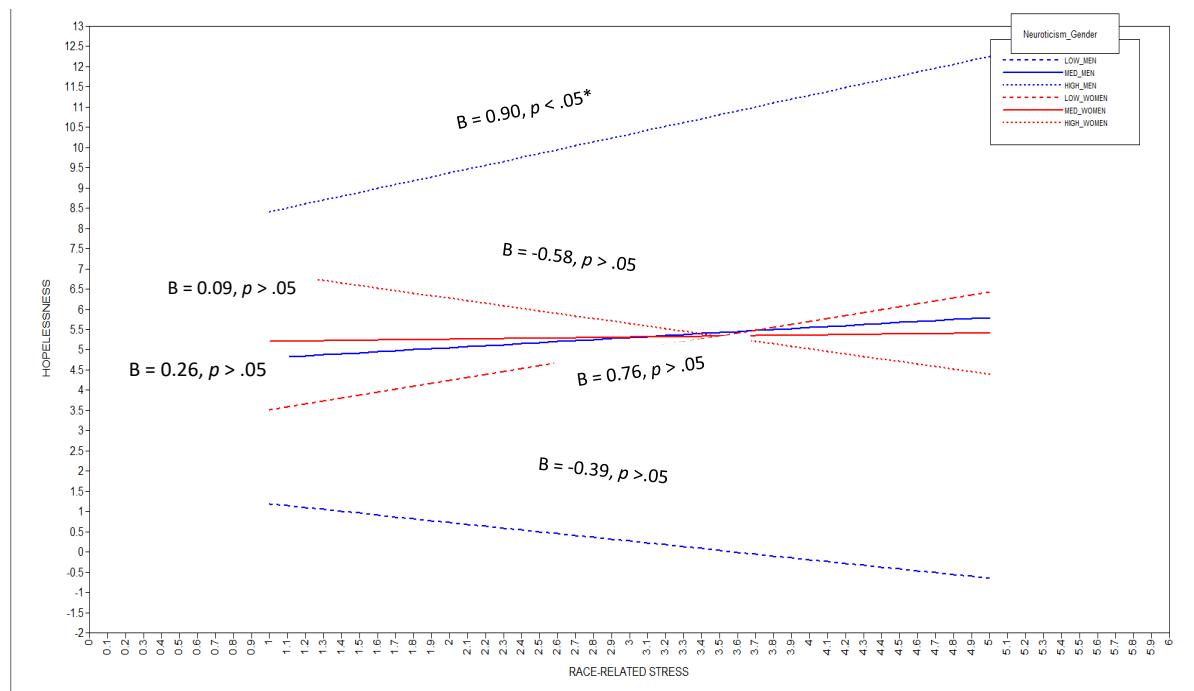
**Table 12***Standardized Coefficients for the Hopelessness Model*

	Model 1 (AGR)	Model 2 (CON)	Model 3 (EXT)	Model 4 (NEUR)
HEALTH	-0.0	0.01	-0.01	-0.02
GLORAC	0.30	0.28	0.18	0.27
NEUR	-0.02	0.04	-0.06	0.39
EXT	-0.02	0.03	-0.22	-0.13
OPE	-0.01	0.02	-0.03	-0.08
CON	-0.02	-0.14	-0.05	-0.14
AGR	-0.36	0.03	-0.04	-0.12
GENDER	0.14	0.11	0.03	0.052
XW	0.13	-0.11	0.12	0.60**
XZ	-0.19	-0.14	-0.03	-0.16
WZ	-0.15	-0.39	-0.30	-0.07
XWZ	-0.07	0.15	-0.21	-0.63**

*Note.* GLORAC = Global Racism, NEUR = Neuroticism, EXT = Extraversion, OPE = Openness to Experience, CON = Conscientiousness, AGR= Agreeableness, X = Race-Related Stress, W = Personality, Z = Gender. \* $p < .01$ . \*\* $p < .001$ .

**Figure 4**

*Three-Way Interaction Between Gender, Neuroticism, and Race-Related Stress on Hopelessness*



## CHAPTER IV

### Discussion

This study assessed the association between race-related stress and suicide as well as its correlates (i.e., depression, anxiety, hopelessness). Results showed that the majority (97%) of the sample experienced race-related stress, which is consistent with previous literature that Black/African Americans experience a disproportionate rate of race-related stress among all ethnic groups (Anderson & Stevenson, 2019; Arshanapally et al. 2018; Gibbons et al., 2004; Odafe et al., 2017). Regarding suicidal ideation, participants endorsed low to mild rates. Although these rates may be an accurate representation of suicide amongst this population, it may also be consistent with previous literature that state suicidal ideation is often underreported in this population due to religious beliefs, fear of stigma, and cultural values (Crosby & Molock, 2006; Morrison & Downey, 2000; Rockett et al., 2010; Wang et al., 2013). Previous research has found that suicidal ideation was significantly associated with race-related stress (Castle et al., 2011; Goodwill & Zhou, 2020), such that more race-related stress was related to more suicidal ideation, particularly for Black/African American women (Greer, 2011). The current study supported these previous findings as race-related stress was significantly associated with suicidal ideation. These results are integral in understanding the direct impact of a chronically experienced cultural stressor on Black/African Americans, as well as the potential for this stressor to increase risk for other psychological outcomes that are correlated with suicide (i.e., depression, anxiety, hopelessness).

In the current sample, scores for depression fell in the mild range. However, race-related stress was significantly associated with depression. These findings align with

previous research that has identified race-related stress as a significant risk factor for the onset of depression (Brown-Iannuzzi et al., 2013; Hill & Hoggard, 2018; Polanco-Roman & Miranda, 2013; Matthews et al., 2013; Schmitt et al., 2014; Walker et al., 2014).

Previous research suggests that race-related stress increases vulnerability to the onset of depression by increasing the allostatic load among Black/African Americans (Mays et al., 2007). Thus, there is a need for early interventions that are aimed at providing effective coping skills in the Black/African American community.

In line with the prevailing research, anxiety was found to be the most robust psychological outcome in the sample, with the mean score falling in the severe range. Black/African Americans are often diagnosed with anxiety disorders and experience frequent anxiety related to their subjectivity to racially stressful encounters (Graham et al., 2015). As expected, race-related stress was also significantly associated with anxiety. Previous research has found that anxiety is prevalent in the Black/African American community, and that it is positively associated with race-related stress (Ezzedine & Poyrazli, 2020; Neblett et al., 2016; Sosoo et al., 2019). Indeed, anxiety symptoms such as fixation, agitation, and hyperarousal are prominent risk factors for suicide outcomes (Bentley et al., 2016). These findings imply that the worry associated with experiences of race-related stress is a particularly salient factor for Black/African Americans.

Hopelessness, in this sample, fell in the mild range, which contradicts previous research (Durant et al., 2006; Odafe et al., 2017; Salami et al., 2017) that contends Black/African Americans experience higher rates of hopelessness. Additionally, results indicated that race-related stress was not significantly associated with hopelessness, which conflicts with previous research (Durant et al., 2006; Odafe et al., 2017; Salami et



al., 2017) that provides support for the relation between race-related stress and hopelessness, particularly in the Black/African American community (Durant et al., 2006; Mitchell et al., 2020; Odafe et al., 2017; Salami et al., 2017). An explanation for this discrepancy could be attributed to methodological limitations, such as limited number of completed surveys for hopelessness. Of note, our findings trended towards significance which may imply a subset of the population may be experiencing distress from race-related stress on hopelessness, but more research is needed in this area. Taken altogether, these findings bolster the current research that Black/African Americans experience deleterious psychological consequences in response to race-related stress.

The findings with respect to the moderating effect of personality and gender produced mixed results. Contrary to our hypothesis, there were no significant moderating effects found for any of the personality factors or gender for suicidal ideation. Yet, previous literature identifies Neuroticism as a risk factor and Extraversion as a protective factor for suicidal ideation (Brezo et al., 2006; Hills & Francis, 2005; Huebner et al., 2005; McCann, 2010; Voracek, 2009). However, much of this research was conducted on White/European American populations. It is possible that the association between personality and suicidal ideation may differ among Black/African Americans. Additionally, it is possible that there are stronger associations on the facet level rather than domain level of the Big five personality factors among Black/African Americans. Future research should investigate these association by examining personality on the facet level. In addition to the lack of significant findings for personality, gender did not moderate the association between race-related stress and suicidal ideation. Previous literature does not align with these findings, as research has consistently identified gender

differences in relation to suicidal ideation, such that women are more likely to have higher rates than men (Carr et al., 2012; Joe et al., 2008; Wadsworth et al., 2014; Walker et al., 2014; Woods et al., 2013). The fact that participants in this study generally reported lower rates of suicidal ideation may have influenced the strength of this association.

For anxiety, no significant interactions were found for personality or gender. It is possible that there are not significant differences in gender when it comes to anxiety in this population, or that the degree and type of anxiety was not adequately captured to depict a strong enough moderation. Nonetheless, there is a dearth of research on the relation between personality and anxiety, as well as the moderating effect of personality on the association between race-related stress and anxiety. These findings suggest more research is needed to understand the extent of the impact of personality factors on anxiety, specifically among Black/African American populations.

For depression and hopelessness, there were significant two-way interaction effects found for Neuroticism. Consistent with our hypotheses, among those with higher levels of Neuroticism, higher levels of race-related stress was associated with higher levels of depression and hopelessness. These findings support the literature on the impact of negative emotionality on our response to stress, and the importance of considering negative affect as a risk factor in future research (Clark et al., 2019; Cutrona et al., 2005; Huebner et al., 2005; Leger et al., 2017). Likewise, these findings expand on the literature that identifies Neuroticism as the strongest predictor among the personality factors for adverse psychological outcomes (Chioqueta & Stiles, 2005; Deshong et al., 2015). In regard to gender differences for depression and hopelessness there were mixed results. Of

note, the average score for both men and women fell in the mild range for both depression and hopelessness indicating rates of these disorders may not be as high as previously presumed. An alternative explanation could be that these assessments did not adequately capture the expression of either disorder leading to lower scores. Neuroticism corresponded with expected levels of depression and hopelessness, such that those with lower levels of Neuroticism reported lower levels of depression and hopelessness and those with higher levels of Neuroticism reported higher levels of depression and hopelessness. However, the influence of race-related stress on depression and hopelessness was only significant at higher levels of Neuroticism. Unlike what was found for men, the impact of race-related stress on depression and hopelessness was not influenced by neuroticism among women. Women generally remained in the mild-moderate range for hopelessness and depression even when rates of race-related stress increased.

These results suggest higher levels of Neuroticism for men are related to worse psychological outcomes. However, the same pattern was not found for women indicating there might be gender differences for these psychological outcomes. One explanation for this finding relates to potential differences in coping. Men with higher levels of Neuroticism may be unable to communicate their emotions or seek external support (James, 2010). Thus, they may be more prone to cope individually and internalize race-related stress experiences, increasing their rates of depression and hopelessness (Hill & Hoggard, 2018; Leandro & Castillo, 2010; Leger et al., 2016). In general, Black/African American women are more likely to experience more hardships than any other ethnic group resulting in more negative psychological outcomes (Hall et al., 2012; Hall, 2018;

Moody & Lewis, 2019; Perry et al., 2013). However, Black/African American women, relative to men, may be afforded other means of coping with stress (e.g., religion, social support, detachment) that can minimize the impact of trait-based negative emotionality negative psychological outcomes (Cernis et al., 2020; Clark et al., 2019; Douglas, 2004; James, 2010; Neblett et al., 2016; Scioli-Salter, 2016; Sonnentag et al., 2010). Indeed, bolstering this explanation, studies looking at coping differences between African American men and women have found that women are more apt to seek out social support through friendships, family, and religious organizations (Clark et al., 2019; Douglas, 2004; James, 2010; Jones et al. 2007; Neblett et al., 2016; Thomas & King, 2007).

Another, yet related explanation for the gender differences found in this study, might be differences in socialization practices between men and women. Research describes the importance of racial socialization for Black/African Americans (Anderson & Stevenson, 2019; Burt et al., 2017; Butler-Barnes et al., 2018; Fischer & Shaw, 1999; Harris-Britt et al., 2007; Neblett et al., 2009). According to Fischer and Shaw (1999), racial socialization involves parents communicating messages to their children about the unique Black/African experience (e.g., racism, Afrocentricity, oppression). In their study of Black/African Americans, Fischer and Shaw (1999) found that racial socialization moderated the association between experiences of discrimination and psychological health outcomes. At the same time, research has identified gender differences in the racial socialization process that has significant effects on psychological health as well as coping (Brown et al., 2017; Thomas & King, 2007). Thomas and King (2007) explained Black/African American women are more likely to receive messages about strength,

independence, self-determination, and assertiveness; whereas men are more likely to receive messages about racial barriers. The emphasis on strength often leads women to endorse the “Strong Black Woman” archetype, which is a construct used to describe a type of coping (Watson-singleton, 2017). Of note, “Strong Black Woman” archetype may be associated with negative outcomes such as higher rates of substance use, depression, and poor physical health. (Geyton et al., 2020; Stanton et al., 2017; Watson-Singleton, 2017; Woods-Giscombé 2010). For Black/African American men, as they become more aware of racial stereotypes and oppression, they may become more hyperaware of these situations. This is consistent with previous research that has outlined “race-related vigilance,” the stress derived from the propensity to anticipate future discriminatory situations, as a risk factor for negative psychological outcomes (Hill & Hoggard, 2018; Watson-Singleton et al., 2019). Black/African American men who are high in Neuroticism are more likely to be vulnerable to this hypervigilance, perhaps impacting their levels of depression and hopelessness.

### **Limitations and Future Directions**

Though this study provided novel findings in an understudied population, there were some limitations. First, this study relied solely on self-report measures, which research has shown can be biased due to cultural beliefs about disclosing mental health issues. Future research should consider using a multimodal method approach to minimize the potential for biases and mental health stigma impacting self-report. Second, personality was measured using the NEO-FFI 3, which has been shown to have some inconsistent results for Openness to Experience in the general population. However, there is limited research on the extent of the strength of Openness to Experience in

Black/African Americans. In the current study, Openness to Experience and Agreeableness had the lowest Cronbach's alpha of all the factors, suggesting these factors are not being adequately captured in this sample. Of note, Openness to Experience was removed as a moderator as it fell in an unacceptable range. Future research should use different personality models to assess the applicability of various personality traits in the Black/African American population. Fourth, and arguable the most significant limitation of the present study, the overall model for each outcome variable produced poor fit with the data. Previous literature states that there are many reasons why a model might not fit adequately with the data, mainly that there are likely other variables that need to be controlled for or removed from the model, or another model that may be better suited to fit the data (Rappaport et al., 2020; Shi et al., 2018; Hosmer et al., 1997). Nonetheless, the interaction effects found in the current study imply that there might be some important associations between the variables in question. However, interpreting these effects with any degree of certainty would be problematic as the overall models fit poorly. Future research should investigate the most reliable parameters for the model fit indices, as well as examine potential variables that increase or decrease model fit. Further, future research should assess other potential pathways between personality and psychopathology. Finally, the data was collected in the Southern region of the United States where there is a unique subculture of the Black/African American community. A subculture with their own values, ideals, and customs. This likely influenced the statistical significance of the relationship between race-related stress and the outcome variables. Future research should try to collect a larger and more diverse sample in order

to make the results more generalizable and inclusive of the entire Black/African American community.

### **Conclusion**

Race-related stress is a salient source of distress in the Black/African American community. Results from this study indicated that race-related stress is associated with various psychological outcomes, including depression, anxiety, and suicidal ideation. Additionally, personality traits, specifically Neuroticism was shown to influence the effects of race-related stress on numerous psychological outcomes (i.e., depression, hopelessness). In addition, these associations differed as a function of gender at various levels of Neuroticism, with men having more significant interactions between race-related stress and the psychological outcomes mainly at high levels of Neuroticism. These findings are important when establishing culturally competent interventions that alleviate stressors experienced on the individual and group levels. It is pertinent to understand the unique impact of stressors relating to race/ethnicity as well as gender to identify relevant treatments. Understanding the presentation of specific personality traits is pertinent in creating effective treatments as well as assessments for psychological outcomes, particularly for a marginalized and underserved population.

## REFERENCES

- Allen, T. A., Carey, B. E., McBride, C., Bagby, R. M., DeYoung, C. G., & Quilty, L. C. (2017). Big Five aspects of personality interact to predict depression. *Journal of Personality, 86*(4), 714–725. <https://doi.org/10.1111/jopy.12352>
- Anderson, R. E., & Stevenson, H. C. (2019). RECASTing racial stress and trauma: Theorizing the healing potential of racial socialization in families. *American Psychologist, 74*(1), 63-75. <http://dx.doi.org/10.1037/amp0000392>
- Anxiety and Depression Association of America. ADAA. (2020, June 4). Mental Health Resources for the Black Community. <https://adaa.org/findinghelp/blackcommunitymentalhealth>
- Arshanapally, S., Werner, K. B., Sartor, C. E., & Bucholz, K. K. (2018). The Association between racial discrimination and suicidality among African-American adolescents and young adults. *Archives of Suicide Research, 22*(4), 584–595. <https://doi.org/10.1080/13811118.2017.1387207>
- Afshar, H., Roohafza, H. R., Keshteli, A. H., Mazaheri, M., Feizi, A., & Adibi, P. (2015). The association of personality traits and coping styles according to stress level. *Journal of research in medical sciences : The official journal of Isfahan University of Medical Sciences, 20*(4), 353–358.
- Assari, S., Moghani Lankarani, M., & Caldwell, C. (2017). Discrimination increases suicidal ideation in black adolescents regardless of ethnicity and gender. *Behavioral Sciences, 7*(4), 75. <https://doi.org/10.3390/bs7040075>



- Bailey, R., Mokonogho, J., & Kumar, A. (2019). Racial and ethnic differences in depression: Current perspectives. *Neuropsychiatric Disease and Treatment, Volume 15*, 603–609. <https://doi.org/10.2147/ndt.s128584>
- Beck A.T. (1988). *Beck Hopelessness Scale*. San Antonio, TX: The Psychological Corporation.
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893–897. <https://doi.org/10.1037/0022-006x.56.6.893>
- Beck A.T., & Steer R.A. (1993). *Manual for the Beck Hopelessness Scale*. San Antonio, TX: Psychological Corporation.
- Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Bentley, K. H., Franklin, J. C., Ribeiro, J. D., Kleiman, E. M., Fox, K. R., & Nock, M. K. (2016). Anxiety and its disorders as risk factors for suicidal thoughts and behaviors: A meta-analytic review. *Clinical Psychology Review, 43*, 30–46. <https://doi.org/10.1016/j.cpr.2015.11.008>
- Blüml, V., Kapusta, N. D., Doering, S., Brähler, E., Wagner, B., & Kersting, A. (2013). Personality factors and suicide risk in a representative sample of the German general population. *PLoS ONE, 8*(10), e76646. <https://doi.org/10.1371/journal.pone.0076646>
- Bolton, J. M., Cox, B. J., Afifi, T. O., Enns, M. W., Bienvenu, O. J., & Sareen, J. (2008). Anxiety disorders and risk for suicide attempts: findings from the Baltimore

- Epidemiologic Catchment area follow-up study. *Depression and Anxiety*, 25(6), 477–481. <https://doi.org/10.1002/da.20314>
- Bookman, E. B., Taylor, R. E., Adams-Campbell, L., & Kittles, R. A. (2002). DRD4 promoter SNPs and gender effects on extraversion in African Americans. *Molecular Psychiatry*, 7(7), 786–789. <https://doi.org/10.1038/sj.mp.4001075>
- Brezo, J., Paris, J., & Turecki, G. (2006). Personality traits as correlates of suicidal ideation, suicide attempts, and suicide completions: a systematic review. *Acta Psychiatrica Scandinavica*, 113(3), 180–206. <https://doi.org/10.1111/j.1600-0447.2005.00702.x>
- Britt-Spells, A. M., Slebodnik, M., Sands, L. P., & Rollock, D. (2018). Effects of perceived discrimination on depressive symptoms among black men residing in the United States: A Meta-Analysis. *American Journal of Men's Health*, 12(1), 52–63. <https://doi.org/10.1177/1557988315624509>
- Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 32:513–531. <https://doi.org/10.1037/0003-066X.32.7.513>.
- Brown-Iannuzzi, J. L., Adair, K. C., Payne, B. K., Richman, L. S., & Fredrickson, B. L. (2014). Discrimination hurts, but mindfulness may help: Trait mindfulness moderates the relationship between perceived discrimination and depressive symptoms. *Personality and Individual Differences*, 56, 201–205. <https://doi.org/10.1016/j.paid.2013.09.015>

- Burford, T. I. (2009). *Structural racism, cardiovascular activity, and affect: The role of rumination and personality*. (Publication No. 10183980) [Doctoral dissertation, Howard University]. ProQuest Dissertations Publishing.
- Burrows, C., Dallery, J., Kim, S. J., & Raiff, B. R. (2020). Validity of a functional assessment for smoking treatment recommendations questionnaire. *The Psychological Record*, 70(2), 215–226. <https://doi.org/10.1007/s40732-020-00375-5>
- Callanan, V. J., & Davis, M. S. (2011). Gender differences in suicide methods. *Social Psychiatry and Psychiatric Epidemiology*, 47(6), 857–869. <https://doi.org/10.1007/s00127-011-0393-5>
- Cao, Y., Williams, D. D., & Williams, N. E. (1999). Data transformation and standardization in the multivariate analysis of river water quality. *Ecological Applications*, 9(2), 669–677. [https://doi.org/10.1890/1051-0761\(1999\)009](https://doi.org/10.1890/1051-0761(1999)009)
- Carr, E. R., Woods, A. M., Vahabzadeh, A., Sutton, C., Wittenauer, J., & Kaslow, N. J. (2012). PTSD, depressive symptoms, and suicidal ideation in African American women: A mediated model. *Journal of Clinical Psychology in Medical Settings*, 20(1), 37–45. <https://doi.org/10.1007/s10880-012-9316-1>
- Castle, K., Conner, K., Kaukeinen, K., & Tu, X. (2011). Perceived racism, discrimination, and acculturation in suicidal ideation and suicide attempts among black young adults. *Suicide and Life-Threatening Behavior*, 41(3), 342–351. <https://doi.org/10.1111/j.1943-278x.2011.00033.x>
- Černis, E., Evans, R., Ehlers, A., & Freeman, D. (2021). Dissociation in relation to other mental health conditions: An exploration using network analysis. *Journal of*

*Psychiatric Research*, 136, 460–467.

<https://doi.org/10.1016/j.jpsychires.2020.08.023>

Centers for Disease Control and Prevention. (2018). *Summary Health Statistics: National Health Interview Survey: 2017*. U.S. Department of Health and Human Services Office of Minority Mental Health. <https://www.cdc.gov/nchs/nhis/shs/tables.htm>

Chapman, L. K., & Woodruff-Borden, J. (2009). The impact of family functioning on anxiety symptoms in African American and European American young adults. *Personality and Individual Differences*, 47(6), 583–589.

<https://doi.org/10.1016/j.paid.2009.05.012>

Cheref, S., Lane, R., Polanco-Roman, L., Gadol, E., & Miranda, R. (2015). Suicidal ideation among racial/ethnic minorities: Moderating effects of rumination and depressive symptoms. *Cultural Diversity and Ethnic Minority Psychology*, 21(1), 31–40. <https://doi.org/10.1037/a0037139>

Chioqueta, A. P., & Stiles, T. C. (2005). Personality traits and the development of depression, hopelessness, and suicide ideation. *Personality and Individual Differences*, 38(6), 1283–1291. <https://doi.org/10.1016/j.paid.2004.08.010>

Chu, J. P., Goldblum, P., Floyd, R., & Bongar, B. (2010). The cultural theory and model of suicide. *Applied and Preventive Psychology*, 14(1–4), 25–40. <https://doi.org/10.1016/j.appsy.2011.11.001>

Chu, J., Maruyama, B., Batchelder, H., Goldblum, P., Bongar, B., & Wickham, R. E. (2020). Cultural pathways for suicidal ideation and behaviors. *Cultural Diversity and Ethnic Minority Psychology*, 26(3), 367–377. <https://doi.org/10.1037/cdp0000307>

- 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), 805–816. <https://doi.org/10.1037/0003-066x.54.10.805>
- Clark, E. M., Holt, C. L., Wang, M. Q., Williams, B. R., & Schulz, E. (2017). Which personality traits moderate the relationship between religious capital and depressive symptomology in a national sample of African Americans? *Journal of Black Psychology*, *43*(5), 517–537. <https://doi.org/10.1177/0095798416654835>
- Clark, E. M., Williams, R. M., Park, C. L., Schulz, E., Williams, B. R., & Knott, C. L. (2019). Explaining the relationship between personality and health in a national sample of African Americans: The mediating role of social support. *Journal of Black Psychology*, *45*(5), 339–375. <https://doi.org/10.1177/0095798419873529>
- Compton, M. T., Thompson, N. J., & Kaslow, N. J. (2005). Social environment factors associated with suicide attempt among low-income African Americans: The protective role of family relationships and social support. *Social Psychiatry and Psychiatric Epidemiology*, *40*(3), 175-185
- Contreras, S., Fernandez, S., Malcarne, V. L., Ingram, R. E., & Vaccarino, V. R. (2004). Reliability and validity of the Beck depression and anxiety inventories in Caucasian Americans and Latinos. *Hispanic Journal of Behavioral Sciences*, *26*(4), 446–462. <https://doi.org/10.1177/0739986304269164>
- Costa, P.J. (2014) Truncated Outlier Filtering, *Journal of Biopharmaceutical Statistics*, *24* (5), 1115-1129, <https://doi.org/10.1080/10543406.2014.926366>

- Costa, P. T., & McCrae, R. R. (1990). Personality disorders and the five-factor model of personality. *Journal of Personality Disorders, 4*(4), 362–371.  
<https://doi.org/10.1521/pedi.1990.4.4.362>
- Costa, P. T., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources.
- Cramer, R. J., & Kapusta, N. D. (2017). A social-ecological framework of theory, assessment, and prevention of suicide. *Frontiers in Psychology, 8*, 1–10.  
<https://doi.org/10.3389/fpsyg.2017.01756>
- Criscuolo, C., Martin, R., Overman, H. G., & Van Reenen, J. (2019). Some causal effects of an industrial policy, *American Economic Review, 109*, 48–85.
- Crosby, A. E., & Molock, S. D. (2006). Introduction: Suicidal behaviors in the African American community. *Journal of Black Psychology, 32*(3), 253–261.  
<https://doi.org/10.1177/0095798406290552>
- Cruz, D., & Palmer, L. (2015). A quasi-experimental analysis of race-related stress and physical health disorders in ethnic minority adults. *Journal of Behavioral and Neuroscience Research, 12*(2), 32–39.
- Cukrowicz, K. C., Schlegel, E. F., Smith, P. N., Jacobs, M. P., Van Orden, K. A., Paukert, A. L., Pettit, J. W., & Joiner, T. E. (2011). Suicide ideation among college students evidencing subclinical depression. *Journal of American College Health, 59*(7), 575–581. <https://doi.org/10.1080/07448481.2010.483710>
- Cutrona, C. E., Russell, D. W., Brown, P. A., Clark, L. A., Hessling, R. M., & Gardner, K. A. (2005). Neighborhood context, personality, and stressful life events as

predictors of depression among African American women. *Journal of Abnormal Psychology*, 114(1), 3–15. <https://doi.org/10.1037/0021-843x.114.1.3>

Davidson, C. L., & Wingate, L. R. (2011). Racial disparities in risk and protective factors for suicide. *Journal of Black Psychology*, 37(4), 499–516.  
<https://doi.org/10.1177/0095798410397543>

Davidson, C. L., Wingate, L. R., Grant, D. M., Judah, M. R., & Mills, A. C. (2011). Interpersonal suicide risk and ideation: The influence of depression and social anxiety. *Journal of Social and Clinical Psychology*, 30(8), 842–855.  
<https://doi.org/10.1521/jscp.2011.30.8.842>

DeShong, H. L., Tucker, R. P., O’Keefe, V. M., Mullins-Sweatt, S. N., & Wingate, L. R. (2015). Five factor model traits as a predictor of suicide ideation and interpersonal suicide risk in a college sample. *Psychiatry Research*, 226(1), 217–223.  
<https://doi.org/10.1016/j.psychres.2015.01.002>

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41(1), 417–440.  
<https://doi.org/10.1146/annurev.ps.41.020190.002221>

Douglas, T. I. (2004). *An examination of ethnic differences and race-related stress*. (Publication No. 3156386) [Doctoral dissertation, University of Connecticut]. ProQuest Dissertations Publishing.

Draper, B., Kõlves, K., De Leo, D., & Snowden, J. (2013). A controlled study of suicide in middle-aged and older people: Personality traits, age, and psychiatric disorders. *Suicide and Life-Threatening Behavior*, 44(2), 130–138.  
<https://doi.org/10.1111/sltb.12053>

- Duberstein, P. R. (1995). Openness to experience and completed suicide across the second half of life. *International Psychogeriatrics*, 7(2), 183–198.  
<https://doi.org/10.1017/s1041610295001967>
- Durant, T., Mercy, J., Kresnow, M., Simon, T., Potter, L., & Hammond, W. R. (2006). Racial differences in hopelessness as a risk factor for a nearly lethal suicide attempt. *Journal of Black Psychology*, 32(3), 285–302.  
<https://doi.org/10.1177/0095798406290468>
- Eaton, N. R., Keyes, K. M., Krueger, R. F., Balsis, S., Skodol, A. E., Markon, K. E., Grant, B. F., & Hasin, D. S. (2012). An invariant dimensional liability model of gender differences in mental disorder prevalence: Evidence from a national sample. *Journal of Abnormal Psychology*, 121(1), 282–288.  
<https://doi.org/10.1037/a0024780>
- Efron, B., & Tibshirani, R. J. (1993). *An introduction to the bootstrap* (Chapman & Hall/CRC Monographs on Statistics and Applied Probability) (1st ed.). Chapman and Hall/CRC.
- Ekonomi, L. (2013). Efficient bootstrap simulation in linear regression. *Instituto Superior de Comunicação e Imagem*, 117–121.
- Ezzedine, L., & Poyrazli, S. (2020). Perceived ethnic discrimination, race-related stress, and coping styles. *International Journal of Educational Research Open*, 1, 100017. <https://doi.org/10.1016/j.ijedro.2020.100017>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G\*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149–1160.



- Florez, I. A., Allbaugh, L. J., Harris, C. E., Schwartz, A. C., & Kaslow, N. J. (2017). Suicidal ideation and hopelessness in PTSD: Spiritual well-being mediates outcomes over time. *Anxiety, Stress, & Coping, 31*(1), 46–58. <https://doi.org/10.1080/10615806.2017.1369260>
- Foldes, H. J., Duehr, E., & Ones, D. (2008). Group differences in personality: Meta-analyses comparing five U.S. racial groups. *Personnel Psychology, 61*(3), 579–616. <https://doi.org/10.1111/j.1744-6570.2008.00123.x>
- Fox, J. (2002). *An R and S-PLUS companion to applied regression*. Sage, Thousand Oaks, CA, second edition.
- Fox, J. & Weisberg, S. (2011). *An R companion to applied regression*. Sage, Thousand Oaks, CA, second edition.
- Franco, M., & O'Brien, K. M. (2020). Taking racism to heart: Race-Related stressors and cardiovascular reactivity for multiracial people. *Journal of Multicultural Counseling and Development, 48*(2), 83–94. <https://doi.org/10.1002/jmcd.12167>
- Franklin, A. J., Boyd-Franklin, N., & Kelly, S. (2006). Racism and invisibility. *Journal of Emotional Abuse, 6*(2–3), 9–30. [https://doi.org/10.1300/j135v06n02\\_02](https://doi.org/10.1300/j135v06n02_02)
- Franklin-Jackson, D., & Carter, R. T. (2007). The relationships between race-related stress, racial identity, and mental health for Black Americans. *Journal of Black Psychology, 33*(1), 5–26. <https://doi.org/10.1177/0095798406295092>
- Freeman, A., Mergl, R., Kohls, E., Székely, A., Gusmao, R., Arensman, E., Koburger, N., Hegerl, U., & Rummel-Kluge, C. (2017). A cross-national study on gender

differences in suicide intent. *BMC Psychiatry*, 17(1), 1–11.

<https://doi.org/10.1186/s12888-017-1398-8>

Fuller-Rowell, T. E., Nichols, O. I., Burrow, A. L., Ong, A. D., Chae, D. H., & El-Sheikh, M. (2021). Day-to-day fluctuations in experiences of discrimination: Associations with sleep and the moderating role of internalized racism among African American college students. *Cultural Diversity and Ethnic Minority Psychology*, 27(1), 107–117. <https://doi.org/10.1037/cdp0000342>

Fydrich, T., Dowdall, D., & Chambless, D. L. (1992). Reliability and validity of the beck anxiety inventory. *Journal of Anxiety Disorders*, 6(1), 55–61.

[https://doi.org/10.1016/0887-6185\(92\)90026-4](https://doi.org/10.1016/0887-6185(92)90026-4)

Gary, F. A., & Yarandi, H. N. (2004). Depression among southern rural African American women: A factor analysis of the Beck Depression Inventory II. *Nursing Research*, 53(4), 251–259. <https://doi.org/10.1097/00006199-200407000-00008>

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), 517–529. <https://doi.org/10.1037/0022-3514.86.4.517>

Goodwill, J. R., & Zhou, S. (2020). Association between perceived public stigma and suicidal behaviors among college students of color in the U.S. *Journal of Affective Disorders*, 262, 1–7. <https://doi.org/10.1016/j.jad.2019.10.019>

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), 1465–1476.

<https://doi.org/10.1007/s10964-011-9688-9>

Graham, J. R., Calloway, A., & Roemer, L. (2015). The buffering effects of emotion regulation in the relationship between experiences of racism and anxiety in a Black American sample. *Cognitive Therapy and Research*, 39(5), 553–563.

<https://doi.org/10.1007/s10608-015-9682-8>

Greer, T. M., Laseter, A., & Asiamah, D. (2009). Gender as a moderator of the relation between race-related stress and mental health symptoms for African Americans.

*Psychology of Women Quarterly*, 33(3), 295–307. <https://doi.org/10.1111/j.1471-6402.2009.01502.x>

Grice, J. W. (2016, December 5). *Five-factor model of personality psychology*.

Encyclopedia Britannica. <https://www.britannica.com/science/five-factor-model-of-personality>

Gunthert, K. C., Cohen, L. H., & Armeli, S. (1999). The role of neuroticism in daily stress and coping. *Journal of Personality and Social Psychology*, 77(5), 1087–

1100. <https://doi.org/10.1037/0022-3514.77.5.1087>

Hunter, E. A., Spears, E. C., Martz, C. D., Chung, K., Fuller-Rowell, T. E., Lim, S. S., Drenkard, C., & Chae, D. H. (2020). Racism-related stress and psychological distress: Black women’s experiences living with lupus study. *Journal of Health*

*Psychology*, 135910532091308. <https://doi.org/10.1177/1359105320913085>

Hair, J., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, New Jersey: Pearson Educational International

- Hill, L. K., & Hoggard, L. S. (2018). Active coping moderates associations among race-related stress, rumination, and depressive symptoms in emerging adult African American women. *Development and Psychopathology*, *30*(5), 1817–1835. <https://doi.org/10.1017/s0954579418001268>
- Hirsch, J. K., Visser, P. L., Chang, E. C., & Jeglic, E. L. (2012). Race and ethnic differences in hope and hopelessness as moderators of the association between depressive symptoms and suicidal behavior. *Journal of American College Health*, *60*(2), 115–125. <https://doi.org/10.1080/07448481.2011.567402>
- Hirsch, J. K., Rabon, J. K., Reynolds, E. E., Barton, A. L., & Chang, E. C. (2017). Perceived stress and suicidal behaviors in college students: Conditional indirect effects of depressive symptoms and mental health stigma. *Stigma and Health*, *4*(1), 98–106. <https://doi.org/10.1037/sah0000125>
- Hoggard, L. S., Powell, W., Upton, R., Seaton, E., & Neblett, E. W. (2019). Racial discrimination, personal growth initiative, and African American men's depressive symptomatology: A moderated mediation model. *Cultural Diversity and Ethnic Minority Psychology*, *25*(4), 472–482. <https://doi.org/10.1037/cdp0000264>
- Hollingsworth, D. W., Cole, A. B., O'Keefe, V. M., Tucker, R. P., Story, C. R., & Wingate, L. R. (2017). Experiencing racial microaggressions influences suicide ideation through perceived burdensomeness in African Americans. *Journal of Counseling Psychology*, *64*(1), 104–111. <https://doi.org/10.1037/cou0000177>

- Hosmer, D. W., Hosmer, T., Le Cessie, S., & Lemeshow, S. (1997). A comparison of goodness of fit tests for the logistic regression model. *Statistics in Medicine*, *16*(9), 965–980. [https://doi.org/10.1002/\(sici\)1097-0258\(19970515\)16\(9\), 965-980](https://doi.org/10.1002/(sici)1097-0258(19970515)16(9), 965-980)
- Hough, L. M., Oswald, F. L., & Ployhart, R. E. (2001). Determinants, detection and amelioration of adverse impact in personnel selection procedures: Issues, evidence and lessons learned. *International Journal of Selection and Assessment*, *9*(1 & 2), 152–194. <https://doi.org/10.1111/1468-2389.00171>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55. <http://dx.doi.org/10.1080/10705519909540118>
- Huebner, D. M., Nemeroff, C. J., & Davis, M. C. (2005). Do hostility and neuroticism confound associations between perceived discrimination and depressive symptoms? *Journal of Social and Clinical Psychology*, *24*(5), 723–740. <https://doi.org/10.1521/jscp.2005.24.5.723>
- Heuchert, J. W. P., Parker, W. D., Stumpf, H., & Myburgh, C. P. H. (2000). The five-factor model of personality in South African college students. *American Behavioral Scientist*, *44*, 112–125. <https://doi.org/10.1177/00027640021956125>
- Huen, J. M. Y., Ip, B. Y. T., Ho, S. M. Y., & Yip, P. S. F. (2015). Hope and hopelessness: The role of hope in buffering the impact of hopelessness on suicidal ideation. *PLOS ONE*, *10*(6), e0130073. <https://doi.org/10.1371/journal.pone.0130073>
- Hunter, C. D., Case, A. D., Joseph, N., Mekawi, Y., & Bokhari, E. (2017). The roles of shared racial fate and a sense of belonging with African Americans in Black

- Immigrants' race-related stress and depression. *Journal of Black Psychology*, 43(2), 135–158. <https://doi.org/10.1177/0095798415627114>
- IBM Corporation. (2017). IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.
- Iliceto, P., D'Antuono, L., Cassarà, L., Giacolini, T., Sabatello, U., & Candilera, G. (2017). Obsessive–compulsive tendencies, self/other perception, personality, and suicidal ideation in a non-clinical sample. *Psychiatric Quarterly*, 88(2), 411–422. <https://doi.org/10.1007/s11126-016-9457-8>
- James, S.S. (2010). *Gender Differences of African American Adolescents When Exposed to Race Related Stress*. [Doctoral dissertation, Philadelphia College of Osteopathic Medicine]. PCOM Psychology Dissertations.
- Joe, S. (2006). Explaining changes in the patterns of Black suicide in the United States from 1981 to 2002: An age, cohort, and period analysis. *Journal of Black Psychology*, 32, 262–284. <https://doi.org/10.1177/0095798406290465>
- Joe, S., Baser, R. E., Breeden, G., Neighbors, H. W., & Jackson, J. S. (2006). Prevalence of and risk factors for lifetime suicide attempts among Blacks in the United States. *Journal of the American Medical Association*, 296, 2112-2123
- Joe, S., Woolley, M. E., Brown, G. K., Ghahramanlou-Holloway, M., & Beck, A. T. (2008). Psychometric properties of the beck depression inventory–II in low-income, African American suicide attempters. *Journal of Personality Assessment*, 90(5), 521–523. <https://doi.org/10.1080/00223890802248919>

- Joe, S., & Niedermeier, D. M. (2008). Social work research on African Americans and suicidal behavior: A systematic 25-year review. *Health & Social Work, 33*(4), 249–257. <https://doi.org/10.1093/hsw/33.4.249>
- Joe, S. (2018). *Addressing suicide among Black Americans*. Suicide Prevention Resource Center. <https://www.sprc.org/news/addressing-suicide-among-black-americans>
- Joiner T. (2005). *Why people die by suicide*. Cambridge, MA, US: Harvard University Press; [[Google Scholar](#)]
- Joiner, T. (2009, June). *The interpersonal-psychological theory of suicidal behavior: Current empirical status*. American Psychological Association APA. <https://www.apa.org/science/about/psa/2009/06/sci-brief>
- Jones, H. L., Cross, W. E., & DeFour, D. C. (2007). Race-related stress, racial identity attitudes, and mental health among black women. *Journal of Black Psychology, 33*(2), 208–231. <https://doi.org/10.1177/0095798407299517>
- Jourdy, R., & Petot, J.-M. (2017). Relationships between personality traits and depression in the light of the “Big Five” and their different facets. *L'Évolution Psychiatrique, 82*(4), e27–e37. <https://doi.org/10.1016/j.evopsy.2017.08.002>
- Karsten, J., Penninx, B. W. J. H., Riese, H., Ormel, J., Nolen, W. A., & Hartman, C. A. (2012). The state effect of depressive and anxiety disorders on big five personality traits. *Journal of Psychiatric Research, 46*(5), 644–650. <https://doi.org/10.1016/j.jpsychires.2012.01.024>
- Kilanowski, J. F. (2017). Breadth of the socio-ecological model. *Journal of Agromedicine, 295–297*. <https://doi.org/10.1080/1059924x.2017.1358971>

- Krok-Schoen, J. L., & Baker, T. A. (2014). Race differences in personality and affect between older White and Black patients: An exploratory study. *Journal of Racial and Ethnic Health Disparities*, *1*(4), 283–290. <https://doi.org/10.1007/s40615-014-0035-1>
- Lamis, D. A., Wilson, C. K., Shahane, A. A., & Kaslow, N. J. (2014). Mediators of the childhood emotional abuse–hopelessness association in African American women. *Child Abuse & Neglect*, *38*(8), 1341–1350. <https://doi.org/10.1016/j.chiabu.2013.11.006>
- Lamis, D. A., & Kaslow, N. J. (2014). Mediators of the daily hassles-suicidal ideation link in African American women. *Suicide and Life-Threatening Behavior*, *44*(3), 233–245. <https://doi.org/10.1111/sltb.12099>
- Leger, K. A., Charles, S. T., Turiano, N. A., & Almeida, D. M. (2016). Personality and stressor-related affect. *Journal of Personality and Social Psychology*, *111*(6), 917–928. <https://doi.org/10.1037/pspp0000083>
- Lewis-Coles, M. E. L., & Constantine, M. G. (2006). Racism-related stress, Africultural coping, and religious problem-solving among African Americans. *Cultural Diversity and Ethnic Minority Psychology*, *12*(3), 433–443. <https://doi.org/10.1037/1099-9809.12.3.433>
- Lenze, E. J., Rogers, J. C., Martire, L. M., Mulsant, B. H., Rollman, B. L., Dew, M. A., Schulz, R., & Reynolds, C. F. (2001). The association of late-life depression and anxiety with physical disability: A review of the literature and prospectus for future research. *The American Journal of Geriatric Psychiatry*, *9*(2), 113–135. <https://doi.org/10.1097/00019442-200105000-00004>



- Little, R.J. (1988). A test of missing completely at random for multivariate data with missing values, *Journal of the American Statistical Association*, 83(404), 1198-1202. <https://doi.org/10.1080/01621459.1988.10478722>
- Maniruzzaman, M., Rahman, M.J., Al-MehediHasan, M. (2018). Accurate diabetes risk stratification using machine learning: Role of missing value and outliers. *Journal of Medical Systems*, 42, 92 <https://doi.org/10.1007/s10916-018-0940-7>
- Matthews, D. D., Hammond, W. P., Nuru-Jeter, A., Cole-Lewis, Y., & Melvin, T. (2013). Racial discrimination and depressive symptoms among African-American men: The mediating and moderating roles of masculine self-reliance and John Henryism. *Psychology of Men & Masculinity*, 14(1), 35–46. <https://doi.org/10.1037/a0028436>
- Mays, V. M., Cochran, S. D., & Barnes, N. W. (2007). Race, race-based discrimination, and health outcomes among African Americans. *Annual Review of Psychology*, 58(1), 201–225. <https://doi.org/10.1146/annurev.psych.57.102904.190212>
- McCann, S. J. H. (2010). Suicide, Big Five personality factors, and depression at the American state level. *Archives of Suicide Research*, 14(4), 368–374. <https://doi.org/10.1080/13811118.2010.524070>
- McCrae, R. R. (1997). Conceptions and correlates of openness to experience. In P. T. Costa (Ed.), *Handbook of Personality Psychology* (pp. 825–847). Academic Press.
- McCrae, R. R., & Costa, P. T. (2004). A contemplated revision of the NEO five-factor inventory. *Personality and Individual Differences*, 36(3), 587–596. [https://doi.org/10.1016/s0191-8869\(03\)00118-1](https://doi.org/10.1016/s0191-8869(03)00118-1)

- Merrin, G. J., Hong, J. S., & Espelage, D. L. (2015). Are the risk and protective factors similar for gang-involved, pressured-to-join, and non-gang-involved youth? A social-ecological analysis. *American Journal of Orthopsychiatry*, *85*(6), 522–535. <https://doi.org/10.1037/ort0000094>
- Mitchell, U. A., Gutierrez-Kapheim, M., Nguyen, A. W., & Al-Amin, N. (2020). Hopelessness among middle-aged and older Blacks: The negative impact of discrimination and protecting power of social and religious resources. *Innovation in Aging*, *4*(5), 1–14. <https://doi.org/10.1093/geroni/igaa044>
- Morrison, L. L., & Downey, D. L. (2000). Racial differences in self-disclosure of suicidal ideation and reasons for living: Implications for training. *Cultural Diversity and Ethnic Minority Psychology*, *6*(4), 374–386. <https://doi.org/10.1037/1099-9809.6.4.374>
- Morrison, K. S., & Hopkins, R. (2019). Cultural identity, Africultural coping strategies, and depression as predictors of suicidal ideations and attempts among African American female college students. *Journal of Black Psychology*, *45*(1), 3–25. <https://doi.org/10.1177/0095798418813511>
- Muthén, L. K., & Muthén, B. O. (2017). *Mplus: Statistical analysis with latent variables: User's guide (Version 8)*. Los Angeles, CA: Authors.
- Muntingh, A. D. T., van der Feltz-Cornelis, C. M., van Marwijk, H. W. J., Spinhoven, P., Penninx, B. W. J. H., & van Balkom, A. J. L. M. (2011). Is the beck anxiety inventory a good tool to assess the severity of anxiety? A primary care study in The Netherlands study of depression and anxiety (NESDA). *BMC Family Practice*, *12*(1), 1–6. <https://doi.org/10.1186/1471-2296-12-66>

National Institute of Mental Health. NIMH. (2021, January 5).

Suicide. <https://www.nimh.nih.gov/health/statistics/suicide.shtml>

Neblett, E. W., Bernard, D. L., & Banks, K. H. (2016). The moderating roles of gender and socioeconomic status in the association between racial discrimination and psychological adjustment. *Cognitive and Behavioral Practice, 23*(3), 385–397. <https://doi.org/10.1016/j.cbpra.2016.05.002>

Odafe, M. O., Salami, T. K., & Walker, R. L. (2017). Race-related stress and hopelessness in community-based African American adults: Moderating role of social support. *Cultural Diversity and Ethnic Minority Psychology, 23*(4), 561–569. <https://doi.org/10.1037/cdp0000167>

Pearson, M. R., Derlega, V. J., Henson, J. M., Holmes, K. Y., Ferrer, R. A., & Harrison, S. B. (2014). Role of neuroticism and coping strategies in psychological reactions to a racist incident among African American university students. *Journal of Black Psychology, 40*(1), 81–111. <https://doi.org/10.1177/0095798412471682>

Pettit, J. W., Temple, S. R., Norton, P. J., Yaroslavsky, I., Grover, K. E., Morgan, S. T., & Schatte, D. J. (2009). Thought suppression and suicidal ideation: preliminary evidence in support of a robust association. *Depression and Anxiety, 26*(8), 758–763. <https://doi.org/10.1002/da.20512>

Polanco-Roman, L., & Miranda, R. (2013). Culturally related stress, hopelessness, and vulnerability to depressive symptoms and suicidal ideation in emerging adulthood. *Behavior Therapy, 44*(1), 75–87. <https://doi.org/10.1016/j.beth.2012.07.002>

- Quintão, S., Delgado, A. R., & Prieto, G. (2013). Validity study of the beck anxiety inventory (Portuguese version) by the Rasch rating scale model. *Psicologia: Reflexão e Crítica*, 26(2), 305–310. <https://doi.org/10.1590/s0102-79722013000200010>
- Rappaport, L. M., Amstadter, A. B., & Neale, M. C. (2019). Model fit estimation for multilevel structural equation models. *Structural Equation Modeling: A Multidisciplinary Journal*, 27(2), 318–329. <https://doi.org/10.1080/10705511.2019.1620109>
- Raposa, E., Hammen, C., Brennan, P., & Najman, J. (2014). The long-term effects of maternal depression: Early childhood physical health as a pathway to offspring depression. *Journal of Adolescent Health*, 54(1), 88–93. <https://doi.org/10.1016/j.jadohealth.2013.07.038>
- Reynolds, W.M. (1987). *Suicidal Ideation Questionnaire (SIQ): professional manual*. Odessa, FL: Psychological Assessment Resource.
- Reynolds, W. M. (1991). Psychometric characteristics of the adult suicidal ideation questionnaire in college students. *Journal of Personality Assessment*, 56(2), 289–307. [https://doi.org/10.1207/s15327752jpa5602\\_9](https://doi.org/10.1207/s15327752jpa5602_9)
- Richter, P., Heerlein, A., Werner, J., Kraus, A., & Sauer, H. (1998). On the validity of the beck depression inventory. *Psychopathology*, 31(1), 160–168. <https://doi.org/10.1159/000066239>
- Rockett, I. R. H., Wang, S., Stack, S., De Leo, D., Frost, J. L., Ducatman, A. M., Walker, R. L., & Kapusta, N. D. (2010). Race/ethnicity and potential suicide

- misclassification: window on a minority suicide paradox? *BMC Psychiatry*, *10*(35), 1–8. <https://doi.org/10.1186/1471-244x-10-35>
- Rossier, J., Dahourou, D., & McCrae, R. (2005). Structural and mean-level analyses of the five-factor model and locus of control. *Journal of Cross-Cultural Psychology*, *36*, 227–246. <https://doi.org/10.1177/0022022104272903>
- Rubinstein, D.H. (1986). A stress–diathesis theory of suicide. *Suicide and Life-Threatening Behavior*, *116*, 182–197.
- Rytwinski, N. K., Avena, J. S., Echiverri-Cohen, A. M., Zoellner, L. A., & Feeny, N. C. (2013). The relationships between posttraumatic stress disorder severity, depression severity and physical health. *Journal of Health Psychology*, *19*(4), 509–520. <https://doi.org/10.1177/1359105312474913>
- Salami, T. K., Walker, R. L., & Beach, S. R. H. (2017). Comparison of helplessness and hopelessness as sources of cognitive vulnerability among Black and White College Students. *Journal of Black Psychology*, *43*(6), 565–587. <https://doi.org/10.1177/0095798416664828>
- Savla, J., Davey, A., Costa, P. T., & Whitfield, K. E. (2007). Replicating the NEO-PI-R factor structure in African-American older adults. *Personality and Individual Differences*, *43*(5), 1279–1288. <https://doi.org/10.1016/j.paid.2007.03.019>
- Schaap, P. (2019). Explicating the South African Psychological Ownership Questionnaire’s confirmatory factor analysis model fit: A Bayesian structural equation modelling approach. *SA Journal of Industrial Psychology*, *45*. <https://doi.org/10.4102/sajip.v45i0.1643>

- Schmitt, M. T., Branscombe, N. R., Postmes, T., & Garcia, A. (2014). The consequences of perceived discrimination for psychological well-being: A meta-analytic review. *Psychological Bulletin, 140*(4), 921–948. <https://doi.org/10.1037/a0035754>
- Schumacker, R. E., Lomax, R. G., & Schumacker, R. (2015). A beginner's guide to structural equation modeling: Fourth Edition (4th ed.). Routledge.
- Scioli-Salter, E. R., Johnides, B. D., Mitchell, K. S., Smith, B. N., Resick, P. A., & Rasmusson, A. M. (2016). Depression and dissociation as predictors of physical health symptoms among female rape survivors with posttraumatic stress disorder. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*(5), 585–591. <https://doi.org/10.1037/tra0000135>
- Scott, D., & Happell, B. (2011). The high prevalence of poor physical health and unhealthy lifestyle behaviours in individuals with severe mental illness. *Issues in Mental Health Nursing, 32*(9), 589–597. <https://doi.org/10.3109/01612840.2011.569846>
- Segal, D. L., Coolidge, F. L., Cahill, B. S., & O'Riley, A. A. (2008). Psychometric properties of the beck depression inventory—II (BDI-II) among community-dwelling older adults. *Behavior Modification, 32*(1), 3–20. <https://doi.org/10.1177/0145445507303833>
- Sharpe, T. L., Joe, S., & Taylor, K. C. (2013). Suicide and homicide bereavement among African Americans: Implications for survivor research and practice. *OMEGA - Journal of Death and Dying, 66*(2), 153–172. <https://doi.org/10.2190/om.66.2.d>

- Shi, D., Lee, T., & Maydeu-Olivares, A. (2018). Understanding the Model Size Effect on SEM Fit Indices. *Educational and Psychological Measurement, 79*(2), 310–334. <https://doi.org/10.1177/0013164418783530>
- Singh, U., & Rani, K. (2014). Gender-specific personality differentials of suicide ideation among adolescents. *Journal of Proj. Psychology & Mental Health, 21*(2), 81–89.
- Smarr, K. L., & Keefer, A. L. (2011). Measures of depression and depressive symptoms: Beck Depression Inventory-II (BDI-II), Center for Epidemiologic Studies Depression Scale (CES-D), Geriatric Depression Scale (GDS), Hospital Anxiety and Depression Scale (HADS), and Patient Health Questionnaire. *Arthritis Care & Research, 63*(S11), S454–S466. <https://doi.org/10.1002/acr.20556>
- Sonnentag, S., Binnewies, C., & Mojza, E. J. (2010). Staying well and engaged when demands are high: The role of psychological detachment. *Journal of Applied Psychology, 95*(5), 965–976. <https://doi.org/10.1037/a0020032>
- Sosoo, E. E., Bernard, D. L., & Neblett, E. W., Jr. (2019). The Influence of internalized racism on the relationship between discrimination and anxiety. *Cultural Diversity and Ethnic Minority Psychology*. Advance online publication. <http://dx.doi.org/10.1037/cdp0000320>
- Spates, K. (2011). African-American women and suicide: A review and critique of the literature. *Sociology Compass, 5*(5), 336–350. <https://doi.org/10.1111/j.1751-9020.2011.00372.x>
- Storch, E. A., Roberti, J. W., & Roth, D. A. (2004). Factor structure, concurrent validity, and internal consistency of the beck depression inventory second edition in a

sample of college students. *Depression and Anxiety*, 19(3), 187–189.

<https://doi.org/10.1002/da.20002>

Su, M.-H., Chen, H.-C., Lu, M.-L., Feng, J., Chen, I.-M., Wu, C.-S., Chang, S.-W., & Kuo, P.-H. (2018). Risk profiles of personality traits for suicidality among mood disorder patients and community controls. *Acta Psychiatrica Scandinavica*, 137(1), 30–38. <https://doi.org/10.1111/acps.12834>

Szymanski, D. M., & Lewis, J. A. (2014). Race-Related Stress and Racial Identity as Predictors of African American Activism. *Journal of Black Psychology*, 41(2), 170–191. <https://doi.org/10.1177/0095798414520707>

Taliaferro, L. A., Rienzo, B. A., Pigg, R. M., Miller, M. D., & Dodd, V. J. (2009). Associations between physical activity and reduced rates of hopelessness, depression, and suicidal behavior among college students. *Journal of American College Health*, 57(4), 427–436. <https://doi.org/10.3200/jach.57.4.427-436>

Taylor, P. J., Gooding, P., Wood, A. M., & Tarrier, N. (2011). The role of defeat and entrapment in depression, anxiety, and suicide. *Psychological Bulletin*, 137(3), 391–420. <https://doi.org/10.1037/a0022935>

Thompson, M. P., Kaslow, N. J., Short, L. M., & Wyckoff, S. (2002). The mediating roles of perceived social support and resources in the self-efficacy-suicide attempts relation among African American abused women. *Journal of Consulting and Clinical Psychology*, 70(4), 942-949. <https://doi.org/10.1037/0022-006X.70.4.942>

Tomek, S., Hooper, L. M., Church, W. T., Bolland, K. A., Bolland, J. M., & Wilcox, K. (2015). Relations among suicidality, recent/frequent alcohol use, and gender in a



- Black American adolescent Sample: A Longitudinal investigation. *Journal of Clinical Psychology*, 71(6), 544–560. <https://doi.org/10.1002/jclp.22169>
- Utsey, S. O., & Ponterotto, J. G. (1996). Development and validation of the Index of Race-Related Stress (IRRS). *Journal of Counseling Psychology*, 43(4), 490–501. <https://doi.org/10.1037/0022-0167.43.4.490>
- Utsey, S. O. (1999). Development and validation of a short form of the Index of Race-Related Stress (IRRS)—Brief Version. *Measurement and Evaluation in Counseling and Development*, 32(3), 149–167. <https://doi.org/10.1080/07481756.1999.12068981>
- Utsey, S. O., Payne, Y. A., Jackson, E. S., & Jones, A. M. (2002). Race-related stress, quality of life indicators, and life satisfaction among elderly African Americans. *Cultural Diversity and Ethnic Minority Psychology*, 8(3), 224–233. <https://doi.org/10.1037/1099-9809.8.3.224>
- Velting, D. M. (1999). Suicidal ideation and the five-factor model of personality. *Personality and Individual Differences*, 27(5), 943–952. [https://doi.org/10.1016/s0191-8869\(99\)00046-x](https://doi.org/10.1016/s0191-8869(99)00046-x)
- Voracek, M. (2009). Big Five personality factors and suicide rates in the United States: A state-level analysis. *Perceptual and Motor Skills*, 109(1), 208–212. <https://doi.org/10.2466/pms.109.1.208-212>
- Vörös V, Osváth P, Fekete S. (2004). Gender differences in suicidal behavior. *Official Journal of the Hungarian Association of Psychopharmacology*; 6(2):65-71.

- Wadsworth, T., Kubrin, C. E., & Herting, J. R. (2014). Investigating the rise (and fall) of young Black male suicide in the United States, 1982–2001. *Journal of African American Studies, 18*(1), 72–91. <https://doi.org/10.1007/s12111-013-9256-3>
- Walker, R. L., Salami, T. K., Carter, S. E., & Flowers, K. (2014). Perceived racism and suicide ideation: Mediating role of depression but moderating role of religiosity among African American adults. *Suicide and Life-Threatening Behavior, 44*(5), 548–559. <https://doi.org/10.1111/sltb.12089>
- Walker, R., Salami, T., Carter, S., & Flowers, K. (2018). Religious coping style and cultural worldview are associated with suicide ideation among African American adults. *Archives of Suicide Research, 22*, 106-117. <https://doi.org/10.1080/13811118.2017.1289871>
- Wang, M.-C., Joel Wong, Y., Tran, K. K., Nyutu, P. N., & Spears, A. (2013). Reasons for living, social support, and Afrocentric worldview: Assessing buffering factors related to Black Americans' suicidal behavior. *Archives of Suicide Research, 17*(2), 136–147. <https://doi.org/10.1080/13811118.2013.776454>
- Watson, N. N., Black, A. R., & Hunter, C. D. (2016). African American women's perceptions of mindfulness meditation training and gendered race-related stress. *Mindfulness, 7*(5), 1034–1043. <https://doi.org/10.1007/s12671-016-0539-3>
- Watson-Singleton, N. N., Hill, L. K., & Case, A. D. (2019). Past discrimination, race-related vigilance, and depressive symptoms: The moderating role of mindfulness. *Mindfulness, 10*(9), 1768–1778. <https://doi.org/10.1007/s12671-019-01143-5>

- Wolfstein, M., & Trull, T. J. (1997). Depression and openness to experience. *Journal of Personality Assessment*, 69(3), 614–632.  
[https://doi.org/10.1207/s15327752jpa6903\\_14](https://doi.org/10.1207/s15327752jpa6903_14)
- Williams, David R., Harold W. Neighbors, and James S. Jackson. (2003). Racial/Ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*, 93(2): 200–208.
- Williams, P. G., Rau, H. K., Cribbet, M. R., & Gunn, H. E. (2009). Openness to experience and stress regulation. *Journal of Research in Personality*, 43(5), 777–784. <https://doi.org/10.1016/j.jrp.2009.06.003>
- Williams, M. T., Chapman, L. K., Wong, J., & Turkheimer, E. (2012). The role of ethnic identity in symptoms of anxiety and depression in African Americans. *Psychiatry Research*, 199(1), 31–36. <https://doi.org/10.1016/j.psychres.2012.03.049>
- Willis, L. A., Coombs, D. W., Drentea, P., & Cockerham, W. C. (2003). Uncovering the mystery: Factors of African American suicide. *Suicide and Life-Threatening Behavior*, 33(4), 412–429. <https://doi.org/10.1521/suli.33.4.412.25230>
- Woods, A. M., Zimmerman, L., Carlin, E., Hill, A., & Kaslow, N. J. (2013). Motherhood, reasons for living, and suicidality among African American women. *Journal of Family Psychology*, 27(4), 600–606. <https://doi.org/10.1037/a0033592>
- Zhang, F., Keivanloo, I., & Zou, Y. (2017). Data transformation in cross-project defect prediction. *Empirical Software Engineering*, 22(6), 3186–3218.  
<https://doi.org/10.1007/s10664-017-9516-2>

## VITA

Jasmine Phillips, M.A.

**EDUCATION**

---

- May 2024 (anticipated)**     **Doctor of Philosophy, Clinical Psychology**  
Sam Houston State University (APA-accredited),  
Huntsville, TX  
Faculty Advisor: Temilola Salami, Ph.D.  
GPA: 4.0
- May 2018**     **Master of Arts, Forensic Psychology**  
The George Washington University, Washington, DC  
Faculty Advisor: Matt Bruce, D.Clin.Psy  
GPA: 3.8
- May 2016**     **Bachelor of Arts, Psychology, Minor in Criminal Justice**  
Virginia Wesleyan University, Norfolk, VA  
Research Supervisor: Craig Jackson, Ph.D.  
Faculty Advisor: Taryn Myers, Ph.D.  
GPA: 3.31

**RESEARCH EXPERIENCE**

---

- 2020**     **Principal Investigator**  
Sam Houston State University  
Topic: *The Black/African American College Experience: Effects of Race-Related Stress, Depression, and Racial/Ethnic Identity on Health Behaviors*  
Supervisor: Craig Henderson, Ph.D.
- 2020**     **Co-Principal Investigator- the Health and Resilience Initiative for Vulnerable and Excluded Groups (weThrive) lab**  
Sam Houston State University & University of Houston  
Topic: *Race-Related Trauma, Resilience, and Psychological Well-Being: A Prospective Study*  
Supervisor: Temilola Salami, Ph.D.
- 2020**     **Co-Principal Investigator-the Health and Resilience Initiative for Vulnerable and Excluded Groups (weThrive) lab**  
Sam Houston State University  
Topic: *Supervisor Support and Emotion Regulation Skills Program Among First Responders*  
Supervisor: Temilola Salami, Ph.D.

## **SELECT GRANTS & RESEARCH AWARDS**

---

1. Title: The Effectiveness of Interventions Increasing Supervisor Support and Emotion Regulation Skills Among Texas Law Enforcement Officers (2019-2021)  
Source: Office of the Governor  
Principal Investigator: Temilola Salami, PhD  
Role: Student Writer  
Award: \$278,736
2. Title: Race-Related Trauma, Resilience, and Psychological Well-Being: A Prospective Study (2020-2021)  
Source: Office of Research & Sponsored Programs Fund  
Principal Investigator: Temilola Salami, PhD  
Role: Co-Principal Investigator  
Award: \$2,000

## **CONFERENCE PRESENTATIONS AND WORKSHOPS**

---

1. Banks, C., Henderson, C., **Phillips, J.**, Salami, T., & Henriksen, R. (February 2021). Contemporary History and Psychology in Texas: Understanding Mental Illness Within the Black Community, 1970-2020. Symposium presented at the annual conference of the Black History Month, Virtually presented.
2. Dotson, A., Trinka, M. E., **Phillips, J.**, Henderson, C. (February 2021). Addressing Microaggressions for University Student and Community Success. Presented at the Diversity Leadership Conference at Sam Houston State University, Huntsville, TX
3. Banks, C., Henderson, C., **Phillips, J.**, Salami, T., & Henriksen, R. (March 2021). Contemporary History and Psychology in Texas: Understanding Mental Illness Within the Black Community, 1970-2020. Symposium presented at the annual conference of the Texas State Historical Association, Virtually presented.
4. Madubata, I.J., **Phillips, J.**, Brooks, J.R., Salami, T., Jewell, R.D., & Walker, R.L. (July 2021). Perseverance Moderates Discriminatory Distress and Suicide Ideation for Black and Latinx Adults. Poster presented at the annual conference of APA Division 45 Biennial Convention, Virtually presented.

## **COMMUNITY SERVICE, UNIVERSITY EXPERIENCE, AND OUTREACH**

---

**2020** Volunteer, Community Peace Coalition, Huntsville TX

**2020** Volunteer, Mentor for Prospective Doctoral Students

## **PROFESSIONAL ORGANIZATION MEMBERSHIPS**

---

**Fall 2020** **International Society for Traumatic Stress Studies**  
Sam Houston State University, Huntsville, TX

**Fall 2020** **Association for Behavioral and Cognitive Therapies**  
Black American Research & Behavioral Therapy  
Sam Houston State University, Huntsville, TX